PHASE I ENVIRONMENTAL SITE ASSESSMENT
SANTA CRUZ CITY SCHOOLS
313 Swift Street
Santa Cruz, California 95060

Prepared For:
Santa Cruz City Schools
536 Palm Street
Santa Cruz, California 95060

Prepared By:
Moore Twining Associates, Inc.
2527 Fresno Street
Fresno, California 93721

Project Number: E95815.02

June 21, 2023

TABLE OF CONTENTS

LIST OF DRAWINGS AND APPENDICES

DRAWINGS

APPENDICES

PHASE I ENVIRONMENTAL SITE ASSESSMENT

SANTA CRUZ CITY SCHOOLS
313 SWIFT STREET
SANTA CRUZ, CALIFORNIA 95060

EXECUTIVE SUMMARY

Moore Twining Associates, Inc. (Moore Twining) was retained by Santa Cruz City Schools (SCCS) to conduct a Phase I Environmental Site Assessment (Phase I ESA) for a property located at 313 Swift Street in Santa Cruz, California (Subject Property). This Phase I ESA was conducted in conformance with the methods and procedures described in the American Society for Testing and Materials (ASTM) "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process" (E1527-21), published November 2021 and adopted February 13, 2023.

This summary should be used in conjunction with the entire report. It should be recognized that details were not included or fully developed in this section, and the report must be read in its entirety for a comprehensive understanding of the Subject Property history and conditions. Please review the entire report for more information regarding Moore Twining's findings and opinions.

Subject Property

The Subject Property is comprised of approximately 3.45 acres of a 4.08 acre parcel developed with an asphalt concrete paved driveway/cul-de-sac with Portland cement concrete (PCC) sidewalks. The Subject Property is located at 313 Swift Street in the city of Santa Cruz, California. The Subject Property has been assigned the following Santa Cruz County Assessor's Parcel Number (APN): 003-161-32.

At the time of the Subject Property reconnaissance, the Subject Property consisted of an asphalt concrete paved driveway/cul-de-sac with PCC sidewalks down the north and central portion of the Subject Property. The northwest corner of the Subject Property was used for storage with multiple metal storage/shipping containers ranging in size from about 20 to 40 feet long by about 8 feet wide. The remainder of the Subject Property was open field and grass covered areas.

Based on Moore Twining's review of historical aerial photographs, city directories, topographic maps and Sanborn maps, the Subject Property was vacant, undeveloped land until the late 1920's/early 1930's. During the early 1930's to the early 1940's, row crops were grown on the Subject Property. By 1968, the Subject Property was developed with two structures and paved driveway and parking areas. The Subject Property was redeveloped in approximately 2005, and the two prior structures were removed and replaced with five (5) new buildings constructed across the Subject Property (Note: at the time of the Subject Property reconnaissance, three (3) of the five (5) structures had been removed/demolished.)

The Subject Property was identified on numerous databases in the EDR report, and a 'No Further Action' cleanup case was identified on the DTSC EnviroStor website. A Phase I ESA was conducted on the Subject Property in December 2000, and identified one REC associated with the past uses of the Subject Property.

The Subject Property was historically used by the National Guard Armory, and vehicle and tank maintenance were conducted on the Subject Property. A limited soil and groundwater assessment was recommended. In May 2002, a Preliminary Endangerment Assessment (PEA) was conducted to address the concerns associated with the former National Guard Armory activities. Elevated concentrations of some PAHs were identified in the vicinity of the former grease rack, but no other constituents of concern (COCs) were identified above their respective screening levels at that time. No further action was recommended and approved by Department Toxic Substances Control (DTSC) in July 2002.

Off-Subject Property

Based on Moore Twining's review of historical aerial photographs, city directories, topographic maps and Sanborn maps, the adjoining properties to the north, west and south were undeveloped until the early 1930's, through the early 1940's, when the properties were used for row crops. To the east, across Swift Street, were residential homes. By the late 1960's, a school is present to the south and commercial structures are present to the north as well. Additional residential homes are present to the east. By the mid 1970's, residential homes are present to the southwest and to the west is a commercial building. By the 1980's, multiple commercial and apartment buildings are present to the north of the Subject Property.

At the time of the Subject Property reconnaissance, the Subject Property was bordered to the west-northwest and north by multi-family residential buildings; to the east by Swift Street, followed by single-family residential; to the south by a school, and to the southwest by a park.

Based on Moore Twining's review of readily available documents on the GeoTracker and EnviroStor websites, and information provided in the EDR database report, one off-Subject Property facility was identified as a potential environmental concern for the Subject Property. Santa Cruz Industries, located approximately 640 feet to the north of the Subject Property, is an active cleanup case with the Regional Water Quality Control Board (RWQCB). The facility is currently in a 'verification monitoring' phase, and soil gas investigations are currently ongoing.

Conclusion Summary

On behalf of Santa Cruz City Schools, Moore Twining performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM E1527-21 for Santa Cruz City Schools property located at 313 Swift Street in the city of Santa Cruz, California. This assessment has revealed the following:

Recognized Environmental Conditions

Based on Moore Twining's review of historical documents for the Subject Property, the past uses of the Subject Property as a National Guard Armory/Military Police Depot with a garage and concrete ramp for vehicle/tank maintenance/repairs is a REC. A PEA conducted in 2002 identified several COCs with elevated concentrations in the vicinity of the former grease rack, but concentrations were deemed to be typical of those found in 'urban environments' and no further action was recommended; DTSC agreed and approved the PEA in July 2002.

Findings from this assessment and a concurrent geotechnical engineering subsurface investigation found groundwater to be at depths ranging from 3 to 6 feet below ground surface, and olfactory observations of petroleum hydrocarbon contamination in the central portion of the Subject Property. Additionally, a review of historical documents for the nearby Santa Cruz Industries facility, located at 411 Swift Street, indicate that monitoring well MW-18, which is located on the Subject Property, has historically had elevated concentrations of TCE above the CalEPA RSLs. Based on these findings, it is our opinion, further soil, groundwater and soil vapor assessment is warranted.

Controlled Recognized Environmental Condition

No CRECs were identified during the course of this assessment.

Historical Recognized Environmental Condition

No HRECs were identified during the course of this assessment.

Proposed Additional Investigations

Based on a review of historical documentation, the Subject Property and vicinity have continually been used for agricultural purposes. The legal application of agricultural chemicals is not considered a REC by the Comprehensive Environmental Response, Compensation and Liability (CERCLA) act of 1980. The exemption in noted *in (4) Application of* Pesticides – Section 107(i) of the ASTM 1527-21 standard. However, a clause is noted in the exemption stating, "The pesticide exemption also contains a 'savings clause" that provides that the cost recovery prohibition does not alter or modify any obligations or liability under any other federal or state law for damages, injury or loss resulting from a release of hazardous substances, or for the costs of removal or remedial actions of such hazardous substances." It has been Moore Twining's experience that persistent pesticides can exist in soils after long-term use of agricultural chemicals. From the historical documents researched, no information was discovered that would indicate illegal agricultural activities occurred at the Subject Property. As the Subject Property was used from the 1930's to 1940's for agricultural purposes, the potential exists that persistent pesticides and other related agricultural chemicals may be present in the soils at the Subject Property. These constituents, even in low concentrations, can result in federal, state and local requirements for movement, disposal, assessment, and remediation. If present, costs could be incurred to address these conditions.

1.0 INTRODUCTION

Moore Twining Associates, Inc. (Moore Twining) was retained by Santa Cruz City Schools (SCCS) to conduct a Phase I Environmental Site Assessment (Phase I ESA) for a property located at 313 Swift Street in Santa Cruz, California (Subject Property). This Phase I ESA was conducted in conformance with the methods and procedures described in the American Society for Testing and Materials (ASTM) "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process" (E1527-21), published November 2021 and adopted February 13, 2023.

1.1 Objective

The objective of this assessment was to identify Recognized Environmental Conditions (RECs) located at the Subject Property or adjacent properties that could present material risk of harm to public health or to the environment. Recognized Environmental Conditions are defined in ASTM E1527-21 as:

- *Recognized Environmental Conditions (RECs) - the presence of hazardous substances or petroleum products in, on, or at the Subject Property due to a release to the environment; (2) the likely presence of hazardous substances or petroleum products in, on, or at the Subject Property due to a release or likely release to the environment; or (3) the presence of hazardous substances or petroleum products in, on, or at the Subject Property under conditions that pose a material threat of a future release to the environment*.
- *Controlled Recognized Environmental Conditions (CRECs) – recognized environmental condition affecting the Subject Property that has been addressed to the satisfaction of the applicable regulatory authority or authorities with hazardous substances or petroleum products allowed to remain in place subject to implementation of required controls (for example, activity and use limitations or other property use limitations).*
- *Historical Recognized Environmental Conditions (HRECs) – a previous release of hazardous substances or petroleum products affecting the Subject Property that has been addressed to the satisfaction of the applicable regulatory authority or authorities and meeting unrestricted use criteria established by the applicable regulatory authority or authorities without subjecting the Subject Property to any controls (for example, activity and use limitations or other property use limitations).*

1.2 Scope of Services

This Phase I ESA was performed to evaluate the potential presence of environmental conditions that may have resulted from operations at the Subject Property or at nearby properties. The assessment included a Subject Property reconnaissance, a review of available documentation of land-use history for evidence of the use, storage and/or disposal of hazardous substances, and a review of available regulatory information. This Phase I ESA included the following tasks:

- A review of the current and past uses of the Subject Property since 1928;
- A Subject Property reconnaissance to assess evidence of current and/or past use or storage of toxic or hazardous material; on-Subject Property ponds, landfills, drywells,

waste streams or other disposal units; visible soil discoloration; aboveground or underground storage tanks; electrical transformers containing polychlorinated biphenyls (PCBs); and drums, barrels and other storage containers;

- Visual observation of adjacent properties in order to determine if current and/or historical operations associated with these properties may pose a threat to the Subject Property;

- A review of available federal Environmental Protection Agency (EPA), state EPA and regulatory agency lists of known or potential hazardous waste sites or landfills, and sites currently under investigation for environmental violations in the Subject Property area. Using area-profile services provided by Environmental Data Resources, Inc. (EDR), Moore Twining cataloged properties near the Subject Property that have been identified on regulatory agency lists. Search criteria were in conformance with ASTM E1527-21;

- Contact with relevant municipal, county and state agencies to review readily available records and permits; and

- Preparation of this report to present our methods, findings and conclusions.

The Scope of Services specifically excluded cultural, archeological, and biological assessments, as well as sampling and analysis for the potential presence of asbestos containing building materials, lead based paint, or an assessment for radon gas. In addition, the Scope of Services did not include the collection and/or analysis of any materials including air, soil, soil-gas, or groundwater samples.

1.3 Limitations and Limited Conditions

The purpose of an environmental assessment is to reasonably assess the potential for, or actual impact of, past practices on a given Subject Property that may pose an environmental impairment to the Subject Property. No assessment is thorough enough to identify all potential environmental impairments at a given Subject Property. If environmental impairments have not been identified during the assessment, such a finding should not, therefore, be construed as a guarantee of the absence of such conditions on the Subject Property, but rather the result of the services performed within the scope, limitations, and cost of the work performed.

The conclusions presented in this report are solely professional opinions based on information provided regarding the Subject Property and the findings of the reconnaissance and records search. Information obtained from the aerial photography is an interpretation of features observed in the photographs. Actual conditions at the Subject Property may have been different from those interpreted. Conclusions presented are based on conditions as they existed at the time the work was performed. Changes in existing conditions of the Subject Property due to time lapse, natural causes, or operations adjacent to the Subject Property may deem conclusions presented in this Phase I ESA report invalid, unless the changes are reviewed, and the conclusions reevaluated. Such conditions may require additional reconnaissance of the Subject Property and require field exploration and laboratory testing to assess if the conclusions are applicable considering the changed conditions.

This work was performed for the sole use of our client. Any reliance on this report by a third party is at such party's sole risk. Others who seek to rely on the findings have a duty to determine the adequacy of this report for their intended use, time, and location. Moore Twining does not warrant the accuracy of information supplied by others, nor the use of segregated portions of this report. No other warranty, either expressed or implied, is made. The standard of practice is time dependent. Services provided were performed consistent with generally accepted professional consulting principles and practices for environmental assessors at the time this work was performed. The findings and conclusions presented in this report are solely professional opinions derived in accordance with current standards of professional practice.

2.0 SUBJECT PROPERTY DESCRIPTION

Information concerning the Subject Property was obtained from a Subject Property reconnaissance and a review of the documents referenced in Sections 4.0, 5.0 and 6.0 of this report. This information is summarized in the following sections.

2.1 Location and Description of the Subject Property

The Subject Property is comprised of approximately 3.45 acres of a 4.08 acre parcel developed with an asphalt concrete paved driveway/cul-de-sac with Portland cement concrete (PCC) sidewalks. The Subject Property is located at 313 Swift Street in the city of Santa Cruz, California. The Subject Property has been assigned the following Santa Cruz County Assessor's Parcel Number (APN): 003-161-32.

The listed owner for the Subject Property is: **Santa Cruz City School District**

A Subject Property location map is presented as Drawing 1, and a Site plan, which includes property boundaries, is presented as Drawing 2 in Appendix A.

2.2 Physical and Environmental Setting of the Subject Property

Environmental characteristics including topography, geology, soil, and hydrogeology were evaluated based on Subject Property observations, and review of published literature and maps. The findings are summarized in the following table.

PHYSICAL SETTING INFORMATION FOR THE SUBJECT PROPERTY AND SURROUNDING AREA		SOURCE
Location	Santa Cruz, California	EDR Report, March 31, 2023
Property Elevation	The Subject Property elevation is approximately 52 feet above mean sea level.	
Topographic Gradient	Generally sloping toward the south-southeast.	
Closest Surface Water	An unnamed seasonal creek is located approximately 630 feet to the east of the Subject Property. The Pacific Ocean is located	

PHYSICAL SETTING INFORMATION FOR THE SUBJECT PROPERTY AND SURROUNDING AREA		SOURCE
	approximately one-third (1/3) mile to the south of the Subject Property.	
Flood Plains[1]	According to FEMA DFIRM Flood Data provided by EDR, the Subject Property is not located within a Flood Hazard zone[1].	FEMA DFIRM Flood Data Map 06087C0333E
Wetlands	No wetlands were reported on the Subject Property[2].	National Wetlands Inventory https://www.fws.gov/wetlands/data/mapper.html
General Soil Characteristics		
Soil Type	Watsonville	United States Department of Agriculture, Soil Survey website; http://websoilsurvey.sc.egov.usda.gov
Description	Soils are clayey, have a high water table or are shallow to an impervious layer. Somewhat poorly drained.	
Area Specific Geology/Hydrogeology Characteristics		
Geology	The Subject Property is located within the Coast Range Geomorphic Province. The geology beneath the Subject Property consists of Miocene and Pleistocene age deposits, overlying a crystalline basement known as the Salinian Block. The Salinian Block consists of metamorphic and granitic plutonic rocks and is located structurally between the Nacimiento and San Andreas Fault zones.	(Wagner, 2002) (California Geologic Survey, 2010)
Hydrogeology	According to information obtained from the GeoTracker website, depth to first encountered groundwater is estimated to be approximately 3 to 6 feet below ground surface.	GeoTracker
Oil and Gas Wells		
Current Oil and Gas Wells on Subject Property	No oil and/or gas wells were reported to be on the Property or on adjoining properties within 1,000 feet.	California Department of Conservation, Geologic Energy Management Division (CalGEM) web site https://www.conservation.ca.gov/calgem/Pages/WellFinder.aspx

[1] This is for general locational information only. The data presented should not be used for development purposes, as a comprehensive flood zone study has not been conducted.

[2] This is for general locational information only. The data presented should not be used for development purposes, as a comprehensive wetland study has not been conducted.

PHYSICAL SETTING INFORMATION FOR THE SUBJECT PROPERTY AND SURROUNDING AREA		SOURCE
Historical Oil and Gas Wells on Subject Property	No historical oil and/or gas wells were reported to be located on the Property or on adjoining properties within 1,000 feet.	California Department of Conservation, CalGEM web site http://www.conservation.ca.gov/calgem/Pages/WellFinder.aspx

3.0 SUBJECT PROPERTY RECONNAISSANCE

The objective of the Subject Property reconnaissance was to observe the Subject Property for specific indicators of environmental conditions. The Subject Property reconnaissance included a systematic search by foot of practically accessible areas of the Subject Property and adjacent properties. A Property Plan depicting the Subject Property, adjoining property use, and observed on-site features is presented in Appendix A. Additionally, photographs were taken during the Subject Property reconnaissance, and selected photographs of the Subject Property are presented in Appendix B of this report.

The Subject Property reconnaissance was conducted on April 24, 2023 by Ms. Sara Bloom, a representative of Moore Twining.

3.1 Subject Property Reconnaissance - Description of Structures, Roads, and Other Property Improvements

At the time of the Subject Property reconnaissance, the Subject Property was developed with an asphalt concrete paved driveway/cul-de-sac with PCC sidewalks down the north and central portion of the Subject Property.

3.2 Current Uses of the Subject Property

At the time of the Subject Property reconnaissance, the Subject Property consisted of an asphalt concrete paved driveway/cul-de-sac with PCC sidewalks down the north and central portion of the Subject Property. The northwest corner of the Subject Property was used for storage with multiple metal storage/shipping containers ranging in size from about 20 to 40 feet long by about 8 feet wide. The remainder of the Subject Property was open field and grass covered areas.

3.3 Current Uses of the Adjoining Properties

At the time of the Subject Property reconnaissance, the Subject Property was bordered to the west-northwest and north by multi-family residential buildings; to the east by Swift Street, followed by single-family residential; to the south by a school, and to the southwest by a park.

3.4 Subject Property Reconnaissance - Specific Indicators of Environmental Conditions

In addition to the general description of the Subject Property, specific indicators of environmental conditions were also evaluated for the Subject Property. Observations made during the Subject Property

reconnaissance are summarized in the following table. Affirmative responses are discussed in more detail following the table.

Category	Feature	Observed
Interior (Not Applicable – N/A)	Elevators	N/A
	Air Compressors	N/A
	Incinerators	N/A
	Waste Treatment Systems	N/A
	Presses/Stamping Equipment	N/A
	Press Pits	N/A
	Hydraulic Lifts or Hoists	N/A
	Paint Booth	N/A
	Plating Tanks	N/A
	Lathes, Screw Machines, etc.	N/A
	Regulated Hazardous Materials Use and Storage	N/A
	Floor Drains and Similar Facilities	N/A
Aboveground Chemical or Other Waste Storage or Waste Streams	Aboveground Storage Tanks (ASTs)	No
	Drums, Barrels and/or Containers > than 5-gallons	**YES**
	Chip Hoppers	No
	Hazardous or Petroleum Waste Streams	**YES**
Underground Chemical or Waste storage, Drainage or Collection Systems	Underground Storage Tanks (USTs)	No
	Fuel Dispensers	No
	Sumps or Cisterns	No
	Dry Wells	No
	Oil/Water Separators	No
	Flood Drains, Trench Drains, etc.	No
	Pipeline Markers	No
Exterior Observations	Stressed Vegetation	No
	Stained Soil or Pavement	**YES**
	Pad or Pole-Mounted Transformers and/or Capacitors	No
	Soil Piles of Unknown Origin	No
	Exterior Dumpsters with Staining	No
	Hydraulic Box Crushers	No
	Leachate or Other Waste Seeps	No
	Trash, Debris, and/or Other Waste Materials	**YES**
	Uncontrolled Dumping or Disposal Areas	No
	Surface Water Discoloration, Sheen or Free Product	No
	Strong, Pungent or Noxious Odors	No
	Storm Water Retention or Detention Ponds	No
	Pits, Ponds or Lagoons	No

Drums, Barrels and/or Containers > than 5-gallons: Approximately five (5) poly 55-gallon drums were located in the northwest corner of the Subject Property, most of the drums were empty or had very little

content left in the drums. The drums were not labeled. Numerous 5-gallon buckets were located in the northwest corner of the Subject Property as well. The 5-gallon buckets contained paint, roof patch; some of the buckets were unlabeled or the label was so worn the labels could not be read.

Hazardous or Petroleum Waste Streams: Personal size, 2- to 5-gallon size, gas cans were observed in the storage containers on the Subject Property.

Stained Soil or Pavement: Staining was observed on the wood floors of the storage/shipping containers (about 20 to 40 feet long by about 8 feet wide) on the Subject Property.

Trash, Debris, and/or Other Waste Materials: The northwest corner of the Subject Property, in the vicinity of the storage/shipping containers, had become a staging area for construction-type debris and waste, including various types of piping, vaults/manhole covers, yard tools, pallets, bricks, fencing, flooring materials, paint cans/buckets, personal size household cleaners, etc. Additionally, some yard waste has been staged in this area as well.

Other Specific Indicators of Environmental Conditions

Moore Twining was concurrently performing a geotechnical engineering investigation on the Subject Property. During drilling activities on the central portion of the Subject Property, strong petroleum hydrocarbon odors were noted in three (3) soil borings that were advanced to depths of approximately 18 feet below ground surface (bgs). No soil samples were collected for laboratory analysis at the time of Moore Twining's geotechnical engineering investigation, but additional assessment is warranted in the vicinity of these borings to further investigate the vertical and lateral extent of contamination, and the concentrations of the COCs.

4.0 HISTORICAL LAND USE

The history of land-use on and near the Subject Property was determined from the review of historic aerial photographs, topographic maps, Sanborn maps, building permits, and historic city directories. The findings are summarized in the following subsections.

4.1 Aerial Photograph Review

Available historical aerial photographs of the Subject Property and vicinity for the years 1928, 1931, 1940, 1943, 1956, 1968, 1974, 1982, 1993, 2005, 2009, 2012, 2016, and 2020 were reviewed for indications of past Subject Property use and/or Subject Property activities which may have involved the manufacture, generation, use, storage, and/or disposal of hazardous materials. The results of the aerial photograph review are summarized in the following table. Copies of the historical aerial photographs are included in Appendix D of this report.

Year	Summary of Information
1928 – 1956 (EDR)	The Subject Property and properties to the north, west and south are vacant undeveloped land. A possible curved dirt path bisects the Subject Property from

	west to east. To the east, Swift Street is present, followed by residential structures. During the early 1930's to early 1940's, the Subject Property and properties to the north, west and south were used for row crops.
1968 (EDR)	The Subject Property has been developed with two structures, paved parking areas and driveway. The property to the south has been developed as a school. To the north, two structures (one square and one rectangular) are present at the intersection of Swift Street and Delaware Avenue. To the east, multiple residential structures are present. No significant changes were noted to the properties to the west.
1974 (EDR)	No significant changes to the Subject Property were noted. To the west, a large rectangular building is now present, along with residential structures to the southwest. No other significant changes to the vicinity were noted.
1982 (EDR)	No significant changes were noted to the Subject Property. To the north, multiple and northwest multiple large rectangular structures are now present. To the west, a tennis court is now present. No other significant changes in the vicinity were noted.
1993 (EDR)	The Subject Property has been further developed with a sport court along the central-southern portion of the Subject Property. In the northwest corner of the Subject Property there appears to be two small outbuildings. To the south, along the Subject Property boundary, two or three portable buildings are present on the adjacent school property. No other significant changes were noted in the vicinity.
2005 – 2020 (EDR)	The Subject Property has been redeveloped with approximately five (5) buildings. In the northwest corner of the Subject Property multiple shipping container/storage containers are present. No other significant changes in the vicinity were noted.

4.2 Topographic Map Review

Available topographic maps of the Subject Property and vicinity for the years 1954, 1968, 1973, 1981, 1994, 2012, 2015, and 2018 were reviewed for indications of past uses and/or activities which may have involved the manufacture, generation, use, storage, and/or disposal of hazardous materials. Copies of the historical topographic maps are included in Appendix D of this report.

A review of the historical topographic maps did not prompt any additional environmental concerns.

4.3 Sanborn Fire Insurance Map Review

Three (3) Sanborn maps, 1928, 1950 and 1988, were identified for the surrounding area. The Subject Property was not mapped on any of the three maps provided by EDR. Copies of the Certified Sanborn Maps Report are included in Appendix D of this report.

4.4 Historical City Directory Review

City directories can provide information concerning past and current occupancy of the Subject Property and adjacent areas. Historical city directory information for this assessment was provided by EDR. A copy of the historical city directories is included in Appendix D of this report.

Subject Property

The Subject Property was identified multiple times in the City Directory report from EDR.

Year	Entity Name	Environmental Concern (Y/N)
1964-1980	US Army Reserve/382nd Police Dept	Yes
1985-2020	The Ark (SCPS Studies Program)/Ark Alternative School/Natural Bridges High School	No

Off-Subject Property

Year	Entity Name	Address/Distance from Subject Property	Environmental Concern (Y/N)
1967-2020	Monarch Community School/Gateway School/Ntural Bridges Special Education/North County Early Head Start/Pacific Collegiate School	255 Swift Street/adjacent to the south	**No**
1964-2000	N-K Products Inc. Physiotherapy Tables Manufacturers/Jays Custom Clubs/Novadyne Golf Wholesale & Manufacturing Department	335 Swift Street/130 feet northeast	**No**
1964-2000	Santa Cruz Wire & Manufacturing Co/Santa Cruz Industries Inc.	411 Swift Street/640 feet north	**Yes See Sections 6.1.2 and 6.2.2**
1975-1980	Chuck's Auto Repair/Westside Imported Car Repair	719 Swift Street/1,250 feet north	**No**

4.5 Building Permits

Building records can provide a history of on-Subject Property structures, features, and development. Building permit information for this assessment (Subject Property) was provided by EDR. A copy of the building permits report is included in Appendix D of this report.

EDR identified one record for the Subject Property, however, the permit was incorrectly addressed, and was for the apartment complex to the north.

4.6 Title Documentation

Title documents, including a chain of title and/or title report, can provide the environmental professional with information regarding current and past ownership and information regarding environmental liens and/or land use and activity limitations.

Moore Twining was not provided any title documentation for the Subject Property. This is considered a data gap.

4.7 Institutional and Engineering Controls/Land Use Limitations/Environmental Liens

Institutional and Engineering Controls can indicate the current and/or historical presence of recognized environmental conditions that required remedial activity at the Property.

No institutional and engineering controls, land use limitations, or environmental liens related to remediation and/or cleanup were found as part of this assessment.

A copy of the EDR Environmental Lien and AUL Search is included in Appendix D of this report.

4.8 Summary of Past Uses of the Subject Property

Based on Moore Twining's review of historical aerial photographs, city directories, topographic maps and Sanborn maps, the Subject Property was vacant, undeveloped land until the late 1920's/early 1930's. During the early 1930's to the early 1940's, row crops were grown on the Subject Property. By 1968, the Subject Property was developed with two structures and paved driveway and parking areas. The Subject Property was redeveloped in approximately 2005, and the two prior structures were removed and replaced with five (5) new buildings constructed across the Subject Property (Note: at the time of the Subject Property reconnaissance, three (3) of the five (5) structures had been removed/demolished.)

4.9 Summary of Past Uses of Adjoining Properties

Based on Moore Twining's review of historical aerial photographs, city directories, topographic maps and Sanborn maps, the adjoining properties to the north, west and south were undeveloped until the early 1930's, through the early 1940's, when the properties were used for row crops. To the east, across Swift Street, were residential homes. By the late 1960's, a school is present to the south and commercial structures are present to the north as well. Additional residential homes are present to the east. By the mid 1970's, residential homes are present to the southwest and to the west is a commercial building. By the 1980's, multiple commercial and apartment buildings are present to the north of the Subject Property.

5.0 USER PROVIDED INFORMATION

5.1 User Provided Information

This section summarizes information provided by the user that assisted in the identification of potential RECs associated with the Subject Property.

5.2 Environmental Questionnaires

Moore Twining submitted an Environmental Questionnaire to Mr. Trevor Miller, a representative of Santa Cruz City Schools. As of the date of this report, Moore Twining has not received the completed questionnaire back from Mr. Miller.

5.3 Previous Investigations

Moore Twining was not provided with any historical reports for the Subject Property from the property owner.

6.0 REGULATORY RECORDS REVIEW

Available federal, state and relevant county and municipal records for the Subject Property and pertinent properties within the Subject Property vicinity that have or potentially have had a release to the environment were reviewed as part of this assessment. The findings are summarized in the following subsections.

6.1 Agency File Review

Requests to review files for the Subject Property were submitted to the Regional Water Quality Control Board (RWQCB), the Department of Toxic Substances Control (DTSC), Santa Cruz County (SCC), and the City of Santa Cruz. Printouts and information from regulatory databases and agencies are included in Appendix C.

The RWQCB was unable to locate any records for the Subject Property. DTSC directed Moore Twining to their EnviroStor website.

Information regarding the Subject Property and nearby properties was additionally searched on the DTSC Envirostor website (http://envirostor.dtsc.ca.gov/, Envirostor), and the State Water Resource Control Board's GeoTracker website (http://geotracker.waterboards.ca.gov/, GeoTracker). At the time this report was issued to the client, the Subject Property did not appear on the GeoTracker website. Two reports were identified for the Subject Property on the EnviroStor database, a Phase I Environmental Site Assessmenet and a Preliminary Endangerment Assessment Report.

6.1.1 Subject Property Investigations

A review of the EnviroStor database identified the following reports/documents:

Phase I Environmental Site Assessment Ark/Monarch School, 255 Swift Street, Santa Cruz, California, December 12, 2000 (WHA)

In December 2000, Weber, Hayes and Associates (WHA) prepared a Phase I ESA for the Santa Cruz City School District. Per interviews conducted during the Phase I, WHA learned the western portion of the Subject Property had a ramp which had been utilized by the National Guard for armored tank and truck maintenance purposes. WHA also located a groundwater monitoring well across the street from the Subject Property, which was later tied to an ongoing chlorinated solvent plume from the Santa Cruz Industries site, located approximately 500 feet to the north of the Subject Property. No other environmental concerns were identified.

Reportedly, WHA determined a limited soil and groundwater investigation was warranted in the vicinity of the ramp where vehicle maintenance was conducted.

Preliminary Endangerment Assessment Report, Ark/Monarch School Expansion, 313 Swift Street, Santa Cruz, California, May 2002 (Shaw)

Shaw Environmental and Infrastructure (formerly IT Corporation) (Shaw), conducted a Preliminary Endangerment Assessment (PEA), as required by DTSC. The PEA was prepared following guidance from the *Preliminary Endangerment Assessment Guidance Manual (DTSC, 1994)*. The PEA was required to address five areas of concern:

- Existing grease rack (for metals, polycyclic aromatic hydrocarbons (PAHs), and total petroleum hydrocarbons (TPH);
- Suspected oil/water separator adjacent to the grease rack (metals, PAHs, and TPH);
- Surface water swale (metals, PAHs, and TPH)
- Lead-based paint on the Independent Studies portable classroom building (lead)
- Groundwater (chlorinated volatile hydrocarbons)

Eighteen (18) soil borings were advanced as part of the PEA, at depths ranging from 0.5 feet below ground surface to a depth of 6 feet bgs. Soil samples were collected around the grease rack/oil/water separator area, the surface water swale area and Independent Studies portable classroom. Additionally, three (3) soil gas samples were collected along the northern edge of the Subject Property.

Soil analytical results reported detectable concentrations of metals in each of the soil samples analyzed, at background levels, which were below the level of health concern (based on residential land use screening levels at that time). TPH as diesel (TPH-d) and motor oil (TPH-mo) were detected in half of the soil samples analyzed, at concentrations ranging from 1.5 milligram per kilogram (mg/kg) to 56 mg/kg TPH-d and 7.4 mg/kg to 270 mg/kg TPH-mo. TPH-d and TPH-mo concentrations were below the established San Francisco Bay Regional Water Quality Control Board 2002 screening levels. PAHs were

also detected in approximately half the soil samples analyzed, but at concentrations below their respective residential preliminary remediation goals (PRG), with the exception of the surface soil sample from GR-9. The surface soil sample from GR-9 exceeded the Preliminary Remediation Goasl (PRGs).

Based on the results of the soil sampling, a health risk screening was conducted. Analytical results from boring GR-9, which had the highest reported concentrations of constituents of concern, were used in the PEA algorithms. "*The cumulative potential cancer risk is $2x10^{-5}$, which is above the de minimus level of $1x10^{-6}$. The risk is associated primarily with the maximum concentrations of benzo(a)pyrene (risk of $1x10^{-5}$) and dibenzo(a,h)anthrancene (risk of $5x10^{-6}$) that were found in sample GR-9. No further action is recommended for this site because the elevated levels of PAHs are restricted to the surface soil in one spot near the grease rack…Further, the PAH levels detected in GR-9-0 are comparable to the low end of the concentrations reported for urban soils. Thus, risks from the site are comparable to most urban environments*."

Reportedly, based on the results of the soil sampling, soil gas sampling and health risk screening, Shaw recommended no further action for the Subject property.

6.1.2 Off-Subject Property Investigations

A review of the GeoTracker/EnviroStor database identified the following off-Subject Properties of concern:

Santa Cruz Industries (SLT3S0011280): 411 Swift Street, Santa Cruz, California

> Per the Trinity Source Group, Inc. (Trinity) *Source Area Data Gaps Investigation Report and Remedial Action Plan*, dated May 25, 2018, the facility history "*…was a retail display manufacturer that operated a metal plating facility at the Site for approximately 34 years. Metal plating operations were reportedly discontinued in October 1988 and retail display manufacturing ceased operations in 1999. The Site has been impacted by elevated concentrations of several halogenated volatile organic compounds (HVOCs), particularly tetrachloroethene (PCE) and its degradation products; 1,1,1-Trichloroethane (1,1,1-TCA); and 1,4-Dioxane in soil, soil gas, and groundwater. The Site has undergone a series of investigations and remediation attempts, with limited success.*
>
> *Since the 1990's, a plume of HVOCs was identified in perched groundwater beneath the property and at offsite areas to the southeast. The HVOC contamination is likely a result of onsite painting and vapor degreasing activities in the Southern Building (Figure 2). A former spray paint booth was located in the northwest corner of the former painting area and was removed in 1991. A PCE and 1,1,1-TCA vapor degreasing tank was utilized in this area. Degreasing fumes were reportedly discharged through a vent to the exterior along the alley between the Northern and Southern buildings (Figure 2).*
>
> *Since discovery of the contamination, multiple remediation events have been performed in various portions of the plume[3]. The remediation activities have included soil gas extraction, subsurface injections of RegenOx, 3DMe, hydrogen-releasing compound, and persulfate with sodium hydroxide*

activator[4]. Despite remediation attempts, HVOC (specifically PCE) contamination in groundwater persists at concentrations indicative of a dense, non-aqueous phase liquid (DNAPL).

[3] Based on available information, remedial activities were limited to the Southern building and parking lot along Delaware Avenue.

[4] Historical monitoring results, as well as full discussions of all previous Site activities, are contained in reports posted to GeoTracker."

In 2022, Trinity continued remediation activities on the Site with the startup of an Electrical Resistance Heating (ERH) remediation system. Prior to the startup of this ERH system, in April 2022, a baseline groundwater monitoring event was performed. As a result of the monitoring event, the Central Coast-RWQCB requested a off-site soil gas investigation. The workplan for this additional assessment was submitted in July 2022, and the second addendum was approved in December 2022. No reports or documentation has been submitted regarding the proposed off-site soil gas investigation. Numerous reports and updates have been uploaded to the GeoTracker database regarding the ERH system status and the monthly operation and maintenance reports.

A review of historical documents for the Santa Cruz Industries property identified one monitoring well, MW-18, to be on the Subject Property. Monitoring well MW-18 was installed in 1997, and was typically sampled once per year until December 2019. Detectable concentrations of trichloroethylene and cis-1,2-dichloroethene (cis-1,2-DCE) had been reported in 2018, but analytical results were below the laboratory detection limit in 2019. It does not appear this monitoring well has been sampled since 2019.

6.2 Environmental Database Review

Moore Twining contracted EDR to perform a search of available federal, state, and local database information systems for identifying known recognized environmental conditions present on the Property and nearby properties that have the potential to adversely impact the Subject Property being assessed in this study. EDR's findings are summarized below. The complete report furnished by EDR is included in Appendix D of the report.

TABLE 1
SUMMARY OF REGULATORY LISTS SEARCHED BY EDR AND RECORDS REVIEWED*

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - ¼	1/4 - ½	½ - 1	> 1	Total Plotted
FEDERAL ASTM STANDARD								
NPL		1.000	0	0	0	0	NR	0
Proposed NPL		1.000	0	0	0	0	NR	0
NPL LIENS		1.000	0	0	0	0	NR	0
Delisted NPL		1.000	0	0	0	0	NR	0
Federal Facility		0.500	0	0	0	NR	NR	0
SEMS		0.500	0	0	0	NR	NR	0
SEMS Archive		0.500	0	0	0	NR	NR	0
CORRACTS		1.000	0	0	0	0	NR	0
RCRA-TSDF		0.500	0	0	0	NR	NR	0
RCRA Lg, Quan. Gen.		0.250	0	0	NR	NR	NR	0
RCRA Sm. Quan. Gen.		0.250	2	2	NR	NR	NR	4
RCRA-VSQG		0.250	0	0	NR	NR	NR	0
LUCIS		0.500	0	0	0	NR	NR	0
US ENG CONTROLS		0.500	0	0	0	NR	NR	0
US INST CONTROLS		0.500	0	0	0	NR	NR	0
ERNS		0.001	0	NR	NR	NR	NR	0
STATE ASTM STANDARD								
RESPONSE		1.000	0	0	0	0	NR	0
ENVIROSTOR	1	1.000	0	0	2	0	NR	3
SWF/LF		0.500	0	0	0	NR	NR	0
LUST		0.500	0	2	6	NR	NR	8
INDIAN LUST		0.500	0	0	0	NR	NR	0
CPS-SLIC		0.500	1	0	0	NR	NR	1
FEMA UST		0.250	0	0	NR	NR	NR	0
UST		0.250	0	0	NR	NR	NR	0
AST		0.250	0	0	NR	NR	NR	0
INDIAN UST		0.250	0	0	NR	NR	NR	0
VCP		0.500	0	0	0	NR	NR	0
INDIAN VCP		0.500	0	0	0	NR	NR	0
BROWNFIELDS		0.500	0	0	0	NR	NR	0

NR = Not Requested (Beyond Search Distance)
TP = Target Property

6.2.1 On-Subject Property

The Subject Property was listed on ENVIROSTOR database in the EDR report. The EnviroStor listing is associated with Phase I ESA and Preliminary Environmental Assessment (PEA) which were conducted on

the Subject Property during the school districts redevelopment of the property. The Phase I ESA and PEA were further discussed in Section 6.1.1 of this report.

6.2.2 Off-Subject Property

Moore Twining's review of the referenced databases also considered the potential or likelihood of contamination from adjoining and nearby properties impacting the Subject Property. To evaluate which of the adjoining and nearby properties identified in the regulatory database report present an environmental risk to the Subject Property, Moore Twining considered the following criteria:

- The type of database on which the property is identified;
- The topographic position of the property relative to the Subject Property;
- The direction and distance of the site from the Subject Property;
- Local soil conditions in the area of the Subject Property;
- The known or inferred groundwater flow direction;
- The status of the respective regulatory agency-required investigation(s) of the identified site, if any; and
- Surface and subsurface obstructions and diversions (e.g., buildings, roads, sewer systems, utility service lines, rivers, lakes and ditches) located between the site and the Subject Property.

The following table lists the nearest reported offsite listings. Only those properties that were judged to present a potential environmental risk to the Subject Property and/or warrant additional clarification were further evaluated on the following table.

Summary of Identified Properties				
Property	**Distance From Subject Property**	**Databases**	**Risk to Subject Property**	**Rationale**
Cabinet Town 2117 Delaware Ave Ste C	Adjacent to the north, Upgradient	RCRA NONGEN/NLR	Low	The listings associated with this facility are for hazardous waste generation/disposal. No documented quantities of hazardous waste were reported for transport/disposal. The facility is no longer a generator of hazardous waste. No violations or evaluations were noted.
CEN-CON Inc 335 Swift Street	Adjacent to the north, Upgradient	RCRA-SQG RCRA NONGEN/NLR	Low	The listings associated with this facility are for hazardous waste generation/disposal. No

Summary of Identified Properties				
Property	**Distance From Subject Property**	**Databases**	**Risk to Subject Property**	**Rationale**
				documented quantities of hazardous waste were reported for transport/disposal. The facility is no longer a generator of hazardous waste. No violations or evaluations were noted.
Surfboards By Haut 345 Swift Street	Adjacent to the north, Upgradient	CUPA LISTINGS CERS	Low	The listings associated with this facility are for hazardous waste generation/disposal. No documented quantities of hazardous waste were reported for transport/disposal. Multiple administrative violations were noted for not documents not being submitted on time. Violations were corrected.
Santa Cruz Industries 411 Swift Street	Approximately 640 feet to the north, Upgradient	RCRA-SQG FINDS ECHO CPS-SLIC NOTIFY 65 CERS	Moderate	The listed facility is an open and ongoing case with the RWQCB. The listings are associated with past uses as a display manufacturer and metal plating facility. This facility is further discussed in Section 6.1.2 of this report.

6.2.3 Orphan Properties

An Orphan Property is a listed property in the same zip code as the Subject Property which cannot be mapped because of inadequate address information. Three Orphan Properties were included in the EDR report; two of the three listings were associated with the Subject Property, the third listing was not located within the vicinity of the Subject Property, and is not considered an environmental concern.

The two listings associated with the Subject Property were reported on the FINDS and RCRA-SQG databases, associated with hazardous waste generation and disposal. No violations or evaluations were identified. These listings are considered a low risk to the Subject Property.

7.0 SUMMARY OF FINDINGS AND OPINIONS

The findings of the Phase I ESA are summarized in the following sections:

7.1 Subject Property

The Subject Property is comprised of approximately 3.45 acres of a 4.08 acre parcel developed with an asphalt concrete paved driveway/cul-de-sac with Portland cement concrete (PCC) sidewalks. The Subject Property is located at 313 Swift Street in the city of Santa Cruz, California. The Subject Property has been assigned the following Santa Cruz County Assessor's Parcel Number (APN): 003-161-32.

At the time of the Subject Property reconnaissance, the Subject Property consisted of an asphalt concrete paved driveway/cul-de-sac with PCC sidewalks down the north and central portion of the Subject Property. The northwest corner of the Subject Property was used for storage with multiple metal storage/shipping containers ranging in size from about 20 to 40 feet long by about 8 feet wide. The remainder of the Subject Property was open field and grass covered areas.

Based on Moore Twining's review of historical aerial photographs, city directories, topographic maps and Sanborn maps, the Subject Property was vacant, undeveloped land until the late 1920's/early 1930's. During the early 1930's to the early 1940's, row crops were grown on the Subject Property. By 1968, the Subject Property was developed with two structures and paved driveway and parking areas. The Subject Property was redeveloped in approximately 2005, and the two prior structures were removed and replaced with five (5) new buildings constructed across the Subject Property (Note: at the time of the Subject Property reconnaissance, three (3) of the five (5) structures had been removed/demolished.)

The Subject Property was identified on numerous databases in the EDR report, and a 'No Further Action' cleanup case was identified on the DTSC EnviroStor website. A Phase I ESA was conducted on the Subject Property in December 2000, and identified one REC associated with the past uses of the Subject Property. The Subject Property was historically used by the National Guard Armory, and vehicle and tank maintenance was conducted on the Subject Property. A limited soil and groundwater assessment was recommended. In May 2002, a Preliminary Endangerment Assessment (PEA) was conducted to address the concerns associated with the former National Guard Armory activities. Elevated concentrations of some PAHs were identified in the vicinity of the former grease rack, but no other constituents of concern (COCs) were identified above their respective screening levels at that time. No further action was recommended and approved by DTSC in July 2002.

7.2 Off-Subject Property

Based on Moore Twining's review of historical aerial photographs, city directories, topographic maps and Sanborn maps, the adjoining properties to the north, west and south were undeveloped until the early 1930's, through the early 1940's, when the properties were used for row crops. To the east, across Swift Street, were residential homes. By the late 1960's, a school is present to the south and commercial structures are present to the north as well. Additional residential homes are present to the east. By the

mid 1970's, residential homes are present to the southwest and to the west is a commercial building. By the 1980's, multiple commercial and apartment buildings are present to the north of the Subject Property.

At the time of the Subject Property reconnaissance, the Subject Property was bordered to the west-northwest and north by multi-family residential buildings; to the east by Swift Street, followed by single-family residential; to the south by a school, and to the southwest by a park.

Based on Moore Twining's review of readily available documents on the GeoTracker and EnviroStor websites, and information provided in the EDR database report, one off-Subject Property facility was identified as a potential environmental concern for the Subject Property. Santa Cruz Industries, located approximately 640 feet to the north of the Subject Property, is an active cleanup case with the RWQCB. The facility is currently in a 'verification monitoring' phase, and soil gas investigations are ongoing. Additionally, monitoring well MW-18, which is part of the monitoring well network for the Santa Cruz Industries facility, is located on the Subject Property, and has not been sampled and recently, but, as of 2018, concentrations of trichloroethene (TCE) were above the California Environmental Protection Agency (CalEPA) Regional Screening Levels (RSLs).

7.3 Data Gaps, Limitations, and Deviations

Data gaps are described as a lack of or inability to obtain information required by the standards and practices listed in ASTM E1527-21, despite good faith efforts by the environmental professional or prospective landowner.

At the time this report was issued to the client, the completed environmental questionnaire that had been issued to Mr. Trevor Miller had not been returned to Moore Twining. It should be noted that in order to qualify for one of the Landowner Liability Protections (LLPs) offered by the Small Business Liability Relief and Brownfield's Revitalization Act of 2001 (the "Brownfield's Amendments"), the User must provide certain information (if available) identified in the User Questionnaire to the environmental professional. Failure to provide this information could result in a determination that an "all appropriate inquiry" was not completed. As a result, this is considered a significant data gap and a deviation from the standard.

Chain of title information was not provided by the client. This is considered a data gap.

The material content of this report is intended to be consistent with a standard of practice as defined by ASTM E1527-21. However, the report format differs in style, arrangement, and presentation of material facts from the format described by ASTM.

8.0 CONCLUSIONS

On behalf of Santa Cruz City Schools, Moore Twining performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM E1527-21 for Santa Cruz City Schools property located at 313 Swift Street in the city of Santa Cruz, California. This assessment has revealed the following:

Recognized Environmental Conditions

Based on Moore Twining's review of historical documents for the Subject Property, the past uses of the Subject Property as a National Guard Armory/Military Police Depot with a garage and concrete ramp for vehicle/tank maintenance/repairs is a REC. A PEA conducted in 2002 identified several COCs with elevated concentrations in the vicinity of the former grease rack, but concentrations were deemed to be typical of those found in 'urban environments' and no further action was recommended; DTSC agreed and approved the PEA in July 2002.

Findings from this assessment and a concurrent geotechnical engineering subsurface investigation found groundwater to be at depths ranging from 3 to 6 feet below ground surface, and olfactory observations of petroleum hydrocarbon contamination in the central portion of the Subject Property. Additionally, a review of historical documents for the nearby Santa Cruz Industries facility, located at 411 Swift Street, indicate that monitoring well MW-18, which is located on the Subject Property, has historically had elevated concentrations of TCE above the CalEPA RSLs. Based on these findings, it is our opinion, further soil, groundwater and soil vapor assessment is warranted.

Controlled Recognized Environmental Condition

No CRECs were identified during the course of this assessment.

Historical Recognized Environmental Condition

No HRECs were identified during the course of this assessment.

Proposed Additional Investigations

Based on a review of historical documentation, the Subject Property and vicinity have continually been used for agricultural purposes. The legal application of agricultural chemicals is not considered a REC by the Comprehensive Environmental Response, Compensation and Liability (CERCLA) act of 1980. The exemption in noted in *(4) Application of Pesticides* – Section 107(i) of the ASTM 1527-21 standard. However, a clause is noted in the exemption stating, "The pesticide exemption also contains a 'savings clause" that provides that the cost recovery prohibition does not alter or modify any obligations or liability under any other federal or state law for damages, injury or loss resulting from a release of hazardous substances, or for the costs of removal or remedial actions of such hazardous substances." It has been Moore Twining's experience that persistent pesticides can exist in soils after long-term use of agricultural chemicals. From the historical documents researched, no information was discovered that would indicate illegal agricultural activities occurred at the Subject Property. As the Subject Property was used from the 1930's to 1940's for agricultural purposes, the potential exists that persistent pesticides and other related agricultural chemicals may be present in the soils at the Subject Property. These constituents, even in low concentrations, can result in federal, state and local requirements for movement, disposal, assessment, and remediation. If present, costs could be incurred to address these conditions.

9.0 CLOSING

Moore Twining Associates, Inc. performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM E1527-21 for the Subject Property. Any exceptions to, or deletions from, this practice are described Section 6.3 of this report.

We appreciate the opportunity to be of service to SCCS on this project. Please contact our office at (800) 268-7021 if you have any questions regarding this report.

Sincerely,
MOORE TWINING ASSOCIATES, INC.
Environmental Services Division

Sara Bloom
Phase I Project Manager

Harry Moore PE, RCE, RGE, QSP
Principal Engineer

"I declare that, to the best of my knowledge and belief, I meet the definition of Environmental Professional. I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312."

10.0 REFERENCES

American Society for Testing and Materials. (2021). *ASTM Standards of Environmental Site Assessments for Commercial Real Estate, E1527-13, 2nd ed. West Conshohocken, Pennsylvania.* ASTM International.

California Geologic Survey. (2010). *Geologic Map of California 1:750,000 Scale*.

Environmental Data Resources, Inc. (March 31, 2023). *SCCS – Santa Cruz City Schools – Workforce Housing, 313 Swift Street, Santa Cruz, CA 95060. Inquiry Number: 07295354.2r*. Environmental Data Resources, Inc.

Wagner, D. (2002). *Note 36: Geomorphic Map of California*. California Geologic Survey.

Weber, Hayes & Associates. (December 12, 2000). *Phase I Environmental Site Assessment, Ark/Monarch School, 255 Swift Street, Santa Cruz, California*.

Shaw Environmental and Infrastructure (formerly IT Corporation). (May 2002). *Preliminary Endangerment Assessment Report, Ark/Monarch School Expansion, 313 Swift Street, Santa Cruz, California*.

11.0 QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONALS

Moore Twining Associates, Inc. Phase I Environmental Site Assessment staff is composed of a group of environmental professionals that perform Environmental Site Assessments on a routine basis. The Phase I ESA staff is managed and supervised by individuals who conduct, prepare, oversee, and/or review Environmental Site Assessments on a daily basis. Qualification profiles for these individuals are provided in the following section.

Reviewed by
Harry Moore PE, RCE, RGE, QSP
Principal Engineer

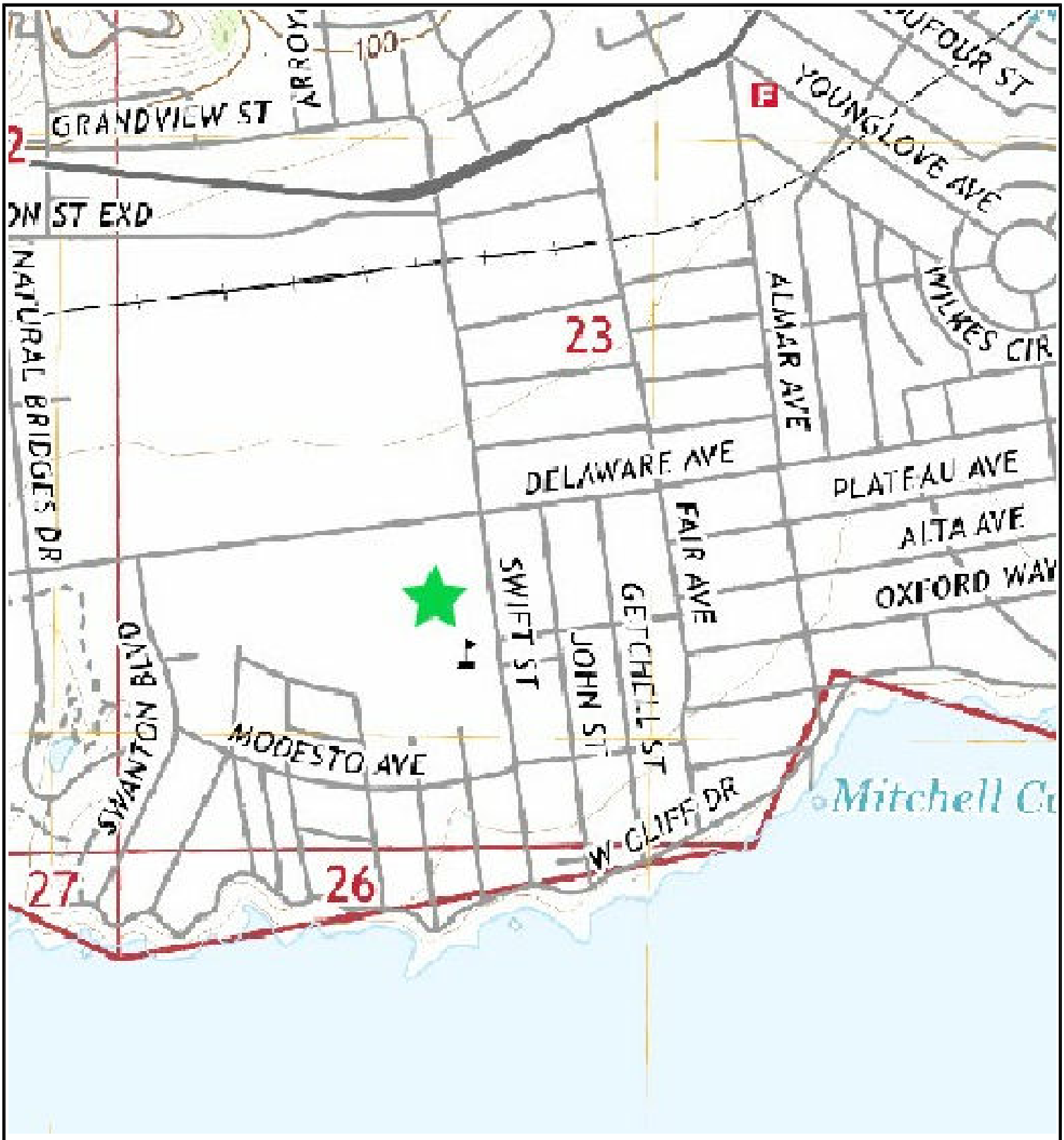
Mr. Moore has forty years of experience conducting Phase I Environmental Site Assessment, Phase II assessment work, and Phase II remediation. Mr. Moore is a Registered Civil Engineer, and a Registered Geotechnical Engineer. Mr. Moore has conducted environmental site assessments for a number of different project types including pesticide production facilities, shopping centers, gas stations, school sites, mines, large vacant properties, and agricultural sites.

Prepared by
Sara Bloom
Phase I Project Manager

Ms. Bloom has approximately eighteen years of experience conducting Phase I Environmental Site Assessments, Phase II assessment work, and Phase III remediation activities. Ms. Bloom has conducted environmental site assessments on a number of different project types including commercial office buildings, shopping centers, gas stations, industrial facilities, residential developments, large vacant properties, and agricultural sites.

APPENDIX A

DRAWINGS



LEGEND

SUBJECT PROPERTY

N

750 FEET

SITE LOCATION MAP 313 SWIFT STREET SANTA CRUZ, CALIFORNIA	FILE NO. Site Loc Map	DATE DRAWN: 6/18/2023
	DRAWN BY: SB	APPROVED BY:
	PROJECT NO. E95815.02	DRAWING NO. 1

MOORE TWINING ASSOCIATES, INC.

LEGEND

SUBJECT PROPERTY

N

0 150

APPROXIMATE SCALE IN FEET

SITE PLAN
313 SWIFT STREET
SANTA CRUZ, CALIFORNIA

FILE NO. Site Map	DATE DRAWN: 6/18/2023
DRAWN BY: SB	APPROVED BY:
PROJECT NO. E95815.02	DRAWING NO. 1

MOORE TWINING ASSOCIATES, INC.

APPENDIX B

SITE PHOTOGRAPHS

Photo Album

By Sara Bloom

Looking east across the eastern portion of the Subject Property

Looking southeast across the eastern portion of the Subject Property

Looking south across the southern portion of the Subject Property

Looking southwest across the southern portion of the Subject Property

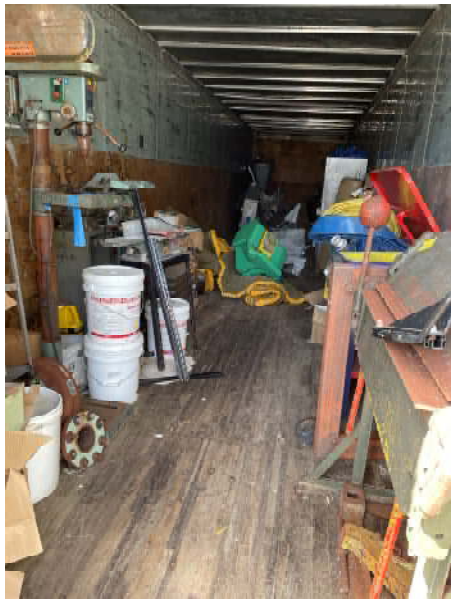
Looking west across the western portion of the Subject Property

Looking northwest across the western portion of the Subject Property

Looking north across the northern portion of the Subject Property

Debris and storage containers in the northwest portion of the Subject Property

Drums/buckets, paints, cleaning supplies stored in storage containers on Subject Property



Drums/buckets, paints, cleaning supplies stored in storage containers on Subject Property

Debris stored around Subject Property storage containers

Latex paint drying area on the Subject Property

APPENDIX C

REGULATORY AGENCY DOCUMENTATION

MOORE TWINING ASSOCIATES, INC.

Public Records Request

May 8, 2023

Requestor Information:

Name: Sara Bloom
Company: Moore Twining Associates, Inc.
Telephone: 559-970-6454
Email: sarab@mooretwining.com

Dear Sir/Ma'am,

Moore Twining Associates, Inc. (MTA) is performing a Phase I Environmental Site Assessment (ESA) on a property in Santa Cruz, CA. We would like to review records dating as far back as 1940 for the following property/properties relating to: hazardous material/waste handling, industrial wastewater disposal/sewerage permitting, code compliance violations and inspections, building, demolition, occupancy, grading and utility permits, underground storage tanks (USTs) and above ground storage tanks (ASTs), pipelines, industrial wastewater sumps, emergency fire/spill response post-incident cleanup permits and/or environmental impacts for the following property/properties:

Facility/Site ID	Facility/Site Name	Parcel Number (APN)	Address	City, State, Zip Code
NA	Santa Cruz City School	003-161-32	313 Swift Street	Santa Cruz, CA 95060

Sara Bloom

From: Julia Wood <jwood@santacruzca.gov>
Sent: Tuesday, May 16, 2023 3:28 PM
To: Sara Bloom
Cc: Bonnie Bush
Subject: Public Records Response
Attachments: PWST-20030017 Permit Details.pdf; complaint form_Redacted.pdf; Aerial-Rear-Lot.docx; Code case - CE16-0107.pdf

RESPONSE TO PUBLIC RECORDS ACT REQUEST – CITY CLERK
(CA. Gov't Code §7920.000 et seq.)

Re: PUBLIC RECORDS ACT REQUEST RECEIVED ON Monday, May 8, 2023

The City of Santa Cruz responds to your public records request for information received on the above-referenced date, Monday, May 8, 2023 as indicated below.

Under the California Public Records Act (CPRA) you are entitled to copies of identifiable, non-exempt public records (Govt. Code section 7922.500). Please note that the CPRA requires the City to provide access to, or copies of, records responsive to your request which are in its possession, subject to certain exceptions. The CPRA does not require the City to provide information, answer questions, or create records which do not exist.

After conducting a reasonable search for requested records, the City Clerk, in consultation with Lee Butler, Director of Planning and Community Development, determined that certain responsive records or portions of responsive records are exempt from disclosure under the CPRA. Specifically, some records are redacted pursuant to the following exemption(s):

☒ Public Interest Exemption • Gov't Code § 7922.000 • After careful consideration, based on the facts of the particular case and/or the nature of the records requested, we have determined that the public interest in nondisclosure of personal information such as [*individual names, home addresses, telephone numbers, and email addresses*] clearly outweighs the public interest served in disclosure of the record(s) in order to protect the privacy or identity of individuals.

Except as stated above, the City has produced public records responsive to your California Public Records Act request. These records are attached.

Records Requested:
"Moore Twining Associates, Inc. (MTA) is performing a Phase I Environmental Site Assessment (ESA) on a property in Santa Cruz, CA. We would like to review records dating as far back as 1940 for the following property/properties relating to: hazardous material/waste handling, industrial wastewater disposal/sewerage permitting, code compliance violations and inspections, building, demolition, occupancy, grading and utility permits, underground storage tanks (USTs) and above ground storage tanks (ASTs), pipelines, industrial wastewater sumps, emergency fire/spill response post-incident cleanup permits and/or environmental impacts for the following property/properties:

Facility/Site ID: NA
Facility/Site Name: Santa Cruz City School
Parcel Number (APN): 003-161-32
Address: 313 Swift Street

City, State, Zip Code: Santa Cruz, CA 95060"

Sincerely,

Julia Wood
Deputy City Clerk
City of Santa Cruz | City Clerk's Division
809 Center Street, Room 8, Santa Cruz, CA 95060
Phone: 831-420-5038
Email: jwood@santacruzca.gov
Web: www.cityofsantacruz.com

Public Records Requests may be submitted online via the Public Records Request form or by hard copy form available at the City Clerk's Office located at 809 Center Street, Room 8, Santa Cruz, CA 95060.

Please note: Public Record Act Requests submitted via email, fax, USPS, or dropoff after 5:00 p.m. on a business day, Saturdays, Sundays, or holidays will be processed as received on the next open business day. The 10-day response period begins when the request is received.

Department of Toxic Substances Control

Meredith Williams, Ph.D.
Director
8800 Cal Center Drive
Sacramento, California 95826-3200

Yana Garcia
Secretary for
Environmental Protection

Gavin Newsom
Governor

May 10, 2023

Sara Bloom
Moore Twining Associates, Inc
sarab@mooretwining.com

Public Records Request Number: 1-050823-04
Location(s): 313 Swift St, Santa Cruz, CA 95060

Dear Requestor:

On May 8, 2023 the Department of Toxic Substances Control (DTSC) received your email of May 8, 2023 requesting records under the Public Records Act. DTSC Sacramento has identified site records responsive to your request and is in the process of gathering the requested records.

Please contact us to schedule an appointment to review these records. DTSC will notify you if any of the records will be withheld from disclosure under the Act.[i] We recommend you bring a copier or arrange for a bonded copying service to make copies of the records.

DTSC's Hazardous Waste Tracking System (HWTS) may have records that pertain to this request. This unit tracks toxic waste generators, transporters (manifests), and disposal facilities. If you are interested in this type of information, it can be identified by accessing the HWTS database at http://hwts.dtsc.ca.gov. If you are interested in retrieving detailed reports, additional charges may apply. Please contact the HWTS unit by email at hwtsreports@dtsc.ca.gov or by phone at (800) 618-6942 for further information. For copies of manifests, please send an email to mcr@dtsc.ca.gov.

A large number of our records are available on EnviroStor, an online database that provides non-confidential, public access to DTSCs data management system. It tracks our cleanup, permitting, enforcement, and investigation efforts at hazardous waste facilities and sites with known or suspected contamination issues. EnviroStor is available 24/7, 365 days a year. The data reflects the latest updates as they are entered in the system. Access it from your computer or smartphone, the local library – anywhere Internet access is available. Just go to www.envirostor.dtsc.ca.gov. You'll find a step-by-step tour of EnviroStor under the "How to Use EnviroStor" menu on the website.

If you have any questions or would like further information regarding your request, please contact me at 916-255-4159 or via email at PubReqAct@dtsc.ca.gov.

Respectfully,
Julee Moua
Julee Moua
Regional Records Coordinator

[i] Some of the records may be exempt from disclosure under the Public Records Act because they may be identified as follows: (1) preliminary drafts or notes (Government Code section 7927.500); (2) records pertaining to pending litigation (Government Code section 7927.200); (3) personnel, medical, personal or private information (Government Code sections 7927.700, 7927.705, 7928.300; Civil Code section 1798, et seq.); (4) records pertaining to complaints or investigations or identification of confidential informant(Government Code sections 7923.600-7923.625); (5) records covered by the attorney-client privilege (Government Code section 7927.705; Evidence Code section 954); (6) records covered by the attorney work product privilege (Government Code section 7927.705); Code of Civil Procedure section 2018.030); (7) records covered by the deliberative process privilege (Government Code sections 7927.705, 7922.000; Times Mirror Company v. Superior Court (1991) 53 Cal. 3d 1325); (8) records covered by the official information privilege (Government Code section 7927.705; Evidence Code section1040); and/or (9) records containing confidential business information or trade secrets (Government Code· section 7927.705); California Code of Regulations, title 22, section 66260.2; Evidence Code section 1060; Health and Safety Code sections 25173, 25185(d), 25358.2); (10) records containing geological and geophysical information (Government Code section 7927.300). This is not an exhaustive list and other exemptions may prevent disclosure of records.

Department of Toxic Substances Control

Edwin F. Lowry, Director
1011 N. Grandview Avenue
Glendale, California 91201

Winston H. Hickox
Agency Secretary
California Environmental
Protection Agency

Gray Davis
Governor

July 9, 2002

07-15-02 P0

Mr. Karl Balke
Director of Bond Projects
Santa Cruz City Elementary
2931 Mission Street
Santa Cruz, California 95060

APPROVAL OF PRELIMINARY ENDANGERMENT ASSESSMENT, PROPOSED ARC/MONARCH ELEMENTARY SCHOOL EXPANSION, 313 SWIFT STREET, SANTA CRUZ, SANTA CRUZ COUNTY, CALIFORNIA 95060 (SITE CODE 204079-11)

Dear Mr. Balke:

The Department of Toxic Substances Control (DTSC) has received via fax your letter, dated July 3, 2002, indicating that the Santa Cruz City Schools (SCCS) has complied with all public review and comment requirements set forth in the California Education Code, Section 17213.1(a)(6) for the subject site. According to your letter, the SCCS held a public hearing on June 5, 2002 and a public comment period from May 13 to June 12, 2002, on the Draft Preliminary Endangerment Assessment (PEA) for the site. The PEA was prepared by Shaw Environmental and Infrastructure (formerly IT Corporation) and dated May 2002 and received by DTSC May 13, 2002. During the public comment period, SCCS received no comments directly. One comment was sent directly to the DTSC project manager concerning the PEA. This comment was reviewed by the project manager and subsequently forwarded to SCCS.

The site is approximately 4.1 acres, located in an area of mixed commercial and residential use. Since the 1980's it has been the location of the Ark and Monarch schools. Historically, the site was used by the National Guard for the servicing of armored vehicles and trucks (1963 – 1980's). During the PEA, the site was investigated for metals, polyaromatic hydrocarbons (PAH's), total petroleum hydrocarbons (TPH), and volatile organic compounds (VOC's).

Based on the findings of the PEA investigation, neither an actual or potential release of hazardous materials nor the presence of a naturally occurring hazardous material, which would pose a threat to human health or the environment under unrestricted land use, was indicated at the site. The PEA concludes that a further investigation of the site is not required. DTSC has reviewed the public comment and determines that no revision of the PEA is necessary. DTSC hereby approves the PEA. As with any real property, if previously unidentified release or presence of a hazardous material is discovered at the site, additional investigation and/or cleanup may be required.

If you have any questions, please contact Mr. Michael Lozano, Project Manager at (916) 255-6523, or me at (818) 551-2821.

Sincerely,

for Sharon Fair
Branch Chief
School Property Evaluation and Cleanup Division

cc: Mr. Charles Metzinger
Project Director
Shaw Environmental and Infrastructure
1326 North Market Blvd.
Sacramento, California 95834

Mr. Jim Bush
Assistant Director
School Facilities Planning Division
California Department of Education
660 J Street, Suite 350
Sacramento, California 95814

bcc: Ms. Dink Mather
School Property Evaluation and Cleanup Division
Department Of Toxic Substance Control
8800 Cal Center Drive
Sacramento, California 95826

Mr. Michael Lozano
Project Manager
School Property Evaluation and Cleanup Division
Department Of Toxic Substance Control
8800 Cal Center Drive
Sacramento, California 95826

Schools Unit - Sacramento Reading File

PRELIMINARY ENDANGERMENT ASSESSMENT REPORT
ARK/MONARCH SCHOOL EXPANSION
313 SWIFT STREET
SANTA CRUZ, CALIFORNIA

Prepared for:

Santa Cruz City Schools
Bond Project Coordination Team
2931 Mission Street
Santa Cruz, CA 95060
May 2002

Prepared by:

Shaw Environmental and Infrastructure (formerly IT Corporation)
1326 North Market Blvd
Sacramento, California 95834

Project 834985.01000000

Preliminary Endangerment Assessment Report
Santa Cruz City Schools ARK/Monarch School Expansion
313 Swift Street
Santa Cruz, California

The material and data in this report were prepared under the supervision and direction of the undersigned. Resumes for the undersigned are presented in Appendix A. This report was prepared consistent with current and generally accepted geologic and environmental consulting principles and practices that are within the limitations provided herein.

IT Corporation
California Licensed Hazardous Waste
Contractor No. 137422

Mary B. Worth
for Charles Metzinger 5/9/02
Charles Metzinger
Project Director

Barbara J Marks 5/9/02
Barbara Marks
Project Manager

Table of Contents

List of Tables

List of Figures

List of Acronyms

Acronym	
bgs	below ground surface
CAM	California Assessment Manual
CFR	Code of Federal Regulations
COPC(s)	chemical(s) of potential concern
DTSC	Department of Toxic Substances Control
ESA	Environmental Site Assessment
ICP	inductively coupled plasma
IRIS	Integrated Risk Information System
IT	IT Corporation
µg/dL	micrograms/deciliter
mg/kg	milligram per kilogram
MSL	mean sea level
OEHHA	Office of Environmental Health Hazard Assessment
PEA	Preliminary Endangerment Assessment
ppm	parts per million
PRG	preliminary remediation goals
QA	quality assurance
QAPP	Quality Assurance Project Plan
QC	quality control
REL	Reference Exposure Level
RfD	Reference dose
SCCS	Santa Cruz City Schools
USDA	The United States Department of Agriculture

Executive Summary

Shaw Environmental and Infrastructure (formerly IT Corporation (IT)) completed this Preliminary Endangerment Assessment (PEA) for the Santa Cruz City Schools ARK/Monarch School Expansion Site located at 313 Swift Street, Santa Cruz, California. The California Department of Toxic Substances Control (DTSC) required that a PEA be conducted to determine if there are residual levels of chemicals in soil from the former National Guard operations at the site or a release of chlorinated solvents into groundwater from an off-site, hydrologically upgradient site. This PEA report has been prepared following guidance in the *Preliminary Endangerment Assessment Guidance Manual* (DTSC, 1994) using data collected in accordance with the PEA workplan (IT, 2002) and *Interim Guidance for Evaluating Lead-Based Paint and Asbestos-Containing Materials at Proposed School Sites* (DTSC, 2001).

The five areas of potential concern and the chemicals of interest at the site are:

- Existing grease rack (metals, polycyclic aromatic hydrocarbons [PAHs], and total petroleum hydrocarbons [TPH])
- Suspected oil/water separator adjacent to the grease rack (metals, PAHs, and TPH)
- Surface water swale (metals, PAHs, and TPH)
- Lead-based paint on the Independent Studies portable classroom building (lead)
- Groundwater (chlorinated volatile hydrocarbons)

At all locations the metals were found to occur at background concentrations, below a level of health concern (based on residential land use), or both. TPH, quantified as diesel and motor oil, were detected in approximately half of the soil samples. However, the TPH concentrations (1.5 to 56 mg/kg as TPH-diesel and 7.4 to 270 mg/kg as TPH-motor oil) were below risk-based screening levels, as established by the San Francisco Bay Regional Water Quality Control Board (2002), for residential soil (100 mg/kg for TPH-middle distillates [used for TPH-diesel] and 500 mg/kg for TPH-residual [used for TPH-motor oil]). PAHs were detected in half of the surface soil samples but only occurred at concentrations above applicable residential preliminary remediation goals (PRGs) in the surface soil sample GR-9 (grease rack). Subsurface soils from this location (GR-9-0.5, -1.0, and –1.5) either did not have measurable concentrations of PAHs or PAHs at concentrations at least an order of magnitude less than the surface sample.

A health risk screening was conducted using the PEA algorithms and the maximum detected concentration of each constituent of potential concern in the soil. The cumulative potential cancer risk is 2×10^{-5}, which is above the *de minimus* level of 1×10^{-6}. The risk is associated primarily with the maximum concentrations of benzo(a)pyrene (risk of 1×10^{-5}) and dibenzo(a,h)anthrancene (risk of 5×10^{-6}) that were found in sample GR-9-0. No further action is recommended for this site because the elevated levels of PAHs are restricted to the surface soil (0 to 0.5 feet) in one spot near the grease rack (GR-9). The concentrations of PAHs in all other soil samples from around the grease rack and the other areas of the site are approximately an order of magnitude lower than in sample GR-9-0. Further, the PAH levels detected in GR-9-0 are comparable to the low end of concentrations reported for urban soils. Thus, risks from the site are comparable to most urban environments.

Based on the investigation findings, no further action is recommended for this site.

1.0 Introduction

This preliminary endangerment assessment (PEA) report for the ARK/Monarch Schools Site has been prepared by Shaw Environmental and Infrastructure (formerly IT Corporation (IT)[1]) for Santa Cruz City Schools (SCCS). It presents the information requested by the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) for the school which is located at 313 Swift Street, Santa Cruz, California (Figures 1 and 2). SCCS intends to conduct demolish the existing facility and construct new school buildings and facilities at the site. New school construction in California requires an environmental review process in compliance with Section 17213.1 of the Education Code, which establishes the basis for DTSC's review of sites in the new school site selection process. As part of the renovation process, Santa Cruz City Schools entered into an Environmental Oversight Agreement with the DTSC for review of this PEA.

Santa Cruz City Schools intends to conduct renovation work at the subject property. Preliminary development plans propose the following activities:

- demolishing or removing the permanent and portable buildings and grease rack
- clearing and grubbing of the site
- grading of the surface
- installing utilities and other infrastructure elements
- constructing classrooms and related school buildings, and
- landscaping open areas.

In compliance with Section 17213.1 of the Education Code, Santa Cruz City Schools performed a Phase I Environmental Site Assessment (ESA) (Weber, Hayes and Associates, 2000) of the subject property. A grease rack used by the National Guard Armory (previous operator at the subject property) was identified in the resulting report as an environmental condition of potential concern. That concern is the potential for a hazardous substance or petroleum product to be on the site under conditions that indicated an existing release, a past release, or a material threat of a

[1] Resumes for Shaw Environmental and Infrastructure personnel are provided in Appendix A.

did not address this, typically a military vehicle maintenance facility would have an oil/water separator in the vicinity of a grease rack and garage. Second, an earlier study found detectable concentrations of lead-based paint on the exterior of the Independent Studies portable building. Third, a storm water swale running through the soil site may accumulate chemicals released from the site or directed through the site as part of run-off. Finally, the Phase I ESA identified a release of chlorinated solvents from the hydrogeologically upgradient site (Santa Cruz Industries [SCI]) as a potential to affect the suitability of the site for a school. This PEA report is directed at detecting if residual chemicals from the SCI plume, former military operations, and/or lead-based paint occur in the soil or the soil gas at the subject property.

This PEA was performed in accordance with the *Preliminary Endangerment Assessment Guidance Manual* (DTSC, 1994) using data collected in accordance with the site-specific PEA workplan (IT, 2002) and *Interim Guidance for Evaluating Lead-Based Paint and Asbestos-Containing Materials at Proposed School Sites* (DTSC, 2001). The PEA is designed by the DTSC as a standard approach to provide basic information for determining whether current or past waste management practices have resulted in a release or threatened release of hazardous substances that pose a threat to public health or the environment.

The remainder of this PEA report is organized into the following sections:

Section 2.0, Site Description – includes information that identifies the physical setting of the Site in relation to the surrounding area.

Section 3.0, Background – refers to the information presented in the Phase I Environmental Site Assessment regarding Site status and history.

Section 4.0, Apparent Problem – summarizes the available information regarding known or potential sources of contamination, which constitute the primary reason for investigation at the Site.

Section 5.0, Environmental Setting – identifies the Site environmental conditions that would influence the transport of contaminants to exposed individuals or environmental receptors.

Section 6.0, Sampling Activities and Results – refers to the results of the sampling activities performed as part of this PEA.

Section 7.0, Human Health Screening Evaluation – introduces the components of the human health screening evaluation, describes the primary purpose of each component, and presents the results of human health risk assessments.

Section 8.0, Ecological Screening Evaluation – is a qualitative description of the potential risk to non-human receptors.

Section 9.0, Community Profile – summarizes the community profile and highlights the assessment of community concern.

Section 10.0, Conclusions and Recommendations – discusses conclusions of the PEA Report and presents recommendations regarding the need for further action at the Site.

Section 11.0, References – presents a listing of documents that are cited in this report.

2.0 Site Description

The subject property is located at 313 Swift Street in Santa Cruz, California and encompasses 4.1 acres. Santa Cruz City Schools presently owns the property and uses it for alternative educational programs. The ARK/Monarch Schools are located at the subject property. Currently, there are 11 buildings on the site (Figure 2) that are used for classrooms, offices, and storage of academic materials.

There are no chemicals or fuels used or stored at the site. A concrete vehicle grease rack remains from the National Guard occupancy, which is located at the western end of the property (Figures 2 and 3). The grease rack is unused and is located within a fenced area, so that there is no ready access for school children. The rack is a drive-on/drive-off configuration and is composed of two parallel risers that run east-west; each riser is approximately 60 feet long. The approximate width of rack is 10 feet. Between the two risers the ground surface is unpaved and there are plants growing between the risers. Adjacent to the grease rack is a paved surface (apron) that contains a drainage grate. A historical map of the site indicates that this area was a wash platform (Figure 3). Although not indicated on the historical map for the site, typically a wash platform would have an oil/water separator (OWS) located beneath or near the drainage grate. Drainage from the wash platform, grease rack, and any other activities from the maintenance building would be directed to the drain and OWS.

2.1 Site Identification

2.1.1 Site Name

The site name for the subject property is the ARK/Monarch Schools.

2.1.2 Contact Person(s)

The contact for the subject property is Cathy Braun. Ms. Braun can be contacted at (831) 427-4813.

2.1.3 Site Address

The subject property is located in the City of Santa Cruz, California at 313 Swift Street. Development surrounding the site is as follows:

- North – retail and manufacturing
- East – residential
- South – educational (elementary school)
- West – light industrial.

2.1.4 Mailing Address

Correspondence regarding the subject property can be mailed to:

Santa Cruz City Schools
Bond Project Coordination Team
2931 Mission Street
Santa Cruz, CA 95060

2.1.5 USEPA Identification Number

The Site does not have a USEPA identification number.

2.1.6 CalSites Database Number

The Site does not have a CalSites database number.

2.1.7 Assessor Parcel Numbers and Maps

The subject property is identified as Assessor's Parcel Number (APN) 03-161-32.

2.1.8 Township, Range, and Meridian

The parcel is located in Santa Cruz, California, within the Section 27, township 11 south, range 2 west, of the Mount Diablo base and meridian. The longitude and latitude are 36°, 57', 8.6" North and 122°, 3', 27.0" west.

2.1.9 Land Use and Zoning

The subject property has most recently been used for educational purposes and is zoned for mixed residential/light industrial use.

2.2 Site Maps

2.2.1 Site Location Map

See Figure 1 for the site location map.

2.2.2 Site Specific Map

See Figure 2 for the current site plan and Figure 3 for a historic site plan.

3.0 Background

This section includes information regarding current and past business operations at the subject property.

3.1 Site Status/Historical Site Information

3.1.1 Current Business Type

The subject property is currently used for educational purposes (ARK/Monarch Schools). There are two permanent buildings on the location that date back to occupancy of the site and nine portable buildings. In addition, there are sports areas (volleyball and basketball courts) and greenhouses that are used in the course of the educational activities.

The National Guard used the site for military training. Figure 3 shows the layout of the site during the 1960s when this site was actively used by the military.

3.1.2 Years of Operation

From 1963 to the mid-1980s the site was operated by the National Guard Armory and was used to service armored vehicles and trucks (Figure 3). The structures that remain from the National Guard tenancy are the two permanent buildings (the former Reserve Center Building and Motor Repair Shop – both now used for classrooms and administrative space), the grease rack (vehicle maintenance ramp) and, at least the apron and drain associated with a wash platform. Since the 1980s, the site has been the location of the schools.

3.1.3 Prior Land Use

From 1963 to the mid-1980s the site was a National Guard Armory and was used to service armored vehicles and trucks (Figure 3). The structures that remain from the National Guard tenancy are the two permanent buildings (the former Reserve Center Building and Motor Repair Shop – both now used for classrooms and administrative space), the grease rack (vehicle maintenance ramp) and, at least the apron and drain associated with a wash platform. Since the 1980s, the site has been the location of the schools.

3.1.4 Facility Ownership/Operators

The subject property is owned and operated by Santa Cruz City Schools.

3.1.5 Property Owners

The subject property is owned and operated by Santa Cruz City Schools.

3.1.6 Surrounding Land Use

The land uses in the adjoining properties are as follows:

- North – Jay's Golf, a firewood business, and Jaut Surfboards bind The property to the north. These businesses are primarily retail and during the January 2002 site visit signs of substantive chemical use (e.g., NFPA signs and outside storage of drums or chemical cabinets) were not observed. Santa Cruz Industries, a manufacturing business, is approximately 300 feet north of the school site, at the intersection of Swift Street and Delaware Avenue.
- East – Swift Street is the eastern property boundary. The property beyond is residential.
- South – The Natural Bridges Elementary School abuts the site on the south.
- West – A maintenance yard operated by SCCS is located to the west of the site. This facility is used for storage and as a work area for the school district's grounds, maintenance, and transportation departments.

3.2 Hazardous Substance/Waste Management Information

There is not current management of a hazardous substance or waste on the site. The following information regarding hazardous substance/waste management is for historical operations on the subject property

3.2.1 Business/Manufacturing Activities

The site was used by the National Guard to service vehicles and trucks (from 1963 - mid-1980s) and is currently used by Santa Cruz City Schools for educational purposes (mid-1980s to present). No manufacturing processes are known to have been conducted at the subject property.

While used by the National Guard Armory, petroleum hydrocarbons would have been used (e.g., motor oil, lube oil, grease) and generated as waste (e.g., waste oil, oily water) during armored vehicle and truck servicing. Building paint used during at least part of this period would likely be lead-based. Lead-based paint waste could be generated, in the form of paint chips, through deterioration of paint over time.

In addition, the Phase I ESA environmental database search and conversations with local and state regulatory agencies identified a chlorinated solvent plume in the groundwater as a recognized environmental condition that could impact the school site.

3.2.2 On-Site Storage, Treatment, and Disposal

Hazardous materials are not currently stored at the subject property. During National Guard Armory operations, hazardous material may have been used and stored at the subject property particularly petroleum hydrocarbons (e.g., motor oil) in the form of product and waste.

3.2.3 Santa Cruz Industries

Santa Cruz Industries (SCI) was a light manufacturing facility located approximately 300 to 350 feet north northwest of the subject property. The historical operations at SCI involved solvent degreasing and metal plating operations. During the early 1990s, it was discovered that groundwater beneath the site was impacted with tetrachloroethylene (PCE) and 1,1,1-trichloroethane (TCA). Contaminated groundwater from SCI flowed south-southeast.

3.2.4 Regulatory Status

The subject property was not identified on the HAZNET database as searched by EDR.

The subject property was not listed on any other databases as searched by EDR. No violations were found on the violations and enforcement database.

3.2.4 Inspection Results

In January 2002, IT personnel conducted a site visit. No inspections of the Site building interiors were conducted for this PEA. There was no evidence of either non-hazardous or hazardous waste currently being stored on-site. There was no evidence of spills or leaks and no above ground and/or underground storage tanks were observed at the subject property.

3.2.5 Prior Assessments/Remediation

The investigation and remediation of the chlorinated volatile organic hydrocarbon plume from Santa Cruz Industries is summarized in this section. In addition, the asbestos and lead-based paint investigation of the ARK/Monarch School Buildings is reviewed.

3.2.5.1 Santa Cruz Industries

Contaminated groundwater from SCI flowed south-southeast. SCI groundwater monitoring program includes three wells adjacent to or near the school site (Figure 4):

- MW18 is located along the northern perimeter of the school
- MW9 is within Swift Street, opposite the school, and
- MW8 is within Swift Street, north of the school

Between November 1999 and July 2000 a vapor extraction system was operated to clean up the groundwater plume. A final remediation report was submitted to the Regional Water Quality Control Board (RWQCB) in September 2000. A response from the RWQCB was not located within the files of the Santa Cruz County Environmental Health.

The latest groundwater monitoring report is provided in Appendix B. The maximum groundwater concentrations of chlorinated hydrocarbons among wells MW8, MW9, and MW18 for Year 2000 monitoring (the latest results located) are:

- 14 ug/L trichloroethylene (TCE) in well MW-18 in June 2000
- 3 ug/L cis-1,2-dichloroethylene (cis-1,2-DCE) in MW-8 in June 2000
- 1.1 ug/L 1,1-dichloroethylene (1,1-DCE) in MW-18 in June 2000
- <0.5 ug/L for PCE in all wells
- <0.5 ug/L for 1,1,1-TCA in all wells

3.2.6.2 Asbestos and Lead-Based Paint Survey Results

An asbestos and lead-based paint survey was conducted in December 1999. Very little asbestos and lead remain in the buildings. Both the main building and garage from the National Guard period were sampled for lead, along with portable buildings. Approximately 100 samples were collected for lead. Except for two samples, all results were reported to be between <0.00 and 0.42 mg/cm^2. The two samples above the EPA's definition of lead-based paint (a painted surface containing 1 mg/cm^2 or more of lead; 40 CFR 745.225(h)) were the green paint on the door frame of the Monarch Independent Studies portable (1.4 to 1.8 mg/m2) and green paint on the window frames of this buildings (1 mg/m^2). Asbestos was only detected in roofing materials, the tile and mastic of the floor in the Main Building and the drywall skim coat of the walls in the ARK/Monarch buildings.

4.0 Apparent Problem

This section summarizes available information regarding potential sources of contamination at the Site as obtained from the Phase I ESA.

4.1 Potential Sources of Contamination

As noted in the Phase I ESA, the subject property is used for educational purposes. It was formerly used by the National Guard Armory to service armored vehicles and trucks. Surrounding properties have a mixed residential/light industrial use. The Phase I ESA report concluded that potential sources for environmental impact to the subject property were:

- petroleum hydrocarbons used/generated during vehicle/truck servicing (National Guard Armory)
- lead-based paint on buildings
- chlorinated volatile organic chemicals in the groundwater.

4.2 Contaminants of Concern

Contaminants of concern in the soil are the following:

heavy metals, including lead
total petroleum hydrocarbons as diesel and motor oil
polycyclic aromatic hydrocarbons (PAHs)
chlorinated volatile organic chemicals.

4.3 Human and Environmental Resources of Concern

The subject property is located in a mixed land use area that is primarily residential and light industrial. The anticipated human receptors are school workers (teachers, administrators, and maintenance staff) and students at the subject property. For the purposes of this PEA, on-site residential children and adults are considered receptors of concern.

The subject property does not have existing natural habitats. It is currently a residential/light industrial area and the areas available for plants and animals to live are limited.

Currently and in the future, the subject property may support local communities of birds, small mammals, and small reptiles/amphibians (such as robins, ground squirrels, and garter snakes). Special status species do not occupy the location and due to the high level of activities at the school and surrounding parcels are not anticipated to migrate to this location in the future.

4.4 Exposure Pathways

Chemicals that may be associated with the potential on-site sources metals, petroleum hydrocarbons, and PAHs. These chemicals, if present, would be expected to be found in the soil at the surface or at shallow depths. This is based on their general low mobility within soil. There is no reason to suspect that groundwater has been impacted. Potential routes for migration of the chemicals of concern include migration within the vadose zone via transitory water and transportation by surface water during precipitation events. Additionally, chemicals of concern adhering to fine-grained sediment may be dispersed from surficial sources by wind. The potentially completed exposure pathways are soil ingestion, dermal contact, and inhalation of soil particles.

The SCI site involved volatile chemical releases to the groundwater, which migrates toward the school site. These volatile chemicals may partition from the groundwater into the soil gas and subsequently be transported into indoor and outdoor air through advection and diffusion. The potentially exposed individuals are the students, teachers, staff, and visitors to the school through inhalation of either impacted indoor or outdoor air. Due to its much slower air exchange, indoor air would have high concentrations of chemicals as a result of soil gas intrusion than outdoor air. For this PEA analysis, only exposure to indoor air has been considered potentially complete.

5.0 Environmental Setting

This section provides information regarding the subject property environmental setting and potential pathways for migration of chemical constituents. The migration pathways considered are soil, water, and air.

5.1 Factors Related to Soil Pathways

There is no visible, olfactory, or historical evidence of a chemical release at this site, such as stained soil, stressed vegetation, or reports of dead or ill wildlife.

5.1.1 Site Topography

The regional topography slopes gently to the southwest. Site topography at the subject property is generally flat. Elevation ranges from approximately 45 to 50 feet above mean sea level (msl). The grade is minimal. The surrounding area is also generally flat. Monterey Bay is approximately 0.25 mile from the subject property.

5.1.2 Predominant Soil Groups at the Site

The predominant soil groups at the site have not been determined. The subject property is located approximately 0.25 miles north of Monterey Bay on a broad coastal marine terrace. Sediments at the subject property have been mapped as lower emergent, coastal terrace deposits and are of marine and fluvial origin. These Pleistocene age terrace deposits contain semi-consolidated, generally well sorted sands with a few relatively continuous layers of gravel, and are believed to have been primarily deposited in a near shore, high energy, marine environment. The thickness of this unit has been reported to be from 5 to 40 feet. These coastal terrace deposits are underlain by the Pliocene age Purisima Formation (bedrock) which consists of very thickly bedded, yellowish gray siltstone.

5.1.3 Site Surface Slope and Drainage

The regional topography slopes gently to the southwest, with the subject property being generally flat. There is a swale that crosses the site between the main building and the garage

(Figure 2). This swale appears to control storm water on the site and is not directly connected to the grease rack/wash platform area.

5.1.4 Site Accessibility

A fence surrounds the grease rack. There are no other barriers or other access controls at the site.

5.1.5 Measures to Contain or Prevent Direct Contact with Hazardous Substances in Soil

A fence surrounds the grease rack.

5.1.6 Distance and Location of Nearest Potentially Affected Sensitive Receptor Populations

Residential Area.	Residences are located across Swift Street, to the east of the subject property.
School.	Natural Bridges Elementary School is located to the south of the subject property.
Business.	The property is bound to the north by Jay's Golf, a firewood business, and Jaut Surfboards. SCI is approximately 300 feet north of the school site, at the intersection of Swift Street and Delaware Avenue. A maintenance yard operated by SCCS is located to the west of the site.
Day Care	Intergenerational Child Care Center is at 255 Swift Street.
Hospital	Dominican Hospital is located at 1555 Soquel Drive and is approximately 3.5 miles from the subject property.
Nursing Home	Dominican Hospital D/F Snf is located at 610 Frederick Street, Santa Cruz, approximately 3.7 miles northwest of the site.
Senior Citizens Center	California Grey Bears is located at 2710 Chanticleer Avenue, Santa Cruz, approximately 6 miles northwest of the site.

5.2 Factors Related to Water Pathway

A potential source of a hazardous substance release to groundwater is the suspected subsurface OWS at the subject property.

5.2.1 Site Hydrogeology

Weber, Hayes, and Associates (2000) reported the site hydrogeological setting as follows. The site is located at an elevation of 45 to 50 feet above mean sea level. It is located approximately 0.25 miles north of Monterey Bay on a broad coastal marine terrace. The regional topography slopes gently to the southwest. Sediments at the site have been mapped as lower emergent, coastal terrace deposits and are of marine and fluvial origin. These Pleistocene age terrace deposits contain semi-consolidated, generally well sorted sands with a few relatively continuous layers of gravel, and are believed to have been primarily deposited in a near shore, high energy, marine environment. The thickness of this unit has been reported to be from 5 to 40 feet. These coastal terrace deposits are underlain by the Pliocene age Purisima Formation (bedrock) which consists of very thickly bedded, yellowish gray siltstone.

5.2.2 Contaminated or Potentially Contaminated Aquifers

There is known contamination in the shallow subsurface. The source of contamination is operations from the former SCI location. A soil venting system has been used to remediate the SCI plume and a request for case closure has been made to the Central Coast Regional Water Quality Control Board.

5.2.3 Water Well Information Within 1-Mile Radius of the Site

There are no known drinking water wells within a 1-mile radius of the subject property. There are approximately 12 monitoring wells related to the contamination from SCI operations.

5.2.4 Possible Migration Routes via Surface Water Runoff or Flooding

Contamination may lead from onsite operations to the swale. However, the swale does not connect to any surface water body.

5.2.5 Locations and Uses of Surface Waters and Critical Habitats Potentially Affected

There is no on-site surface water and no known connection to a surface water body. There are no surface waters or critical habitats potentially affected

5.2.6 .Past or Existing Measures for Preventing or Mitigating Surface Water Runoff

The onsite swale leads to the maintenance yard area and infiltrates the soil.

5.2.7 Slope of the Site and Intervening Terrain from Site to Surface Water Body

The subject property gently slopes to the southwest toward Monterey Bay.

5.3 Factors Related to Air Pathways

Factors that have potential for exposure of contaminants through wind dispersal are discussed in this section.

5.3.1 Known or Potential Sources and Mechanism for the Release

There are no known releases of hazardous substances into the atmosphere. There is potential for dispersal of site soil by wind. Exposure to airborne soil during construction activities is possible.

5.3.2 Daily Prevailing Wind Direction and Daily Average Velocity

Santa Cruz specific weather information was found from the Department of Water Resources (2002) website (http://www.ceresgroup.com/col/weather/cimis/scruz_monthly.shtml). The average annual wind speed from three stations (de Lavega in Santa Cruz, Green Valley Road in Watsonville, and Watsonville West) ranged from 2.7 to 6.3 miles per hour. The predominant wind direction was not reported, however based on San Francisco Airport data it is anticipated to be west northwest

5.3.3 Local Climate Factors

Based on Santa Cruz weather stations, the annual average temperature is anticipated to be 55 °F. The annual average precipitation is 30.37 inches per year and the majority of precipitation falls between November and March (generally 3.89 to 6.79 inches per month). Less than 0.29 inch per month of precipitation falls during the summer months.

5.3.4 Timing of the Release or Threatened Release

No known releases to the atmosphere have occurred during site operations.

5.3.5 Possible Dispersion Routes for a Release or Threatened Release

Based upon the wind conditions, dispersion routes would be to the north and east, that is, toward the residential and commercial receptors.

5.3.6 Approximate Population Possibly Affected by a Release or Threatened Release

The approximate population that may be affected includes students and school workers, construction workers during site construction, and neighboring residences.

5.3.7 Location and Distance to Areas Impacted by a Release or Threatened Release

Location and distances to nearest sensitive receptors are as listed in Section 5.1.6.

6.0 Sampling Activities and Results

Prior to the 1980s, the ARK/Monarch Schools site was a National Guard facility that conducted vehicle maintenance. Since the mid-1980s, the site has been a school that has used both buildings from the National Guard occupancy and portable classrooms. Suspected sources of chemicals are motor vehicle chemicals (including residuals of fuels, motor oils, and metals) and lead present in paints used on the Independent Studies portable. In addition to the on-site sources, residuals of chlorinated solvents could have been transported with groundwater that flows from the former Santa Cruz Industry site toward the school. Based upon the historic and off-site land uses, the potential chemicals in site soil are metals, fuel hydrocarbons, polycyclic aromatic hydrocarbons. The anticipated chemicals in the soil gas are chlorinated volatile organic chemicals.

The following sections discuss the sampling activities, analytical results, and discuss the significance of the results.

The purpose of the sampling project was to conduct a systematic soil and soil gas sample collection program over the portions of the Site that are presently proposed for occupancy by the school buildings, associated facilities and parking areas, and playgrounds. To achieve the project objective, the following scope of work was conducted:

- Mobilization
- Field Investigation
- Laboratory Analyses
- Screening Health Risk Assessment
- PEA Report Preparation.

6.1 Sampling Activities

Soil sampling was done on 1 April 2002 and soil gas sampling was done on 19 April 2002. This section describes both field efforts.

6.1.1 Soil Sampling

The soil sampling effort consisted of the advancement of the following borings in areas of potential concern:

Grease Rack: - installation of 9 borings (GR-1 to GR-9) in and around the former grease rack using hand auger equipment. Samples were collected at the surface (0 to 0.5 feet bgs) and shallow subsurface (0.5 to 1.0, 1.0 to 1.5 and 1.5 to 2.5 feet bgs)

Suspected Oil/Water Separator – installation of 3 shallow borings (GR-10 to GR-12) around the drain grating that may be evidence of the separator. Samples were collected at the surface (0 to 0.5 feet bgs and 0.5 to 1.0 feet bgs) and anticipated average groundwater table (5.0 to 5.5 feet and 5.5 to 5.6 feet bgs)

Independent Studies Portable building – collection of 4 surface soil samples (PB-1 to PB-4) within the dripline of the portable building.

Swale – installation of 2 borings (SW-1 and SW-2) within the stormwater swale at topographical low locations where chemicals may have accumulated. Two samples per boring were collected.

The locations for the soil surface samples and borings are shown in Figures 4. The locations of the PB-1 to PB-4 were modified in the field (the work plan figure had identified the Independent Studies portable building incorrectly). In addition, the locations for samples SW-1 and SW-2 were added during the fieldwork based on comments from DTSC on the PEA Work Plan. Three duplicate soil samples (one for the grease rack area, one for the oil/water separator area, and one for the Independent Studies portable building area) were collected. Pursuant to the Work Plan, one equipment rinsate sample per day was collected for quality assurance/quality control (QA/QC).

Sampling activities were conducted in accordance with the PEA Work Plan (IT, 2002) and comments from DTSC on the work plan. Samples were collected using decontaminated augering equipment and dedicated glass jars. Once the sample was collected, the jar was sealed, labeled, and placed into a chilled cooler for transportation. All soil samples were stored on ice in an insulated chest for transport under chain-of-custody manifest to Curtis and Thompkins Laboratory in Berkeley, California, a California-certified analytical laboratory. Soil samples were analyzed according to the analytical program outlined in Section 6.2.

All boring and sampling equipment was washed prior to commencement of the work. In addition, to minimize cross-contamination between borings, all appropriate downhole sampling equipment was washed between borings. The soil borings were backfilled with soil. No solid

waste was generated because the methods used to collect soil samples did not generate soil cuttings.

6.1.2 Soil Gas Sampling

On 19 April 2002, three grab samples of soil gas were taken along the northern border of the site where the extrapolation of the June 2000 groundwater sampling results suggested that the chlorinated solvent plume may cross the boundary of the school site (Figure 5). Two soil gas samples were collected along the northern boundary of the parking lot and one was collected along the northern boundary of the driveway (Figure 5). Samples were collected at a depth just above the water table, at 3 to 3.5 feet bgs.

Soil gas samples were collected by first driving a hollow rod into the ground to the required depth. The rod had an expendable point, an expendable point holder, an adapter and tubing. The expendable point was placed in the expendable point holder, which in turn was attached to the drive rod. Once the rod was at the required depth, the drive rod and expendable point holder were retracted, separating the expendable point from the point holder, and creating the desired void in the soil. An adapter and polyethylene tubing were advanced down the inner rod and secured to the expendable point holder. The tubing at the surface was attached to a vacuum/volume system to purge the line and draw a sample. Once the line was purged, soil gas samples were collected in a Summa canister. The used tubing was discarded after each sample.

In addition to the three soil gas samples, an ambient air blank was collected at the time and place of sampling in the vicinity of the soil gas samples. This blank was collected as a control to understand the concentrations of gases in the subsurface.

The Summa canisters were sent to K-Prime, a DHS-certified laboratory, for total organics (TO-14) analysis under chain of custody procedures.

6.2 Laboratory Analyses

The soil samples were submitted to Curtis and Thompkins Laboratory of Berkeley, California for metals, PAH, and TPH analyses. The soil gas samples were submitted to K-Prime of Santa Rosa, California for volatile organic chemical analysis. The analyses were conducted in accordance with EPA-specified holding times and analyzed for the chemicals listed below. For the grease rack area, the surface soil samples were analyzed first. The deeper samples (0.5 to 2.0 feet) were placed on hold in the laboratory pending results of the surface samples. Deeper

samples from one location (GR-9) were analyzed for PAHs based on the surface results, as described below. The surface soil samples from around the Independent Studies portable (PB-1-0, PB-2A-0, PB-2B-0, PB-3-0, and PB-4-0) were analyzed for total lead concentration using EPA Method 6010B. The surface soil from the grease rack area (GR-1-0 to GR-9-0) and swale area (SW-1 and SW-2) were analyzed for CAM 17 metals [using EPA Methods 7471 (for mercury) and 6010B (for all other metals)], PAHs (using EPA Method 8310), and TPH-extractables quantified as diesel and motor oil (using modified EPA Method 8015). The subsurface soil samples from location GR-9 (GR-9-0.5, -1.0, and –1.5) were analyzed for PAHs (using EPA Method 8310). The surface and subsurface soil samples from the suspected oil/water separator area (GR-10-0, -0.5, -5, and –5.5; GR-11-0.5, -0.5, -5, and –5.5; and GR-12-0, -0.5, -5, and –5.5) were analyzed for CAM 17 metals [using EPA Methods 7471 (for mercury) and 6010B (for all other metals)], PAHs (using EPA Method 8310), and TPH-extractables quantified as diesel and motor oil (by modified EPA Method 8015).

All three soil gas samples and the ambient air sample were analyzed for volatile organic chemicals by EPA Method TO14.

6.3 Analytical Results

The analytical results for soil samples and soil gas samples are presented in Tables 1 and 2, respectively. Tables 3 and 4 summarize these results. The quality assurance data (duplicate samples, equipment rinsate blank, site soil matrix spikes and matrix spike duplicates, laboratory control samples, and analytical surrogates) indicated that the data are of a sufficient quality for risk management decision making. It should be noted that the subsurface soils from boring GR-9 were extracted 1 day outside of extraction holding time for Method 8310. This was not judged as significantly impacting the quality of the data because the samples were held at 4° C, the PAHs of interest are not volatile, and the PAHs of interest are resistance to biodegradation. No source of contamination from the sampling or analysis was identified and the analytical process was within acceptable and/or routinely achieved limits. Copies of certified analytical reports are presented in Appendix C.

6.3.1 Metals

Sixteen metals were detected in the soil. These analytical results were compared to soil samples taken at the SCI site that were used to define background. Table 5 provides the background

samples and the results. Based on these results 14 of the 16 metals were identified as potentially above background levels (Table 6) and are considered chemicals of potential concern.

6.3.2 Polycyclic Aromatic Hydrocarbons and TPH

PAHs were found in approximately half of the surface soils. Except for the surface soil sample GR-9-0, all PAHs were found at concentrations equal to or less than the EPA 2000 Residential Preliminary Remediation Goals (PRGs). Since sample GR-9-0 contained levels above the PRGs benzo(a)pyrene, the subsurface soils samples were analyzed from this location. Levels in the subsurface soil samples were approximately an order of magnitude less than the surface soil. Further the levels of PAHs detected in GR-9-0 and other samples were within the low-end of the concentrations reported by the Agency for Toxic Substances and Disease Registry (1995) to be typical concentrations of PAHs in urban and rural soils (Table 7).

No chemical evidence of a release from the suspected oil/water separator was found. No detectable concentrations of PAHs were found in the suspected location. In addition, only very low levels of TPH were found in the soils.

No evidence of a chemical release to the swale was found since only low levels of TPH were present.

6.3.3 Volatile Organic Chemicals in Soil Gas and Ambient Air

The groundwater chemicals of concern at the SCI site are chlorinated hydrocarbons. No detectable concentrations of these chemicals were found in the soil gas or the ambient air. The soil gas did contain measurable concentrations of benzene, toluene, ethylbenzene, xylenes, and trimethylbenzenes. These constituents are generally related to petroleum fuels or petroleum solvent releases. The Phase 1 ESA did not indicate that there was a known release of fuels or petroleum solvents within the area of the school.

6.4 Discussion

The quality of the analytical data was found acceptable for making risk management decisions. The sampling locations and densities were oriented to areas where chemical releases are considered most likely and/or evidence of a release may be found.

Few organic chemicals were detected in the site. Except for one point in the vicinity of the grease rack, no detectable PAH levels were found. The highest concentrations of PAHs in the

surface soil sample GR-9 were limited to the surface soil: shallow subsurface soils contained PAHs but at concentrations that are consistent with urban soil. The chemicals suspected to be present in the groundwater and soil gas from the SCI release were not detected in the soil gas at the school. However, volatile organic chemicals characteristically associated with petroleum products were detected in low (part per billion) concentrations in the shallow soil gas along the northern border of the school.

7.0 Human Health Screening Evaluation

To assist risk managers in determining appropriate remedial actions, IT has evaluated the potential health risks resulting from exposure to chemicals in the soil and soil gas at the Site. The goal of this assessment has been to determine if contact with chemicals could result in significantly elevated lifetime cancer risks or noncarcinogenic health effects, or both. The analytical chemistry data generated during the PEA field investigation have been used. These data are useable for characterizing potential risks since they were collected using standard field techniques under chain-of-custody procedures. Further, California-certified laboratories were used to conduct standard EPA analytical methods to measure the concentrations of organics and metals.

The risk assessment involved screening all detected organic chemicals and inorganic chemicals above ambient levels using the DTSC PEA algorithms (DTSC, 1994). Tables 3 and 4 summarize the analytical results for the subject property.

A health risk screening was conducted following DTSC PEA procedures for the human health evaluation. As stated by DTSC, the goal of the PEA screening process is to provide risk managers with an estimate of the potential chronic health hazards from chemicals at the subject property. The results of a PEA evaluation are intended to be used to determine if further work (such as a baseline risk assessment) is necessary. Due to the generic nature of the exposure assumptions incorporated into the PEA procedure, the results are not absolute estimates of the risk or hazards at a site. However, they are health-conservative estimates: that is, the results tend to over-estimate potential health hazards and cancer risks, rather than underestimate them. Consequently, if the PEA results suggest that cancer risks are at acceptable levels and non-carcinogenic health hazards are below levels of concern, no further risk analysis generally is warranted.

As conducted for the site, the PEA health effects screening process has four major steps.

1. The identification of receptors, exposure pathways and media of concern, discussed in Section 7.1.

2. The development of exposure concentrations and chemicals, including the selection of chemicals of potential concern (COPC), discussed in Section 7.2.

3 The identification of appropriate toxicity values, discussed in Section 7.3.

4 The characterization of cancer risks and systemic toxicity hazards (using PEA summarized equations), as discussed in Section 7.4.1, and the hazard evaluation for lead (using the *Lead Spread* model), provided in Section 7.4.2.

7.1 Exposure Pathways and Media of Concern

This section presents the conceptual site model for the subject property. A conceptual site model describes:

- The sources and nature of the anticipated chemicals of potential concern at the subject property,
- The characteristics of the subject property that influence fate, transport, and exposures,
- The potentially exposed people (also animals and plants, as discussed in Section 8.0), and
- The potentially complete exposure pathways.

The subject property is located in a mixed residential and light industry area. Potential sources for hazardous materials include accumulations of lead-based paint from a portable classroom building, former use of the site for vehicle maintenance, and transport of volatile organic chemicals from the groundwater into indoor air.

The subject property will be used as a combined alternative elementary and high school site for the foreseeable future. Based on this land use, the anticipated human receptors are school workers (teachers, administrators, and maintenance staff) and students at the future school. For the purposes of this PEA, on-site residential children and adults are considered receptors of concern. Schools can not be located on sites that have land use restrictions based on chemical contamination. The DTSC generally uses a residential scenario to evaluate plots with unrestricted land use. Consequently, the residential children and adults have been considered potential receptors for this Site.

The potentially complete soil exposure pathways for both the hypothetical residential receptors and school receptors are soil ingestion, dermal contact, and inhalation of soil particulate (dust). These three pathways are potentially complete exposure pathways since vegetation or engineered barriers, or both, may be present and will act as a barrier to exposures. Exposures via these pathways would be chronic. None of the soil chemicals of potential concern, see Section 7.2, is volatile, so inhalation of gases is an incomplete pathway. Indirect exposures to soil chemicals from ingesting homegrown vegetables, fruits, meat, milk, and/or eggs are incomplete pathways since the raising of the agricultural products in significant quantities is not consistent with use of the subject property as a school.

The potentially complete exposure pathways for the soil gas chemicals of concern are inhalation of indoor and outdoor air. Wind dispersion of soil gases emitted from the ground is greater than air exchange in buildings. Consequently for this analysis, only exposure to indoor air is considered complete since this is the more conservative exposure route.

The PEA algorithms were used to screen soil concentrations for potential health effects. These algorithms, based on residential land use, assume a person is exposed to chemicals in soil through the three potentially complete exposure pathways identified for this Site. Further, they incorporate standard, default assumptions to assess exposures. In particular they assume that a person is exposed to the soil 350 days per year for 30 years. (Based on the school scenario, the exposure frequencies are likely to be 180 days per year, 6 hours per day, for children. The exposure duration's appropriate for an elementary school would be 2 to 7 years for children.) For noncarcinogenic health effects assessment, the PEA assumes that a toddler/preschooler is the receptor of concern.

Figure 6 presents the conceptual site model for the subject property.

7.2 Exposure Concentrations and Chemicals

This section reviews the analytical results and the selection of COPCs. The criteria used to select the COPCs were frequency of detection for all chemicals.

7.2.1 Organic Chemicals in Soil and Soil Gas

Tables 3 and 4 summarize the analytical results for the subject property. Any organic chemical detected in at least one sample was selected as a COPC. To ensure that COPCs were not missed due to the detection limits being above a level of concern, the minimum and maximum sample

detection limits for the other organic chemicals in soil were compared to PRGs. The maximum sample-specific detection limits were below the applicable residential PRGs for all chemicals. For soil gas, the anticipated chlorinated volatile hydrocarbons were below detection. Ambient air PRGs are not applicable to soil gas evaluations since there is no adjustments associated with fate and transport. Consequently to judge the sensitivity of the soil gas results, fate and transport modeling using US EPA Johnson and Ettinger model spreadsheets was conducted for trichloroethylene, cis-1,2-dichloroethylene, 1,1-dichloroethylene, tetrachloroethylene, and 1,1,1-trichloroethane (Appendix D). This modeling indicated that the detection limits achieved were appropriate for characterizing risks and hazards.

7.2.2 Inorganic Chemicals in Soil

Silver was the only CAM17 metal not detected in at least one soil sample, so it has not been selected as a COPC (Table 3). The site investigation documented that lead and the other inorganic chemicals occur in soil at detectable concentrations (Table 3).

The detected constituents may be a result of historical operations, as naturally occurring soil chemicals, or emissions of the chemicals from non-site activities (such as aerial deposition of lead from cars). The objective of this risk screening (and any subsequent remedial activities) is to address chemicals that may be at the Site because of historical site operations. To evaluate which chemicals may be above background concentrations, the site maximum concentration was compared to the maximum concentration among the five perimeter/ambient samples taken for the SCI site remediation. Table 5 provides the background ambient results and Table 6 provides the comparisons. Based on these comparisons, arsenic and copper were judged to be at ambient concentrations and not selected as COPCs. Although found to be potentially above local background levels, the maximum concentration of each metal was found within levels found in California soils (Table 6), as reported in Bradford, et al (1996).

7.3 Toxicity Values

The dose-response relationship assessment characterizes the levels at which adverse health effects are anticipated to occur as a result of chronic exposures. The PEA guidance requires that the current noncarcinogenic and carcinogenic toxicity information be used to characterize this dose-response relationship. Most of the COPCs have either carcinogenic potency factors or noncarcinogenic reference doses, or both. The cancer slope factors and noncarcinogenic hazard factors have been obtained from the following sources, in order of preference:

1 California Office of Environmental Health Hazard Assessment (OEHHA), Toxicity Criteria Database. Online Search April 2002.

2 U.S. Environmental Protection Agency. Integrated Risk Information System (IRIS), searched in April 2002.

3 U.S. Environmental Protection Agency, Region IX, 2000 Preliminary Remediation Goals (PRG table) (this was used to identify slope factors from other U.S. EPA offices and appropriate route-to-route extrapolations; U.S. EPA, 2000)

The evaluation of exposures to carcinogens is addressed as an increase in the probability of development cancer over a lifetime based on the lifetime average daily exposure. Risks are determined using cancer slope factors. A slope factor is an upper bound, approximating a 95% confidence limit, on the increased cancer risk from a lifetime exposure to an agent. This estimate, usually expressed in units of proportion (of a population) affected per mg/kg/day, is generally reserved for use in the low-dose region of the dose-response relationship, that is, for exposures corresponding to risks less than 1 in 100. For soil gas exposure characterizations, the unit cancer risk has been used. The unit cancer risk is the increase in the lifetime probability of developing cancer if a person inhales air contains a concentration of a carcinogen at 1 $\mu g/m^3$. This unit risk factor assumes an adult body weight of 70 kg, an inhalation volume of 20 m^3 per day, and a lifetime exposure (24-hours per day, 365 days per year, and 70 years).

OEHHA (2002) Chronic Reference Levels (RELs) and US EPA Reference doses (RfDs) have been used to characterize potential noncarcinogenic or systemic health effects and are provided on Tables 9 and 10. An RfD is an estimate (with uncertainty spanning perhaps an order of magnitude) of a daily exposure to the human population (including sensitive subgroups) that is likely to be without an appreciable risk of deleterious effects during a lifetime (USEPA, 1993). An REL is similar to the RfD. The RfD and REL are useful as reference points from which to gauge the potential effects of the chemical at other doses. Usually, doses less than the RfD or REL are not likely to be associated with adverse health risks, and are therefore less likely to be of regulatory concern. As the frequency and/or magnitude of the exposures exceeding the RfD or RLE increase, the probability of adverse effects in a human population increases. However, it should not be concluded that doses in excess of the RfD or REL must result in adverse effects.

7.4 Risk Characterization

Section 7.4.1 presents the carcinogenic and noncarcinogenic risk characterizations based on the PEA algorithms and toxicity information identified in Section 7.3. Results are provided on Tables 8 to 10. The potential for adverse, systemic health effects resulting from exposure to lead is evaluated in Section 7.4.2. Results are provided on Table 11.

7.4.1 Cancer Risks and Noncarcinogenic Hazards

Potential risks to soil COPCs based on a residential land use were evaluated using the summarized risk and hazard equations presented in the DTSC (1994) PEA Manual. These equations assume that a person lives at the same location for 30 years, from birth to age 30. Further, these equations assume that this individual will be at the Site for 350 days per year and will be exposed to chemicals in the soil through soil ingestion, skin contact with soil, and inhalation of soil that has been eroded by wind or mechanical processes. Regulatory default assumptions regarding the frequency and intensity of contact with the soil are incorporated into the simplified equations. These exposure assumptions are likely to overestimate the potential contact of students, school employees, and others using the school. Tables 8 and 10 present the carcinogenic and non-carcinogenic PEA results, respectively.

Carcinogenic effects are not believed to have a threshold, that is, any exposure to a carcinogen increases the lifetime probability of developing a cancer. However, under the National Superfund law, cancer risks below 1×10^{-6} are considered *de minimus* (Code of Federal Regulations [CFR], Title 40, Part 300). Risks greater than 1×10^{-4} (100×10^{-6}) require that risk managers initiate further actions (40 CFR 300). Between these two levels, risk managers need to balance risk estimates, the uncertainties associated with the risk estimates with other criteria (such as engineering feasibility and costs). For the school site, the total carcinogenic risk across all pathways and chemicals is 2×10^{-5} or 20×10^{-6} based on an exposure to the maximum reported concentration of each COPC (Table 8). The projected cancer risk is due primarily to potential oral and dermal exposures to benzo(a)pyrene and dibenzo(a,h)anthracene: 1×10^{-5} and 5×10^{-6}, respectively. The risk estimates are based on the maximum measured concentration of the COPCs, thus it is assumed that this concentration is representative of the site-wide level and has been influenced by historical activities at the Site. This initial screening suggests that there is a potential concern. All of the maximum concentrations of PAHs are associated with sample GR-9-0, a surface soil sample taken near the grease rack. The vertical and areal distributions of the PAHs are limited. The concentrations of the PAHs in deeper soil samples from GR-9 (samples GR-9-0.5, -1, and –1.5) were approximately an order of magnitude less than in the

surface soil sample. Similarly, the other 8 surface soils taken from the area of the grease rack (as well as the samples from the suspected oil/water separator) were below detection or at least an order of magnitude less than found in sample GR-9-0 (Table 1). Thus, exposures would be to concentrations much lower than estimated using the maximum concentration. For example, the average concentrations of benzo(a)pyrene and dibenzo(a,h)anthracene in the surface soils around the grease rack (assuming lognormal distributions) are 12 μg/kg and 15 μg/kg, respectively, that is 17- to 18-times less than the maximum concentrations.

Noncarcinogenic chemicals are believed to have thresholds below which exposure to the chemicals does not pose a health threat. To determine if a soil concentration would exceed the dose threshold, the dose is compared to a reference dose (RfD) which is based on the threshold. If the hazard quotient (product of the dose divided by the RfD) and hazard index (sum of all hazard quotients) is less than 1, it is believed that the chemicals do not occur at concentrations of concern. The site noncarcinogenic hazard index for soil ingestion, skin contact, and particulate inhalation is 0.5 (Table 9), which is below the threshold of concern.

Individuals are not exposed directly to chemicals in the soil gas. However, exposure may occur if these volatile chemicals enter the indoor air through transport. To estimate the potential indoor air concentrations of the soil gas COPC, the Johnson and Ettinger vapor intrusion model was used, as programmed by US EPA. This model estimates indoor air concentrations assuming the chemical enters indoor air via diffusion and advection (i.e, movement as a result of chemical and vapor pressure gradients). For this PEA, all of the U.S. EPA default values for soil and building properties were used with the exception of depth of the soil gas source. The sample collection depth (3 feet) was used for the modeling. The estimated indoor air concentrations were evaluated using OEHHA unit cancer risks for inhalation and chronic reference exposure levels. Table 9 presents the carcinogenic and noncarcinogenic hazard evaluation for exposures to soil gas. The cancer risk is de minimus (estimated to be 7×10^{-9}) and the noncarcingenic hazard index (0.0002) is below a level of concern.

7.4.2 Lead

The risk screening for lead was conducted using the DTSC's *LeadSpread*, Version 7. The systemic health evaluations of lead are developed differently than most chemicals. A large volume of toxicological data has been collected on the effects of lead on the human body. Most of the data relate exposure and effect (dose-response) in terms of the amount of the concentration

of lead in blood to an observed effect. The blood lead level is measured as micrograms of lead per deciliter of blood (µg lead/dL blood). To maintain consistency with the toxicological reference data, lead intakes must be derived in terms of micrograms of lead intake per day and combined with blood-lead route-specific transfer factors to yield a blood-lead concentration (µg/dL). Blood-lead slope factors (µg/dL per µg lead intake/day) relate exposure to expected blood-lead concentrations.

Table 11 presents the screening analysis for soil lead based on the maximum soil concentration (16 mg/kg) and default exposure values. This analysis suggests that, at the maximum soil level of lead, at least 99 percent of residential children (without pica) would have a blood lead level of 4.9 µg/dL or less and 99 percent of children with pica would have a blood level of 5.3 µg/dL or less. Children that have blood lead levels below 10 µg/dL are not considered to be at risk for developing adverse central nervous system or other adverse health effects as a result of exposure to lead. Thus, lead levels at the site appear to be protective of all residential children.

8.0 Ecological Risk Screening

This section presents the ecological risk screening conducted for the Site. This assessment is primarily qualitative rather than quantitative in nature, that is, it has identified potential habitats of concern and potential exposure pathways. Overall, no potential concern for ecological receptors has been identified based on the lack of significant habitat at the Site and surrounding areas.

This section describes the methods used for the screening assessment and the results. This risk screening has been prepared following DTSC guidance for a scoping ecological risk provided in:

- Guidance for Ecological Risk Assessment at Hazardous Waste Sites and Permitted Facilities, Part A: Overview (July 4, 1996)
- Preliminary Endangerment Assessment Guidance Manual. (January 1994).

The PEA Manual indicates that a screening ecological risk assessment has four major components: the site characterization, the biological characterization, the exposure pathway assessment, and the qualitative summary. Section 8.1 provides the Site characterization and Section 8.2 provides the biological characterization. These two sections describe the habitats/land uses on and adjacent to the Site that could be impacted by Site chemicals. They also describe the species and types of communities present or potentially present. Based on the biological characterization, potential ecological receptors and complete exposure pathways between areas of contamination and biota or habitats site were identified (Section 8.3). No significant ecological receptors and potentially complete exposure pathways were identified. Consequently, a qualitative summary has not been prepared.

8.1 Site Characterization

The Site is occupied by a school and does not have existing natural habitats, it would be classified as an urban habitat. In addition, the surrounding properties that are residential and light industrial are also urban habitats. The Site may support local communities of common birds, small mammals, and small reptiles/amphibians (such as robins, ground squirrels, and garter snakes).

8.2 Biological Characterization

There is no natural, wildlife habitat on the subject property. As indicated above, urban species may use the Site.

8.3 Receptors and Exposure Pathway Assessment

Biologically significant populations of terrestrial ecological receptors were not identified to occur on the subject property or in adjacent properties. Consequently there are no complete exposure pathways and no ecological concern associated with the subject property.

9.0 Community Profile

Appendix E provides the community profile.

10.0 Conclusions and Recommendations

Section 17213.1 of the Education Code established criteria for assessment of new school sites under the oversight of the DTSC. IT Corporation completed this PEA for the Santa Cruz City Schools redevelopment of the ARK/Monarch School site at 313 Swift Street, Santa Cruz, California. The investigation and data analyses were conducted in accordance with:

- PEA Guidance Manual (DTSC, 1994)
- Interim Guidance for Sampling Lead-Based Paint and Asbestos (DTSC, 2001)
- ARK/Monarch School PEA workplan (IT, 2002), and
- Comments from DTSC on the ARK/Monarch PEA workplan.

From 1963 to the mid-1980s, the National Guard occupied the site and conducted vehicle maintenance activities. Since the 1980s the facility has been a school. Based on the historical activities residuals of chemicals from vehicle maintenance were considered an issue of concern. In addition, transport of a chlorinated solvent plume from the hydrogeologically upgradient SCI plume was a potential concern.

10.1 Hazardous Substance Release

The PEA investigation found evidence of a potential release of petroleum hydrocarbons in the vicinity of the grease rack. Elevated levels of PAHs were found in a single surface soil sample, GR-9-0. The vertical distribution of the elevated PAHs is limited since the subsurface soil samples from boring GR-9 either did not contain PAHs or were at least an order of magnitude less than found in the surface sample. The lateral extent of the release is also limited since PAHs were either below detection or at typical urban soil levels in all other samples from the grease rack.

No evidence of a chemical release in the area suspected to have an oil/water separator was found. The concentrations of PAHs, TPH, and metals were either below detection or very low.

No evidence of a release from the lead-based paint from the Independent Studies portable building was found: the concentrations of lead in the soil were consistent with naturally occurring levels in California soils.

The detected concentrations of TPH and PAHs in the swale may be evidence of a release with transport in surface water. However, no specific source can be identified.

The detection of aromatic volatile hydrocarbons in the soil gas along the northern border of the site suggests that there may have been an upgradient release of a petroleum product upgradient of the site. However, there is no known source. The concentrations of the chlorinated volatile hydrocarbons were below detection suggesting that the know release from the SCI site either did not reach the school or has been adequately remediated.

10.2 Potential Threats to Public Health or the Environment

The PEA screening risk analysis indicated that the cumulative cancer risk associated with the maximum concentrations chemicals, particularly benzo(a)pyrene and dibenzo(a,h)anthracene in surface soil sample GR-9-0, in the soil is 2×10^{-5}, that is, above *the de minimus* level. However the area of elevated PAHs is limited in its vertical and horizontal extents: concentrations drop an order of magnitude or more both in the deeper samples from boring GR-9 and in all other samples taken from the grease rack. Based on the average concentration the risks would be *de minimus* (Table 8).

The concentrations of volatile aromatic hydrocarbons did not pose a cancer risk above 1×10^{-6} nor a non-carcinogenic health hazard (Table 9).

No immediate potential hazard to public health or the environment was identified that would require the implementation of an expedited response action.

10.3 Recommendations

The PEA investigation found low levels of PAHs and TPH in some of the soils in the vicinity of the grease rack. No further action is being recommended relative to these residual levels of chemicals. These residuals were considered to insignificant due to the limited vertical and lateral extents of PAHs.

LIMITATIONS

The services described in this report were performed consistent with generally accepted professional consulting principles and practices. No other warranty, express or implied, is made. These services were performed consistent with our agreement with our client. This report is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.

Opinions and recommendations contained in this report apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, or the use of segregated portions of this report.

11.0 References

Agency for Toxic Substances and Disease Registry (ATSDR). 1999. Toxicological Profile for Polycyclic Aromatic Hydrocarbons - Updated. ASTDR, Atlanta, Georgia

Bradford, G.R., Chang, A.C., Page, A.L., Bakhtar, D., Frampton, J.A., and Wright, H., 1996, Concentrations of trace and major elements in California soils; Kearney evaluation soil report: University of California, 52 p.

California Department of Toxic Substances Control (DTSC). 2001. *Interim Guidance for Evaluating Lead-Based Paint and Asbestos Containing Materials at Proposed School Sites.* DTSC, Sacramento, California.

California Department of Toxic Substances Control (DTSC). 1996. ***Guidance for Ecological Risk Assessment at Hazardous Waste Sites and Permitted Facilities, Part A: Overview DTSC,*** Sacramento, California (July 4)

California Department of Toxic Substances Control (DTSC). 1994. ***Preliminary Endangerment Assessment Guidance Manual,*** DTSC, Sacramento, California.

California Department of Water Resources. 2002.

IT Corporation. 2002. Preliminary Endangerment Assessment Soil Investigation Work Plan for Ark/Monarch Schools Site. Prepared for Santa Cruz City Schools.

U.S. Environmental Protection Agency (EPA). 2001. ***Johnson and Ettinger Soil Vapor Intrusion Model.*** Available on the EPA Website

U.S. Environmental Protection Agency (EPA). 2000. ***U.S. EPA Region 9 Preliminary Remediation Goals***. Available on the EPA, Region 9 Internet Site, San Francisco, California. October.

U.S. Environmental Protection Agency (EPA). 1993, Reference Dose (RfD): ***Description and Use in Health Risk Assessments, Background Document 1A.*** March 15. Available on the EPA Web Site (http://www.epa.gov/iris/rfd.htm)

Weber, Hayes, and Associates. 2000. Phase 1 Environmental Site Assessment for Ark/Monarch Schools. Prepared for Santa Cruz City Schools.

TABLES

Table 1
Analytical Results for Polycyclic Aromatic Hydrocarbons, TPH, and Metals in Soils
Ark/Monarch School Site, Santa Cruz, CA

Sample ID:	Conc.Units	2000 Residential PRG	Grease Rack Area						
			GR-1-0	GR-2-0	GR-3-0	GR-4-0	GR-5-0B	GR-5-0B (DUPLICATE)	GR-6-0
Sample Depth (ft bgs)			0	0	0	0	0	0	0
Date Sampled:			4/1/02	4/1/02	4/1/02	4/1/02	4/1/02	4/1/02	4/1/02
Naphthalene	µg/kg	56,000	40 U	39 U	39 U	39 U	40 U	40 U	39 U
Acenaphthylene	µg/kg	not set	80 U	78 U	78 U	78 U	80 U	80 U	78 U
Acenapthene	µg/kg	3,700,000	40 U	39 U	39 U	39 U	40 U	40 U	39 U
Fluorene	µg/kg	2,600,000	40 U	39 U	39 U	39 U	40 U	40 U	39 U
Phenanthrene	µg/kg	not set	20 U	20 U	19 U	19 U	20 U	20 U	19 U
Anthracene	µg/kg	22,000,000	20 U	20 U	19 U	19 U	20 U	20 U	19 U
Fluoranthene	µg/kg	2,300,000	16 U	16 U	16 U	16 U	16 U	16 U	16 U
Pyrene	µg/kg	**2,300,000**	8 U	7.8 U	7.8 U	7.8 U	**10**	8 U	**9.7**
Benzo(a)anthracene	µg/kg	**620**	4 U	3.9 U	3.9 U	3.9 U	**6**	4 U	**5.6**
Chrysene	µg/kg	62,000	4 U	3.9 U	3.9 U	3.9 U	**6.3**	4 U	**5.9**
Benzo(b)fluoranthene	µg/kg	620	8 U	7.8 U	7.8 U	7.8 U	8 U	8 U	7.8 U
Benzo(k)fluoranthene	µg/kg	6,200	4 U	3.9 U	3.9 U	3.9 U	4 U	4 U	3.9 U
Benzo(a)pyrene	µg/kg	62	4 U	3.9 U	3.9 U	3.9 U	**6.5**	4 U	**6.5**
Dibenzo(a,h)anthrance	µg/kg	62	8 U	7.8 U	7.8 U	7.8 U	8 U	8 U	7.8 U
Benzo(g,h,i)perylene	µg/kg	not set	8 U	7.8 U	7.8 U	7.8 U	**11**	8 U	**11**
Indeno(1,2,3-cd)pyrene	µg/kg	620	4 U	3.9 U	3.9 U	3.9 U	**4.9**	4 U	**6.4**
TPH-Diesel (C10-C24 range)	mg/kg	not set	**2.6** H, Y	**13** H, Y	**5.8** H,Y	**56** H, Y	**2.6** H, Y	**5.6** H, Y	**6.9** H, Y
TPH-Motor Oil (C24-C36 range)	mg/kg	not set	**7.9**	**16**	**31**	**270**	7.7	**21**	**17**
Antimony	mg/kg	31	3.4 U	3.3 U	3.2 U	3.2 U	3.1 U	3 U	3.3 U
Arsenic	mg/kg	0.39	6.2	7.8	6.8	5	7.4	7.4	6.7
Barium	mg/kg	5400	89	100	89	72	99	83	78
Beryllium	mg/kg	150	0.49	0.53	0.52	0.44	0.59	0.54	0.53
Cadmium	mg/kg	9	1	1.3	1.1	0.85	1.3	1.2	1.1
Chromium	mg/kg	210	31	36	33	28	40	35	33
Cobalt	mg/kg	4700	3.3	3.1	3.4	3.3	3.7	3	2.9
Copper	mg/kg	2900	5.6	7.8	7.2	4.5	7.6	6.9	7.1
Lead	mg/kg	255	5.5	6.1	8.8	4.7	5.9	4.7	7.5
Mercury	mg/kg	23	0.077	0.079	0.048	0.064	0.086	0.063	0.054
Molybdenum	mg/kg	390	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1.1 U
Nickel	mg/kg	1600	23	23	22	20	25	22	23
Selenium	mg/kg	390	0.33	0.27 U	0.3	0.26 U	0.35	0.25 U	0.27 U
Silver	mg/kg	390	0.28 U	0.27 U	0.27 U	0.26 U	0.26 U	0.25 U	0.27 U
Thallium	mg/kg	6.3	0.28 U	0.27 U	0.27 U	0.26 U	0.26 U	0.25 U	0.27 U
Vanadium	mg/kg	550	31	34	34	27	39	33	31
Zinc	mg/kg	23000	14	18	17	12	20	18	19

Notes
H: Heavier hydrocarbons contributed to the quantification
U = Not detected at or above laboratory reporting limit
Y: Sample exhibits fuel pattern which does not resemble standard
**: Recovery of internal surrogates outside (lower than) lab's acceptable limits
—: Not an analyte of interest for this sample

Table 1
Analytical Results for Polycyclic Aromatic Hydrocarbons, TPH, and Metals in Soils
Ark/Monarch School Site, Santa Cruz, CA

Sample ID:	Conc.Units	2000 Residential PRG	Grease Rack Area					
			GR-7-0	GR-8-0	GR-9-0	GR-9-0.5	GR-9-1	GR-9-1.5
Sample Depth (ft bgs)			0	0	0	0.5	1	1.5
Date Sampled:			4/1/02	4/1/02	4/1/02	4/1/02	4/1/02	4/1/02
Naphthalene	µg/kg	56,000	39 U	39 U	170	34 U	34 U	33 U
Acenaphthylene	µg/kg	not set	78 U	78 U	79 U	67 U	67 U	66 U
Acenapthene	µg/kg	3,700,000	39 U	39 U	39 U	34 U	34 U	33 U
Fluorene	µg/kg	2,600,000	39 U	39 U	78	34 U	34 U	33 U
Phenanthrene	µg/kg	not set	19 U	19 U	640	81	17 U	37
Anthracene	µg/kg	22,000,000	19 U	19 U	150	17 U	17 U	17 U
Fluoranthene	µg/kg	2,300,000	16 U	16 U	660	75	13 U	36
Pyrene	µg/kg	2,300,000	7.8 U	7.8 U	520	56	6.7 U	29
Benzo(a)anthracene	µg/kg	620	3.9 U	3.9 U	240	29	3.4 U	17
Chrysene	µg/kg	62,000	3.9 U	3.9 U	220	27	3.4 U	15
Benzo(b)fluoranthene	µg/kg	620	7.8 U	7.8 U	240	27	6.7 U	17
Benzo(k)fluoranthene	µg/kg	6,200	3.9 U	3.9 U	120	14	3.4 U	8.9
Benzo(a)pyrene	µg/kg	62	3.9 U	3.9 U	210	21	3.4 U	13
Dibenzo(a,h)anthrance	µg/kg	62	7.8 U	7.8 U	280	46	6.7 U	29
Benzo(g,h,I)perylene	µg/kg	not set	7.8 U	7.8 U	100	22	6.7 U	20
Indeno(1,2,3-cd)pyrene	µg/kg	620	3.9 U	3.9 U	230	27	3.4 U	18
TPH-Diesel (C10-C24 range)	mg/kg	not set	2.3 H, Y	3.8 H, Y	21 H, Y	--	--	--
TPH-Motor Oil (C24-C36 range)	mg/kg	not set	8.5	11	49	--	--	--
Antimony	mg/kg	31	3.1 U	3.3 U	3.2 U	--	--	--
Arsenic	mg/kg	0.39	8.3	8.3	7.9	--	--	--
Barium	mg/kg	5400	86	99	160	--	--	--
Beryllium	mg/kg	150	0.6	0.62	0.47	--	--	--
Cadmium	mg/kg	9	1.4	1.5	1	--	--	--
Chromium	mg/kg	210	41	38	26	--	--	--
Cobalt	mg/kg	4700	3.3	3.1	2.9	--	--	--
Copper	mg/kg	2900	9	8.5	5.5	--	--	--
Lead	mg/kg	255	7.4	5.4	16	--	--	--
Mercury	mg/kg	23	0.049	0.074	0.087	--	--	--
Molybdenum	mg/kg	390	1 U	1.1 U	1.1 U	--	--	--
Nickel	mg/kg	1600	26	28	20	--	--	--
Selenium	mg/kg	390	0.26 U	0.32	0.26 U	--	--	--
Silver	mg/kg	390	0.26 U	0.27 U	0.26 U	--	--	--
Thallium	mg/kg	6.3	0.26 U	0.27 U	0.26 U	--	--	--
Vanadium	mg/kg	550	38	37	28	--	--	--
Zinc	mg/kg	23000	21	21	27	--	--	--

Table 1
Analytical Results for Polycyclic Aromatic Hydrocarbons, TPH, and Metals in Soils
Ark/Monarch School Site, Santa Cruz, CA

Sample ID:	Conc.Units	2000 Residential PRG	Suspected Oil/Water Separator Area					
			GR-10-0	GR-10-0.5	GR-10-5	GR-10-5.5	GR-11-0	GR-11-0.5
Sample Depth (ft bgs)			0	0.5	5	5.5	0	0.5
Date Sampled:			4/1/02	4/1/02	4/1/02	4/1/02	4/1/02	4/1/02
Naphthalene	µg/kg	56,000	36 U	40 U	49 U	60 U	37 U	42 U
Acenaphthylene	µg/kg	not set	72 U	80 U	98 U	120 U	74 U	85 U
Acenapthene	µg/kg	3,700,000	36 U	40 U	49 U	60 U	37 U	42 U
Fluorene	µg/kg	2,600,000	36 U	40 U	49 U	60 U	37 U	42 U
Phenanthrene	µg/kg	not set	18 U	20 U	25 U	30 U	19 U	21 U
Anthracene	µg/kg	22,000,000	18 U	20 U	25 U	30 U	19 U	21 U
Fluoranthene	µg/kg	2,300,000	14 U	16 U	20 U	24 U	15 U	17 U
Pyrene	µg/kg	**2,300,000**	7.2 U	8 U	9.8 U	12 U	7.4 U	8.5 U
Benzo(a)anthracene	µg/kg	**620**	3.6 U	4 U	4.9 U	6 U	3.7 U	4.2 U
Chrysene	µg/kg	62,000	3.6 U	4 U	4.9 U	6 U	3.7 U	4.2 U
Benzo(b)fluoranthene	µg/kg	620	7.2 U	8 U	9.8 U	12 U	7.4 U	8.5 U
Benzo(k)fluoranthene	µg/kg	6,200	3.6 U	4 U	4.9 U	6 U	3.7 U	4.2 U
Benzo(a)pyrene	µg/kg	62	3.6 U	4 U	4.9 U	6 U	3.7 U	4.2 U
Dibenzo(a,h)anthrance	µg/kg	62	7.2 U	8 U	9.8 U	12 U	7.4 U	8.5 U
Benzo(g,h,I)perylene	µg/kg	not set	7.2 U	8 U	9.8 U	12 U	7.4 U	8.5 U
Indeno(1,2,3-cd)pyrene	µg/kg	620	3.6 U	4 U	4.9 U	6 U	3.7 U	4.2 U
TPH-Diesel (C10-C24 range)	mg/kg	not set	1.1 U	1.4 H, Y	1.5 U	1.8 U	4.2 H, Y	5 H, Y
TPH-Motor Oil (C24-C36 range)	mg/kg	not set	5.4 U	7.8	7.3 U	9 U	17	19
Antimony	mg/kg	31	2.8 U	3.5	3.8 U	4.4 U	2.9 U	3.3 U
Arsenic	mg/kg	0.39	2	3.6	1.4	3.54	8.6	2.8
Barium	mg/kg	5400	14	63	36	70	68	81
Beryllium	mg/kg	150	0.12	0.31	0.17	0.32	0.36	0.32
Cadmium	mg/kg	9	0.27	0.7	0.32 U	0.58	0.84	0.73
Chromium	mg/kg	210	2.6	12	9.6	20	23	11
Cobalt	mg/kg	4700	0.92 U	2.2	2 U	2	2.7	1.7
Copper	mg/kg	2900	0.46 U	6.7	2.9 U	5.7	11	7.3
Lead	mg/kg	255	1.2	3.9	1.2	1.8	6.5	4.7
Mercury	mg/kg	23	0.021 U	0.029	0.029 U	0.034 U	0.25	0.073
Molybdenum	mg/kg	390	0.92 U	1.2 U	1.3 U	1.5 U	0.96 U	1.1 U
Nickel	mg/kg	1600	2	8.4	5.3	9.9	20	7.9
Selenium	mg/kg	390	0.3	0.29 U	0.32 U	0.37 U	0.24 U	0.28 U
Silver	mg/kg	390	0.23 U	0.29 U	0.32 U	0.37 U	0.24 U	0.28 U
Thallium	mg/kg	6.3	0.54	0.29 U	0.47	0.37 U	0.24 U	0.28 U
Vanadium	mg/kg	550	3.2	14	7.3	14	25	9.5
Zinc	mg/kg	23000	5	12	5.4	12	22	14

Table 1
Analytical Results for Polycyclic Aromatic Hydrocarbons, TPH, and Metals in Soils
Ark/Monarch School Site, Santa Cruz, CA

Sample ID:	Conc.Units	2000 Residential PRG	Suspected Oil/Water Separator Area						
			GR-11-5A	GR-11-5B (DUPLICATE)**	GR-11-5.5	GR-12-0	GR-12-0.5	GR-12-5	GR-12-5.5
Sample Depth (ft bgs)			5	5	5.5	0	0.5	5	5.5
Date Sampled:			4/1/02	4/1/02	4/1/02	4/1/02	4/1/02	4/1/02	4/1/02
Naphthalene	µg/kg	56,000	46 U	51 U	53 U	37 U	36 U	58 U	42 U
Acenaphthylene	µg/kg	not set	93 U	100 U	110 U	73 U	72 U	120 U	84 U
Acenapthene	µg/kg	3,700,000	46 U	51 U	53 U	37 U	36 U	58 U	42 U
Fluorene	µg/kg	2,600,000	46 U	51 U	53 U	37 U	36 U	58 U	42 U
Phenanthrene	µg/kg	not set	23 U	26 U	27 U	18 U	18 U	29 U	21 U
Anthracene	µg/kg	22,000,000	23 U	26 U	27 U	18 U	18 U	29 U	21 U
Fluoranthene	µg/kg	2,300,000	19 U	21 U	21 U	15 U	14 U	23 U	17 U
Pyrene	µg/kg	**2,300,000**	9.3 U	10 U	11 U	7.3 U	7.2 U	12 U	8.4 U
Benzo(a)anthracene	µg/kg	**620**	4.6 U	5.1 U	5.3 U	3.7 U	3.6 U	5.8 U	4.2 U
Chrysene	µg/kg	62,000	4.6 U	5.1 U	5.3 U	3.7 U	3.6 U	5.8 U	4.2 U
Benzo(b)fluoranthene	µg/kg	620	9.3 U	10 U	11 U	7.3 U	7.2 U	12 U	8.4 U
Benzo(k)fluoranthene	µg/kg	6,200	4.6 U	5.1 U	5.3 U	3.7 U	3.6 U	5.8 U	4.2 U
Benzo(a)pyrene	µg/kg	62	4.6 U	5.1 U	5.3 U	3.7 U	3.6 U	5.8 U	4.2 U
Dibenzo(a,h)anthrance	µg/kg	62	9.3 U	10 U	11 U	7.3 U	7.2 U	12 U	8.4 U
Benzo(g,h,I)perylene	µg/kg	not set	9.3 U	10 U	11 U	7.3 U	7.2 U	12 U	8.4 U
Indeno(1,2,3-cd)pyrene	µg/kg	620	4.6 U	5.1 U	5.3 U	3.7 U	3.6 U	5.8 U	4.2 U
TPH-Diesel (C10-C24 range)	mg/kg	not set	1.5 Y	1.5 U	1.6 U	2.1 H, Y	1.9 H, Y	1.7 U	1.2 U
TPH-Motor Oil (C24-C36 range)	mg/kg	not set	6.8 U	7.6 U	8 U	12	7.4	8.7 U	6.1 U
Antimony	mg/kg	31	3.1 U	4.5 U	3.5 U	2.9 U	2.5 U	3.8 U	3.1 U
Arsenic	mg/kg	0.39	1.2	1.3	2.2	3.6	5.5	3.2	7.7
Barium	mg/kg	5400	52	55	73	35	86	89	110
Beryllium	mg/kg	150	0.19	0.2	0.24	0.19	0.53	0.33	0.35
Cadmium	mg/kg	9	0.3	0.37 U	0.44 U	0.45 U	0.74 U	0.43	0.56
Chromium	mg/kg	210	10	12	18	9.2	27	18	15
Cobalt	mg/kg	4700	1 U	1.5 U	1.4 U	1.2	2.5 U	4.7	2.8
Copper	mg/kg	2900	4.6	4.6	5.9	2.1	5.1	5.8	4.3
Lead	mg/kg	255	1.3	1.3	1.5	2.8	6	3.3	5.8
Mercury	mg/kg	23	0.027 U	0.027 U	0.031 U	0.029	0.048	0.03 U	0.021 U
Molybdenum	mg/kg	390	1 U	1.5 U	1.2 U	0.97 U	0.83 U	1.6	3.7
Nickel	mg/kg	1600	5.7	7.1	9.1	7.2	20	8.5	7.6
Selenium	mg/kg	390	0.26 U	0.37 U	0.29 U	0.45	0.21 U	0.31 U	1
Silver	mg/kg	390	0.26 U	0.37 U	0.29 U	0.24 U	0.21 U	0.31 U	0.26 U
Thallium	mg/kg	6.3	0.26 U	0.37 U	0.29 U	0.88	0.21 U	0.44	0.36 U
Vanadium	mg/kg	550	6.4	7.6	11	11	31	16	16
Zinc	mg/kg	23000	5.7	6.8	11	7.9	12	14	11

Table 1
Analytical Results for Polycyclic Aromatic Hydrocarbons, TPH, and Metals in Soils
Ark/Monarch School Site, Santa Cruz, CA

Sample ID:	Conc.Units	2000 Residential PRG	Swale Area				Independent Studies Portable Classroom				
			SW-1-0	SW-1-2	SW-2-0	SW-2-2	PB-1-0	PB-2A-0	PB-2B-0 (duplicate)	PB-3-0	PB-4-0
Sample Depth (ft bgs)			0	2	0	2	0	0	0	0	0
Date Sampled:			4/1/02	4/1/02	4/1/02	4/1/02	4/1/02	4/1/02	4/1/02	4/1/02	4/1/02
Naphthalene	µg/kg	56,000	40 U	51 U	47 U	59 U	—	—	—	—	—
Acenaphthylene	µg/kg	not set	80 U	100 U	93 U	120 U	—	—	—	—	—
Acenapthene	µg/kg	3,700,000	40 U	51 U	47 U	59 U	—	—	—	—	—
Fluorene	µg/kg	2,600,000	40 U	51 U	47 U	59 U	—	—	—	—	—
Phenanthrene	µg/kg	not set	20 U	25 U	23 U	29 U	—	—	—	—	—
Anthracene	µg/kg	22,000,000	20 U	25 U	23 U	29 U	—	—	—	—	—
Fluoranthene	µg/kg	2,300,000	16 U	20 U	19 U	24 U	—	—	—	—	—
Pyrene	µg/kg	**2,300,000**	8 U	10 U	**15**	12 U	—	—	—	—	—
Benzo(a)anthracene	µg/kg	**620**	**4.5**	5.1 U	**7.8**	**6.7**	—	—	—	—	—
Chrysene	µg/kg	62,000	4 U	5.1 U	4.7 U	5.9 U	—	—	—	—	—
Benzo(b)fluoranthene	µg/kg	620	8 U	10 U	**12**	12 U	—	—	—	—	—
Benzo(k)fluoranthene	µg/kg	6,200	4 U	5.1 U	**4.8**	5.9 U	—	—	—	—	—
Benzo(a)pyrene	µg/kg	62	**4.5**	5.1 U	**6.9**	5.9 U	—	—	—	—	—
Dibenzo(a,h)anthrance	µg/kg	62	8 U	10 U	9.3 U	12 U	—	—	—	—	—
Benzo(g,h,I)perylene	µg/kg	not set	8 U	10 U	**21**	12 U	—	—	—	—	—
Indeno(1,2,3-cd)pyrene	µg/kg	620	**6.5**	5.1 U	**8.1**	5.9 U	—	—	—	—	—
TPH-Diesel (C10-C24 range)	mg/kg	not set	**11** H, Y	1.5 U	**29** H, Y	1.8 U	—	—	—	—	—
TPH-Motor Oil (C24-C36 range)	mg/kg	not set	**50**	7.6 U	**110**	8.8 U	—	—	—	—	—
Antimony	mg/kg	31	3.1 U	4.3 U	4 U	4.6 U	—	—	—	—	—
Arsenic	mg/kg	0.39	3.1	1.3	3.3	3	—	—	—	—	—
Barium	mg/kg	5400	73	53	70	64	—	—	—	—	—
Beryllium	mg/kg	150	0.28	0.26	0.38	0.39	—	—	—	—	—
Cadmium	mg/kg	9	0.54	0.36 U	0.59 U	0.38 U	—	—	—	—	—
Chromium	mg/kg	210	10	12	14	18	—	—	—	—	—
Cobalt	mg/kg	4700	1.6	1.4 U	2.1 U	1.5 U	—	—	—	—	—
Copper	mg/kg	2900	7.4	3.1	12	6.2	—	—	—	—	—
Lead	mg/kg	255	5.1	2	10	2.5	2.9	1.4	5.7	3.8	4.6
Mercury	mg/kg	23	0.081 U	0.03 U	0.059 U	0.032 U	—	—	—	—	—
Molybdenum	mg/kg	390	1.1	1.4 U	1.3 U	1.5 U	—	—	—	—	—
Nickel	mg/kg	1600	7.9	4	10	7.8	—	—	—	—	—
Selenium	mg/kg	390	0.36	0.36 U	0.42 U	0.38 U	—	—	—	—	—
Silver	mg/kg	390	0.26 U	0.36 U	0.33 U	0.38 U	—	—	—	—	—
Thallium	mg/kg	6.3	0.26 U	0.42 U	0.33 U	0.38 U	—	—	—	—	—
Vanadium	mg/kg	550	11	7.6	14	16	—	—	—	—	—
Zinc	mg/kg	23000	16	5.4	49	11	—	—	—	—	—

Table 2
Analytical Results for Volatile Organic Chemicals in Soil Gas and Ambient Air
AKR/Monarch Schools Site, Santa Cruz, CA

		Northern Border							
Sample ID:	Conc	Soil Gas #1		Soil Gas #2		Soil Gas #3		Ambient Air	
Date Sampled:	Units	4/19/02		4/19/02		4/19/02		4/19/02	
Dichlordifluoromethane	µg/m^3	4.95	U	7.42	U	4.95	U	4.95	U
Dichlorotetrafluoroethane	µg/m^3	6.99	U	10.5	U	6.99	U	6.99	U
Chloromethane	µg/m^3	2.07	U	3.1	U	2.07	U	2.07	U
Vinyl Chloride	µg/m^3	2.56	U	3.82	U	2.56	U	2.56	U
Bromomethane	µg/m^3	3.88	U	5.83	U	3.88	U	3.88	U
Chloroethane	µg/m^3	2.64	U	3.96	U	2.64	U	2.64	U
Trichlorofluoromethane	µg/m^3	5.62	U	8.43	U	5.62	U	5.62	U
1,1,-Dichloroethene	µg/m^3	3.97	U	5.95	U	3.97	U	3.97	U
Trichlorotrifluoroethane	µg/m^3	7.66	U	11.5	U	7.66	U	7.66	U
Methylene Chloride	µg/m^3	3.47	U	5.21	U	3.47	U	3.47	U
1,1-Dichloroethane	µg/m^3	4.05	U	6.07	U	4.05	U	4.05	U
cis-1,2-Dichloroethene	µg/m^3	3.97	U	5.95	U	3.97	U	3.97	U
Chloroform	µg/m^3	4.88	U	7.32	U	4.88	U	4.88	U
1,1,1-Trichloroethane	µg/m^3	5.46	U	8.19	U	5.46	U	5.46	U
Carbon Tetrachloride	µg/m^3	6.29	U	9.44	U	6.29	U	6.29	U
1,2-Dichloroethane	µg/m^3	4.05	U	6.07	U	4.05	U	4.05	U
Benzene	µg/m^3	**18**		4.79	U	3.1	U	3.1	U
Trichloroethene	µg/m^3	5.37	U	8.06	U	5.37	U	5.37	U
1,2-Dichloropropane	µg/m^3	4.62	U	6.93	U	4.62	U	4.62	U
trans-1,3-Dichloropropene	µg/m^3	4.54	U	6.81	U	4.54	U	4.54	U
Toluene	µg/m^3	**20**		**21.9**		3.77	U	3.77	U
cis-1,3-Dichloropropene	µg/m^3	4.54	U	6.81	U	4.54	U	4.54	U
1,1,2-Trichloroethane	µg/m^3	5.46	U	8.19	U	5.46	U	5.46	U
Tetrachloroethene	µg/m^3	6.78	U	10.2	U	6.78	U	6.78	U
1,2-Dibromoethane	µg/m^3	7.68	U	11.5	U	7.68	U	7.68	U
Chlorobenzene	µg/m^3	4.6	U	6.91	U	4.6	U	4.6	U
Ethylbenzene	µg/m^3	**18.5**		**6.77**		4.34	U	4.34	U
Xylenes (M+P)	µg/m^3	**50.8**		**36.3**		4.34	U	4.34	U
Xylene (O)	µg/m^3	**13.1**		**13.3**		4.34	U	4.34	U
Styrene	µg/m^3	4.26	U	6.39	U	4.26	U	4.26	U
1,1,2,2-Tetrachloroethane	µg/m^3	6.87	U	10.3	U	6.87	U	6.87	U
1,3,5-Trimethylbenzene	µg/m^3	4.92	U	**12.3**		4.92	U	4.92	U
1,2,4-Trimethylbenzene	µg/m^3	**41.6**		**69.8**		4.92	U	4.92	U
1,2-Dichlorobenzene	µg/m^3	6.01	U	9.02	U	6.01	U	6.01	U
1,3-Dichlorobenzene	µg/m^3	6.01	U	9.02	U	6.01	U	6.01	U
1,4-Dichlorobenzene	µg/m^3	6.01	U	9.02	U	6.01	U	6.01	U
1,2,4-Trichlorobenzene	µg/m^3	7.42	U	11.1	U	7.42	U	7.42	U
Hexachlorobutadiene	µg/m^3	10.7	U	16	U	10.7	U	10.7	U

Notes
U = Not detected at or above laboratory reporting limit

Table 3
Chemicals of Potential Concern in Soil
ARK/Monarch Schools, Santa Cruz, California

Compound	Number of detects	Number of samples	Minimum Detection (mg/kg)	Location of Minimum	Depth of Minimum (ft bgs)	Maximum Detection (mg/kg)***	Location of Maximum	Depth of Maximum	Minimum Sample Detection Limit (mg/kg)	Maximum Sample Detection Limit (mg/kg)	2000 Residential PRG	COPC?	Rational for Exclusion
Polycyclic Aromatic Hydrocarbons													
Naphthalene	1	30	—	—	—	0.1700	GR-9-0	0.0	0.0360	0.0600	56	Yes	
Acenaphthylene	0	30	—	—	—	—	—	—	0.0720	0.1200	not set	No	Not Detected
Acenapthene	0	30	—	—	—	—	—	—	0.0360	0.0600	3700	No	Not Detected
Fluorene	1	30	—	—	—	0.0780	GR-9-0	0.0	0.0360	0.0600	2600	Yes	
Phenanthrene	3	30	0	GR-9-1.5	1.5	0.6400	GR-9-0	0.0	0.0360	0.0600		Yes	
Anthracene	1	30	—	—	—	0.1500	GR-9-0	0.0	0.0180	0.0300	22000	Yes	
Fluoranthene	3	30	—	—	—	0.6600	GR-9-0	0.0	0.0140	0.0240	2300	Yes	
Pyrene	6	30	0.0097	GR-6-0	0.0	0.5200	GR-9-0	0.0	0.0072	0.0150	2300	Yes	
Benzo(a)anthracene	8	30	0.0045	SW-1-0	0.0	0.2400	GR-9-0	0.0	0.0036	0.0078	0.62	Yes	
Chrysene	5	30	0.0059	GR-6-0	0.0	0.2200	GR-9-0	0.0	0.0036	0.0063	62	Yes	
Benzo(b)fluoranthene	4	30	0.0120	SW-2-0	0.0	0.2400	GR-9-0	0.0	0.0072	0.0120	0.62	Yes	
Benzo(k)fluoranthene	4	30	0.0048	SW-2-0	0.0	0.1200	GR-9-0	0.0	0.0036	0.0060	6.2	Yes	
Benzo(a)pyrene	5	30	0.0065	GR-5-0B	0.0	0.2100	GR-9-0	0.0	0.0036	0.0069	0.062	Yes	
Dibenzo(a,h)anthrance	3	30	0.0290	GR-9-1.5	1.5	0.2800	GR-9-0	0.0	0.0072	0.0120	0.062	Yes	
Benzo(g,h,I)perylene	6	30	0.0110	GR-6-0	0.0	0.1000	GR-9-0	0.0	0.0072	0.0210	not set	Yes	
Indeno(1,2,3-cd)pyrene	7	30	0.0049	GR-5-0B	0.0	0.2300	GR-9-0	0.0	0.0036	0.0081	0.62	Yes	
Total Petroleum Hydrocarbon Fractions													
TPH-Diesel (C10-C24 range)	18	30	1.5	GR-11-5-A	5.0	56	GR-4-0	0.0	1.100	1.800	not set	Yes	
TPH-Motor Oil (C24-C36 range)	17	30	7.4	GR-12-0.5	0.5	270	GR-4-0	0.0	5.400	9.000	not set	Yes	
Metals													
Antimony	1	27	—	—	—	4	GR-10-0.5	0.0	2.5	4.6	31	Yes	
Arsenic	27	27	1	GR-11-5A	5.0	9	GR-11-0	0.0	—	—	0.39	No	Ambient
Barium	27	27	14	GR-10-0	0	160	GR-9-0	0.0	—	—	5400	Yes	
Beryllium	27	27	0	GR-10-0	0.0	1	GR-8-0	0.0	—	—	150	Yes	
Cadmium	19	27	0	GR-10-0	0.0	2	GR-8-0	0.0	0.32	0.74	9	Yes	
Chromium (Total)	27	27	3	GR-10-0	0.0	41	GR-7-0	0.0	—	—	210	Yes	
Cobalt	18	27	1	GR-12-0	0	5	GR-12-5	5.0	9.0E-02	2.5E+00	4700	Yes	
Copper	25	27	2	GR-12-0	0	12	SW-2-0	0.0	4.6E-01	2.9E+00	2900	No	Ambient
Lead	31	31	1	GR-10-0	0	16	GR-9-0	0.0	—	—	255	Yes	
Mercury	19	27	0	GR-10-0.5	0.5	0.25	GR-11-0	0.0	2.1E-02	8.1E-02	23	Yes	
Molybdenum	3	27	1	SW-1-0	0.0	4	GR-12-5.5	5.5	0.8	1.5	390	Yes	
Nickel	27	27	2	GR-10-0	0	28	GR-8-0	0.0	—	—	1600	Yes	
Selenium	8	27	0	GR-10-0	0.0	1	GR-12-5.5	5.5	0.21	0.42	390	Yes	
Silver	0	27	—	—	—	—	—	—	0.21	0.38	390	No	Not Detected
Thallium	4	27	0	GR-12-5	5.0	1	GR-12-0	0.0	0.21	0.42	6	Yes	
Vanadium	27	27	3	GR-10-0	0	39	GR-5-0B	0.0	—	—	550	Yes	
Zinc	27	27	5	GR-10-0	0	49	SW-2-0	0.0	—	—	23000	Yes	

Notes:
Number of Detects: number of samples that had concentrations above the sample quantitation limit for which a particular compound was analyzed.
Number of Samples: total number of samples analyzed for a particular compound.
Minimum Concentration: minimum detectable concentration found in all samples.
Maximum Concentration: maximum detectable concentration found in all samples.
Location of Minimum/Maximum: soil location of sample with minimum/maximum concentration.
Depth of Minimum/Maximum: soil depth of sample with minimum/maximum concentration measured in feet below the ground surface
USEPA, Region 9, Residential Preliminary Remediation Goal (PRG) for soil is presented to evaluate the sensitive of the analytical results, it is not used for risk assessment or risk characterization
COPC: Chemical of Potential Concern
*: Count does not include individual samples analyzed from composites
**: PRG for thallium sulfate used since this is the thallium compound used for pesticidal use
***: PAHs are ubiquitous in the environment. The levels detected in the surface soil (samples GR-9-0) are consistent with levels reported for urban soils by the

Table 4
Chemicals of Potential Concern in Soil Gas
ARK/Monarch Schools Site, Santa Cruz, California

Compound	Number of detects	Number of samples	Minimum Detection (µg/m3)	Location of Minimum	Depth of Minimum (ft bgs)	Maximum Detection (µg/m^3)	Location of Maximum	Depth of Maximum	Minimum Sample Detection Limit (µg/m^3)	Maximum Sample Detection Limit (µg/m^3)	COPC?	Rational for Exclusion
Dichlordifluoromethane	0	3	—	—	—	—	—	—	4.9500	7.4200	No	Not Detected
Dichlorotetrafluoroethane	0	3	—	—	—	—	—	—	6.9900	10.5000	No	Not Detected
Chloromethane	0	3	—	—	—	—	—	—	2.0700	3.1000	No	Not Detected
Vinyl Chloride	0	3	—	—	—	—	—	—	2.5600	3.8200	No	Not Detected
Bromomethane	0	3	—	—	—	—	—	—	3.8800	5.8300	No	Not Detected
Chloroethane	0	3	—	—	—	—	—	—	2.6400	3.9600	No	Not Detected
Trichlorofluoromethane	0	3	—	—	—	—	—	—	5.6200	8.4300	No	Not Detected
1,1,-Dichloroethene	0	3	—	—	—	—	—	—	3.9700	5.9500	No	Not Detected
Trichlorotrifluoroethane	0	3	—	—	—	—	—	—	7.6600	11.5000	No	Not Detected
Methylene Chloride	0	3	—	—	—	—	—	—	3.4700	5.2100	No	Not Detected
1,1-Dichloroethane	0	3	—	—	—	—	—	—	4.0500	6.0700	No	Not Detected
cis-1,2-Dichloroethene	0	3	—	—	—	—	—	—	3.9700	5.9500	No	Not Detected
Chloroform	0	3	—	—	—	—	—	—	4.8800	7.3200	No	Not Detected
1,1,1-Trichloroethane	0	3	—	—	—	—	—	—	5.4600	8.1900	No	Not Detected
Carbon Tetrachloride	0	3	—	—	—	—	—	—	6.2900	9.4400	No	Not Detected
1,2-Dichloroethane	0	3	—	—	—	—	—	—	4.0500	6.0700	No	Not Detected
Benzene	1	3	—	—	—	18.0000	Soil Gas 1	3.0	4.9500	7.4200	Yes	
Trichloroethene	0	3	—	—	—	—	—	—	5.3700	8.0600	No	Not Detected
1,2-Dichloropropane	0	3	—	—	—	—	—	—	4.6200	6.9300	No	Not Detected
trans-1,3-Dichloropropene	0	3	—	—	—	—	—	—	4.6200	6.9300	No	Not Detected
Toluene	2	3	2.0E+01	Soil Gas 1	3.0	21.9000	Soil Gas 2	3.0	—	3.7700	Yes	
cis-1,3-Dichloropropene	0	3	—	—	—	—	—	—	4.5400	6.8100	No	Not Detected
1,1,2-Trichloroethane	0	3	—	—	—	—	—	—	5.4600	8.1900	No	Not Detected
Tetrachloroethene	0	3	—	—	—	—	—	—	6.7800	10.2000	No	Not Detected
1,2-Dibromoethane	0	3	—	—	—	—	—	—	7.6800	11.5000	No	Not Detected
Chlorobenzene	0	3	—	—	—	—	—	—	4.6000	6.6100	No	Not Detected
Ethylbenzene	2	3	6.8E+00	Soil Gas 2	3.0	18.5000	Soil Gas 1	3.0	—	4.3400	Yes	
Xylenes (M+P)	2	3	3.6E+01	Soil Gas 2	3.0E+00	50.8	Soil Gas 1	3.0	—	4.3400	Yes	
Xylene (O)	2	3	1.3E+01	Soil Gas 1	3.0E+00	13.3	Soil Gas 2	3.0	—	4.3400	Yes	
Styrene	0	3	—	—	—	—	—	—	4.2600	4.2600	No	Not Detected
1,1,2,2-Tetrachloroethane	0	3	—	—	—	—	—	—	6.8700	10.3000	No	Not Detected
1,3,5-Trimethylbenzene	1	3	—	—	—	12.3000	Soil Gas 2	3.0	4.9200	4.9200	Yes	
1,2,4-Trimethylbenzene	2	3	4.2E+01	Soil Gas 1	3.0	69.8000	Soil Gas 2	3.0	—	4.9200	No	Not Detected
1,2-Dichlorobenzene	0	3	—	—	—	—	—	—	6.0100	9.0200	No	Not Detected
1,3-Dichlorobenzene	0	3	—	—	—	—	—	—	6.0100	9.0200	No	Not Detected
1,4-Dichlorobenzene	0	3	—	—	—	—	—	—	6.0100	9.0200	No	Not Detected
1,2,4-Trichlorobenzene	0	3	—	—	—	—	—	—	7.4200	11.1000	No	Not Detected
Hexachlorobutadiene	0	3	—	—	—	—	—	—	10.7000	16.0000	No	Not Detected

Notes:
Number of Detects: number of samples that had concentrations above the sample quantitation limit for which a particular compound was analyzed.
Number of Samples: total number of samples analyzed for a particular compound.
Minimum Concentration: minimum detectable concentration found in all samples.
Maximum Concentration: maximum detectable concentration found in all samples.
Location of Minimum/Maximum: soil gas location of sample with minimum/maximum concentration.
Depth of Minimum/Maximum: depth of soil gas sample with minimum/maximum concentration measured in feet below the ground surface
COPC: Chemical of Potential Concern

Table 5
Background Concentrations of Metals in Santa Cruz Soils
Ark/Monarch Schools Site, Santa Cruz, California

Sample	Depth (ft bgs)	Concentrations (mg/kg)												
		Antimony	Arsenic	Beryllium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Zinc
SB11	1.50	ND	17.00	ND	ND	6.50	5.90	ND	0.03	5.00	ND	ND	ND	4.00
SB12	1.50	ND	18.00	ND	ND	7.70	9.90	ND	0.02	6.00	ND	ND	ND	34.00
SB13	2.00	ND	18.00	ND	ND	8.10	14.00	ND	0.01	5.60	ND	ND	ND	31.00
SB14	1.50	ND	ND	ND	ND	7.20	2.20	ND	ND	ND	ND	ND	ND	13.00
SB15	1.50	ND	8.50	ND	ND	15.00	2.30	ND	ND	7.60	ND	ND	ND	18.00
Maximum Value		ND	18.00	ND	ND	15.00	14.00	ND	0.03	7.60	ND	ND	ND	34.00

Source of Analytical Data is Remediation Testing and Design. 1999. Soil Metals Remediation Report for Santa Cruz Industries Site, 411 Swift Street, Santa Cruz, California
samples taken during investigation (SB11 to SB15)

Table
Comparisons of Site and Background Maximum Soil Concentrations of Metals
Ark/Monarch School Sites, Santa Cruz, California

Compound	Site Maximum Detection (mg/kg)	Santa Cruz Background Maximum	Mean of California Soils	Upper Quartile California Soils	Maximum California Soils	Above Background?
		Inorganics				
Antimony	3.5	ND	0.60	0.73	1.95	Yes
Arsenic	8.6	18.0	3.5	4.7	11.0	No
Barium	160	---	509	625	1400	Yes
Beryllium	0.62	ND	1.28	1.53	2.70	Yes
Cadmium	1.5	ND	0.36	0.44	1.70	Yes
Chromium (Total)	41	15.0	122	115	1579	Yes
Cobalt	4.7	---	14.9	18.3	46.9	Yes
Copper	12	14.0	9.1	36.6	96.4	No
Lead	16	ND	23.9	26.7	97.1	Yes
Mercury	0.25	0.03	0.26	0.34	0.90	Yes
Molybdenum	3.7	---	1.3	1.4	9.6	Yes
Nickel	28	7.6	57	56	509	Yes
Selenium	1.0	ND	0.058	0.05	0.43	Yes
Thallium	0.88	ND	15.7	19.5	36.2	Yes
Vanadium	39	---	112	134	288	Yes
Zinc	49	34.0	149	170	236	Yes

Notes:
Santa Cruz Background Maximum: Highest of five samples from the perimeter of the Santa Cruz Industries Site investigation (see table 5)
Mean California Soils: Arithmethic Mean of ambient levels in California soils as reported in Bradford, et al. (1996)
Upper Quartile California Soils: 75th quantile of ambient levels in California soils as reported in Bradford, et al. (1996)
Maximum California Soils: Maximum ambient level in California soils as reported in Bradford, et al. (1996)
*: Constituent Considered at Ambient Levels Based on Site Maximum Concentration Being Equal to or less than Santa Cruz Background Maximum
---: No data available

Table 7
Comparison of Location GR-9 Levels of Polycyclic Aromatic Hydrocarbons to Typical Concentrations in Rural and Urban Soils
Ark/Monarch Schools Site, Santa Cruz, CA

Sample ID:	Conc.Units	Site Results								Typical Levels in Soil*			
		GR-9-0		GR-9-0.5		GR-9-1		GR-9-1.5					
Sample Depth (ft bgs)		0		0.5		1		1.5		Rural Soils		Urban Soils	
Date Sampled:		4/1/02		4/1/02		4/1/02		4/1/02		minimum	maximum	minimum	maximum
Naphthalene	µg/kg	170		34	U	34	U	33	U				
Acenaphthylene	µg/kg	79	U	67	U	67	U	66	U				
Acenapthene	µg/kg	39	U	34	U	34	U	33	U		1.7		
Fluorene	µg/kg	78		34	U	34	U	33	U				
Phenanthrene	µg/kg	640		81		17	U	37			30		
Anthracene	µg/kg	150		17	U	17	U	17	U				
Fluoranthene	µg/kg	660		75		13	U	36		0.3	40	200	166000
Pyrene	µg/kg	520		56		6.7	U	29		1	19.7	145	147000
Benzo(a)anthracene	µg/kg	240		29		3.4	U	17		5	20	169	59000
Chrysene	µg/kg	220		27		3.4	U	15			38.3	251	640
Benzo(b)fluoranthene	µg/kg	240		27		6.7	U	17		20	30	15000	62000
Benzo(k)fluoranthene	µg/kg	120		14		3.4	U	8.9		10	110	300	26000
Benzo(a)pyrene	µg/kg	210		21		3.4	U	13		2	1300	165	220
Dibenzo(a,h)anthrance	µg/kg	280		46		6.7	U	29					
Benzo(g,h,I)perylene	µg/kg	100		22		6.7	U	20		10	70	900	47000
Indeno(1,2,3-cd)pyrene	µg/kg	230		27		3.4	U	18		10	15	8000	61000

*: Source Agency for Toxic Substances and Diesease Registry 1995
U: Not detected at sample detection limit provided

Table 8
Screening Carcinogenic Risk Characterization
Ark/Monarch Schools Site, Santa Cruz, California

Risk [soil (oral and dermal) pathways] = $[CSF_{oral} \times C_s \times (1.57 \times 10^{-6})] + [CSF_{oral} \times C_s \times (1.87 \times 10^{-5}) \times ABS]$

Risk [air (inhalation) pathways] = $CSF_{inh} \times C_a \times 0.149$

where

Risk (soil pathways) = Incremental risk from incidental soil ingestion + incremental risk from dermal contact
Risk (air pathways) = Incremental risk from inhalation of volatile vapors and fugitive dust
C_s = Exposure point concentration of chemical in soil, mg/kg
C_a = Concentration of chemical in air (see the following), mg/m3
C_a = $C_s \times (5 \times 10^{-8}\ kg/m^3)$
CSF_{oral} = oral cancer slope factor, $(mg/kg\text{-}day)^{-1}$ (used for skin contact also)
CSF_{inh} = inhalation slope factor, $(mg/kg\text{-}day)^{-1}$

Chemicals of Potential Concern	Max Soil Concentration[a] (mg/kg)	ABS[b]	CSF_{oral}	Source[d]	$Risk_{soil}$	C_a	CSF_{air}	Source[d]	$Risk_{air}$
			Polycyclic Aromatic Hydrocarbons						
Naphthalene	0.17	0.15	NA		*	8.5E-09	NA		*
Fluorene	0.08	0.15	NA		*	3.9E-09	NA		*
Phenanthrene	0.64	0.15	NA		*	3.2E-08	NA		*
Anthracene	0.15	0.15	NA		*	7.5E-09	NA		*
Fluoranthere	0.66	0.15	NA		*	3.3E-08	NA		*
Pyrene	0.52	0.15	NA		*	2.6E-08	NA		*
Benzo(a)anthracene	0.24	0.15	1.2E+00	P	1.E-06	1.2E-08	3.9E-02	P	7.E-11
Chrysene	0.22	0.15	1.2E-01	P	1.E-07	1.1E-08	3.9E-02	P	6.E-11
Benzo(b)fluroanthene	0.24	0.15	1.2E+00	P	1.E-06	1.2E-08	3.9E-02	P	7.E-11
Benzo(k)fluroanthene	0.12	0.15	1.2E+00	P	6.E-07	6.0E-09	3.9E-02	P	3.E-11
Benzo(a)pyrene	0.21	0.15	1.2E+01	P	1.E-05	1.1E-08	3.9E-01	P	6.E-10
Dibenzo(a,h)anthracene	0.28	0.15	4.1E+00	P	5.E-06	1.4E-08	4.1E+00	P	9.E-09
Benzo(g,h,i)perylene	0.10	0.15	NA		*	5.0E-09	NA		*
Indeno(1,2,3-cd)pyrene	0.23	0.15	1.2E+00	P	1.E-06	1.2E-08	3.9E-02	P	7.E-11
			Total Petroleum Hydrocarbons						
TPH-Diesel	56	0.1	NA		*	2.8E-06	NA		*
THP-Motor Oil	270	0.1	NA		*	1.4E-05	NA		*
			Inorganic						
Antimony	3.5	0.01	NA		*	1.8E-07	NA		*
Barium	160	0.01	NA		*	8.0E-06	NA		*
Beryllium	0.62	0.01	3.8E-01	O	4.E-07	3.1E-08	8.4E+00	O	4.E-08
Cadmium	1.5	0.001	NA		*	7.5E-08	1.5E+01	O	2.E-07
Chromium (Total)	41	0.01	NA		*	2.1E-06	NA		*
Cobalt	4.7	0.01	NA		*	2.4E-07	NA		*
Lead	16	0.01	8.5E-03	O	2.E-07	8.0E-07	4.2E-02	O	5.E-09
Mercury	0.25	0.01	NA	O	*	1.3E-08	NA		*
Nickel	28	0.01	NA		*	1.4E-06	9.1E-01	O	2.E-07
Selenium	1.0	0.01	NA		*	5.0E-08	NA		*
Thallium	0.88	0.01	NA		*	4.4E-08	NA		*
Vanadium	39	0.01	NA		*	2.0E-06	NA		*
Zinc	49	0.01	NA		*	2.5E-06	NA		*
	Cumulative Cancer Risk-Soil Pathways				**2.E-05**	Cumulative Cancer Risk-Air Pathways			**4.E-07**
			Total Cancer Risk[e]		2.E-05				

Notes
a: Maximum Soil Concentration Used
b ABS values are from State of California Environmental Protection Agency Department of Toxic Substances Control, 1994, Preliminary Endangerment Assessment Guidance Manual, Table 2 "Screening Level Dermal Absorption Fractions (ABS) from Soil."
NA: Not Available
*: Can not be calculated
d: Sources:
O: California Office of Environmental Health Hazard Assessment Toxicity Criteria Database
I: U.S. EPA Integrated Risk Information System (IRIS)
P: DTSC Preliminary Endangerment Assessment Manual - 1999 Errata Sheet & 2002 OEHHA Toxicity Criteria Database search
9: U.S. EPA Region 9 2000 Preliminary Remediation Goal Tables, used to identify EPA but non-IRIS toxicity values
e: For the two chemicals with the highest potential risks, the risks in the area of the grease rack based on the average concentrations are as follows:

Chemicals of Potential Concern	Average Soil Concentration (mg/kg)	ABS[b]	CSF_{oral}	Source	$Risk_{soil}$	C_a	CSF_{air}	Source	$Risk_{air}$
Benzo(a)pyrene	0.012	0.15	1.2E+01	P	6.E-07	6.0E-10	3.9E-02	P	3.E-12
Dibenzo(a,h)anthracene	0.015	0.15	4.1E+00	P	3.E-07	7.5E-10	4.1E+00	P	5.E-10

Table
Soil Gas Intrusion Modeling and Risk Characterization
ARK/Monarch Schools Site, Santa Cruz, California

Compound	Soil Gas Maximum Detection ($\mu g/m^3$)	Depth of Maximum	Attenuation Factor	Maximum Indoor Air Concentration ($\mu g/m^3$)	Unit Cancer Risk (risk per µg/m3)	Cancer Risk	Chronic Recommended Exposure Level (µg/m3)	Hazard Quotient
Benzene	18.0	3.0	1.37E-05	2.5E-04	2.9E-05	7.E-09	60	0.000004
Toluene	21.9	3.0	1.37E-05	3.0E-04			300	0.000001
Ethylbenzene	18.5	3.0	1.35E-05	2.5E-04			2000	0.0000001
Xylenes (M+P)	50.8	3.0	1.33E-05	6.8E-04			700	0.000001
Xylene (O)	13.3	3.0	1.37E-05	1.8E-04			700	0.0000003
1,3,5-Trimethylbenzene	12.3	3.0	1.35E-05	1.7E-04			6	0.00003
1,2,4-Trimethylbenzene	69.8	3.0	1.35E-05	9.4E-04			6	0.0002
					Total Cancer Risk	7.E-09	Hazard Index	0.0002

Notes

Attenuation Factor and Maximum Indoor Air Concentration Estimated Using EPA (2001) Johnson & Ettinger model for soil gas intrusion into residential indoor air

Used default soil parameters except for depth of soil gas

Unit Cancer Risk Factor and Chronic Recommended Exposure Level (REL) from OEHHA Toxicity Criteria Database except for the trimethylbenzenes. The 2000 Preliminary Remediation Goal Tables (EPA, 2000) report an inhalation reference dose of 1.7 mg/kg-day, this was used to estimate a REL by multiplying by 70 kg and dividing by 20 m^3/day

o-Xylene is used as the surrogate compound for transport factors for 1,3,5-trimethylbenzene and 1,2,4-trimethylbenzene

Cancer risk estimated as maximum indoor air concentration times the unit cancer risk

Hazard Quotient estimated as maximum indoor air concentration divided by the chronic REL

Table 10
Screening Noncarcinogenic Health Hazard Assessment
Monarch/Ark Schools Site, Santa Cruz, California

Hazard Quotient [soil (oral and dermal) pathways] = $[(C_s/RfD_o) \times (1.28 \times 10^{-5})) + [(C_s/RfD_o) \times (1.28 \times 10^{-4}) \times ABS]$

Hazard Quotient [air (inhalation) pathways] = $[(C_a/RfC) \times 0.639]$

where

Hazard Quotient (soil pathways) = Hazard from incidental soil ingestion and dermal contact
Hazard Quotient (air pathways) = Hazard from inhalation of volatile vapors and fugitive dust
C_s = Exposure point concentration of chemical in soil, mg/kg
C_a = Concentration of chemical in air (see the following), mg/m^3
C_a for nonvolatile chemicals = $C_s \times (5 \times 10\text{-}8\ kg/m^3)$
ABS = Skin absorption factor, unitless
RfD_o = oral reference dose, mg/kg-day (used for skin contact also)
RfC = inhalation reference concentration expressed as a dose, mg/kg-day

Chemicals of Potential Concern	Soil Concentration [a] (mg/kg)	ABS [b]	RfD_o	Source	HQ_{soil}	C_a	RfD_i	Source	HQ_{air}
Polycyclic Aromatic Hydrocarbons									
Naphthalene	0.17	0.15	2.00E-02	I	0.0003	8.5E-09	8.6E-04	I	0.0000
Fluorene	0.078	0.15	4.00E-02	I	0.0001	3.9E-09	4.00E-02	9	0.0000
Phenanthrene	0.64	0.15	NA		*	3.2E-08	NA		*
Anthracene	0.15	0.15	3.00E-01	I	0.0000	7.5E-09	3.00E-01	9	0.0000
Fluoranthere	0.66	0.15	4.00E-02	I	0.0005	3.3E-08	4.00E-02	9	0.0000
Pyrene	0.52	0.15	3.00E-02	I	0.0006	2.6E-08	3.00E-02	9	0.0000
Benzo(a)anthracene	0.24	0.15	NA		*	1.2E-08	NA		*
Chrysene	0.22	0.15	NA		*	1.1E-08	NA		*
Benzo(b)fluroanthene	0.24	0.15	NA		*	1.2E-08	NA		*
Benzo(k)fluroanthene	0.12	0.15	NA		*	6.0E-09	NA		*
Benzo(a)pyrene	0.21	0.15	NA		*	1.1E-08	NA		*
Dibenzo(a,h)anthracene	0.28	0.15	NA		*	1.4E-08	NA		*
Benzo(g,h,I)perylene	0.100	0.15	NA		*	5.0E-09	NA		*
Indeno(1,2,3-cd)pyrene	0.23	0.15	NA		*	1.2E-08	NA		*
Total Petroleum Hydrocarbons									
TPH-Diesel	56	0.1	NA		*	2.8E-06	NA		*
THP-Motor Oil	270	0.1	NA		*	1.4E-05	NA		*
Metals									
Antimony	3.5	0.01	4.00E-04	I	0.1232	1.8E-07	NA		*
Barium	160	0.01	7.00E-02	I	0.0322	8.0E-06	1.4E-04	9	0.0365
Beryllium	0.62	0.01	2.00E-03	I	0.0044	3.1E-08	5.7E-07	I	0.0347
Cadmium	1.5	0.001	5.00E-04	I	0.0388	7.5E-08	NA		*
Chromium (as trivalent)	41	0.01	1.50E+00	I	0.0004	2.1E-06	NA		*
Cobalt	4.7	0.01	6.00E-02	9	0.0011	2.4E-07	NA		*
Lead	12	0.01	NA		*	6.0E-07	NA		*
Mercury (elemental)	0.25	0.01	NA		*	1.3E-08	8.6E-05	I	0.0001
Nickel (soluble salts)	28	0.01	2.00E-02	I	0.0197	1.4E-06	NA		*
Selenium	1.0	0.01	5.00E-03	I	0.0028	5.0E-08	NA		*
Thallium (sulfate)	0.88	0.01	8.00E-05	I	0.1549	4.4E-08	NA		*
Vanadium (pentoxide)	39	0.01	9.00E-03	I	0.0610	2.0E-06	NA		*
Zinc	49	0.01	3.00E-01	I	0.0023	2.5E-06	NA		*
		Hazard Index - soil pathways			**0.4**	Hazard Index - air pathways			**0.07**
		Hazard Index - all potentially complete pathways				**0.5**			

Notes
[a] The soil concentration is the maximum detected level
[b] ABS values are from State of California Environmental Protection Agency Department of Toxic Substances Control, 1994, Preliminary Endangerment Assessment Guidance Manual, Table 2 "Screening Level Dermal Absorption Fractions (ABS) from Soil."
[c] Noncarcinogenic effects of lead has been evalutated using the LeadSpread model developed by the DTSC (1992)
NA: Reference dose for this pathway has not been established by USEPA (IRIS Search, April 2002 and Toxicity Criteria Database Search, April 2002)
*: Can not be calculated
Sources:
O: California Office of Environmental Health Hazard Assessment Toxicity Criteria Database
I: U.S. EPA Integrated Risk Information System (IRIS)
9: U.S. EPA Region 9 2000 Preliminary Remediation Goal Tables, used to identify EPA but non-IRIS toxicity values

Table 11
LeadSpread Hazard Analysis
Ark/Monarch Schools Site, Santa Cruz, California

LEAD RISK ASSESSMENT SPREADSHEET
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

USER'S GUIDE to version 7

INPUT	
MEDIUM	LEVEL
Lead in Air (ug/m^3)	0.028
Lead in Soil/Dust (ug/g)	16.0
Lead in Water (ug/l)	15
% Home-grown Produce	0%
Respirable Dust (ug/m^3)	1.5

max

OUTPUT	Percentile Estimate of Blood Pb (ug/dl)					PRG-99	PRG-95
	50th	90th	95th	98th	99th	(ug/g)	(ug/g)
BLOOD Pb, ADULT	1.1	2.1	2.5	3.0	3.4	2407	3793
BLOOD Pb, CHILD	1.7	3.0	3.6	4.3	4.9	255	435
BLOOD Pb, PICA CHILD	1.8	3.2	3.8	4.6	5.3	128	218
BLOOD Pb, OCCUPATIONAL	1.1	2.0	2.4	2.9	3.3	3468	5452

EXPOSURE PARAMETERS	units	adults	children
Days per week	days/wk	7	
Days per week, occupational		5	
Geometric Standard Deviation		1.6	
Blood lead level of concern (ug/dl)		10	
Skin area, residential	cm^2	5700	2900
Skin area occupational	cm^2	2900	
Soil adherence	ug/cm^2	70	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.00011	
Soil ingestion	kg/day	50	100
Soil ingestion, pica	kg/day		200
gestion constant	(ug/dl)/(ug/day)	0.04	0.16
Bioavailability	unitless	0.44	
Breathing rate	m^3/day	20	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.082	0.192
Water ingestion	l/day	1.4	0.4
Food ingestion	kg/day	1.9	1.1
Lead in market basket	ug/kg	3.1	
Lead in produce	ug/kg	7.2	

REFERENCES

PATHWAYS						
ADULTS	Residential			Occupational		
	Pathway contribution			Pathway contribution		
Pathway	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	4.2E-5	0.00	0%	1.5E-5	0.00	0%
Soil Ingestion	8.8E-4	0.01	1%	6.3E-4	0.01	1%
Inhalation1		0.05	4%		0.03	3%
Inhalation	2.5E-6	0.00	0%	1.8E-6	0.00	0%
Water Ingestion		0.84	74%		0.84	75%
Food Ingestion1		0.23	21%		0.23	21%
Food Ingestion	0.0E+0	0.00	0%			0%

CHILDREN	typical			with pica		
	Pathway contribution			Pathway contribution		
Pathway	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	6.1E-5	0.00	0%		0.00	0%
Soil Ingestion	7.0E-3	0.11	7%	1.4E-2	0.23	13%
Inhalation1	1.5E-6	0.00	0%		0.00	0%
Inhalation		0.04	2%		0.04	2%
Water Ingestion		0.96	58%		0.96	54%
Food Ingestion, child		0.54	33%		0.54	31%
Food Ingestion	0.0E+0	0.00	0%		0.00	0%

FIGURES

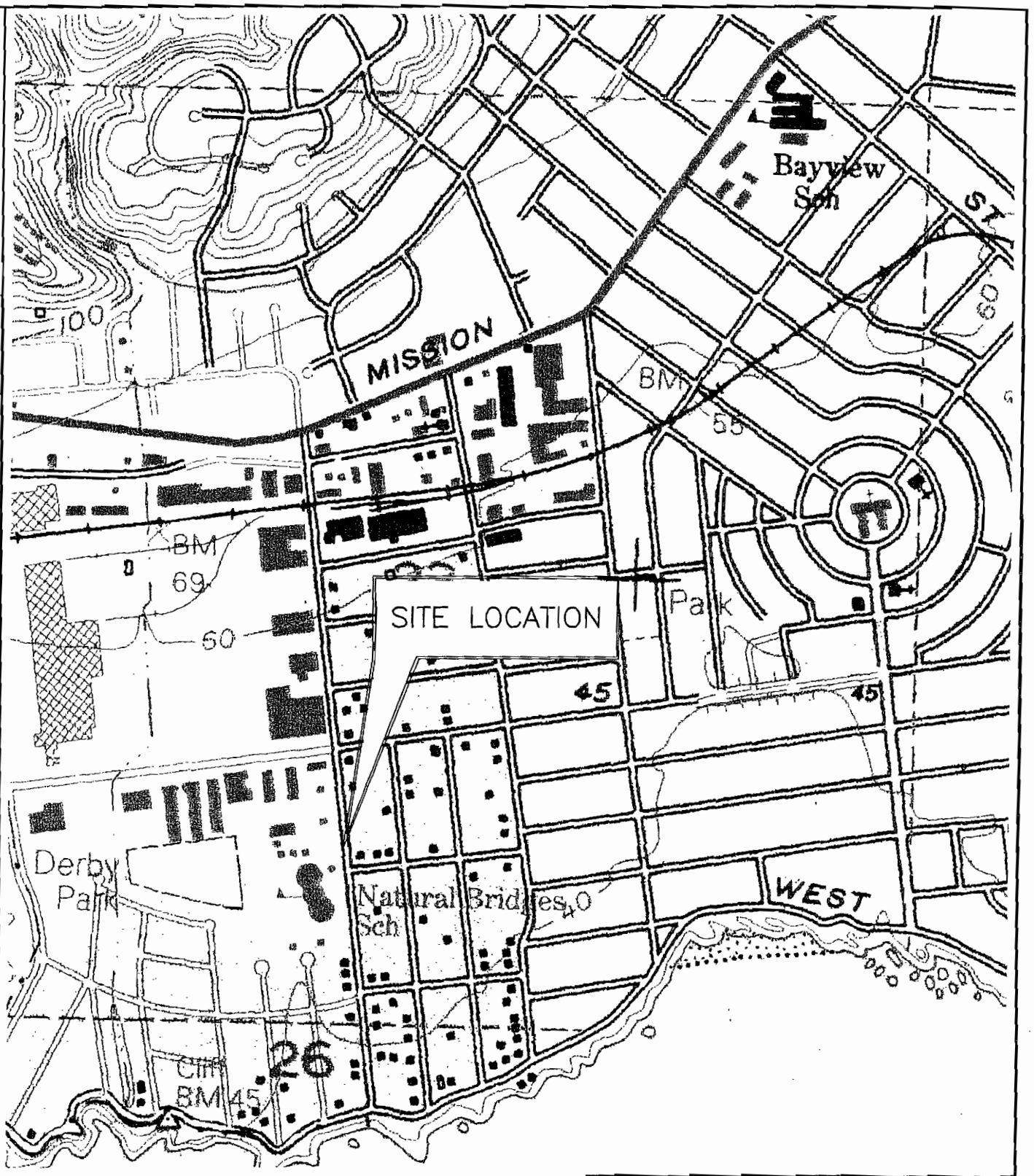


IMAGE	X-REF	OFFICE	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
NE,NW,SE,SW	---	Concord	MJV 02/11/02			834985-A1

REFERENCE:
USGS 7.5' QUADS "SANTA CRUZ, CALIFORNIA" DATED 1954; PHOTO REVISED 1994SCALE 1:24000

SCALE
0 800 1600 FEET

IT CORPORATION

SANTA CRUZ CITY SCHOOLS
SANTA CRUZ, CALIFORNIA

FIGURE 1

SITE LOCATION
ARK AND MONARCH SCHOOLS

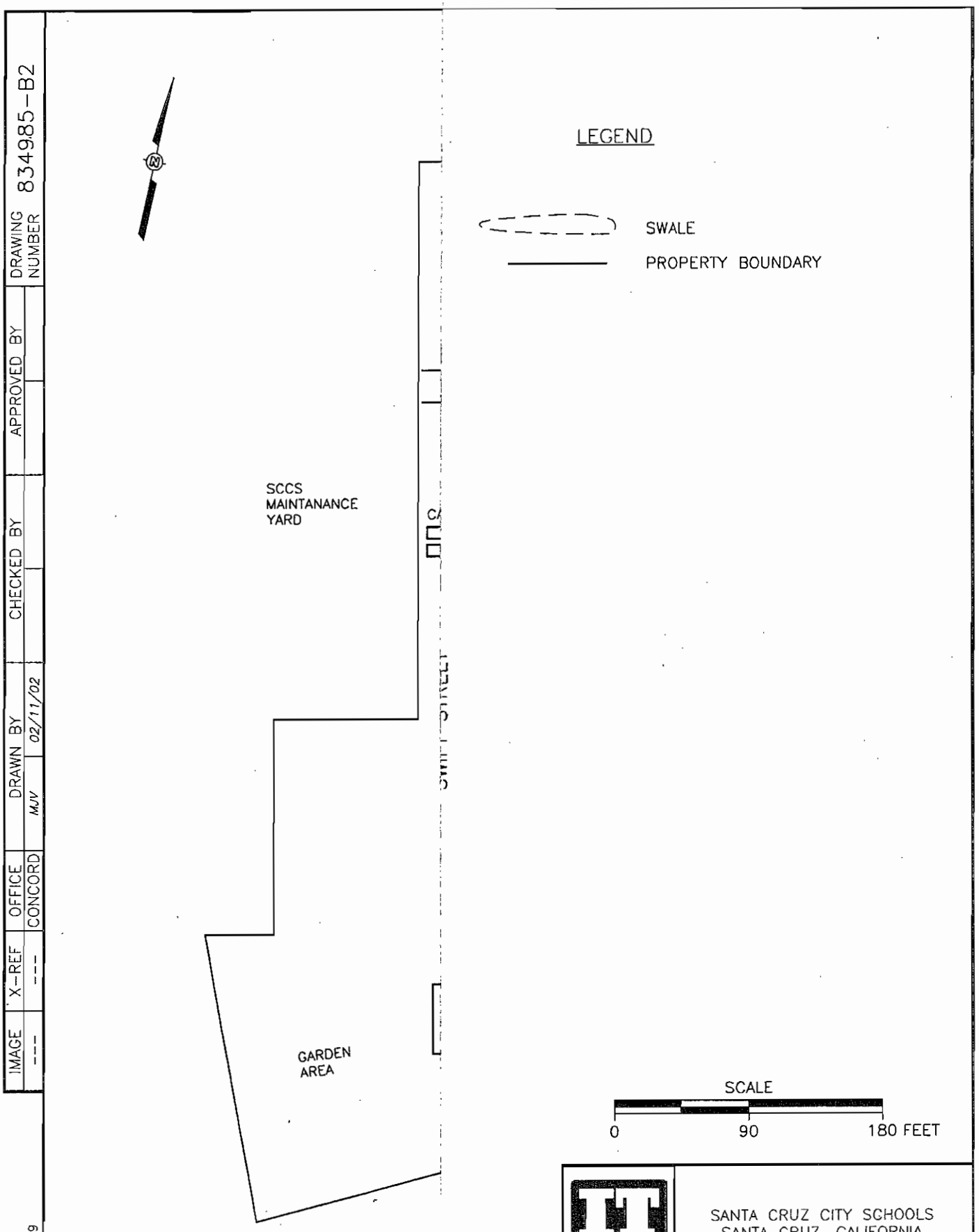


IMAGE	X-REF	OFFICE	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
---	---	CONCORD	MJV 02/11/02			834985-B2

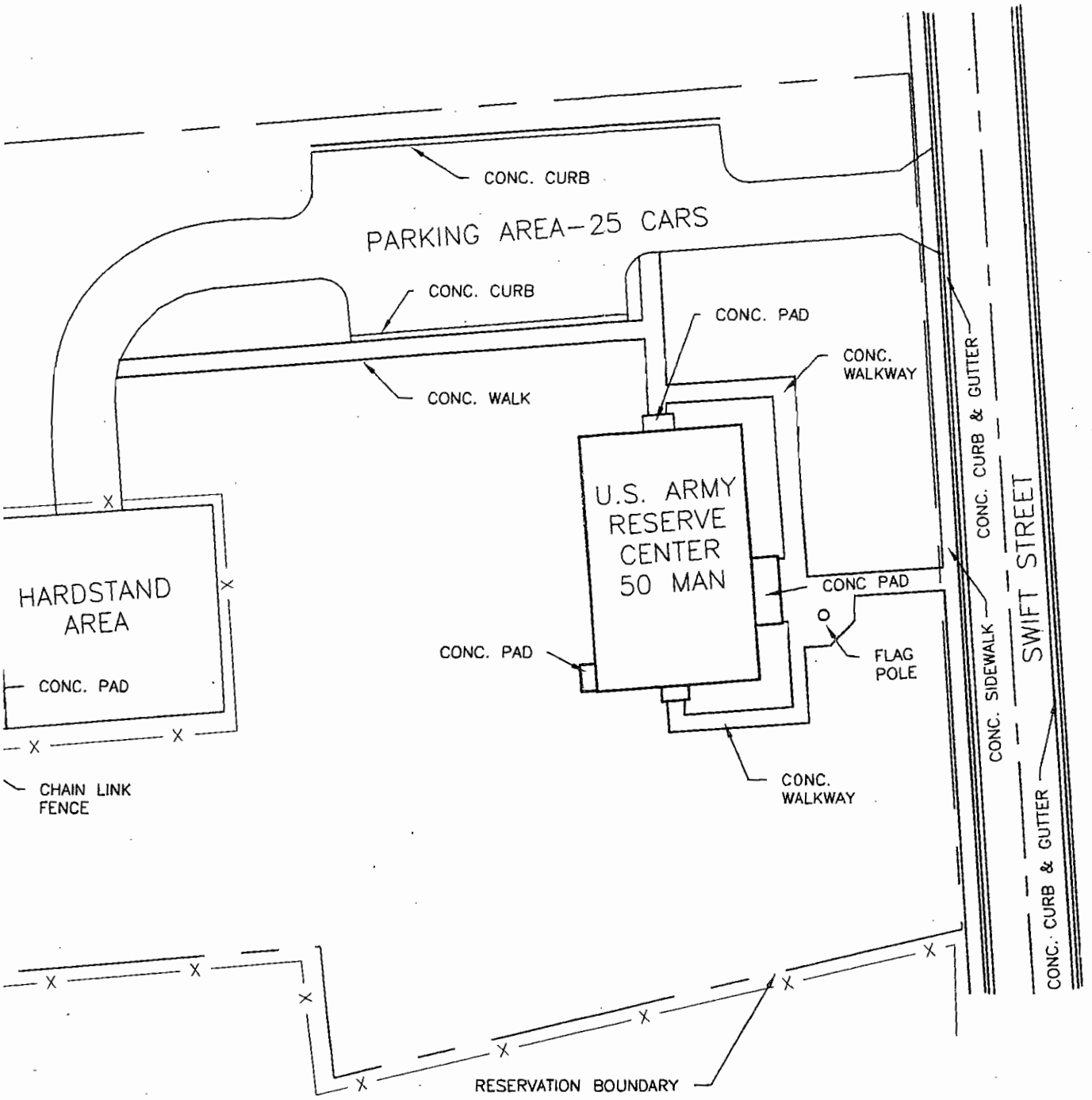
FORMAT REVISION 2/26/99

IT CORPORATION

SANTA CRUZ CITY SCHOOLS
SANTA CRUZ, CALIFORNIA

FIGURE 2

CURRENT SITE LAYOUT
ARK AND MONACH SCHOOLS



SCALE

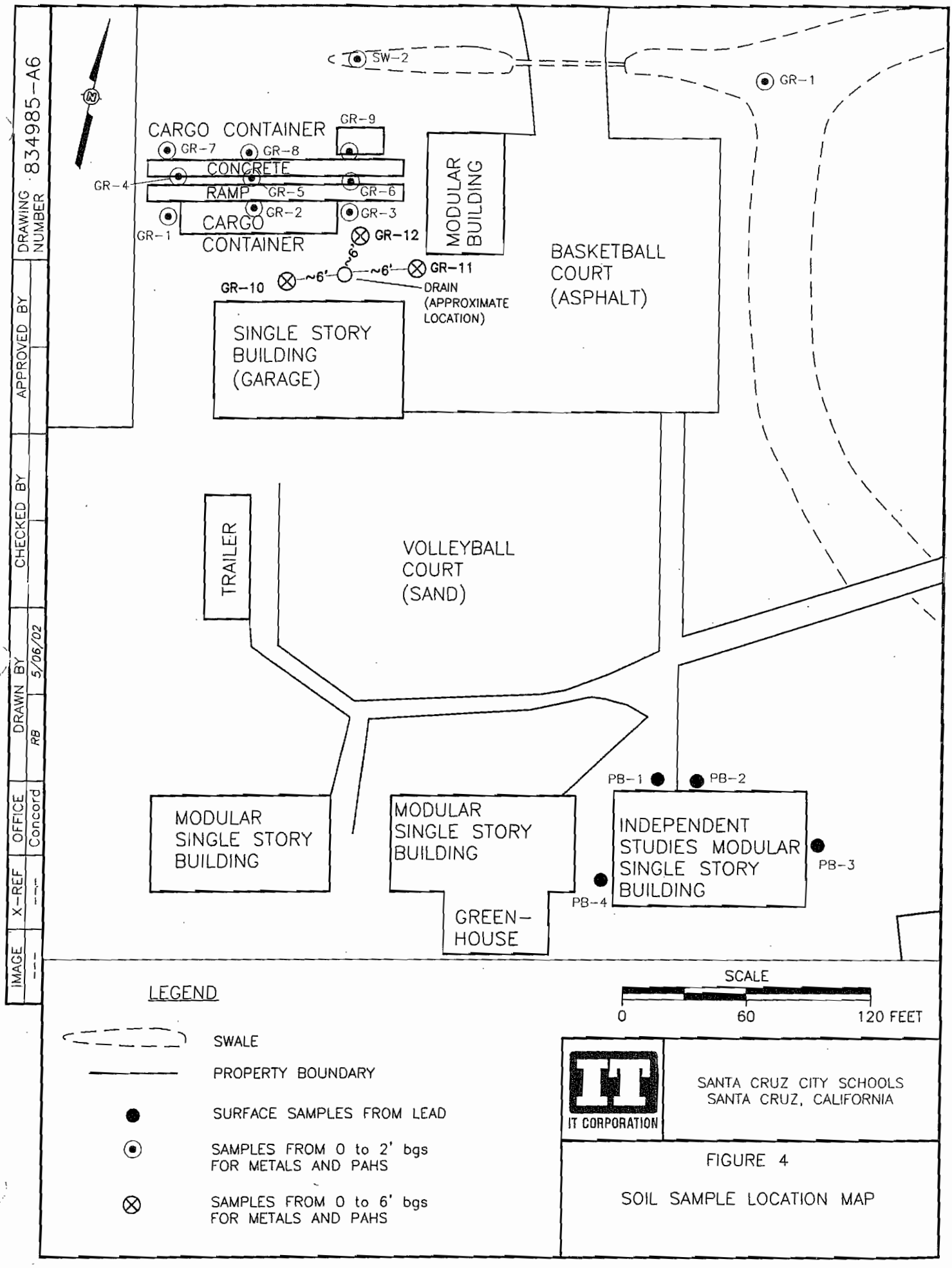
0 50 100 FEET

IT CORPORATION

SANTA CRUZ CITY SCHOOLS
SANTA CRUZ, CALIFORNIA

FIGURE 3

GENERAL SITE MAP
CIRCA 1976
REDRAWN FROM U.S. ARMY RESERVE


SW-2
GR-1
CARGO CONTAINER
GR-9
GR-7
GR-8
CONCRETE
RAMP
GR-4
GR-5
GR-6
GR-2
GR-3
GR-1
CARGO CONTAINER
MODULAR BUILDING
GR-12
~6'
~6'
GR-11
GR-10
~6'
DRAIN (APPROXIMATE LOCATION)
BASKETBALL COURT (ASPHALT)
SINGLE STORY BUILDING (GARAGE)
TRAILER
VOLLEYBALL COURT (SAND)
PB-1
PB-2
MODULAR SINGLE STORY BUILDING
MODULAR SINGLE STORY BUILDING
INDEPENDENT STUDIES MODULAR SINGLE STORY BUILDING
PB-3
PB-4
GREEN-HOUSE
LEGEND
SWALE
PROPERTY BOUNDARY
SURFACE SAMPLES FROM LEAD
SAMPLES FROM 0 to 2' bgs FOR METALS AND PAHS
SAMPLES FROM 0 to 6' bgs FOR METALS AND PAHS
SCALE
0
60
120 FEET
IT CORPORATION
SANTA CRUZ CITY SCHOOLS
SANTA CRUZ, CALIFORNIA
FIGURE 4
SOIL SAMPLE LOCATION MAP
DRAWING NUMBER 834985-A6
APPROVED BY
CHECKED BY
DRAWN BY RB 5/06/02
OFFICE Concord
X-REF ---
IMAGE ---

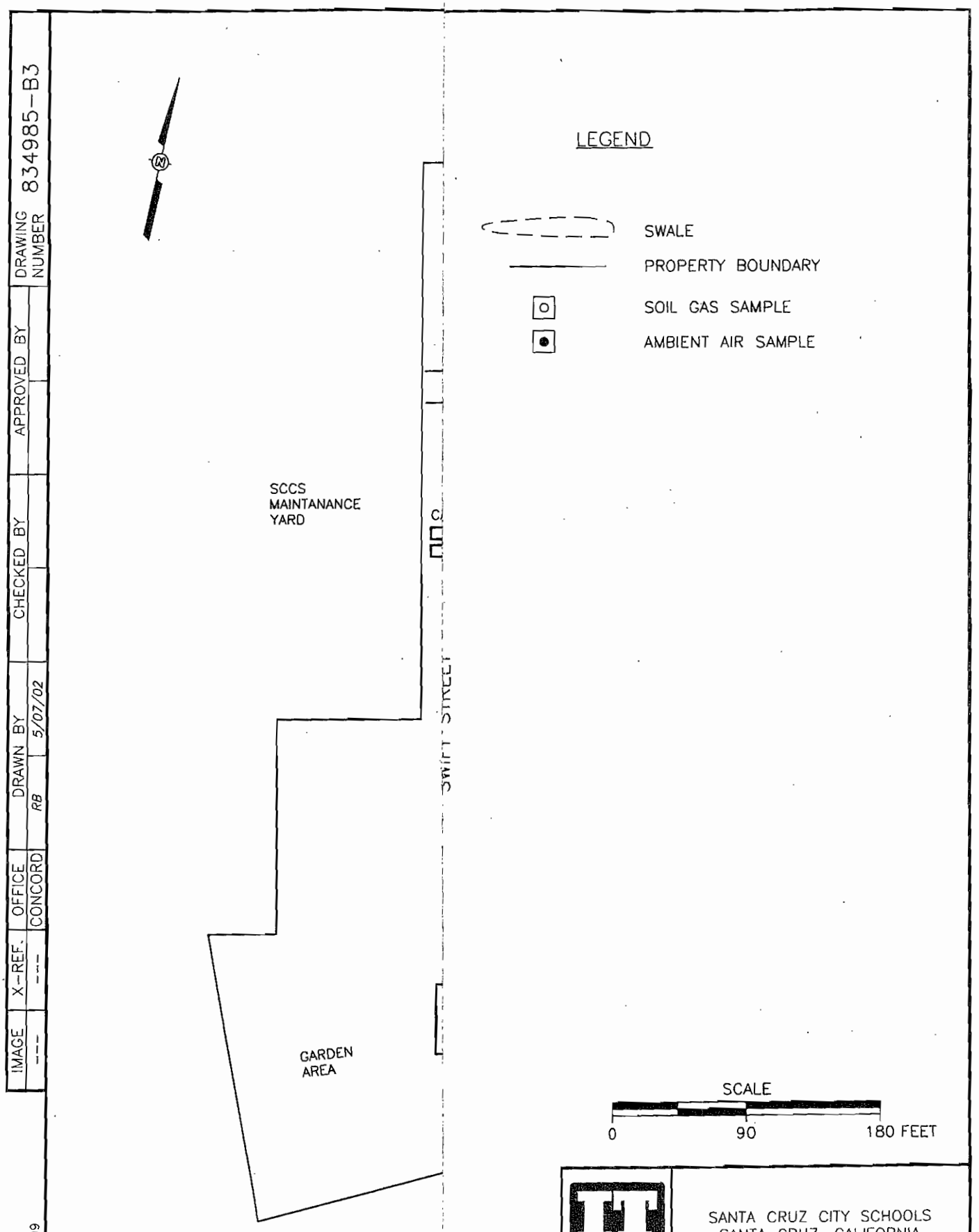


IMAGE	X-REF.	OFFICE	DRAWN BY		CHECKED BY	APPROVED BY	DRAWING NUMBER
---	---	CONCORD	RB	5/07/02			834985-B3

FORMAT REVISION 2/26/99

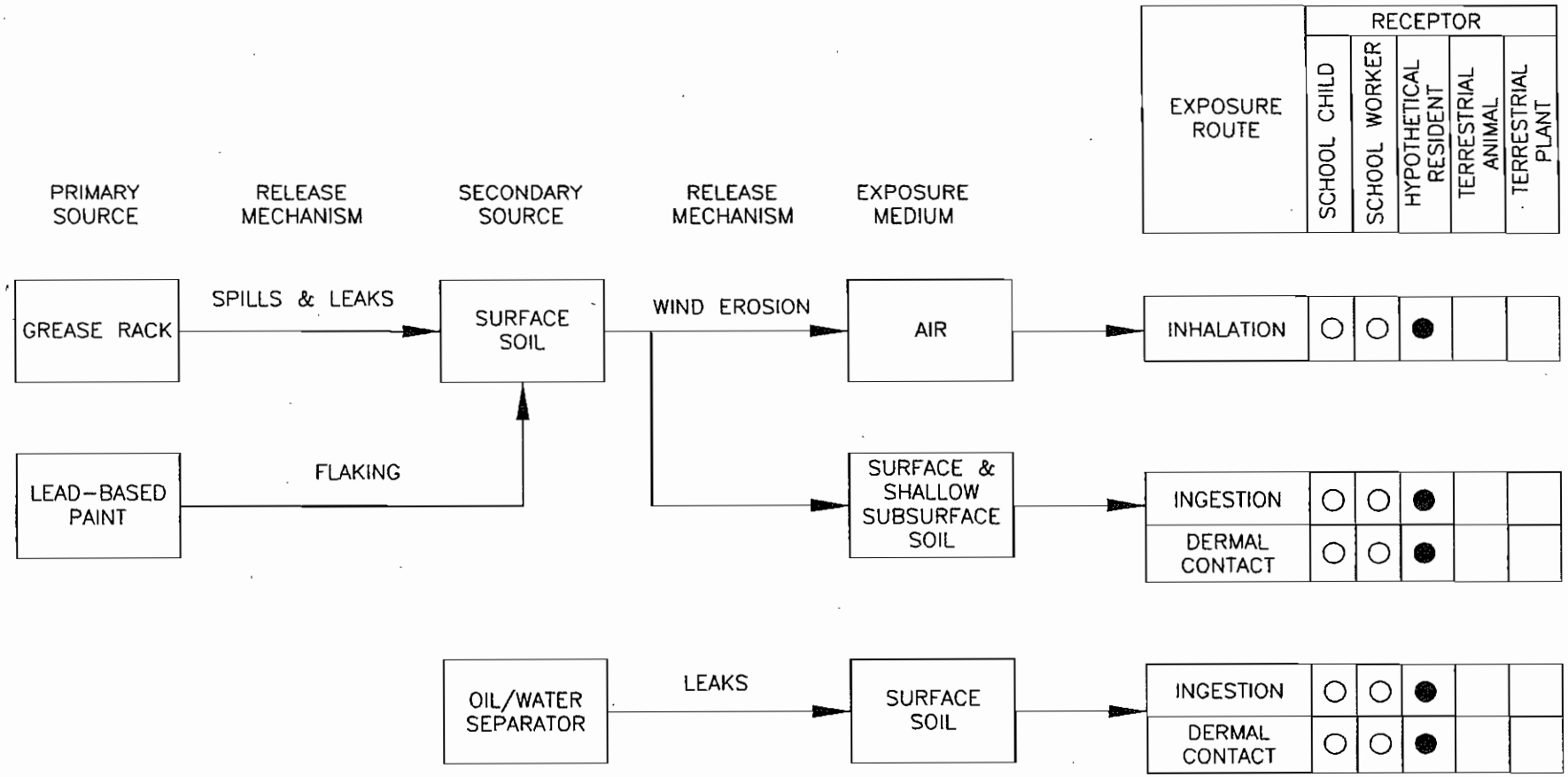
IT CORPORATION

SANTA CRUZ CITY SCHOOLS
SANTA CRUZ, CALIFORNIA

FIGURE 5

SOIL GAS AND AMBIENT
AIR SAMPLE LOCATIONS MAP

IMAGE	X-REF	OFFICE	DRAWN BY		CHECKED BY		APPROVED BY		DRAWING NUMBER
---	---	Concord	RB	5/2/02					834985-A5



KEY:

BLANK — INCOMPLETE PATHWAY

○ — COMPLETE PATHWAY, NOT QUANTIFIED SINCE RESIDENTIAL SCENARIO USED

● — COMPLETE PATHWAY, THAT IS QUANTIFIED

IT CORPORATION

ARK/MONACH SCHOOLS
SANTA CRUZ CITY SCHOOLS,
SANTA CRUZ, CALIFORNIA

FIGURE 6

CONCEPTUAL SITE MODEL

APPENDIX A

LICENSES AND RESUMES

CHARLES S. METZINGER

Senior Project Manager

Mr. Metzinger is a senior project manager based in IT's Environmental Health & Safety Division in Sacramento and manages site characterization studies, environmental due diligence assessments, and risk characterization programs related to air, soil and water media contamination. His experience includes conducting construction environmental health and safety programs. Mr. Metzinger applies his 15 years of technical knowledge and experience to such areas as construction projects, underground storage tank projects, surface impoundment and landfill closures, industrial/hazardous waste projects, and property transfer assessments.

Prior to joining IT, Mr. Metzinger managed or participated in a broad spectrum of environmental and geotechnical projects including, remedial investigation/feasibility studies (RI/FS), sampling and analysis programs, hydrologic monitoring programs, and foundation and slope stability studies for the construction of buildings, bridges and marine facilities.

Selected Project Experience

Environmental Health and Safety

- EH&S coordinator for Turner Construction on Intel Corporation's D2P4 Fab restart and PSSS Basebuild, responsible for implementation of Intel's health and safety program and oversight of subcontractors during construction.

- EH&S coordinator for Turner Construction on Intel Corporation's IDS1 design build, responsible for implementation of Intel's health and safety program and oversight of subcontractors during construction.

- Managed due diligence assessments for over 15 school districts in Northern California, including Phase I ESAs, Preliminary Endangerment Assessments, and removal and remedial actions for new school facilities and modernization projects.

- Managed over 70 underground storage tank projects in northern California for two major oil companies. Responsible for technical performance which included site characterization, remediation, health and safety, operation and maintenance, and closure phases of site work. In addition, administered the budgeting, project management, and resource staffing aspects of these programs.

- Managed the site assessment and remediation of a pentachlorophenol impacted wood treating facility in northern California. The scope of activities included

site characterization, biotreatability testing, fate and transport modeling, and on-site enhanced biodegradation within an engineered biopile augmented with air injection and soil moisture controls.

- Performed environmental audits for California Department of Corrections at Folsom Prison, including dry cleaning operations, metal fabrication shop, landfill and shooting range.

- Managed site assessment and remediation programs for a large agricultural chemical distribution company at numerous facilities throughout the Sacramento and San Joaquin valleys.

- Supervised the design and installation of vapor extraction and monitoring wells, and vapor phase extraction pump tests to determine the feasibility, design and equipment selection for vapor extraction systems to remediate petroleum impacted soils.

- Managed subsurface soil investigations at two pesticide storage facilities in Sacramento and Carmichael, California, where soils are impacted by hydrocarbons and pesticides (mainly DDT).

- Managed the hydrogeologic monitoring of two extraction well fields that maintained zones of groundwater capture and pumped contaminated groundwater for treatment. This U.S. Air Force project in Sacramento also included report writing, quality assurance/quality control (QA/QC), client interfacing, budgeting, data and capture zone evaluations, and generating potentiometric contour maps.

- Managed a RI/FS project at a northern California Superfund site contaminated with heavy metals and volatile organics. Managed all aspects of operation, including sampling, report writing, QA/QC, staff direction, data evaluation, budget, and sampling soils and soil-gas investigations.

- Managed a preliminary assessment project at a California Superfund site contaminated with volatile organics from a leaking underground storage tank. This project was designed to determine if volatile organic compounds were impacting domestic water wells. Managed all aspect of this project including report writing, QA/QC, staff direction, and research on alternative water supplies and corrective actions.

- Implemented a field sampling program, which included soil borings and groundwater sampling at a heavy equipment dealer and maintenance facility in Northern California. Past site operations had resulted in solvent, oil, and grease contamination of soil, groundwater, and runoff.

- Supervised the field implementation of a workplan to test the remediation technology of a private Oregon entrepreneurial company. This pilot project conducted at a chromium contaminated Superfund site was funded, in part, by the Superfund Innovative Technology Evaluation program.

- Performed site assessments, environmental audits, and report writing for the Department of Defense in Alaska, for the cleanup of various hazardous and nonhazardous military waste sites.

- Managed soil excavation and disposal activities at numerous tank removal sites, and conducted sampling and analysis programs to evaluate the tank system, backfill, and excavation for evidence of contamination.

- Managed soil and groundwater characterization programs at numerous underground storage tank projects and evaluated data to determine the lateral and vertical extent of contamination and remedial action alternatives.

- Conducted site inspection, sampling, and preparation of written reports for the environmental assessments for real property transactions in California, Washington, and Oregon. Conducted agency file review and appraisal of the facility/compliance status.

Geotechnical

- Conducted slope stability analyses using slope indicator test hole data for predesign studies for a major water pipeline project.

- Supervised subsurface investigations for various geotechnical engineering projects including an airport runway design and a water pipeline project.

- Conducted soils laboratory testing and analysis.

- Conducted and supervised rock quarry location and design for the construction of logging roads, including identification and detailed geologic description of source rock and geomorphology of area, seismic surveys and data interpretation, blasting, surveying, modeling and report writing.

- Supervised field operation of drilling program, test boring and sampling of soil and rock for bridge foundations.

- Conducted off-shore marine sediment density testing and bathymetric/sub-bottom profile surveys for construction of marine facilities.

Barbara J. Marks, CIH

Professional Qualifications

Ms. Marks is a Senior Health Scientist with over 15 years of experience in environmental sciences, petroleum hydrocarbon evaluations, and hazardous waste investigations/remediations. She has prepared risk assessments that have supported selection of no-action alternatives and cleanup criteria above background soil levels. Ms. Marks has provided regulatory compliance services for commercial operations and government agencies ranging from doing Phase I property transfer audits through conducting NEPA and CEQA evaluations, and identifying ARARs under Superfund. She has managed projects under RCRA, CERCLA, and other regulatory programs that included conducting site and facility audits, industrial hygiene/health and safety evaluations, and analytical data quality reviews.

Education

M.E.S., Environmental Studies, Yale University; 1984
B.A., Biology, Goucher College; 1980

Registrations/Certifications

C.I.H., No. 5776
40-Hour OSHA Hazardous Waste Operations Training & Annual Updates

Experience and Background

1992 – 1995 & 1997 - Present
Senior Scientist, IT Corporation, Concord, California. Manages and conducts human health and ecological risk assessments. This work includes developing the conceptual approaches and models, supervising data usability evaluations, identifying both default and site-, receptor-specific exposure factors, conducting toxicity reviews (including identification and review of toxicity literature), preparing risk characterizations, and negotiating with regulatory agencies. Example projects are described below.

- On a quick turn around basis, evaluated the risks of residual levels of PCBs, pesticides, and fuels in soils for a site slated to be developed into an elementary school. Using DTSC guidance as a basis structure, developed exposure scenarios for preschool children (using the site as a community park), elementary school children, school maintenance workers, and on-site residents (a required receptor). Developed receptor specific exposure parameters using age-weighted approaches and age-specific information. Conducted a toxicity review to evaluate implications of recent OEHHA and USEPA cancer slope factor development. Summarized analytical results for over 300 soil points and for "hot spots." Results of risk assessment were used by regulatory agencies, school authorities, and remediation engineers to expedite site clean up and school construction.

- Conducted National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) impact analyses and developed mitigation measures for waste issues. Projects included preparing the radioactive materials and air emissions sections of the Environmental Impact Report (EIR) for the replacement RCRA-Hazardous Waste Storage Facility at the University of California, Berkeley, and the redevelopment of former U.S. Army hand grenade and small firearms training ranges into a golf course (San Luis Obispo, California). Prepared the environmental assessments and findings of no significant impact for underground storage tank and PCB-transformer remediation activities at seven formerly used defense sites (FUDs) in Northern California for the Sacramento District of the Army Corps of Engineers.

- Developed the risk assessment strategy to document and evaluate a natural attenuation treatability study of a petroleum groundwater plume at George AFB. The risk assessment strategy was used in developing the 2-year field-scale treatment study to ensure both that adequate and appropriate chemical and hydrogeological data are collected to support a future risk assessment and that the results of the risk assessment will be useful for judging if natural attenuation adequately remediates the threats to human health and the environment.

- Conducted field inspection and Section 404-permit analysis for the installation of utility lines within a railroad right-of-way in the San Francisco Bay Area. The utility line crossed five large rivers and multiple salt-water and fresh-water marshes. Evaluation of the construction methods and regulatory options indicated that the work qualified for National Wetlands Permit. Prepared the permit notification package that resulted in project approval by the U.S. Corps of Engineers, California Department of Fish and Game, California State Lands Commission BCDC, and five county agencies.

- Assessed the regulatory options for disposal of non-contact cooling water (NCCW) from the Area 300 sanitary sewer system at DOE Hanford Site. The NCW was being eliminated from the sanitary system as a result of remedial actions taken to comply with the Hanford CERCLA Tri-Party Agreement. The review of the options for disposal examined both the regulatory requirements and the historical success of obtaining permits and permit modifications under the NPDES program, Washington Department of Ecology program for disposal of waste water to the groundwater, disposal of water to the Richland, Washington sanitary sewer system, and state and local requirements for re-use of industrial water.

- Prepared regulatory compliance evaluations for a CERCLA engineering evaluation/cost analysis (EE/CA) for three sites at Mather AFB. Review of regulations included requirements for non-time critical removal actions to meet ARAR and relationship to CERCLA petroleum exclusions. Prepared the Removal Action Memorandum (RAM) that documented the EE/CA and decision process.

- Provided risk evaluations of remedial alternative for the RCRA-closure of a former wood-treating facility with soils and groundwater contaminated with hexavalent chromium, arsenic, and copper. This assessment included discussion of risk trade-offs for air emissions and

1991 - 1992

Scientist, ICF Kaiser, San Francisco, California. Oversaw the closure risk assessment for a hazardous waste landfill and surface impoundment in Contra Costa County, California. Estimated the fugitive particulate and gaseous chemical releases resulting from seven remedial alternatives during implementation and post-closure. Evaluated both on-site worker, off-site worker, and residential risks for each alternative.

- Managed the development of baseline public health evaluation (under Risk Assessment Guidelines, Part A) for the Apache Powder CERCLA site in Arizona. Examined potential risks to surrounding community from contamination of groundwater, surface water, and surface soils.

- Developed air emissions estimates for in-situ stabilization/solidification processes and from operations conducted within geotextile enclosures for McColl CERCLA site (Fullerton, California). Conducted a critical review of procedures and analytical data from soil gas surveys and flex chamber studies to assess the usability of the data for risk assessment. Conducted odor impact assessment for the thiophenes and other sulfur compounds released during remediation.

1995 - 1997

Senior Health Scientist, Chemrisk (McLaren/Hart), Alameda, California. Ms. Marks conducted ASTM RBCA analyses for gasoline, diesel, aviation fuel, and other volatile organic chemical sites. This work included receptor and exposure pathway analyses for Tier 1, calculations of site-specific target levels for Tier 2, and air, groundwater, and biodegradation modeling for Tier 3. This work has been done for Safeway, United Airlines, San Jose Mercury News, Lockheed Missile and Space, and independent tank owners. This work also led to papers being presented at the national meetings (NGWA, Society for Risk Analysis, and AEHS) regarding selection of RBCA site characterization factors. Prior to conducting RBCA analyses, Ms. Marks prepared risk assessments for petroleum sites in California, Hawaii, and other western states using other protocols. Chemicals of concern included gasoline, diesel, mineral oils, trichloroethene, tetrachloroethene, and other solvents. The assessments were conducted as part of site closure, site investigation, feasibility studies, and remedial designs. They included developing site-specific cleanup levels, selecting appropriate remedial technologies, developing design specifications (primarily air strippers and groundwater cleanup), and evaluating residual contamination.

- Ms. Marks prepared the human health risk assessment for the closure of a hexavalent chromium manufacturing plant in the inner harbor of Baltimore. The assessment examined baseline risks to the surrounding neighborhood associated with air emissions and releases to surface water. This included assessing both the concentrations and oxidation/reduction fate of chromium in surface waters, sediments, and crab tissues. This risk assessment was accepted by state and federal environmental agencies and supported the selection of remedial alternatives that had community acceptance.

- Co-developer of ecological hazard ranking method for New York State. Developed strategies and methods for identifying chemicals of concern for ecological receptors, characterizing relative toxicities (including selecting toxicity end-points of concern), and ranking suspected hazardous waste sites. Implemented pilot testing of ranking scheme at 50 sites.

Publications/Presentations

Marks, B.J., K. Lee, and S. El Sururi, 1996, *Sensitivity Analysis of Vapor Transport Exposures in ASTM RBCA Protocol*, Society for Risk Analysis, New Orleans, Louisiana, December.

Marks, B.J., K. Lee, and S. El Sururi, 1996, *Sensitivity Analysis of Vapor Transport Exposures in ASTM RBCA Protocol*, NGWA/API Conference: Petroleum Hydrocarbons and Organic Chemicals in Groundwater, Houston, Texas, November.

Marks, B.J., 1996, *Comparisons of Fuels and TPH Residuals in Soils*, Society for the Environmental Health of Soils, West Coast Conference, Newport Beach, California, March.

Marks, B.J., 1995, *Composition of TPH in Soil*, HAZMACON 1995, Santa Clara, California.

Marks, B.J., P.W. McLaughlin, and B. Manchon, 1993, *Misapplication of TPH in Remedial Decision Making*, NWWA/API Conference: Petroleum Hydrocarbons and Organic Chemicals in Groundwater, Houston, Texas, November.

Marks, B.J. and M. Singh, 1990, *Relationships of Benzene and Toluene in Soil Gas, Soil, and Groundwater*, Hazardous Materials Control 3(6): 40-46, November-December.

APPENDIX B

SANTA CRUZ INDUSTIES INFORMATION

REMEDIATION TESTING AND DESIGN
Environmental Investigation Remediation Natural Attenuation Closure
609 Pacific Avenue, Suite 201, Santa Cruz, CA 95060 A California Corporation
Phone: (831) 458-1612 Fax: (831) 458-1509 E-mail: RTDInc@aol.com

October 7, 1999

Mr. Steve Baiocchi
Santa Cruz County Environmental Health Services
701 Ocean Street, Room 312
Santa Cruz, California 95060

SUBJECT Submittal of the Soil Metals Remediation Report for the Santa Cruz Industries Site, 411 Swift Street, Santa Cruz, California.

Dear Mr. Baiocchi:

Remediation Testing and Design is submitting our report to you of the subject site for your review. As you are aware, due to a pending property transaction and contractual obligations between Lipton and Santa Cruz Industries, we respectfully request your review and issuance of a closure letter (as appropriately determined by your office) at your soonest convenience. Please call with any questions at (831) 458-1612.

Sincerely,

REMEDIATION TESTING AND DESIGN

Elizabeth Whitney
Project Coordinator

enclosure

1.0 INTRODUCTION AND SUMMARY

Remediation Testing and Design (RTD) is pleased to submit this report for the remediation of metals impacted soil on behalf of Santa Cruz Industries (SCI), the property owner. This report outlines the site history and details the soil excavation and sampling activities performed at the site. The results of the sampling program verified the removal of metals impacted soils above the cleanup goals.

The work was performed based on RTD's workplan dated March 20, 1998 and RTD's workplan addendum dated May 31, 1999. The original workplan was conditionally approved by the Santa Cruz County Environmental Health Service (SCCEHS) in a letter to SCI dated June 11, 1998. That letter contained comments which were addressed by RTD in the workplan addendum. The SCCEHS approved the workplan addendum with two additional comments which were addressed prior to mobilization to the field.

From September 13 through September 22, 1999, approximately 400-cubic yards of soil was excavated from Santa Cruz Industries property (APN: 003-121-03) and from property owned by Conopco, Inc. d/b/a Lipton, formerly Thomas J. Lipton, Inc. (APN: 003-121-01). RTD collected 17 confirmation samples from the base of the excavation for analysis of volatile organic compounds (VOCs), total cyanide, hexavalent chromium, and priority pollutant metals. The result of these analyses indicated that the remaining soils in the base of the excavation were at or below all of the cleanup goals approved by the SCCEHS.

Included with this report is a site history, impact assessment, proposed cleanup criteria, excavation extent, results of confirmation sampling, documentation of soil disposal, and RTD's recommendation for site closure for the metals impacts at both properties.

2.0 SITE HISTORY

2.1 Overview

The subject site is located on the west side of Santa Cruz approximately 1,500-feet north of the Monterey Bay. **Figure 1** shows the general location of the site. The SCI facility is situated in a predominantly industrial area and has steadily been encroached upon by the expansion and filling in of residential housing. The site is now on the border of residential and industrial areas. The general site features and the locations of onsite and offsite groundwater monitoring wells are shown on **Figure 2**. The site elevation is approximately 55-feet above mean sea level. Groundwater elevations across the site have ranged from approximately 47-feet to 55-feet above mean sea level. The site groundwater gradient has been identified as trending to the southwest towards the Monterey Bay with variations due to the subsurface utilities alignment. A copy of the most recent groundwater elevations and the prepared gradient map is included as **Figure 3.** In the regional setting, the site is underlain by flood plain deposits that are Quaternary to recent in age. The flood plain deposits represent deposition in a variety of non-marine environments. Further, the flood plain deposits overlay Paleocene to Pliocene aged sandstone and mudstone which lie unconformably upon a base consisting of Mesozoic granitic and older metasedimentary rocks.

(DHS) total threshold limiting concentration (TTLC) or soluble threshold limiting concentration (STLC) criteria.

In January 1993, RESNA conducted additional subsurface investigation activities to assist in further characterizing site conditions. This consisted of advancing borings and collecting five groundwater samples using hydropunch technologies. Additionally, shallow soil samples were collected from the western portion of the former plate shop area of the SCI facility and on the Lipton property adjacent to the west.

It was reported by RESNA that in an area west of the former plate shop up to 300-cubic yards of soils may have exceeded regulatory hazardous waste thresholds (above TTLC and/or 10 times the STLC values) for nickel and/or chromium. It was also reported that laboratory results of soil samples collected by both CEMS and RESNA indicated relatively high background levels of nickel (mean of 6.6 parts per million (ppm)), chromium (mean of 12.7 ppm), zinc (mean of 15.3 ppm), and arsenic (mean of 13.3 ppm). It was recommended that the soils be excavated and removed to an acceptable landfill.

Subsequent sampling of the groundwater monitoring wells indicated that wells MW-1 and MW-2 did not contain detectable levels of VOCs. MW-3 had elevated impacts from VOCs. MW-4 had only slight impacts from VOCs at just above detection limits. It was also reported that of all groundwater samples collected from the hydropunch sampling, only HP2 contained detectable levels of VOCs, namely PCE. HP-2 was located across Delaware Avenue to the southeast of the former plating area. Groundwater samples were also analyzed for priority pollutant metals. MW-1 did not contain detectable metals. The other wells are reported as having varying levels of metals. Most notably was MW-2 with elevated nickel and chromium. Apparently, HP1 at the northeast corner of the SCI facility property contained relatively high levels of chromium, copper, lead, nickel, and zinc. It was recommended that further wells be installed to assess the nature and distribution of VOCs near the hydropunch locations HP1, HP2 and HP4/HP5. *As previously noted, the RESNA groundwater samples contained sediment which resulted in numerous false positive results. Subsequent sampling conducted by RTD using low flow submersible pumps indicated that all metals concentrations were below the maximum contaminant levels (MCLs) in sediment-free samples.*

2.2.3 RTD Studies

In February 1994, RTD reviewed all of the data and reports developed for the subject site. Based on this review, RTD provided specific recommendations to SCI for future environmental compliance work. These recommendations included a shift in emphasis from the metals impacted soils to the yet undefined VOC plume. In March 1994, RTD designed and supervised the destruction of the former facility water supply well due to its proximity to the suspected VOC plume.

In November 1995, RTD conducted pilot studies of stabilization and solidification of the metals affected soils. RTD collected approximately 5-gallons of soil from three zones of metals concentrations, from potentially hazardous to near background levels. Soil was collected from discrete locations from each zone, then thoroughly mixed all soils from one zone in a wheel barrow. A portion of the composite samples was sent to the laboratory for analysis for total

stratified soil zones. **Figure 4** is a site map showing the area of metals soil sampling locations for work conducted by CEMS and RESNA. A summary of the laboratory analytical results of metals in soil for work conducted by CEMS and RESNA is contained in **Table 1**. Based on the accumulated data, RTD prepared **Figure 5** to show the general areal distribution of the three general impact zones of metals impacted soils, along with the soil sampling locations for the treatability studies conducted for the CAP. Laboratory analytical results of soil sampling collected for the treatability studies are summarized in **Table 2**. The results for total metal concentrations (X1-X4, Y1-Y7 and Z1-Z3) of composited soil samples indicated that the TTLC is not exceeded in any sample. The results of California waste extraction testing (CWET) indicated that only nickel exceeded STLC levels in soil from the most highly impacted zone. The results of CWET testing with distilled water as the leaching fluid indicated all levels below STLC levels.

A summary of groundwater samples analyzed for metals is presented on **Table 3**. The results indicated that localized metals impacts above MCLs were no longer evident during the last round of sampling in November 1997. The decline in metals concentrations in groundwater was due to changing the sampling technique from bailers to submersible pumps. Collecting groundwater samples with bailers frequently produces sediment-rich groundwater, while low flow pumping with submersible pumps tends to produce sediment-free groundwater samples. The RWQCB has not required analysis of metals in groundwater since the November 1997 monitoring event.

4.0 METALS IMPACTED SOIL EXCAVATION AND DISPOSAL

4.1 Cleanup Criteria

The metal impacts to soil surrounded the former plating at the subject site. While these soils contained many different metals, only nickel was consistently found above regulatory trigger levels. The soils contained in the zone immediately adjacent to the former plating shop contain the highest concentrations of nickel, with an average of approximately 2,000-mg/Kg. The nickel concentrations, however, were well below the preliminary remediation goals (PRGs) for industrial soils (34,000-mg/Kg) established by the United States Environmental Protection Agency (USEPA), Region 9.

In a meeting with representatives of the SCCEHS, RWQCB, SCI and RTD at the SCI offices on September 15, 1997, use of the PRGs was discussed. The SCCEHS expressed concern regarding the use of the industrial PRG as a cleanup criteria at this industrial site. As a compromise, the SCCEHS and SCI agreed that the "California-Modified PRG" for residential soils of 140-mg/Kg for nickel was appropriate as a cleanup goal for this project. In addition, RTD proposed limiting the total depth of the excavation to 5-feet below grade such that the clay layer overlying the sand and gravel water bearing zone not be broached, thereby creating a preferential pathway of cross contamination to groundwater. **Figure 6** shows the planned extent of soil excavation and the expected ranges of nickel concentration. The zone of soils potentially exceeding hazardous levels were planned to be excavated to a depth not to exceed 5-feet below grade. The zone of soils potentially exceeding 140-mg/Kg and potentially exceeding background was planned to be excavated to a depth of approximately 2-feet below grade.

soils with the highest impact concentrations. The sample included detection of nickel at 293-mg/kg, 164-mg/kg of zinc, 161-mg/kg of copper, 29-mg/kg of lead as well as other metals. The sample was analyzed by wet test method to determine the soluble threshold limit concentration (STLC) for hexavalent chromium and nickel, and for TCLP toxicity for chromium. The sample was below the threshold limits and maximum allowable concentrations.

On September 29, 1999, the excavated soils were hauled by Tri-County Transport, Inc. of Gilroy, California to the Safety Kleen, Inc. landfill located at 2500 West Lokern Road, Buttonwillow, California. Approximately 110-tons of soil was classified as non-RCRA hazardous waste and was transported under a uniform hazardous waste manifest to the Safety Kleen Buttonwillow landfill for disposal. Approximately 391-tons of soil was classified as non-hazardous waste and was transported under a non-hazardous waste data form to the Safety Kleen Buttonwillow landfill for disposal. Copies of the hazardous waste manifests with the weighmaster's certificates and the non-hazardous waste data forms are included in **Appendix B**. In addition, a log of the trucks, their license numbers and departure times is also included in **Appendix B**.

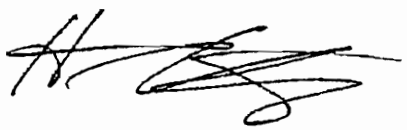
5.0 CONCLUSIONS AND RECOMMENDATIONS

A total of approximately 400-cubic yards, or 501-tons, of metals impacted soil was removed from the site and disposed of at the Safety Kleen Buttonwillow landfill. Approximately 110-tons was determined by the landfill to be non-RCRA hazardous waste and 391-tons was determined to be non-hazardous waste. Confirmation soil samples collected from the final extent of the excavation were all at or below the cleanup goals established by the SCCEHS. The excavation was backfilled and compacted to grade. All of the essential elements of the workplan and workplan addendum approved by the SCCEHS were completed within the established tolerances.

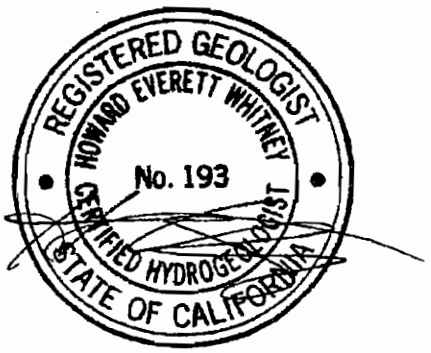
Given that the project was completed as planned according to the requirements of the SCCEHS, RTD recommends that both properties (Lipton property and SCI property) be closed for metal impacts to soil with no further actions be required. *Due to a pending property transaction and contractual obligations between Lipton and SCI, RTD respectfully requests that the SCCEHS review this report and issue the closure letter (as appropriately determined by the SCCEHS) as soon as possible.*

Prepared on behalf of SCI by:

REMEDIATION TESTING AND DESIGN



Howard E. Whitney, #HG 193
Certified Hydrogeologist



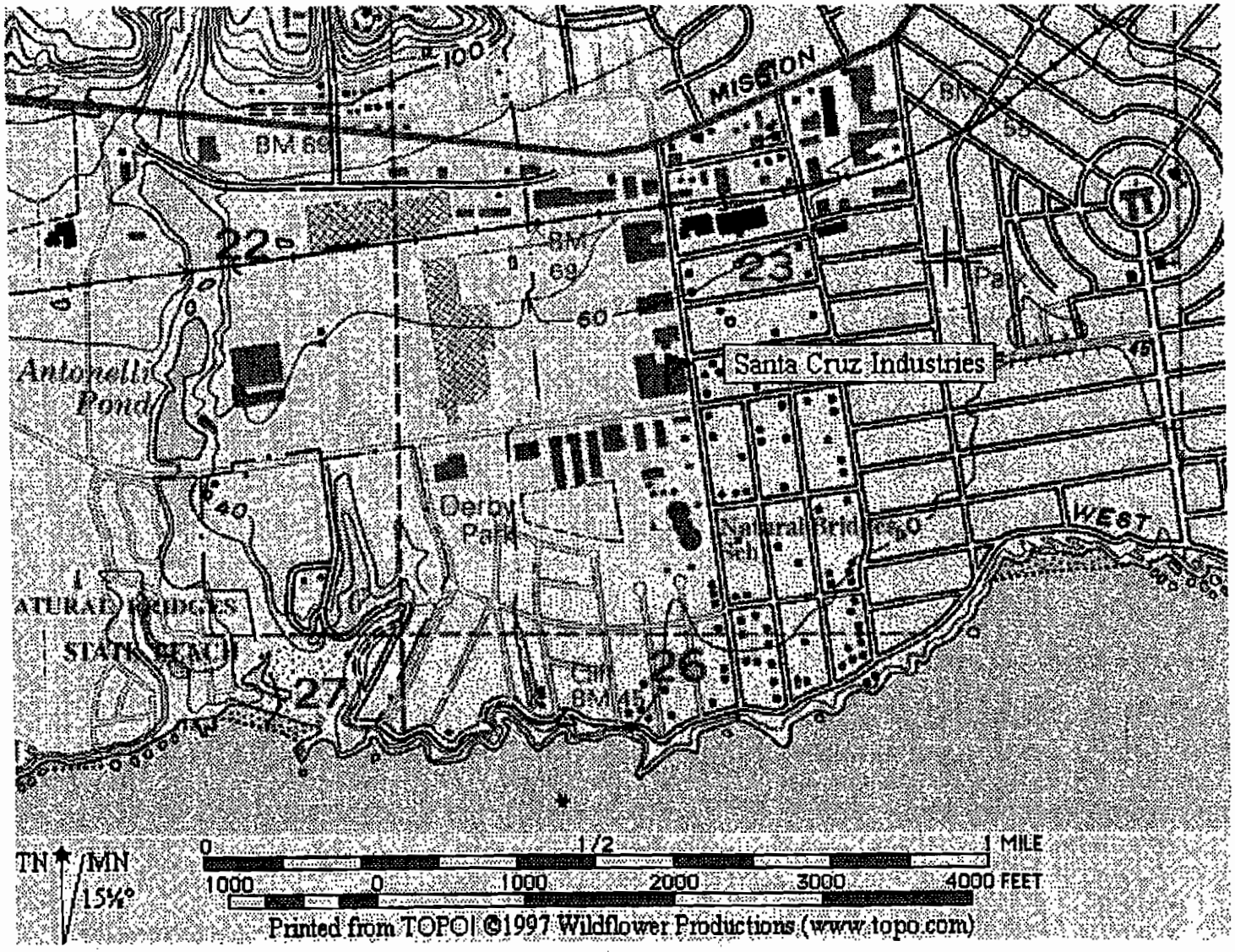


FIGURE 1 - General Site Location Map
Santa Cruz Industries, 411 Swift Street
Santa Cruz, California

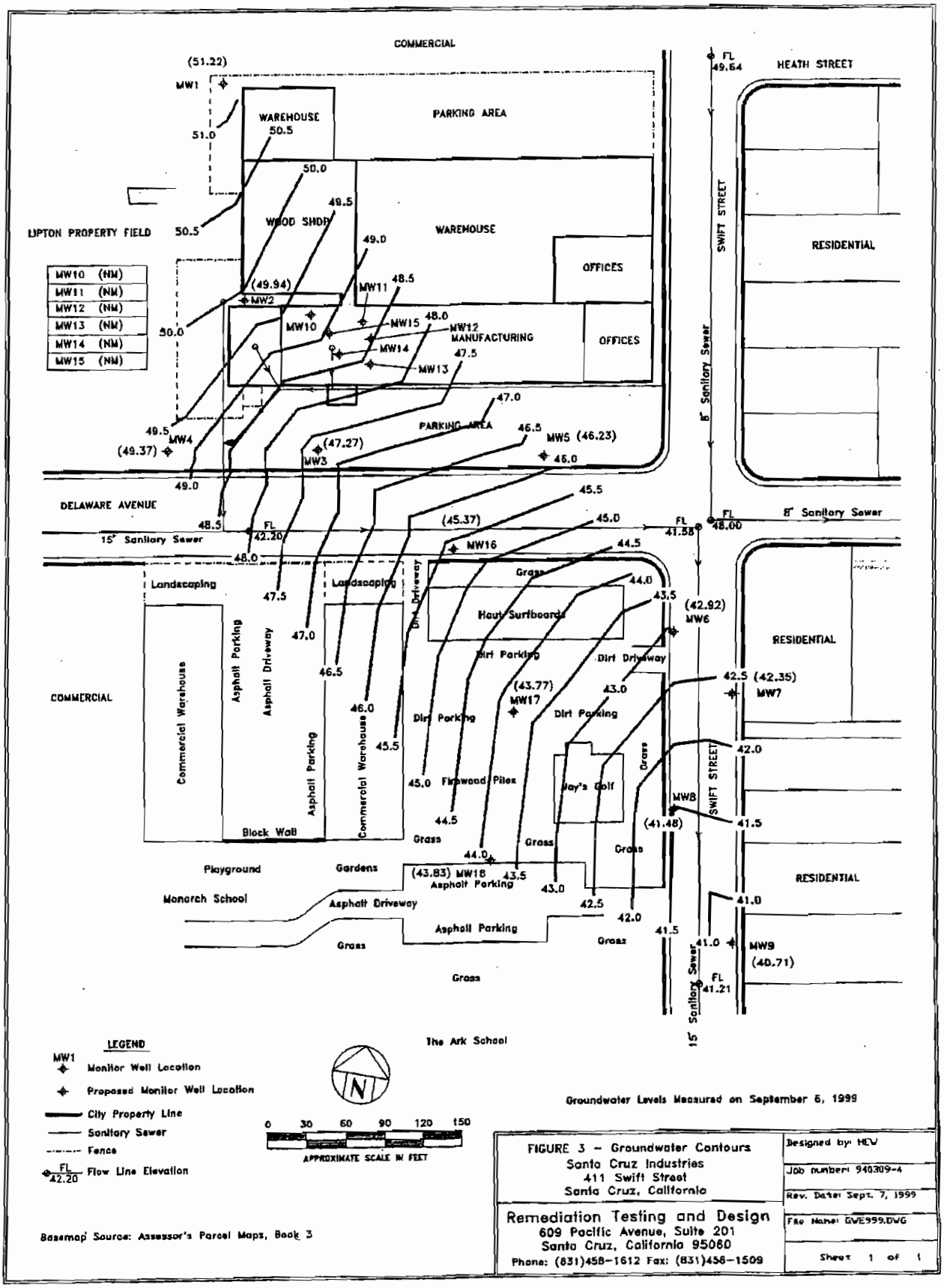


FIGURE 3 – Groundwater Contours
Santa Cruz Industries
411 Swift Street
Santa Cruz, California

Designed by: MEW
Job number: 940309-4
Rev. Date: Sept. 7, 1999
File Name: GWE999.DWG

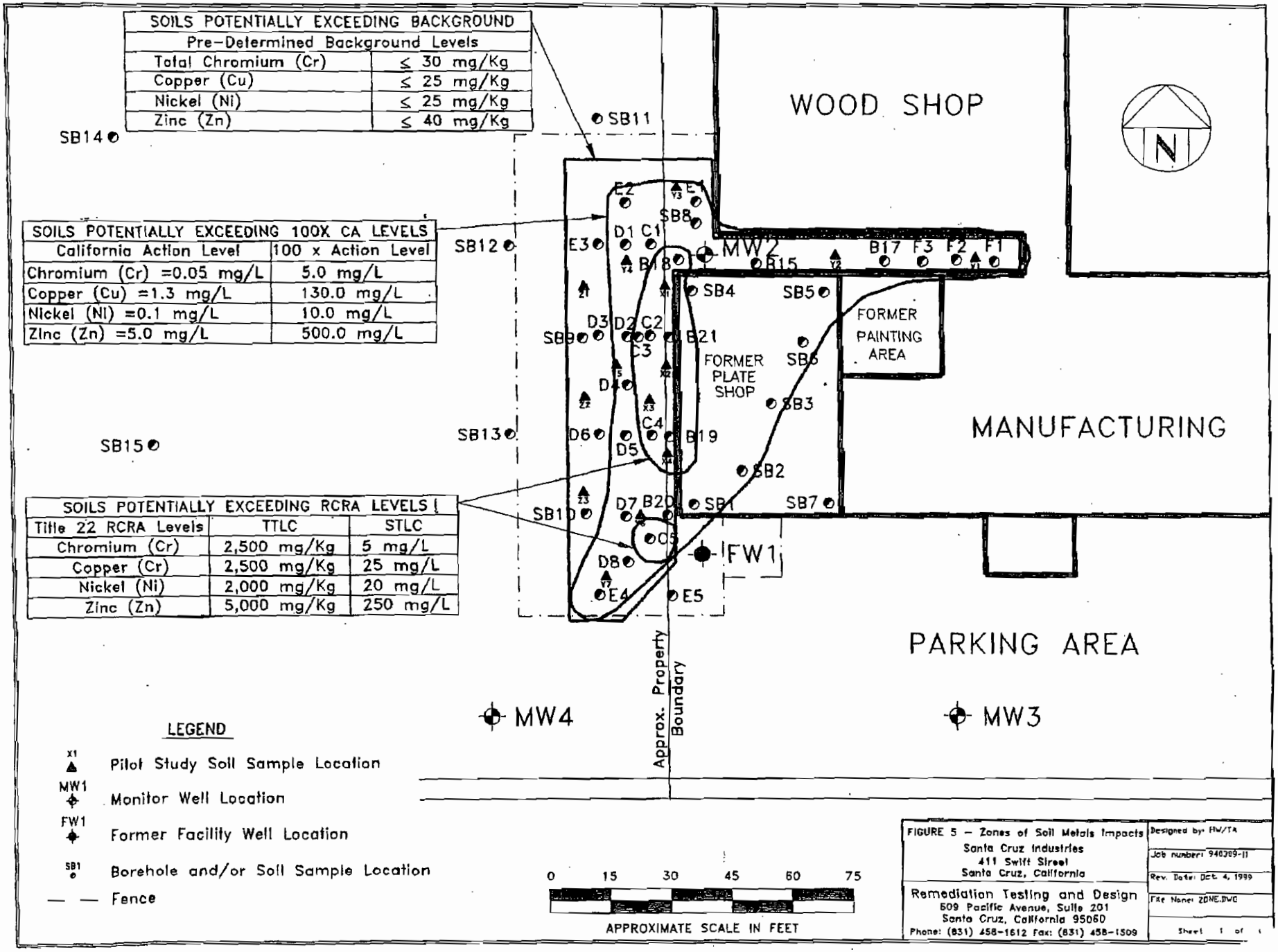
Remediation Testing and Design
609 Pacific Avenue, Suite 201
Santa Cruz, California 95060
Phone: (831)458-1612 Fax: (831)458-1509

Sheet 1 of 1

SOILS POTENTIALLY EXCEEDING BACKGROUND	
Pre-Determined Background Levels	
Total Chromium (Cr)	≤ 30 mg/Kg
Copper (Cu)	≤ 25 mg/Kg
Nickel (Ni)	≤ 25 mg/Kg
Zinc (Zn)	≤ 40 mg/Kg

SOILS POTENTIALLY EXCEEDING 100X CA LEVELS	
California Action Level	100 x Action Level
Chromium (Cr) =0.05 mg/L	5.0 mg/L
Copper (Cu) =1.3 mg/L	130.0 mg/L
Nickel (Ni) =0.1 mg/L	10.0 mg/L
Zinc (Zn) =5.0 mg/L	500.0 mg/L

SOILS POTENTIALLY EXCEEDING RCRA LEVELS		
Title 22 RCRA Levels	TTLC	STLC
Chromium (Cr)	2,500 mg/Kg	5 mg/L
Copper (Cr)	2,500 mg/Kg	25 mg/L
Nickel (Ni)	2,000 mg/Kg	20 mg/L
Zinc (Zn)	5,000 mg/Kg	250 mg/L



LEGEND

- Pilot Study Soil Sample Location
- Monitor Well Location
- Former Facility Well Location
- Borehole and/or Soil Sample Location
- — — Fence

0 15 30 45 60 75

APPROXIMATE SCALE IN FEET

FIGURE 5 – Zones of Soil Metals Impacts
Santa Cruz Industries
411 Swift Street
Santa Cruz, California

Remediation Testing and Design
509 Pacific Avenue, Suite 201
Santa Cruz, California 95060
Phone: (831) 458-1612 Fax: (831) 458-1509

Designed by: HW/TA
Job number: 940309-11
Rev. Date: Oct. 4, 1999
File Name: ZONE.DWG
Sheet 1 of 1

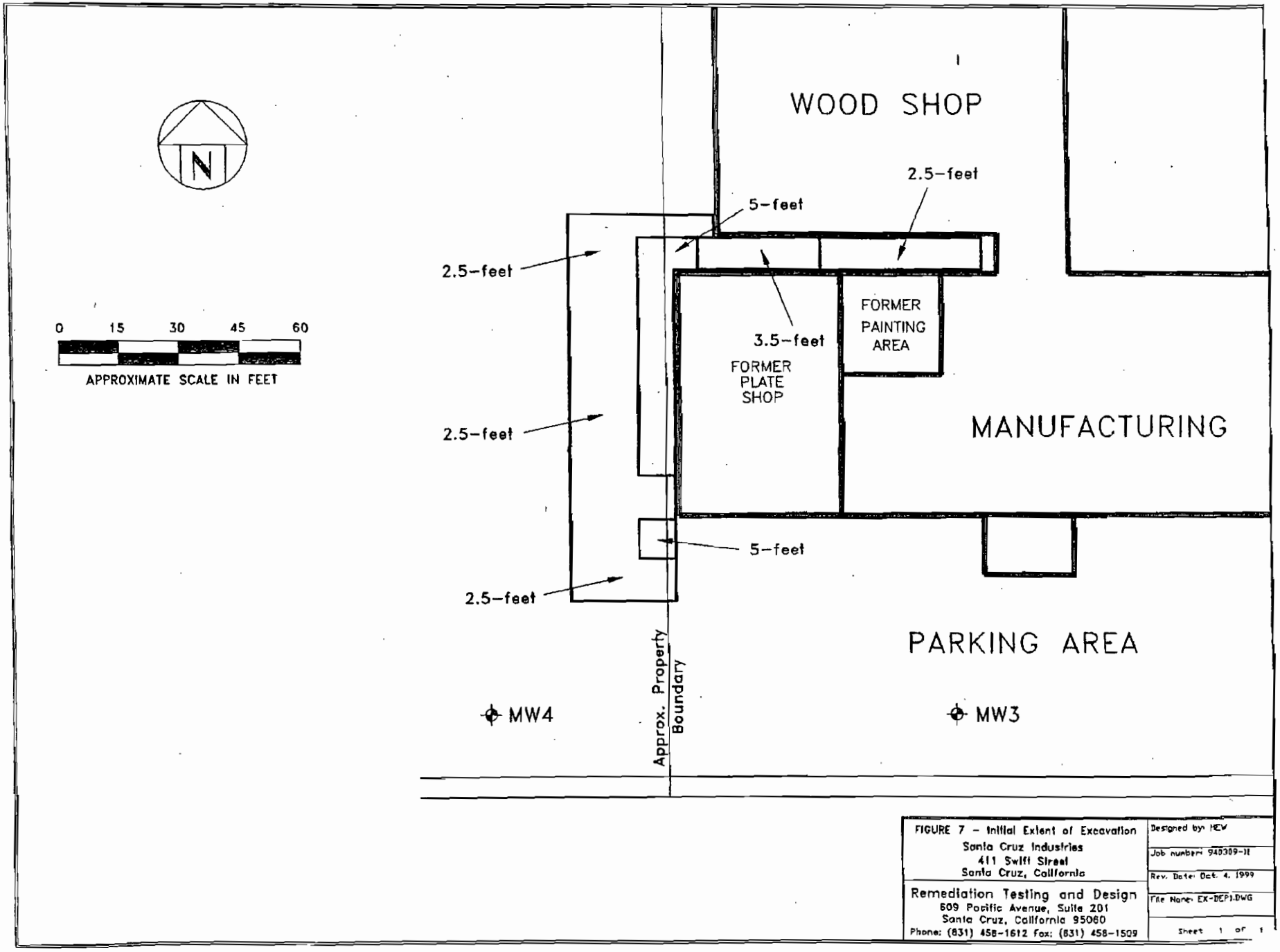


FIGURE 7 - Initial Extent of Excavation
Santa Cruz Industries
411 Swift Street
Santa Cruz, California

Remediation Testing and Design
609 Pacific Avenue, Suite 201
Santa Cruz, California 95060
Phone: (831) 458-1612 Fax: (831) 458-1509

Designed by: HEW
Job number: 940309-11
Rev. Date: Oct. 4, 1999
File Name: EX-DEP1.DWG
Sheet 1 of 1

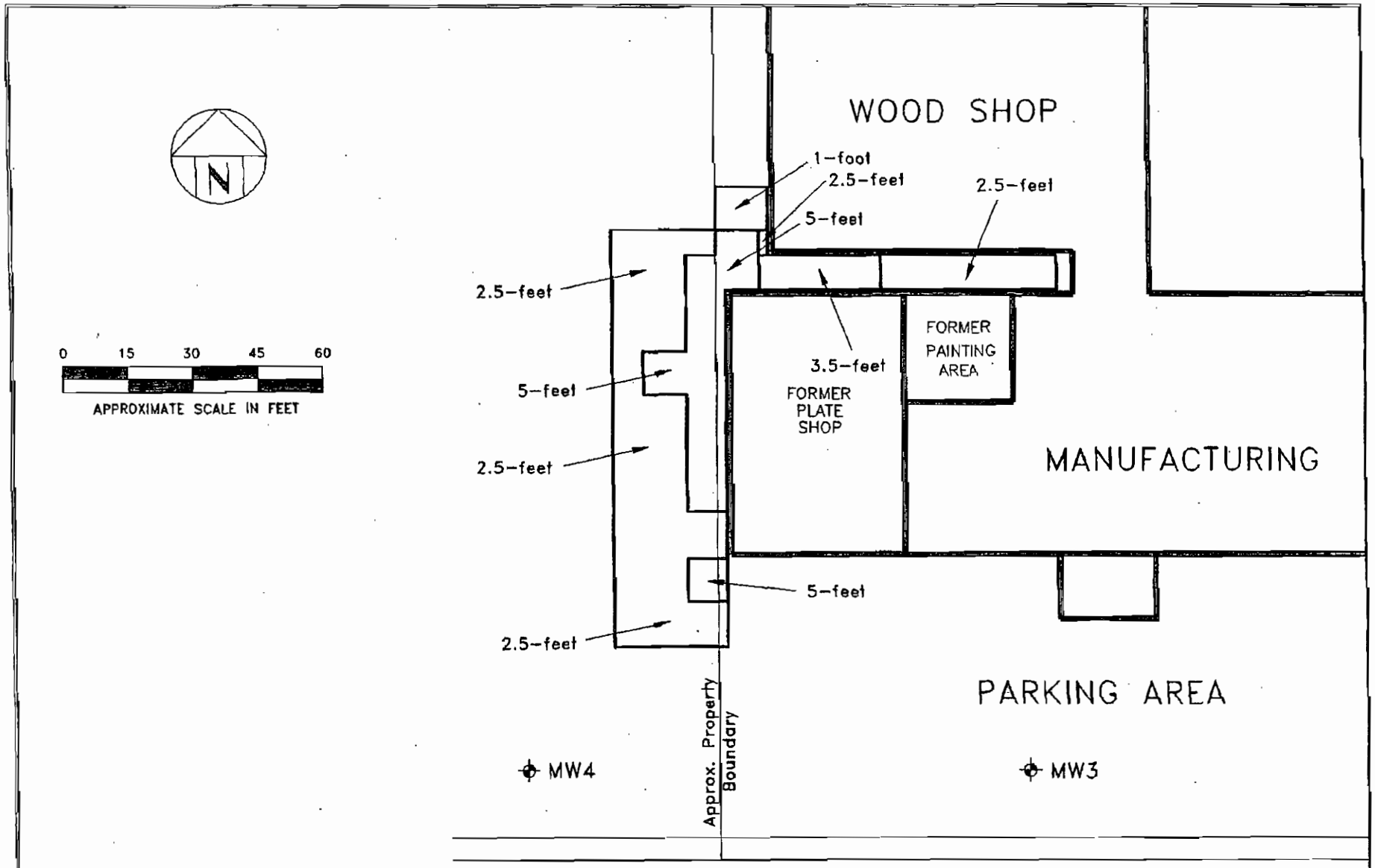


FIGURE 9 – Final Extent of Excavation
Santa Cruz Industries
411 Swift Street
Santa Cruz, California

Remediation Testing and Design
609 Pacific Avenue, Suite 201
Santa Cruz, California 95060
Phone: (831) 458-1612 Fax: (831) 458-1509

Designed by: HEV
Job number: 940309-11
Rev. Date: Oct. 4, 1999
File Name: EX-DEP2.DWG
Sheet 1 of 1

TABLES

TABLE 1 - Summary of Previous Soil Sampling Analytical Results

Sample Identification	Concentrations expressed in milligrams per kilogram (mg/kg)													
	CN	Sb	As	Be	Cd	Cr	Cu	Pb	Hg	Ni	Se	Ag	Tl	Zn
CEMS Samples Collected December 13, 1989. WET Results in mg/L.														
B-15-16"	NS	NS	NS	NS	NS	800	NS	NS	NS	240	NS	NS	NS	NS
B-15-36"	NS	NS	NS	NS	NS	210	NS	NS	NS	8	NS	NS	NS	NS
B-18-36"	NS	NS	NS	NS	NS	53	NS	NS	NS	710	NS	NS	NS	NS
B-20-38"	NS	NS	NS	NS	NS	NS	NS	NS	NS	280	NS	NS	NS	310
D-1-24"	NS	NS	NS	NS	NS	26	NS	NS	NS	350	NS	NS	NS	NS
D-2-21"	NS	NS	NS	NS	NS	75	NS	NS	NS	1200	NS	NS	NS	NS
D-4-24"	NS	NS	NS	NS	NS	NS	NS	NS	NS	980	NS	NS	NS	9
D-5-22"	NS	NS	NS	NS	NS	NS	NS	NS	NS	440	NS	NS	NS	40
D-7-22"	NS	NS	NS	NS	NS	15	NS	NS	NS	40	NS	NS	NS	NS
D-8-21"	NS	NS	NS	NS	NS	27	NS	NS	NS	140	NS	NS	NS	NS
CEMS Samples Collected January 3, 1990. WET Results in mg/L.														
E-1-6"	NS	NS	NS	NS	NS	77	NS	NS	NS	310	NS	NS	NS	NS
E-2-7"	NS	NS	NS	NS	NS	39	NS	NS	NS	130	NS	NS	NS	NS
E-3-6"	NS	NS	NS	NS	NS	13	NS	NS	NS	25	NS	NS	NS	NS
E-4-7"	NS	NS	NS	NS	NS	NS	NS	NS	NS	210	NS	NS	NS	140
E-5-8"	NS	NS	NS	NS	NS	NS	NS	NS	NS	19	NS	NS	NS	25
CEMS Samples Collected January 18, 1990. WET Results in mg/L.														
E-1-22"	NS	NS	NS	NS	NS	15	NS	NS	NS	13	NS	NS	NS	NS
E-2-25"	NS	NS	NS	NS	NS	13	NS	NS	NS	15	NS	NS	NS	NS
E-4-26"	NS	NS	NS	NS	NS	NS	NS	NS	NS	55	NS	NS	NS	9
CEMS Samples Collected February 13, 1990. WET Results in mg/L.														
B-18-61"	NS	NS	NS	NS	NS	510	NS	NS	NS	2400	NS	NS	NS	NS
B-20-66"	NS	NS	NS	NS	NS	NS	NS	NS	NS	34	NS	NS	NS	35
CEMS Samples Collected March 8, 1990. WET Results in mg/L.														
F-1-8"	NS	NS	NS	NS	NS	37	NS	NS	NS	280	NS	NS	NS	620
F-1-21"	NS	NS	NS	NS	NS	14	NS	NS	NS	240	NS	NS	NS	67
F-2-8"	NS	NS	NS	NS	NS	28	NS	NS	NS	37	NS	NS	NS	140
F-2-32"	NS	NS	NS	NS	NS	26	NS	NS	NS	10	NS	NS	NS	58
F-3-12"	NS	NS	NS	NS	NS	29	NS	NS	NS	36	NS	NS	NS	<5.0
F-3-40"	NS	NS	NS	NS	NS	24	NS	NS	NS	18	NS	NS	NS	29
RESNA Samples Collected Feb. 4 and Feb. 6, 1992														
MW-1-5'	NS	ND	ND	3.1	3.2	16	7.6	ND	0.024	13	ND	0.94	ND	28
MW-2-3'	NS	11	13	2.1	3.7	51	13	ND	0.026	76	ND	ND	ND	59
MW-3-2'	NS	ND	ND	ND	ND	11	14	ND	0.015	7.6	ND	ND	ND	16
MW-4-3'	NS	ND	ND	ND	ND	ND	4.9	ND	0.036	6	ND	ND	ND	28

TABLE 2 - Summary of Soil Sampling and Soils Treatability Analytical Results

Sample Identification	Concentrations expressed in milligrams per kilogram (mg/kg)													
	CN	Sb	As	Be	Cd	Cr	Cu	Pb	Hg	Ni	Se	Ag	Tl	Zn
RTD Samples Collected November 30, 1995. Anametrix, Inc. Analyzed. CWET Results in mg/L.														
X1-X4	19.3	NA	3.3	NA	NA	96.4	46.8	NA	NA	1890	NA	NA	NA	356
Y1-Y7	<1.0	NA	3.1	NA	NA	23.8	21.0	NA	NA	195	NA	NA	NA	30.8
Z1-Z3	<1.0	NA	3.4	NA	NA	30.2	10.6	NA	NA	133	NA	NA	NA	36.6
X1-X4-CWET@	NA	NA	<0.10	NA	NA	2.3	0.83	NA	NA	100	NA	NA	NA	20.7
Y1-Y7-CWET	NA	NA	<0.10	NA	NA	0.26	0.42	NA	NA	10.5	NA	NA	NA	1.9
Z1-Z3-CWET@	NA	NA	<0.10	NA	NA	0.40	<0.25	NA	NA	5.1	NA	NA	NA	1.2
X1-X4-CWET*	NA	NA	<0.10	NA	NA	<0.10	<0.25	NA	NA	3.8	NA	NA	NA	0.54
Y1-Y7-CWET*	NA	NA	<0.10	NA	NA	<0.10	<0.25	NA	NA	<0.40	NA	NA	NA	<0.20
Z1-Z3-CWET*	NA	NA	<0.10	NA	NA	<0.10	<0.25	NA	NA	<0.40	NA	NA	NA	<0.20
STLC	--	15.0	5.0	0.75	1.0	5.0	25.0	5.0	0.2	20	1.0	5.0	7.0	250.0

Sample Identification	Concentrations expressed in milligrams per kilogram (mg/kg)													
	CN	Sb	As	Be	Cd	Cr	Cu	Pb	Hg	Ni	Se	Ag	Tl	Zn
Soil Technologies, Inc. Treatablility Study of RTD Samples Collected Nov. 30, 1995. Anametrix, Inc. Analyzed. CWET Results in mg/L.														
X0.25-CWET	NA	NA	<0.10	NA	NA	3.1	1.4	NA	NA	116	NA	NA	NA	18.8
X0.5-CWET	NA	NA	0.10	NA	NA	3.3	1.1	NA	NA	118	NA	NA	NA	18.6
X-10-CWET	NA	NA	0.25	NA	NA	4.4	2.7	NA	NA	101	NA	NA	NA	19.0
Y0.25-CWET	NA	NA	<0.10	NA	NA	0.31	<0.25	NA	NA	11.1	NA	NA	NA	0.99
Y0.5-CWET	NA	NA	<0.10	NA	NA	0.28	0.28	NA	NA	10.8	NA	NA	NA	0.95
Y-10-CWET	NA	NA	0.28	NA	NA	0.78	2.1	NA	NA	10.7	NA	NA	NA	4.4
STLC	--	15.0	5.0	0.75	1.0	5.0	25.0	5.0	0.2	20	1.0	5.0	7.0	250.0

(Items in **Bold** Exceed TTLC or STLC Levels)

CN = Cyanide
Sb = Antimony
As = Arsenic
Be = Beryllium
Cd = Cadmium
Cr = Chromium
Cu = Copper
Pb = Lead
Hg = Mercury
Ni = Nickel
Se = Selenium
Ag = Silver
Tl = Thalium
Zn = Zinc
ND = Not Detected at Detection Limits
NA = Not Analyzed

X1-Z4-CWET@ = Typical CWET extraction
X1-Z4-CWET* = CWET extraction with distilled water

TABLE 3 - Summary of Metals Laboratory Analytical Results of Groundwater Sampling

					Concentrations expressed in milligrams per liter (mg/L)													
Sample Identification	**Date**	**Temp. deg. F**	**COND**	**pH**	**Total CN**	**Sb**	**As**	**Be**	**Cd**	**Cr**	**Cu**	**Pb**	**Hg**	**Ni**	**Se**	**Ag**	**Tl**	**Zn**
MW-6	2/20/97	61.8	1,200	6.63	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/11/96	63.5	1,035	6.80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/96	76.6	1,400	6.82	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/13/96	67.0	1,110	5.99	<0.010	<0.06	<0.01	<0.005	<0.005	<0.01	<0.025	<0.003	<0.0002	<0.040	<0.005	<0.01	<0.01	<0.02
	12/14/94	58.6	2,740	NT	<0.010	<0.06	<0.01	<0.005	<0.005	0.0354	0.0272	0.0057	<0.0002	0.0607	<0.005	<0.01	<0.01	0.0756
MW-7	2/20/97	60.6	1,500	7.48	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/11/96	65.0	1,080	7.10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/96	74.8	1,380	6.81	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/13/96	64.2	1,020	6.10	<0.010	<0.06	<0.01	<0.005	<0.005	<0.01	<0.025	<0.003	<0.0002	<0.040	<0.005	<0.01	<0.01	<0.02
	12/14/94	58.2	1,970	NT	<0.010	<0.06	0.0172	<0.005	<0.005	0.0871	0.0395	0.0298	<0.0002	0.173	<0.005	<0.01	<0.01	0.154
MW-8	2/20/97	61.0	900	7.22	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/11/96	66.8	835	6.98	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/96	77.3	1,080	6.79	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/13/96	66.7	695	6.11	<0.010	<0.06	<0.01	<0.005	<0.005	<0.01	<0.025	0.005	<0.0002	<0.040	<0.005	<0.01	<0.01	0.0258
	12/14/94	58.2	2,220	NT	<0.010	<0.06	0.017	<0.005	<0.005	0.0358	<0.025	0.0075	<0.0002	0.0628	0.0072	<0.01	<0.01	0.169
MW-9	2/20/97	60.1	1,400	6.94	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/11/96	61.8	1,190	7.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/96	73.1	1,520	7.05	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/13/96	61.5	1,060	6.31	<0.010	<0.06	<0.01	<0.005	<0.005	<0.01	<0.025	<0.003	<0.0002	<0.040	0.0058	<0.01	<0.01	<0.02
	12/14/94	53.1	336	NT	<0.010	<0.06	<0.01	<0.005	<0.005	0.0113	<0.025	0.0034	<0.0002	<0.040	0.0068	<0.01	<0.01	0.035
MW-10	2/20/97	60.6	1,400	6.91	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/11/96	63.5	1,165	7.24	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/13/96	66.3	1,280	7.04	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	5/13/96	63.7	880	6.65	<0.010	<0.06	<0.01	<0.005	<0.005	<0.01	<0.025	0.0069	<0.0002	<0.040	<0.005	<0.01	<0.01	0.027
MCLs					0.2	0.006	0.05	0.004	0.005	0.05	1.0	0.015	0.002	0.1	0.05	0.1	0.002	5.0

TABLE 4 - Summary of Laboratory Analytical Results of Confirmation Soil Sampling
Metals Impacted Soil Excavation
Santa Cruz Industries, 411 Swift Street, Santa Cruz, California

Concentrations expressed in milligrams per kilogram, parts per million.

Sample ID	Date	PCE	Cr^{+6}	Total CN	Sb	As	Be	Cd	Cr	Cu	Pb	Ni	Se	Ag	Tl	Zn	Hg
EB1-2.5'	09/16/99	<0.005	< 0.10	< 1.0	< 2.0	1.8	< 0.50	< 0.50	17	16	2.3	130	< 2.0	< 1.0	< 1.0	18	< 0.050
EB2-5'	09/16/99	<0.005	< 0.10	< 1.0	< 2.0	1.9	< 0.50	< 0.50	13	13	2.1	7.0	< 2.0	< 1.0	< 1.0	15	< 0.050
EB3-2.5'	09/16/99	<0.005	< 0.10	< 1.0	< 2.0	7.1	< 0.50	< 0.50	17	11	3.6	3.8	< 2.0	< 1.0	< 1.0	8.6	< 0.050
EB4-2.5'	09/16/99	<0.005	< 0.10	< 1.0	< 2.0	1.2	< 0.50	< 0.50	14	21	3.7	63	< 2.0	< 1.0	< 1.0	24	< 0.050
EB5-2.5'	09/16/99	< 0.005	< 0.10	< 1.0	< 2.0	< 1.0	< 0.50	< 0.50	10	8.9	1.3	33	< 2.0	< 1.0	< 1.0	15	< 0.050
EB6-2.5'	09/16/99	< 0.005	< 0.10	< 1.0	< 2.0	< 1.0	< 0.50	< 0.50	13	6.4	1.6	120	< 2.0	< 1.0	< 1.0	9.9	< 0.050
EB7-2.5'	09/16/99	< 0.005	< 0.10	< 1.0	< 2.0	2.3	< 0.50	< 0.50	530	40	3.3	1400	< 2.0	< 1.0	< 1.0	79	< 0.050
EB7.5'	09/22/99	< 0.005	< 0.10	< 1.0	< 2.0	< 1.0	< 0.50	< 0.50	24	7.4	1.9	140	< 2.0	< 1.0	< 1.0	29	< 0.050
EB8-5'	09/16/99	< 0.005	< 0.10	< 1.0	< 2.0	< 1.0	< 0.50	< 0.50	16	23	1.9	24	< 2.0	< 1.0	< 1.0	40	< 0.050
EB9-5'	09/16/99	< 0.005	< 0.10	< 1.0	< 2.0	< 1.0	< 0.50	< 0.50	12	7.3	2.0	14	< 2.0	< 1.0	< 1.0	22	< 0.050
EB10-2.5'	09/16/99	< 0.005	< 0.10	< 1.0	< 2.0	3.2	< 0.50	< 0.50	30	9.8	2.7	31	< 2.0	< 1.0	< 1.0	10	< 0.050
EB11-2.5'	09/16/99	< 0.005	< 0.10	< 1.0	< 2.0	< 1.0	< 0.50	< 0.50	8.6	8.2	1.2	6.4	< 2.0	< 1.0	< 1.0	7.9	< 0.050
EB12-2.5'	09/16/99	< 0.005	0.60	< 1.0	< 2.0	< 1.0	< 0.50	< 0.50	260	59	2.1	430	< 2.0	< 1.0	< 1.0	38	< 0.050
EB12-5'	09/22/99	< 0.005	< 0.10	< 1.0	< 2.0	1.6	< 0.50	< 0.50	21	9.5	2.9	21.0	< 2.0	< 1.0	< 1.0	39	< 0.050
EB13-3.5'	09/16/99	< 0.005	0.10	< 1.0	< 2.0	1.3	< 0.50	< 0.50	13	5.5	1.3	5.9	< 2.0	< 1.0	< 1.0	16	< 0.050
EB14-2.5'	09/16/99	0.050	0.20	< 1.0	< 2.0	13	< 0.50	< 0.50	19	34	6.0	3.2	< 2.0	< 1.0	< 1.0	31	< 0.050
EB15-1'	09/22/99	< 0.005	< 0.10	< 1.0	< 2.0	2.0	< 0.50	< 0.50	13	62	14	18	< 2.0	< 1.0	< 1.0	160	< 0.050
Cleanup Goal		1.0	0.20						210			140					

TABLE 5 - Summary of Laboratory Analytical Results of Disposal Facility Soil Sampling

		Concentrations expressed in milligrams per kilogram, parts per million.															
Sample ID	**Date**	**Sb**	**As**	**Ba**	**Be**	**Cd**	**Cr**	**Co**	**Cu**	**Pb**	**Hg**	**Mo**	**Ni**	**Se**	**Ag**	**Tl**	**V**	**Zn**
Total Concentrations																		
46255	09/17/99	< 10	5.4	80	< 1	< 1	92	< 5	161	29	< 0.2	< 5	293	< 1	< 2	< 10	22	164
STLC		15	5.0	100	0.75	1	560	80	25	5.0	0.2	350	20	1.0	5.0	7.0	24	250
TTLC		500	500	10,000	75	100	2,500	8,000	2,500	1,000	20	3,500	2,000	100	500	700	2,400	5,000

Concentrations expressed in milligrams per liter.			
Sample ID	**Date**	**Cr^{6+}**	**Ni**
Wet Test			
46255	09/17/99	< 0.2	17
STLC		5.0	20

Concentrations expressed in milligrams per liter.		
Sample ID	**Date**	**Cr**
TCLP		
46255	09/17/99	< 0.1
MAC		5.0

Sb = Antimony
As = Arsenic
Ba = Barium
Be = Beryllium
Cd = Cadmium
Cr = Chromium

Cr^{6+} = Hexavalent Chromium
Co = Cobalt
Cu = Copper
Pb = Lead
Hg = Mercury
Mo = Molybdenum

Ni = Nickel
Se = Selenium
Ag = Silver
Tl = Thallium
V = Vanadium
Zn = Zinc

STLC = Soluble Threshold Limit Concentration
TTLC = Total Threshold Limit Concentration
MAC = Maximum Allowable Concentration
< 5.0 = Not detected at or above the Practical Quantitation Limit

REMEDIATION TESTING AND DESIGN
Environmental Investigation Remediation Natural Attenuation Closure
609 Pacific Avenue, Suite 201, Santa Cruz, CA 95060 A California Corporation
Phone: (831) 458-1612 Fax: (831) 458-1509 E-mail: RTDInc@aol.com

February 14, 2001

2/26/01
Review

Mr. Bob Hurford
California Regional Water Quality Control Board
Central Coast Region
81 Higuera Street, Suite 200
San Luis Obispo, California 93401-5427

SUBJECT Results of 4th Quarter 2000 Groundwater Monitoring at the Former Santa Cruz Industries Site Located at 411 Swift Street, Santa Cruz, California

Dear Mr. Hurford:

Remediation Testing and Design (RTD) is pleased to submit this report detailing procedures and results of groundwater monitoring conducted on December 12, 2000 at the former Santa Cruz Industries (SCI) site. This work was conducted on behalf of Mr. Thomas Eklof, of Eklof Inc., an owner of the subject site. This report includes the results of groundwater sample analysis from the six site related monitoring wells scheduled for semi-annual monitoring (source area wells MW-10, MW-14, VW-13, and VW-17 inside the site building, and plume extent wells MW-7 and MW-9 offsite downgradient of the impact plume), as per our recommendations in the September 20, 2000 report on operation of the vapor extraction system (VES). In addition, RTD sampled MW-5, a near source area well directly downgradient outside the site building on the subject property. The groundwater samples collected were analyzed for halogenated volatile organic compounds (VOCs). Eight additional wells were measured for depth to water for groundwater contouring purposes. The remaining wells were not gauged or sampled as they were scheduled for destruction as per Regional Water Quality Control Board, Central Coast Region (RWQCB) January 5, 2001 approval. A well destruction report will be submitted under separate cover.

SITE SUMMARY

The subject site is located on the west side of Santa Cruz, approximately 1,500-feet north of the Monterey Bay at approximately 55-feet above mean sea level. **Figure 1** shows the general location of the site. The significant site features and the locations of onsite and offsite groundwater monitoring wells are shown on **Figure 2**. Groundwater elevations across the entire monitoring network have ranged from approximately 40- to 55-feet above mean sea level. The site groundwater gradient has been identified as trending to the southeast towards Monterey Bay; with variations due to subsurface sanitary sewer alignment, variation in groundwater zone permeability, and variable rainfall recharge due to differing ground cover.

Previously the site operated as Santa Cruz Industries, a product display manufacturer involved with solvent degreasing and metal plating operations. All site operations have been concluded with planned future site building use as leased space likely for commercial and/or light industrial

southeast toward Delaware Avenue. The offsite groundwater flow directions range from east southeast to south southwest. The complex offsite groundwater flow patterns show influence from the sanitary sewer, which drains to the east beneath Delaware Avenue and to the south beneath Swift Street. The groundwater contours indicate that the sanitary sewer is acting as a French drain with groundwater flowing toward the sewer from all sides.

The groundwater gradient ranged from 0.027- to 0.11-feet/foot (ft/ft) in the onsite wells within site building. The groundwater gradient to the south was 0.027-ft/ft across Delaware Avenue. The offsite gradient between Haut Surfboards and Swift Street was towards the southeast with a hydraulic gradient ranging from 0.020- and 0.0096-ft/ft.

As can be seen from **Table 1**, groundwater elevations in most wells are very similar to previous events conducted during the same period (December-January) with elevations in the lower range of historical levels, typical of the early winter season. The groundwater elevation within the VES area appears to have stabilized since the conclusion of VES operation.

Groundwater Quality

Field Evaluations - Onsite Wells

A summary of current and historical groundwater field analytical results is shown on **Table 2**. Monitoring was conducted this round at onsite wells MW-5, MW-10, MW-14, VW-13, and VW-17. The values for field evaluations of temperature, conductivity, pH, ORP, and DO in these wells were all in the average range of historical values. DO levels ranged from 0.45- to 0.68-milligrams per liter (mg/L) in most of these wells. MW-14 and VW-17, however, had DO levels of 4.61-mg/L and 2.18-mg/L, respectively, still showing influence from the operation of the VES. ORP levels in the onsite wells ranged from 219- to 242-millivolts (mV), indicating along with the DO values an oxidizing environment.

Field Evaluations - Offsite Wells

The only offsite wells monitored during this round were the plume extent wells MW-7 and MW-9. DO levels were 0.45-mg/L and 0.89-mg/L, respectively. ORP ranged from 211- to 224-mV in these wells, also indicating an oxidizing environment.

Laboratory Analysis - Onsite Wells

A summary of current and historical groundwater laboratory analytical results is shown on **Table 2**. The current certified laboratory report is included in **Appendix B**. As can be seen on **Table 2**, the onsite near source area wells MW-10, VW-13, and VW-17 inside the site building have all shown a decline in total VOC concentrations since the previous event. MW-14 was up slightly from the previous event. This well along with MW-10 have shown very significant declines since prior to operation of initial extraction testing in October 1996 and continuing through the recent operation of the VES. Total VOCs in these two source wells have declined from an average of 200-parts per million (ppm) prior to remediation to an average of 5-ppm.

FIGURES

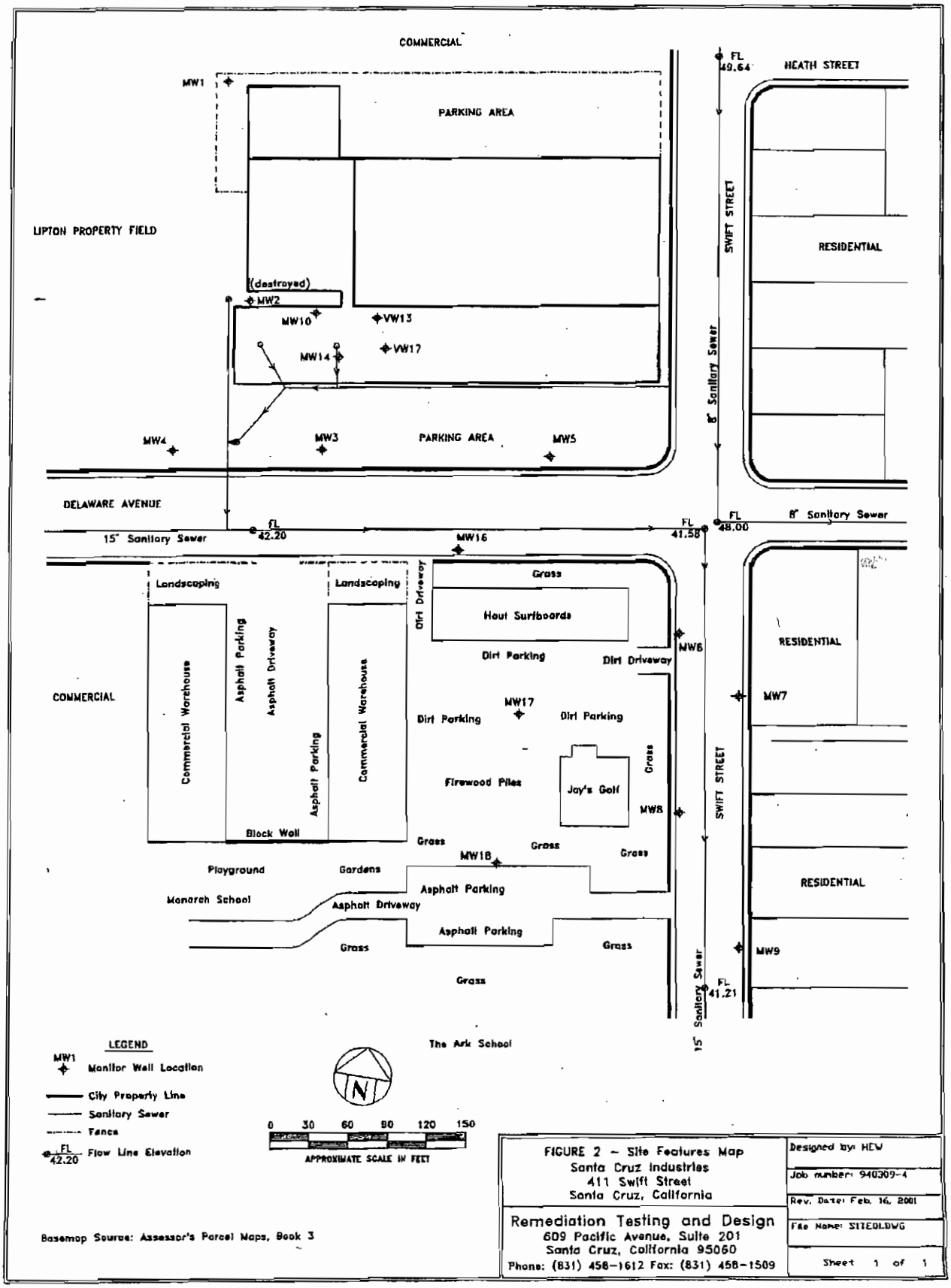
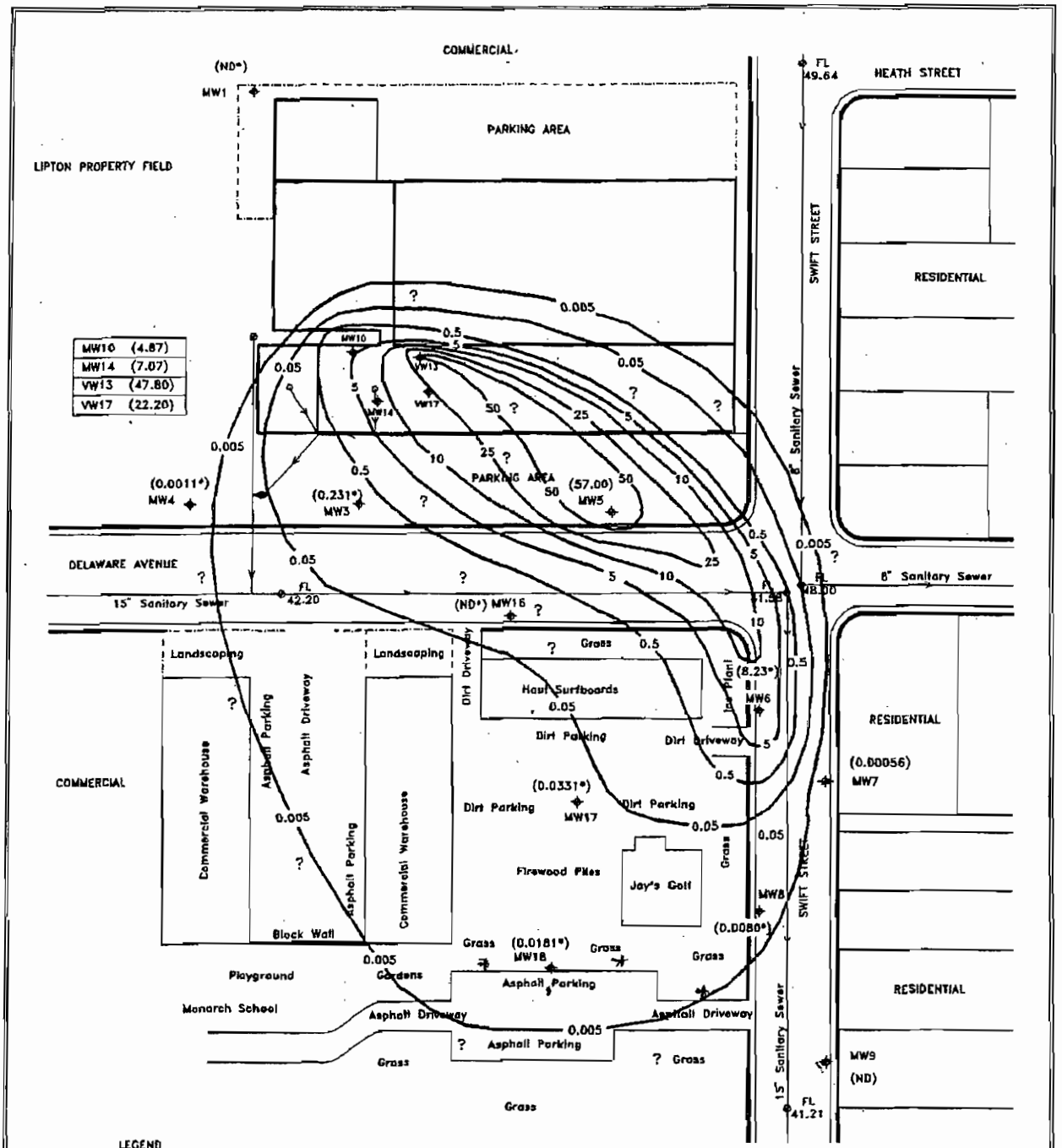


FIGURE 2 – Site Features Map
Santa Cruz Industries
411 Swift Street
Santa Cruz, California

Remediation Testing and Design
609 Pacific Avenue, Suite 201
Santa Cruz, California 95060
Phone: (831) 458-1612 Fax: (831) 458-1509

Designed by: HEW
Job number: 940309-4
Rev. Date: Feb. 16, 2001
File Name: SITE01.DWG
Sheet 1 of 1



LEGEND

(0.00056) Total VOCs, parts per million
MW1 Monitor Well Location
Proposed Monitor Well Location
City Property Line
Sanitary Sewer
Fence
FL 42.20 Flow Line Elevation
(0.356*) Sample Collected During Previous Monitoring Event

Basemap Source: Assessor's Parcel Maps, Book 3

Groundwater Samples Collected on December 12, 2000

0 30 60 90 120 150
APPROXIMATE SCALE IN FEET

N

FIGURE 4 – Total VOCs
Santa Cruz Industries
411 Swift Street
Santa Cruz, California

Designed by: HEW
Job number: 940309-4
Rev. Date: Jan. 26, 2000
File Name: VOC-1200.DWG
Sheet 1 of 1

Remediation Testing and Design
609 Pacific Avenue, Suite 201
Santa Cruz, California 95060
Phone: (831) 458-1612 Fax: (831) 458-1509

TABLE 1 - Summary of Groundwater Measurements
Santa Cruz Industries, 411 Swift Street, Santa Cruz, California

Sample Identification	Sample Date	TOC Elevation (ft. above MSL)	Groundwater Depth (ft. BTOC)	Groundwater Elevation (ft. above MSL)	Water Level Change (feet)	Water Level Change Rate (feet/day)
MW-1	12/12/00	54.51	2.43	52.08	-0.47	-0.003
	06/11/00	54.51	1.96	52.55	1.33	0.005
	09/06/99	54.51	3.29	51.22	-1.71	-0.019
	06/06/99	54.51	1.58	52.93	1.49	0.010
	03/25/99	54.51	NM	–	–	–
	01/08/99	54.51	3.07	51.44	0.12	0.001
	09/29/98	54.51	3.19	51.32	-1.33	-0.013
	06/18/98	54.51	1.86	52.65	-1.53	-0.015
	03/10/98	54.51	0.33	54.18	2.53	0.008
	11/02/97	54.51	NM	–	–	–
	05/14/97	54.51	2.86	51.65	-2.26	-0.027
	02/20/97	54.51	0.60	53.91	-0.60	-0.011
	12/26/96	54.51	0.00	54.51	3.78	0.084
	11/11/96	54.51	3.78	50.73	-0.23	-0.003
	08/13/96	54.51	3.55	50.96	-2.12	-0.023
	05/13/96	54.51	1.43	53.08	-0.29	-0.002
	01/18/96	54.51	1.14	53.37	2.20	0.018
	09/20/95	54.51	3.34	51.17	-2.30	-0.023
	06/13/95	54.51	1.04	53.47	-1.86	-0.021
	03/15/95	59.08	3.75	55.33	2.57	0.028
	01/19/95	54.51	NM	–	–	–
	12/14/94	54.51	1.75	52.76	0.32	0.002
	07/29/94	54.51	NM	–	–	–
	06/08/94	54.51	2.07	52.44	-3.09	-0.006
	01/20/93	57.48	1.95	55.53	1.05	0.003
	02/11/92	54.51	0.03	54.48	–	–
MW-2	06/11/00	Well destroyed during metals excavation Sept. 1999				
	09/06/99	56.79	6.85	49.94	-1.41	-0.015
	06/06/99	56.79	5.44	51.35	-2.53	-0.035
	03/25/99	56.79	2.91	53.88	3.85	0.051
	01/08/99	56.79	6.76	50.03	0.30	0.003
	09/29/98	56.79	7.06	49.73	-1.38	-0.013
	06/18/98	56.79	5.68	51.11	-2.18	-0.022
	03/10/98	56.79	3.50	53.29	4.09	0.032
	11/02/97	56.79	7.59	49.20	-0.99	-0.006
	05/14/97	56.79	6.60	50.19	-2.14	-0.026
	02/20/97	56.79	4.46	52.33	-1.40	-0.025
	12/26/96	56.79	3.06	53.73	4.76	0.106
	11/11/96	56.79	7.82	48.97	-0.47	-0.005
	08/13/96	56.79	7.35	49.44	-1.96	-0.021
	05/13/96	56.79	5.39	51.40	-0.37	-0.003
	01/18/96	56.79	5.02	51.77	2.18	0.018
	09/20/95	56.79	7.20	49.59	-2.05	-0.021
	06/13/95	56.79	5.15	51.64	-2.24	-0.025
	03/15/95	56.79	2.91	53.88	0.13	0.002
	01/19/95	56.79	3.04	53.75	2.93	0.081
	12/14/94	56.79	5.97	50.82	0.90	0.007
	07/29/94	56.79	6.87	49.92	-0.96	-0.001
	06/08/94	56.79	5.91	50.88	-2.29	-0.005
	01/20/93	56.79	3.62	53.17	1.14	0.003
	02/11/92	56.79	4.76	52.03	–	–

TABLE 1 - Summary of Groundwater Measurements
Santa Cruz Industries, 411 Swift Street, Santa Cruz, California

Sample Identification	Sample Date	TOC Elevation (ft. above MSL)	Groundwater Depth (ft. BTOC)	Groundwater Elevation (ft. above MSL)	Water Level Change (feet)	Water Level Change Rate (feet/day)
MW-5	12/12/00	52.86	6.85	46.01	-0.58	-0.003
	06/11/00	52.86	6.27	46.59	0.36	0.001
	09/06/99	52.86	6.63	46.23	-0.91	-0.010
	06/06/99	52.86	5.72	47.14	-0.53	-0.007
	03/25/99	52.86	5.19	47.67	1.57	0.021
	01/08/99	52.86	6.76	46.10	0.17	0.002
	09/29/98	52.86	6.93	45.93	-1.14	-0.011
	06/18/98	52.86	5.79	47.07	-0.27	-0.003
	03/10/98	52.86	5.52	47.34	2.03	0.016
	11/02/97	52.86	7.55	45.31	-1.17	-0.007
	05/14/97	52.86	6.38	46.48	-0.65	-0.008
	02/20/97	52.86	5.73	47.13	0.67	0.012
	12/26/96	52.86	6.40	46.46	1.49	0.033
	11/11/96	52.86	7.89	44.97	-1.17	-0.013
	08/13/96	52.86	6.72	46.14	-1.07	-0.012
	05/13/96	52.86	5.65	47.21	1.06	0.009
	01/18/96	52.86	6.71	46.15	0.18	0.002
	09/20/95	52.86	6.89	45.97	-1.12	-0.011
	06/13/95	52.86	5.77	47.09	-0.49	-0.005
	03/15/95	52.86	5.28	47.58	1.18	0.021
	01/19/95	52.86	6.46	46.40	0.62	0.017
	12/14/94	52.86	7.08	45.78	--	--
MW-6	12/12/00	50.80	8.00	42.80	-0.32	-0.002
	06/11/00	50.80	7.68	43.12	0.22	0.001
	09/06/99	50.80	7.90	42.90	-0.26	-0.003
	06/06/99	50.80	7.64	43.16	-0.69	-0.009
	03/25/99	50.80	6.95	43.85	1.03	0.014
	01/08/99	50.80	7.98	42.82	0.00	0.000
	09/29/98	50.80	7.98	42.82	-0.44	-0.004
	06/18/98	50.80	7.54	43.26	-0.40	-0.004
	03/10/98	50.80	7.14	43.66	1.13	0.009
	11/02/97	50.80	8.27	42.53	-0.53	-0.003
	05/14/97	50.80	7.74	43.06	-0.28	-0.003
	02/20/97	50.80	7.46	43.34	-0.08	-0.001
	12/26/96	50.80	7.38	43.42	0.75	0.017
	11/11/96	50.80	8.13	42.67	-0.30	-0.003
	08/13/96	50.80	7.83	42.97	-0.23	-0.002
	05/13/96	50.80	7.60	43.20	0.19	0.002
	01/18/96	50.80	7.79	43.01	0.22	0.002
	09/20/95	50.80	8.01	42.79	-0.49	-0.005
	06/13/95	50.80	7.52	43.28	-0.22	-0.002
	03/15/95	50.80	7.30	43.50	0.18	0.003
	01/19/95	50.80	7.48	43.32	0.68	0.019
	12/14/94	50.80	8.16	42.64	--	--

TABLE 1 - Summary of Groundwater Measurements
Santa Cruz Industries, 411 Swift Street, Santa Cruz, California

Sample Identification	Sample Date	TOC Elevation (ft. above MSL)	Groundwater Depth (ft. BTOC)	Groundwater Elevation (ft. above MSL)	Water Level Change (feet)	Water Level Change Rate (feet/day)
MW-9	12/12/00	48.45	7.88	40.57	-0.36	-0.002
	06/11/00	48.45	7.52	40.93	0.22	0.001
	09/06/99	48.45	7.74	40.71	-0.20	-0.002
	06/06/99	48.45	7.54	40.91	-0.67	-0.009
	03/25/99	48.45	6.87	41.58	0.99	0.013
	01/08/99	48.45	7.86	40.59	-0.06	-0.001
	09/29/98	48.45	7.80	40.65	-0.34	-0.003
	06/18/98	48.45	7.46	40.99	-0.51	-0.005
	03/10/98	48.45	6.95	41.50	1.05	0.008
	11/02/97	48.45	8.00	40.45	-0.39	-0.002
	05/14/97	48.45	7.61	40.84	-0.35	-0.004
	02/20/97	48.45	7.26	41.19	-0.07	-0.001
	12/26/96	48.45	7.19	41.26	0.70	0.016
	11/11/96	48.45	7.89	40.56	-0.21	-0.002
	08/13/96	48.45	7.68	40.77	-0.21	-0.002
	05/13/96	48.45	7.47	40.98	0.32	0.003
	01/18/96	48.45	7.79	40.66	0.04	0.0003
	09/20/95	48.45	7.83	40.62	-0.40	-0.004
	06/13/95	48.45	7.43	41.02	-0.48	-0.005
	03/15/95	48.45	6.95	41.50	0.40	0.007
	01/19/95	48.45	7.35	41.10	0.61	0.017
	12/14/94	48.45	7.96	40.49	–	–
MW-10	12/12/00	53.44	3.38	50.06	-0.62	-0.003
	06/11/00	53.44	2.76	50.68	-0.31	-0.001
	09/06/99	–	NM	–	–	–
	06/06/99	54.23	3.24	50.99	-1.88	-0.026
	03/25/99	54.23	1.36	52.87	3.17	0.042
	01/08/99	54.23	4.53	49.70	0.32	0.003
	09/29/98	54.23	4.85	49.38	-1.83	-0.018
	06/18/98	54.23	3.02	51.21	-1.66	-0.017
	03/10/98	54.23	1.36	52.87	4.06	0.032
	11/02/97	54.23	5.42	48.81	-1.16	-0.007
	05/14/97	54.23	4.26	49.97	-2.16	-0.026
	02/20/97	54.23	2.10	52.13	-0.34	-0.006
	12/26/96	54.23	1.76	52.47	3.98	0.088
	11/11/96	54.23	5.74	48.49	-0.72	-0.008
	08/13/96	54.23	5.02	49.21	-1.88	-0.020
	05/13/96	54.23	3.14	51.09	0.09	0.001
	01/18/96	54.23	3.23	51.00	1.71	0.014
	09/20/95	54.23	4.94	49.29	–	–

TABLE 1 - Summary of Groundwater Measurements
Santa Cruz Industries, 411 Swift Street, Santa Cruz, California

Sample Identification	Sample Date	TOC Elevation (ft. above MSL)	Groundwater Depth (ft. BTOC)	Groundwater Elevation (ft. above MSL)	Water Level Change (feet)	Water Level Change Rate (feet/day)
MW-14	12/12/00	54.05	5.00	49.05	-0.88	-0.005
	06/11/00	54.23	4.30	49.93	0.66	0.002
	09/06/99	–	NM	–	–	–
	06/06/99	54.05	4.78	49.27	-1.79	-0.025
	03/25/99	54.05	2.99	51.06	2.98	0.039
	01/08/99	54.05	5.97	48.08	0.40	0.004
	09/29/98	54.05	6.37	47.68	-1.78	-0.017
	06/18/98	54.05	4.59	49.46	-1.57	-0.016
	03/10/98	54.05	3.02	51.03	4.10	0.032
	11/02/97	54.05	7.12	46.93	-1.56	-0.009
	05/14/97	54.05	5.56	48.49	-1.86	-0.022
	02/20/97	54.05	3.70	50.35	-0.29	-0.005
	12/26/96	54.05	3.41	50.64	4.19	0.093
	11/11/96	54.05	7.60	46.45	-1.34	-0.015
	08/13/96	54.05	6.26	47.79	-1.44	-0.016
	05/13/96	54.05	4.82	49.23	-1.20	-0.012
	01/31/96	54.05	3.62	50.43	1.71	0.132
	01/18/96	54.05	5.33	48.72	1.08	0.009
	09/20/95	54.05	6.41	47.64	–	–
MW-15	12/12/00	–	NM	–	–	–
	06/11/00	54.23	3.90	50.33	0.85	0.002
	09/06/99	–	NM	–	–	–
	06/06/99	54.06	4.58	49.48	-1.94	-0.027
	03/25/99	54.06	2.64	51.42	3.12	0.041
	01/08/99	54.06	5.76	48.30	0.40	0.004
	09/29/98	54.06	6.16	47.90	-1.73	-0.017
	06/18/98	54.06	4.43	49.63	-1.73	-0.017
	03/10/98	54.06	2.70	51.36	2.58	0.009
	11/02/97	54.06	Dry	Dry	Dry	Dry
	05/14/97	54.06	5.28	48.78	-2.02	-0.024
	02/20/97	54.06	3.26	50.80	-0.50	-0.009
	12/26/96	54.06	2.76	51.30	3.36	0.025
	11/11/96	54.06	Dry	Dry	Dry	Dry
	08/13/96	54.06	6.12	47.94	-1.61	-0.018
	05/13/96	54.06	4.51	49.55	0.47	0.004
	01/18/96	54.06	4.98	49.08	1.16	0.010
	09/20/95	54.06	6.14	47.92	–	–
MW-16	12/12/00	51.44	6.32	45.12	-1.41	-0.008
	06/11/00	51.44	4.91	46.53	1.16	0.004
	09/06/99	51.44	6.07	45.37	-1.97	-0.021
	06/06/99	51.44	4.10	47.34	-1.06	-0.015
	03/25/99	51.44	3.04	48.40	4.25	0.056
	01/08/99	51.44	7.29	44.15	-0.95	-0.009
	09/29/98	51.44	6.34	45.10	-2.35	-0.023
	06/18/98	51.44	3.99	47.45	1.71	0.017
	03/10/98	51.44	5.70	45.74	1.20	0.009
	11/02/97	51.44	6.90	44.54	–	–

TABLE 4 - Summary of Field and Laboratory Analytical Results of Groundwater Monitoring
Santa Cruz Industries, 411 Swift Street, Santa Cruz, California

Sample ID	Date	Temp. °F	COND	pH	ORP	Concentrations expressed in milligrams per liter (mg/L)									
						DO	PCE	1,1,1-TCA	1,1-DCE	TCE	1,1,2-TCA	1,1-DCA	cis-1,2-DCE	Vinyl Chloride	Total HVOCs
MW-1	12/12/00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	06/11/00	66.6	842	4.46	195	0.44	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	09/06/99	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	06/06/99	60.6	860	6.78	258	0.13	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	03/25/99	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	01/08/99	N/A	N/A	N/A	N/A	0.46	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	09/29/98	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	06/18/98	61.1	410	7.27	N/A	0.53	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	03/10/98	N/A	N/A	N/A	N/A	0.45	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/02/97	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	05/14/97	66.0	672	7.52	N/A	1.30	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	02/20/97	56.7	900	6.56	N/A	1.37	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	12/26/96	N/A	N/A	N/A	N/A	1.06	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/11/96	58.3	640	7.29	N/A	3.62	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	08/13/96	69.1	1,200	7.27	N/A	0.65	**0.0011**	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0011
	05/13/96	63.7	760	6.62	N/A	1.00	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	01/18/96	58.2	433	7.47	N/A	N/A	**0.0012**	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0012
	09/20/95	65.7	978	7.04	N/A	N/A	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	06/13/95	67.4	792	6.84	N/A	N/A	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	03/15/95	57.2	1,850	6.91	N/A	N/A	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	12/14/94	53.1	336	N/A	N/A	N/A	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	06/08/94	64.3	458	6.84	N/A	N/A	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	N/A	N/A	N/A
	01/20/93	55.9	752	6.89	N/A	N/A	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	02/12/92	N/A	N/A	N/A	N/A	N/A	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
MW-2	Well destroyed during soil excavation activities.														
	09/06/99	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	06/06/99	58.1	700	6.89	216	0.84	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	03/25/99	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	01/08/99	N/A	N/A	N/A	N/A	2.10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	09/29/98	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	06/18/98	59.0	410	7.42	N/A	1.45	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	03/10/98	N/A	N/A	N/A	N/A	1.45	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/02/97	65.6	860	6.32	N/A	N/A	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	05/14/97	65.8	647	7.02	N/A	1.00	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	02/20/97	56.6	1,000	6.27	N/A	2.12	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	12/26/96	N/A	N/A	N/A	N/A	2.44	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/11/96	62.0	875	7.28	N/A	1.69	**0.0016**	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0016
	08/13/96	68.5	1,110	7.02	N/A	0.45	**0.0008**	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0008
	05/13/96	61.0	780	6.47	N/A	1.10	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	01/18/96	58.0	1,303	6.89	N/A	N/A	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	09/20/95	63.2	863	6.97	N/A	N/A	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	06/13/95	61.6	692	7.05	N/A	N/A	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	03/15/95	57.6	1,140	6.99	N/A	N/A	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	12/14/94	54.5	1,830	N/A	N/A	N/A	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	06/08/94	61.2	1,048	6.74	N/A	N/A	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	N/A	N/A	N/A
	01/20/93	55.9	991	6.85	N/A	N/A	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	02/12/92	N/A	N/A	N/A	N/A	N/A	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
MCLs							0.005	0.20	0.006	0.005	0.005	0.005	0.006	0.0005	

TABLE 4 - Summary of Field and Laboratory Analytical Results of Groundwater Monitoring
Santa Cruz Industries, 411 Swift Street, Santa Cruz, California

						Concentrations expressed in milligrams per liter (mg/L)									
Sample ID	Date	Temp. °F	COND	pH	ORP	DO	PCE	1,1,1-TCA	1,1-DCE	TCE	1,1,2-TCA	1,1-DCA	cis-1,2-DCE	Vinyl Chloride	Total HVOCs
MW-5	12/12/00	61.2	1,350	6.45	N/A	0.89	28.00	6.00	20.00	<1.0	<1.0	3.00	<1.0	<1.0	57.00
	06/11/00	68.7	1,006	6.03	292	0.88	21.00	3.20	10.00	<0.500	<0.500	1.60	0.65	<0.500	36.45
	09/06/99	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	06/06/99	65.7	1,140	6.24	260	0.93	26.00	7.80	12.00	0.53	<0.500	1.70	<0.500	<0.500	48.03
	03/25/99	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	01/08/99	N/A	N/A	N/A	N/A	2.36	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	09/29/98	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	06/18/98	66.7	590	6.85	N/A	2.36	35.00	11.00	19.00	<0.500	<0.500	1.90	<0.500	<0.500	66.90
	03/10/98	N/A	N/A	N/A	N/A	2.45	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/02/97	73.2	1,280	5.60	N/A	N/A	38.00	11.00	23.00	<1.0	<1.0	2.70	<1.0	<1.0	74.70
	05/14/97	69.8	937	7.01	N/A	4.54	38.00	18.00	22.00	<1.0	<1.0	2.60	<1.0	<1.0	80.60
	02/20/97	62.8	1,600	6.20	N/A	3.30	39.00	20.00	22.00	<1.0	<1.0	3.60	<1.0	<1.0	84.60
	12/26/96	N/A	N/A	N/A	N/A	4.08	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/11/96	66.7	1,375	6.63	N/A	1.63	47.00	17.00	25.00	<1.0	<1.0	3.90	<1.0	<1.0	92.90
	08/13/96	75.9	1,810	6.33	N/A	4.10	26.00	15.00	19.00	<0.500	<0.500	3.20	<0.50	<0.50	63.20
	05/13/96	71.8	1,290	5.70	N/A	0.75	40.00	22.00	27.00	<1.0	<1.0	4.10	<1.0	<1.0	93.10
	01/18/96	63.2	2,110	6.24	N/A	N/A	42.00	17.00	25.00	<1.0	<1.0	3.60	<1.0	<1.0	87.60
	09/20/95	72.4	1,566	6.13	N/A	N/A	41.00	18.00	23.00	<1.0	<1.0	3.40	<1.0	<1.0	85.40
	06/13/95	71.0	1,146	6.16	N/A	N/A	42.00	23.00	26.00	<1.0	<1.0	3.90	<1.0	<1.0	94.90
	03/15/95	53.4	4,400	5.95	N/A	N/A	44.00	23.00	27.00	<1.0	<1.0	4.20	<1.0	<1.0	98.20
	12/14/94	58.3	2,630	N/A	N/A	N/A	36.00	15.00	22.00	<1.0	<1.0	3.80	<1.0	<1.0	76.80
	06/06/94	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MW-6	12/12/00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	06/11/00	67.6	929	6.22	279	0.28	4.60	0.35	2.20	0.76	<0.100	0.32	<0.100	<0.100	8.23
	09/06/99	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	06/06/99	66.4	880	6.46	114	0.29	3.00	0.35	1.90	0.50	<0.100	0.48	0.31	<0.100	6.54
	03/25/99	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	01/08/99	N/A	N/A	N/A	N/A	0.50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	09/29/98	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	06/18/98	65.7	490	7.27	N/A	0.70	2.10	0.20	1.50	0.45	<0.050	0.28	0.51	<0.050	5.04
	03/10/98	N/A	N/A	N/A	N/A	0.40	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/02/97	74.5	1,020	5.76	N/A	N/A	2.40	0.26	1.90	0.45	<0.050	0.46	0.37	<0.050	5.84
	05/14/97	69.9	798	7.26	N/A	0.91	3.00	0.53	2.20	0.46	<0.100	0.63	0.30	<0.100	7.12
	02/20/97	61.8	1,200	6.63	N/A	0.94	3.50	1.00	2.80	0.60	0.12	0.98	0.36	<0.100	9.36
	12/26/96	N/A	N/A	N/A	N/A	0.98	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/11/96	63.5	1,035	6.80	N/A	0.64	4.10	0.86	2.60	0.59	<0.100	0.90	0.36	<0.100	9.41
	08/13/96	76.6	1,400	6.82	N/A	0.40	3.60	2.30	2.30	0.44	<0.100	0.84	0.53	<0.100	10.01
	05/13/96	67.0	1,110	5.99	N/A	0.25	6.90	2.90	4.50	0.92	0.22	1.90	0.43	<0.100	17.77
	01/18/96	60.2	1,380	6.39	N/A	N/A	4.00	0.90	2.70	0.64	<0.100	0.93	0.39	<0.100	9.56
	09/20/95	71.4	1,226	6.39	N/A	N/A	5.00	1.20	3.00	0.68	0.11	1.10	0.32	<0.100	11.41
	06/13/95	71.6	1,160	6.51	N/A	N/A	8.00	2.70	5.00	0.93	<0.250	1.80	0.25	<0.250	18.68
	03/15/95	58.7	2,050	6.71	N/A	N/A	11.00	3.30	6.10	1.10	<0.400	2.00	<0.40	<0.400	23.50
	12/14/94	58.6	2,740	N/A	N/A	N/A	5.30	1.50	3.40	0.71	0.15	1.50	0.24	<0.100	12.80
	06/06/94	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MCLs							0.005	0.20	0.006	0.005	0.005	0.005	0.006	0.0005	

TABLE 4 - Summary of Field and Laboratory Analytical Results of Groundwater Monitoring
Santa Cruz Industries, 411 Swift Street, Santa Cruz, California

Sample ID	Date	Temp. °F	COND	pH	ORP	Concentrations expressed in milligrams per liter (mg/L)									
						DO	PCE	1,1,1-TCA	1,1-DCE	TCE	1,1,2-TCA	1,1-DCA	cis-1,2-DCE	Vinyl Chloride	Total HVOCs
MW-9	12/12/00	63.3	1,291	6.78	224	0.75	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	06/11/00	65.7	1,140	6.35	232	1.10	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	09/06/99	67.8	920	6.62	246	1.24	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	06/06/99	63.7	1,020	6.70	266	1.28	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	03/25/99	61.7	1,360	6.71	193	1.90	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	01/08/99	61.9	1,145	6.71	N/A	1.71	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	09/29/98	66.7	330	6.70	N/A	N/A	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	06/18/98	65.2	510	7.29	N/A	3.88	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	03/10/98	61.0	910	6.69	N/A	1.95	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	11/02/97	71.4	1,100	7.61	N/A	N/A	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	05/14/97	69.4	889	7.37	N/A	1.51	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	02/20/97	60.1	1,400	6.94	N/A	2.10	0.0009	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0009
	12/26/96	N/A	N/A	N/A	N/A	2.40	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/11/96	61.8	1,190	7.00	N/A	1.82	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	08/13/96	73.1	1,520	7.05	N/A	2.45	0.0011	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0011
	05/13/96	61.5	1,060	6.31	N/A	2.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	01/18/96	61.1	1,605	6.47	N/A	N/A	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	09/20/95	69.8	1,322	6.68	N/A	N/A	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	06/13/95	67.2	1,072	6.75	N/A	N/A	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	03/15/95	54.3	4,500	6.22	N/A	N/A	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	12/14/94	53.1	336	N/A	N/A	N/A	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	06/06/94	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MW-10	12/12/00	58.3	766	7.00	231	0.47	1.90	1.80	0.77	<0.050	<0.050	0.40	<0.050	<0.050	4.87
	08/27/00	64.8	570	6.50	226	0.47	2.60	3.40	1.20	<0.025	<0.025	0.48	<0.025	<0.025	7.68
	06/11/00	65.5	639	6.25	259	0.54	2.10	1.50	0.46	<0.050	<0.050	0.22	<0.050	<0.050	4.28
	09/06/99	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	06/06/99	61.2	700	6.83	183	0.12	11.00	16.00	3.50	0.20	<0.20	0.92	<0.20	<0.20	31.62
	03/25/99	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	01/08/99	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	09/29/98	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	06/18/98	64.2	430	7.13	N/A	0.92	10.00	15.00	2.00	<0.50	<0.50	<0.50	<0.50	<0.50	27.00
	03/10/98	N/A	N/A	N/A	N/A	1.36	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/02/97	65.3	1,000	6.24	N/A	N/A	15.00	29.00	9.20	<0.50	<0.50	1.40	<0.50	<0.50	54.60
	05/14/97	62.8	683	6.79	N/A	0.79	14.00	28.00	9.90	<0.50	<0.50	1.40	<0.50	<0.50	53.30
	02/20/97	60.6	1,400	6.91	N/A	3.50	12.00	33.00	4.90	<1.0	<1.0	<1.0	<1.0	<1.0	49.90
	12/26/96	57.1	780	7.11	N/A	0.78	13.00	36.00	3.40	<1.0	<1.0	<1.0	<1.0	<1.0	52.40
	11/11/96	63.5	1,165	7.24	N/A	0.38	16.00	28.00	7.50	<0.50	0.52	1.10	<0.50	<0.50	53.12
	08/13/96	66.3	1,280	7.04	N/A	0.38	24.00	120.00	24.00	<2.5	<2.5	<2.5	<2.5	<2.5	168.00
	05/13/96	63.7	880	6.65	N/A	0.25	28.00	120.00	24.00	<2.5	<2.5	<2.5	<2.5	<2.5	172.00
	01/18/96	61.1	1,611	7.17	N/A	N/A	33.00	150.00	34.00	<2.5	<2.5	<2.5	<2.5	<2.5	217.00
	09/20/95	65.3	1,250	7.04	N/A	N/A	23.00	100.00	20.00	<1.0	<1.0	1.30	<1.0	<1.0	144.30
MCLs							0.005	0.20	0.006	0.005	0.005	0.005	0.006	0.0005	

TABLE 4 - Summary of Field and Laboratory Analytical Results of Groundwater Monitoring
Santa Cruz Industries, 411 Swift Street, Santa Cruz, California

						Concentrations expressed in milligrams per liter (mg/L)									
Sample ID	Date	Temp. °F	COND	pH	ORP	DO	PCE	1,1,1-TCA	1,1-DCE	TCE	1,1,2-TCA	1,1-DCA	cis-1,2-DCE	Vinyl Chloride	Total HVOCs
MW-13	12/12/00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	08/27/00	65.8	720	6.45	199	1.97	2.10	0.33	0.25	<0.025	<0.025	0.32	<0.025	<0.025	3.00
	06/11/00	64.6	826	6.63	250	3.58	3.10	0.53	0.092	<0.050	<0.050	0.22	<0.050	<0.050	3.94
	09/06/99	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	06/06/99	63.1	900	6.76	205	0.22	9.00	4.50	1.80	<0.500	<0.500	<0.500	<0.500	<0.500	15.30
	03/25/99	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	01/08/99	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	09/29/98	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	06/18/98	66.4	510	7.04	N/A	1.58	18.00	7.20	1.50	<0.500	<0.500	<0.500	<0.500	<0.500	26.70
	03/10/98	N/A	N/A	N/A	N/A	3.38	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/02/97	67.9	1,030	6.39	N/A	N/A	7.70	2.80	1.30	<0.200	<0.200	0.30	<0.200	<0.200	12.10
	05/14/97	67.1	864	6.86	N/A	1.00	16.00	12.00	2.10	<0.250	<0.250	0.29	<0.250	<0.250	30.39
	02/20/97	61.0	1,300	6.89	N/A	1.92	31.00	39.00	6.60	<0.500	<0.500	<0.500	<0.500	<0.500	76.60
	12/26/96	58.8	1,028	7.08	N/A	0.86	18.00	17.00	2.60	0.13	0.42	0.38	0.29	<0.125	38.82
	11/11/96	64.2	1,148	7.19	N/A	0.97	5.80	5.20	2.40	<0.125	<0.125	0.58	0.14	<0.125	14.12
	08/13/96	67.6	1,400	6.79	N/A	0.12	11.00	13.00	6.50	<0.250	<0.250	0.51	<0.250	<0.250	31.01
	05/13/96	66.1	1,050	6.41	N/A	0.45	21.00	36.00	9.60	0.39	0.40	0.57	<0.250	<0.250	67.96
	01/18/96	63.4	1,788	6.82	N/A	N/A	13.00	18.00	9.30	<0.500	<0.500	<0.500	<0.500	<0.500	40.30
	09/20/95	67.8	1,194	6.75	N/A	N/A	12.00	18.00	7.30	<0.500	<0.500	<0.500	<0.500	<0.500	37.30
MW-14	12/12/00	61.3	931	7.02	242	4.61	4.10	1.60	1.00	<0.10	<0.10	0.37	<0.10	<0.10	7.07
	08/27/00	66.4	690	6.50	214	7.24	0.82	0.18	0.14	<0.010	<0.010	0.11	<0.010	<0.010	1.25
	06/11/00	65.1	872	6.35	270	5.71	2.60	0.72	0.46	<0.050	<0.050	0.24	<0.050	<0.050	4.02
	09/06/99	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	06/06/99	63.1	1,050	6.52	208	0.25	28.00	9.40	4.50	<0.500	<0.500	0.83	<0.500	<0.500	42.73
	03/25/99	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	01/08/99	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	09/29/98	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	06/18/98	65.8	580	7.05	N/A	0.28	30.00	16.00	4.50	<0.500	<0.500	0.53	<0.500	<0.500	51.03
	03/10/98	N/A	N/A	N/A	N/A	3.02	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/02/97	67.4	970	6.32	N/A	N/A	42.00	15.00	4.70	<0.500	<0.500	<0.500	<0.500	<0.500	61.70
	05/14/97	69.8	919	7.01	N/A	0.83	20.00	19.00	4.50	<0.250	0.31	0.44	<0.250	<0.250	44.25
	02/20/97	61.9	1,300	6.52	N/A	3.07	9.90	12.00	3.30	<0.250	0.46	0.37	<0.250	<0.250	26.03
	12/26/96	57.0	978	7.70	N/A	0.74	7.90	8.90	2.10	<0.250	0.42	<0.250	<0.250	<0.250	19.32
	11/11/96	63.8	1,070	7.20	N/A	1.74	3.80	3.30	1.00	<0.10	<0.10	<0.10	<0.10	<0.10	8.10
	08/13/96	67.2	1,590	6.80	N/A	0.29	85.00	110.00	32.00	<2.50	<2.50	<2.50	<2.50	<2.50	227.00
	05/13/96	67.1	1,260	6.27	N/A	0.18	66.00	120.00	33.00	<2.50	<2.50	<2.50	<2.50	<2.50	219.00
	01/18/96	65.5	2,650	7.09	N/A	N/A	91.00	130.00	41.00	<2.50	<2.50	<2.50	<2.50	<2.50	262.00
	09/19/95	67.3	1,273	6.53	N/A	N/A	89.00	120.00	37.00	<2.50	<2.50	<2.50	<2.50	<2.50	246.00
MCLs							0.005	0.20	0.006	0.005	0.005	0.005	0.006	0.0005	

TABLE 4 - Summary of Field and Laboratory Analytical Results of Groundwater Monitoring
Santa Cruz Industries, 411 Swift Street, Santa Cruz, California

Sample ID	Date	Temp. ° F	COND	pH	ORP	Concentrations expressed in milligrams per liter (mg/L)									
						DO	PCE	1,1,1-TCA	1,1-DCE	TCE	1,1,2-TCA	1,1-DCA	cis-1,2-DCE	Vinyl Chloride	Total HVOCs
MW-17	12/12/00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	06/11/00	66.9	752	6.03	292	2.59	<0.001	<0.001	<0.001	0.025	<0.001	<0.001	0.0081	<0.001	0.0331
	09/06/99	68.7	700	6.35	293	2.75	<0.0005	<0.0005	0.00066	0.029	<0.0005	0.0005	0.0077	<0.0005	0.0379
	06/06/99	64.2	700	6.28	268	1.30	<0.0005	<0.0005	0.0005	0.020	<0.0005	<0.0005	0.0051	<0.0005	0.0256
	03/25/99	60.6	860	6.22	254	3.45	<0.0005	<0.0005	0.00095	0.037	<0.0005	0.00068	0.013	0.0005	0.0521
	01/08/99	62.2	826	6.32	N/A	2.51	<0.0025	<0.0025	<0.0025	0.043	<0.0025	<0.0025	0.018	<0.0025	0.0610
	09/29/98	68.5	340	6.08	N/A	N/A	<0.0025	<0.0025	<0.0025	0.057	<0.0025	<0.0025	0.014	<0.0025	0.0710
	06/23/98	65.0	440	7.21	N/A	2.03	<0.001	<0.001	<0.001	0.076	<0.001	<0.001	0.023	<0.001	0.0990
	03/10/98	62.5	710	6.52	N/A	2.95	<0.005	<0.005	<0.005	0.050	<0.005	<0.005	0.012	<0.005	0.0620
	11/02/97	73.8	970	6.09	N/A	N/A	<0.0005	<0.0005	0.0014	0.057	<0.0005	0.0007	0.026	0.0009	0.0860
MW-18	12/12/00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	06/11/00	63.3	909	6.04	230	0.61	<0.0005	<0.0005	0.0011	0.014	<0.0005	<0.0005	0.0030	<0.0005	0.0181
	09/06/99	65.8	890	6.33	298	0.15	<0.0005	<0.0005	<0.0005	0.017	<0.0005	<0.0005	0.0037	<0.0005	0.0207
	06/06/99	61.0	940	6.28	259	0.18	<0.0005	<0.0005	<0.0005	0.0086	<0.0005	<0.0005	0.0026	<0.0005	0.0112
	03/25/99	60.1	1,330	6.15	250	1.47	<0.0005	<0.0005	<0.0005	0.011	<0.0005	<0.0005	0.0037	<0.0005	0.0147
	01/08/99	61.2	940	6.30	N/A	0.71	<0.0005	<0.0005	<0.0005	0.024	<0.0005	<0.0005	0.0081	<0.0005	0.0321
	09/29/98	65.8	340	6.04	N/A	N/A	<0.0005	<0.0005	<0.0005	0.021	<0.0005	<0.0005	0.0061	<0.0005	0.0271
	06/18/98	62.5	490	7.17	N/A	0.47	<0.0005	<0.0005	<0.0005	0.020	<0.0005	<0.0005	0.0052	<0.0005	0.0252
	03/10/98	64.3	780	6.64	N/A	0.70	<0.0005	<0.0005	<0.0005	0.018	<0.0005	<0.0005	0.0051	<0.0005	0.0231
	11/02/97	71.4	920	6.24	N/A	N/A	<0.0005	<0.0005	<0.0005	0.027	<0.0005	<0.0005	0.011	<0.0005	0.0380
VW-13	12/13/00	59.2	1,103	6.76	243	0.68	31.00	12.00	4.80	<1.0	<1.0	<1.0	<1.0	<1.0	47.80
	08/27/00	66.9	900	6.15	242	0.87	28.00	29.00	7.40	<0.100	<0.100	0.32	<0.100	<0.100	64.72
	06/11/00	65.3	1,061	6.79	240	N/A	17.00	5.60	1.60	<0.100	<0.100	0.30	<0.100	<0.100	24.50
VW-15	12/12/00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	08/27/00	68.0	860	6.22	244	3.09	13.00	9.10	1.80	<0.100	<0.100	0.34	<0.100	<0.100	24.24
	06/12/00	65.8	915	6.78	252	N/A	7.70	5.00	0.46	<0.100	<0.100	0.23	<0.100	<0.100	13.39
VW-17	12/12/00	61.0	1,100	7.35	219	2.18	15.00	4.20	1.70	<0.50	<0.50	1.30	<0.50	<0.50	22.20
	08/27/00	67.1	830	6.77	238	4.50	16.00	5.90	2.00	<0.100	<0.100	1.80	<0.100	<0.100	25.70
	06/13/00	65.1	910	6.99	260	N/A	8.10	0.76	<0.100	<0.100	<0.100	0.30	<0.100	<0.100	9.16
MCLs							0.005	0.20	0.006	0.005	0.005	0.005	0.006	0.0005	

COND = Electrical Conductivity, u mhos/cm
ORP = Oxidation/Reduction Potential, millivolts
DO = Dissolved Oxygen
HVOCs = Halogenated Volatile Organic Compounds
N/A = Not Analyzed
<0.0005 = Not at or above reporting detection limit.

APPENDIX C

CERTIFIED ANALYTICAL REPORTS AND CHAIN OF CUSTODIES

K PRIME, Inc.
CONSULTING ANALYTICAL CHEMISTS

3621 Westwind Blvd.
Santa Rosa CA 95403
Phone: 707 527 7574
FAX: 707 527 7079

TRANSMITTAL

DATE: 05/01/02

TO: MS. BARBARA MARKS
IT CORPORATION
4005 PORT CHICAGO HWY
CONCORD, CA. 94520

Phone: (925) 288-2283
Fax: (925) 288-0888

ACCT: 9925
PROJ: 834985

FROM: Richard A. Kagel, Ph.D. RAK 5/1/02
Laboratory Director

SUBJECT: LABORATORY RESULTS FOR YOUR PROJECT 834985

Enclosed please find K Prime's laboratory reports for the following samples:

SAMPLE ID	TYPE	DATE	KPI LAB #
SOIL GAS #1	AIR	04/19/02	35747
SOIL GAS #2	AIR	04/19/02	35748
SOIL GAS #3	AIR	04/19/02	35749
AMBIENT CONTROL	AIR	04/19/02	35750

The above listed sample group was received on 04/23/02 and tested as requested on the chain of custody document.

Please call me if you have any questions or need further information.
Thank you for this opportunity to be of service.

K PRIME, INC.
LABORATORY REPORT

K PRIME PROJECT: 9925
CLIENT PROJECT: 834985

METHOD: VOC'S IN AIR
REFERENCE: EPA METHOD TO14 (GC-MS-SCAN)

SAMPLE ID: SOIL GAS #2
LAB NO: 35748
SAMPLE TYPE: AIR
DATE SAMPLED: 04/19/02
TIME SAMPLED: 15:40

DATE ANALYZED: 4/28/02

		PPB (V/V)		µg/cu. m	
COMPOUND NAME	**CAS NO.**	**MRL**	**SAMPLE CONC**	**MRL**	**SAMPLE CONC**
DICHLORODIFLUOROMETHANE	75-71-8	1.50	ND	7.42	ND
DICHLOROTETRAFLUOROETHANE	76-14-2	1.50	ND	10.5	ND
CHLOROMETHANE	74-87-3	1.50	ND	3.10	ND
VINYL CHLORIDE	75-01-4	1.50	ND	3.83	ND
BROMOMETHANE	74-83-9	1.50	ND	5.83	ND
CHLOROETHANE	75-00-3	1.50	ND	3.96	ND
TRICHLOROFLUOROMETHANE	75-69-4	1.50	ND	8.43	ND
1,1-DICHLOROETHENE	75-35-4	1.50	ND	5.95	ND
TRICHLOROTRIFLUOROETHANE	76-13-1	1.50	ND	11.5	ND
METHYLENE CHLORIDE	75-09-2	1.50	ND	5.21	ND
1,1-DICHLOROETHANE	75-34-3	1.50	ND	6.07	ND
CIS-1,2-DICHLOROETHENE	156-59-2	1.50	ND	5.95	ND
CHLOROFORM	67-66-3	1.50	ND	7.32	ND
1,1,1-TRICHLOROETHANE	71-55-6	1.50	ND	8.19	ND
CARBON TETRACHLORIDE	56-23-5	1.50	ND	9.44	ND
1,2-DICHLOROETHANE	107-06-2	1.50	ND	6.07	ND
BENZENE	71-43-2	1.50	ND	4.79	ND
TRICHLOROETHENE	79-01-6	1.50	ND	8.06	ND
1,2-DICHLOROPROPANE	78-87-5	1.50	ND	6.93	ND
TRANS-1,3-DICHLOROPROPENE	10061-02-6	1.50	ND	6.81	ND
TOLUENE	108-88-3	1.50	5.80	5.65	21.9
CIS-1,3-DICHLOROPROPENE	10061-01-5	1.50	ND	6.81	ND
1,1,2-TRICHLOROETHANE	79-00-5	1.50	ND	8.19	ND
TETRACHLOROETHENE	127-18-4	1.50	ND	10.2	ND
1,2-DIBROMOETHANE	106-93-4	1.50	ND	11.5	ND
CHLOROBENZENE	108-90-7	1.50	ND	6.91	ND
ETHYLBENZENE	100-41-4	1.50	1.56	6.51	6.77
XYLENE (M+P)	1330-20-7	1.50	8.36	6.51	36.3
XYLENE (O)	95-47-6	1.50	3.07	6.51	13.3
STYRENE	100-42-5	1.50	ND	6.39	ND
1,1,2,2-TETRACHLOROETHANE	79-34-5	1.50	ND	10.3	ND
1,3,5-TRIMETHYLBENZENE	108-67-8	1.50	2.50	7.37	12.3
1,2,4-TRIMETHYLBENZENE	95-63-6	1.50	14.2	7.37	69.8
1,3-DICHLOROBENZENE	541-73-1	1.50	ND	9.02	ND
1,4-DICHLOROBENZENE	106-46-7	1.50	ND	9.02	ND
1,2-DICHLOROBENZENE	95-50-1	1.50	ND	9.02	ND
1,2,4-TRICHLOROBENZENE	120-82-1	1.50	ND	11.1	ND
HEXACHLOROBUTADIENE	87-68-3	1.50	ND	16.0	ND

NOTES:
ND - NOT DETECTED AT OR ABOVE THE STATED REPORTING LIMIT
MRL - METHOD REPORTING LIMIT
NA - NOT APPLICABLE OR AVAILABLE
µg/cu. m results are calculated from ppb values based on normal temperature and pressure.

APPROVED BY: MC
DATE: 5/1/02

K PRIME, INC.
LABORATORY REPORT

K PRIME PROJECT: 9925
CLIENT PROJECT: 834985

METHOD: VOC'S IN AIR
REFERENCE: EPA METHOD TO14 (GC-MS-SCAN)

SAMPLE ID: AMBIENT CONTROL
LAB NO: 35750
SAMPLE TYPE: AIR
DATE SAMPLED: 04/19/02
TIME SAMPLED: 15:10

DATE ANALYZED: 4/28/02

		PPB (V/V)		µg/cu. m	
COMPOUND NAME	CAS NO.	MRL	SAMPLE CONC	MRL	SAMPLE CONC
DICHLORODIFLUOROMETHANE	75-71-8	1.00	ND	4.95	ND
DICHLOROTETRAFLUOROETHANE	76-14-2	1.00	ND	6.99	ND
CHLOROMETHANE	74-87-3	1.00	ND	2.07	ND
VINYL CHLORIDE	75-01-4	1.00	ND	2.56	ND
BROMOMETHANE	74-83-9	1.00	ND	3.88	ND
CHLOROETHANE	75-00-3	1.00	ND	2.64	ND
TRICHLOROFLUOROMETHANE	75-69-4	1.00	ND	5.62	ND
1,1-DICHLOROETHENE	75-35-4	1.00	ND	3.97	ND
TRICHLOROTRIFLUOROETHANE	76-13-1	1.00	ND	7.66	ND
METHYLENE CHLORIDE	75-09-2	1.00	ND	3.47	ND
1,1-DICHLOROETHANE	75-34-3	1.00	ND	4.05	ND
CIS-1,2-DICHLOROETHENE	156-59-2	1.00	ND	3.97	ND
CHLOROFORM	67-66-3	1.00	ND	4.88	ND
1,1,1-TRICHLOROETHANE	71-55-6	1.00	ND	5.46	ND
CARBON TETRACHLORIDE	56-23-5	1.00	ND	6.29	ND
1,2-DICHLOROETHANE	107-06-2	1.00	ND	4.05	ND
BENZENE	71-43-2	1.00	ND	3.19	ND
TRICHLOROETHENE	79-01-6	1.00	ND	5.37	ND
1,2-DICHLOROPROPANE	78-87-5	1.00	ND	4.62	ND
TRANS-1,3-DICHLOROPROPENE	10061-02-6	1.00	ND	4.54	ND
TOLUENE	108-88-3	1.00	ND	3.77	ND
CIS-1,3-DICHLOROPROPENE	10061-01-5	1.00	ND	4.54	ND
1,1,2-TRICHLOROETHANE	79-00-5	1.00	ND	5.46	ND
TETRACHLOROETHENE	127-18-4	1.00	ND	6.8	ND
1,2-DIBROMOETHANE	106-93-4	1.00	ND	7.68	ND
CHLOROBENZENE	108-90-7	1.00	ND	4.60	ND
ETHYLBENZENE	100-41-4	1.00	ND	4.34	ND
XYLENE (M+P)	1330-20-7	1.00	ND	4.34	ND
XYLENE (O)	95-47-6	1.00	ND	4.34	ND
STYRENE	100-42-5	1.00	ND	4.26	ND
1,1,2,2-TETRACHLOROETHANE	79-34-5	1.00	ND	6.87	ND
1,3,5-TRIMETHYLBENZENE	108-67-8	1.00	ND	4.92	ND
1,2,4-TRIMETHYLBENZENE	95-63-6	1.00	ND	4.92	ND
1,3-DICHLOROBENZENE	541-73-1	1.00	ND	6.01	ND
1,4-DICHLOROBENZENE	106-46-7	1.00	ND	6.01	ND
1,2-DICHLOROBENZENE	95-50-1	1.00	ND	6.01	ND
1,2,4-TRICHLOROBENZENE	120-82-1	1.00	ND	7.42	ND
HEXACHLOROBUTADIENE	87-68-3	1.00	ND	10.7	ND

NOTES:
ND - NOT DETECTED AT OR ABOVE THE STATED REPORTING LIMIT
MRL - METHOD REPORTING LIMIT
NA - NOT APPLICABLE OR AVAILABLE
µg/cu. m results are calculated from ppb values based on normal temperature and pressure.

APPROVED BY: _____
DATE: 5/1/02

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900, Fax (510) 486-0532

Laboratory Number 157881

IT Corporation
4005 Port Chicago Highway
Concord, CA 94520

Project#: 834985
Location: Ark/Monarch School

Sample ID	Lab ID	Sample ID	Lab ID
PB-1-0	157881-001	GR-10-5	157881-045
PB-2A-0	157881-002	GR-10-5.5	157881-046
PB-2B-0	157881-003	GR-11-0	157881-047
PB-3-0	157881-004	GR-11-0.5	157881-048
PB-4-0	157881-005	GR-11-5A	157881-049
GR-1-0	157881-006	GR-11-5B	157881-050
GR-2-0	157881-010	GR-11-5.5	157881-051
GR-3-0	157881-014	GR-12-0	157881-052
GR-4-0	157881-018	GR-12-0.5	157881-053
GR-5-0A	157881-022	GR-12-5	157881-054
GR-5-0B	157881-026	GR-12-5.5	157881-055
GR-6-0	157881-027	SW-1-0	157881-056
GR-7-0	157881-031	SW-1-2	157881-057
GR-8-0	157881-035	SW-2-0	157881-058
GR-9-0	157881-039	SW-2-2	157881-059
GR-9-0.5	157881-040	RINSATE	157881-060
GR-9-1	157881-041	RINSATE	157881-061
GR-9-1.5	157881-042	RINSATE	157881-062
GR-10-0	157881-043		
GR-10-0.5	157881-044		

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis.

Signature: _____ Operations Manager Date: 4/23/02

Signature: _____ Project Manager Date: 4/23/02

CA ELAP # 1459

Page 1 of _____

Curtis & Tompkins, Ltd.

Chain of Custody

CHAIN OF CUSTODY FORM

Curtis & Tompkins, Ltd.
Analytical Laboratory Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510)486-0900 Phone
(510)486-0532 Fax

C&T LOGIN # 157881

Sampler: Pedro Ruiz, Regina Bussard, Simon Payne
Project No: 834985, 01000000
Report To: Barbara Marks
Project Name: Ark/Monarch School
Company: IT Corporation
Project P.O.:
Telephone: 925-288-2283
Turnaround Time: standard 10 days
Fax: 925-288-0888

	Laboratory Number	Sample ID.	Sampling Date Time	Matrix: Soil	Water	Waste	# of Containers	Preservative: HCL	H_2SO	HNO_3	ICE	Field Notes	Analyses: Total Lead EPA Method 6010B	PAHs EPA Method 8310	CAM 17 Metals EPA Method 6010B	TPH-D & motor oil EPA Method 8015
1	For Laboratory Use	PB-1-0	4/1/02 09:55	✓			1				✓		✓			
2		PB-2A-0	4/1/02 09:45	✓			1				✓		✓			
3		PB-2B-0	4/1/02 09:50	✓			1				✓		✓			
4		PB-3-0	4/1/02 10:26	✓			1				✓		✓			
5		PB-4-0	4/1/02 10:20	✓			1				✓		✓			
6		GR-1-0	4/1/02 11:27	✓			1				✓			✓	✓	✓
7		GR-1-0.5	4/1/02 11:33 11:36	✓			2(A+B)				✓	HOLD		HOLD	HOLD	HOLD (CB) HOLD
8		GR-1-BS1	4/1/02 11:37 11:39	✓			2(A+B)				✓	HOLD		HOLD	HOLD	HOLD
9		GR-1-1.5	4/1/02 11:45 11:44	✓			2(A+B)				✓	HOLD		HOLD	HOLD	HOLD
10		GR-2-0	4/1/02 12:13 12:17	✓			1				✓			✓	✓	✓
11		GR-2-0.5	4/1/02 12:16 12:17	✓			2(A+B)				✓	HOLD		HOLD	HOLD	HOLD
12		GR-2-1	4/1/02 12:20 12:21	✓			2(A+B)				✓	HOLD		HOLD	HOLD	HOLD
13		GR-2-1.5	4/1/02 12:23 12:25	✓			2(A+B)				✓	HOLD		HOLD	HOLD	HOLD

Notes: ~~If~~ Analyze held samples if PAH > PRG or metal > background for surface sample.
Method Blank Frequency: 1 per 20 samples
Matrix Spike/Matrix Spike Duplicate: 1 per 20 samples

RELINQUISHED BY:	RECEIVED BY:
Regina Bussard 4/1/02 12:47 DATE/TIME	4/2/02 3:20 DATE/TIME
DATE/TIME	DATE/TIME
DATE/TIME	DATE/TIME

Signature

N.C'd from refrigerator cold

CHAIN OF CUSTODY FORM

Curtis & Tompkins, Ltd.
Analytical Laboratory Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510)486-0900 Phone
(510)486-0532 Fax

C&T LOGIN # 157881

Sampler: Pedro Ruiz, Regina Bussard, Simon Payne

Project No: 834985.01000000 | Report To: Barbara Marks

Project Name: Ark/Monarch School | Company: IT Corporation

Project P.O.: | Telephone: 925-288-2283

Turnaround Time: standard 10 days | Fax: 925-288-0888

Analyses

Laboratory Number	Sample ID.	Sampling Date Time	Matrix: Soil	Matrix: Water	Matrix: Waste	# of Containers	Preservative: HCL	Preservative: H_2SO	Preservative: HNO_3	Preservative: ICE	Field Notes	PAHs EPA Method 8310	CAM 17 Metals EPA Method 6010B	TPH-D + motor oil EPA Method 8015
-27	GR-6-0	4/1/02 13:06	✓			~~2(A+B)~~ 1				✓		✓	✓	✓
-28	GR-6-0.5	13:08	✓			2 (~~A+B~~)				✓	HOLD			
-29	GR-6-1	13:10	✓			2 (~~A+B~~)				✓	HOLD			
-30	GR-6-1.5	13:13	✓			2 (~~A+B~~)				✓	HOLD			
-31	GR-7-0	13:54	✓			1				✓		✓	✓	✓
32	GR-7-0.5	13:56	✓			2(A+B)				✓	HOLD			
-33	GR-7-1	14:00	✓			2(A+B)				✓	HOLD			
-34	GR-7-1.5	14:03	✓			2(A+B)				✓	HOLD			
-35	GR-8-0	14:11	✓			1				✓		✓	✓	✓
-36	GR-8-0.5	14:13	✓			2 (A+B)				✓	HOLD			
-37	GR-8-1	14:15	✓			2 (A+B)				✓	HOLD			
-38	GR-8-1.5	14:17	✓			2 (A+B)				✓	HOLD			
-39	GR-9-0	14:28	✓			1				✓		✓	✓	✓

For Laboratory Use

Notes: Analyze samples on hold if PAH > PRG or metal > background for initial surface sample.

rec'd from refrigerator

Signature

RELINQUISHED BY:	RECEIVED BY:
Regina Bussard 4/2/02 12:48 DATE/TIME	storage DATE/TIME
DATE/TIME	George Jambe 4/2/02 3:06 DATE/TIME
DATE/TIME	DATE/TIME

CHAIN OF CUSTODY FORM

Curtis & Tompkins, Ltd.
Analytical Laboratory Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510)486-0900 Phone
(510)486-0532 Fax

C&T LOGIN # 157881

Project No: 834985-01000000
Project Name: Ark/Monarch School
Project P.O.:
Turnaround Time: standard 10 days

Sampler: Pedro Ruiz, Simon Payne, Regina Bussard
Report To: Barbara Marks
Company: 925-288-2283
Telephone: IT Corporation
Fax: 925-288-0588

Laboratory Number	Sample ID.	Sampling Date Time	Matrix: Soil	Water	Waste	# of Containers	Preservative: HCL	H_2SO	HNO_3	ICE		Field Notes	Analyses: PAHs EPA Method 8310	CAM 17 Metals EPA Method 6010B	TPH-D+ motor oil EPA Method 8015
-53	GR-12-0.5	4/1/02 15:12	✓			1				✓			✓	✓	✓
-54	GR-12-5	15:20	✓			1				✓			✓	✓	✓
-55	GR-12-5.5	15:22	✓			1				✓			✓	✓	✓
-56	SW-1-0	15:44	✓			1				✓			✓	✓	✓
-57	SW-1-2	15:50	✓			1				✓			✓	✓	✓
-58	SW-2-0	15:53	✓			1				✓			✓	✓	✓
-59	SW-2-2	15:58	✓			1				✓			✓	✓	✓

For Laboratory Use

Notes: rec'd from refrigerator cold

RELINQUISHED BY:	RECEIVED BY:
Regina Bussard 4/4/02 12:45 DATE/TIME	storage DATE/TIME
DATE/TIME	George Tompkins 4/5/02 2:49 DATE/TIME
DATE/TIME	DATE/TIME

Signature

(57)

CURTIS & TOMPKINS, LTD. BERKELEY LOGIN CHANGE FORM

RUSH

Reason for change: ✓ Client Request: By: IT Corporation Date/Time: 4/15/02 8:37AM Initials: GVP
____ Login Review ____ Data Review Client/Acct: ITC

Current Lab ID	Previous Lab ID	Client ID	Matrix	Add/Cancel	Analysis	Holddate	Duedate
157861-040		GR-9-0.5	Soil	Add	8310	4/14/02	4/19/02
157861-041		GR-9-1	Soil	Add	8310	"	"
157861-042		GR-9-1.5	Soil	Add	8310	"	"
		OK to ~~Ext~~ extract		pass	hold		
		please extract ASAP					

TEH results & QC Summary

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	SHAKER TABLE
Project#:	STANDARD	Analysis:	EPA 8015B(M)
Matrix:	Soil	Sampled:	04/01/02
Units:	mg/Kg	Received:	04/02/02
Diln Fac:	1.000	Prepared:	04/05/02

Field ID:	GR-1-0	Moisture:	16%
Type:	SAMPLE	Batch#:	71393
Lab ID:	157881-006	Analyzed:	04/05/02
Basis:	dry		

Analyte	Result	RL
Diesel C10-C24	2.6 H Y	1.2
Motor Oil C24-C36	7.9	6.0

Surrogate	%REC	Limits
Hexacosane	107	48-137

Field ID:	GR-2-0	Moisture:	16%
Type:	SAMPLE	Batch#:	71393
Lab ID:	157881-010	Analyzed:	04/05/02
Basis:	dry		

Analyte	Result	RL
Diesel C10-C24	13 H Y	1.2
Motor Oil C24-C36	16	6.0

Surrogate	%REC	Limits
Hexacosane	113	48-137

Field ID:	GR-3-0	Moisture:	14%
Type:	SAMPLE	Batch#:	71393
Lab ID:	157881-014	Analyzed:	04/05/02
Basis:	dry		

Analyte	Result	RL
Diesel C10-C24	5.8 H Y	1.2
Motor Oil C24-C36	31	5.8

Surrogate	%REC	Limits
Hexacosane	101	48-137

Field ID:	GR-4-0	Moisture:	14%
Type:	SAMPLE	Batch#:	71393
Lab ID:	157881-018	Analyzed:	04/05/02
Basis:	dry		

Analyte	Result	RL
Diesel C10-C24	56 H Y	1.2
Motor Oil C24-C36	270	5.9

Surrogate	%REC	Limits
Hexacosane	101	48-137

H= Heavier hydrocarbons contributed to the quantitation
Y= Sample exhibits fuel pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	SHAKER TABLE
Project#:	STANDARD	Analysis:	EPA 8015B(M)
Matrix:	Soil	Sampled:	04/01/02
Units:	mg/Kg	Received:	04/02/02
Diln Fac:	1.000	Prepared:	04/05/02

Field ID:	GR-8-0	Moisture:	14%
Type:	SAMPLE	Batch#:	71393
Lab ID:	157881-035	Analyzed:	04/06/02
Basis:	dry		

Analyte	Result	RL
Diesel C10-C24	3.8 H Y	1.2
Motor Oil C24-C36	11	5.8

Surrogate	%REC	Limits
Hexacosane	112	48-137

Field ID:	GR-9-0	Moisture:	15%
Type:	SAMPLE	Batch#:	71393
Lab ID:	157881-039	Analyzed:	04/06/02
Basis:	dry		

Analyte	Result	RL
Diesel C10-C24	21 H Y	1.2
Motor Oil C24-C36	49	5.9

Surrogate	%REC	Limits
Hexacosane	113	48-137

Field ID:	GR-10-0	Moisture:	8%
Type:	SAMPLE	Batch#:	71402
Lab ID:	157881-043	Analyzed:	04/08/02
Basis:	dry		

Analyte	Result	RL
Diesel C10-C24	ND	1.1
Motor Oil C24-C36	ND	5.4

Surrogate	%REC	Limits
Hexacosane	107	48-137

Field ID:	GR-10-0.5	Moisture:	18%
Type:	SAMPLE	Batch#:	71402
Lab ID:	157881-044	Analyzed:	04/08/02
Basis:	dry		

Analyte	Result	RL
Diesel C10-C24	1.4 H Y	1.2
Motor Oil C24-C36	7.8	6.1

Surrogate	%REC	Limits
Hexacosane	90	48-137

H= Heavier hydrocarbons contributed to the quantitation
Y= Sample exhibits fuel pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	SHAKER TABLE
Project#:	STANDARD	Analysis:	EPA 8015B(M)
Matrix:	Soil	Sampled:	04/01/02
Units:	mg/Kg	Received:	04/02/02
Diln Fac:	1.000	Prepared:	04/05/02

Field ID:	GR-11-5A	Moisture:	27%
Type:	SAMPLE	Batch#:	71402
Lab ID:	157881-049	Analyzed:	04/09/02
Basis:	dry		

Analyte	Result	RL
Diesel C10-C24	1.5 Y	1.4
Motor Oil C24-C36	ND	6.8

Surrogate	%REC	Limits
Hexacosane	101	48-137

Field ID:	GR-11-5B	Moisture:	34%
Type:	SAMPLE	Batch#:	71402
Lab ID:	157881-050	Analyzed:	04/09/02
Basis:	dry		

Analyte	Result	RL
Diesel C10-C24	ND	1.5
Motor Oil C24-C36	ND	7.6

Surrogate	%REC	Limits
Hexacosane	111	48-137

Field ID:	GR-11-5.5	Moisture:	38%
Type:	SAMPLE	Batch#:	71402
Lab ID:	157881-051	Analyzed:	04/09/02
Basis:	dry		

Analyte	Result	RL
Diesel C10-C24	ND	1.6
Motor Oil C24-C36	ND	8.0

Surrogate	%REC	Limits
Hexacosane	106	48-137

Field ID:	GR-12-0	Moisture:	8%
Type:	SAMPLE	Batch#:	71402
Lab ID:	157881-052	Analyzed:	04/09/02
Basis:	dry		

Analyte	Result	RL
Diesel C10-C24	2.1 H Y	1.1
Motor Oil C24-C36	12	5.4

Surrogate	%REC	Limits
Hexacosane	110	48-137

H= Heavier hydrocarbons contributed to the quantitation
Y= Sample exhibits fuel pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	SHAKER TABLE
Project#:	STANDARD	Analysis:	EPA 8015B(M)
Matrix:	Soil	Sampled:	04/01/02
Units:	mg/Kg	Received:	04/02/02
Diln Fac:	1.000	Prepared:	04/05/02

Field ID:	SW-1-2	Moisture:	34%
Type:	SAMPLE	Batch#:	71402
Lab ID:	157881-057	Analyzed:	04/09/02
Basis:	dry		

Analyte	Result	RL
Diesel C10-C24	ND	1.5
Motor Oil C24-C36	ND	7.6

Surrogate	%REC	Limits
Hexacosane	109	48-137

Field ID:	SW-2-0	Moisture:	28%
Type:	SAMPLE	Batch#:	71402
Lab ID:	157881-058	Analyzed:	04/09/02
Basis:	dry		

Analyte	Result	RL
Diesel C10-C24	29 H Y	1.4
Motor Oil C24-C36	110	6.9

Surrogate	%REC	Limits
Hexacosane	100	48-137

Field ID:	SW-2-2	Moisture:	43%
Type:	SAMPLE	Batch#:	71402
Lab ID:	157881-059	Analyzed:	04/09/02
Basis:	dry		

Analyte	Result	RL
Diesel C10-C24	ND	1.8
Motor Oil C24-C36	ND	8.8

Surrogate	%REC	Limits
Hexacosane	107	48-137

Type:	BLANK	Batch#:	71393
Lab ID:	QC175052	Analyzed:	04/05/02
Basis:	as received	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.0

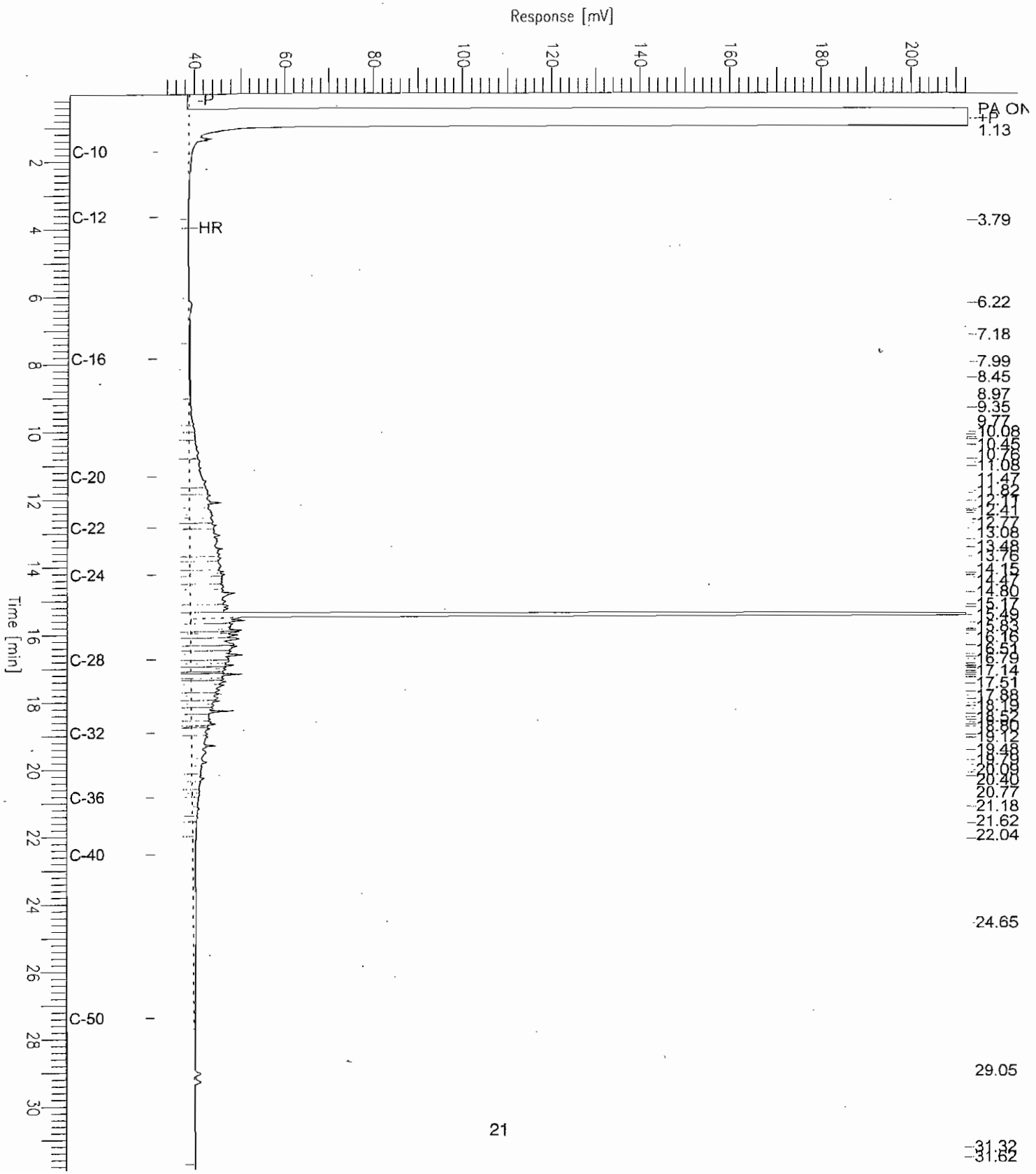
Surrogate	%REC	Limits
Hexacosane	77	48-137

H= Heavier hydrocarbons contributed to the quantitation
Y= Sample exhibits fuel pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Chromatogram

Sample Name : 157881-006,71393
FileName : G:\GC13\CHB\095B005.RAW
Method : BTEH072.MTH
Start Time : 0.01 min End Time : 31.91 min
Scale Factor: 0.0 Plot Offset: 32 mV

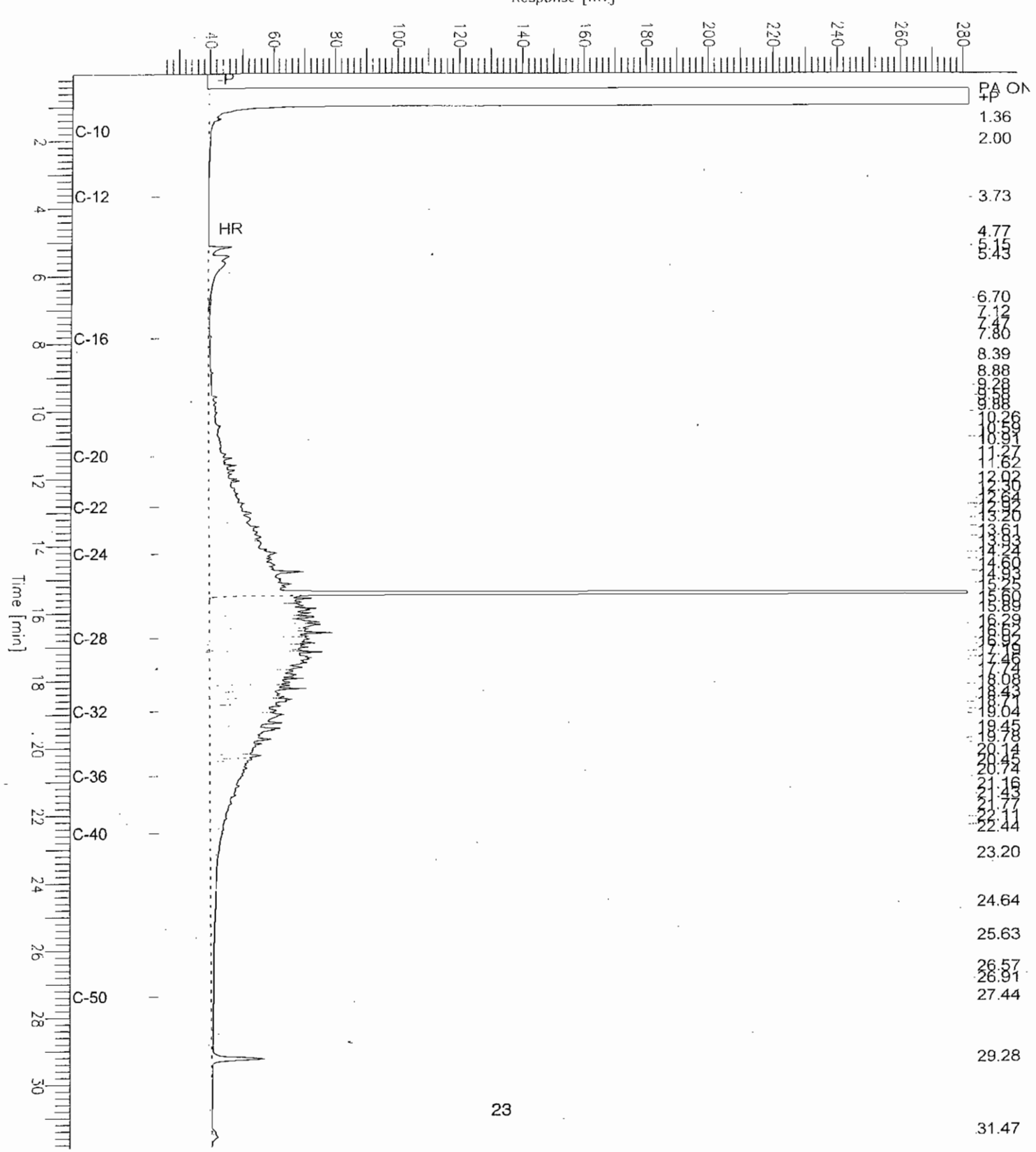
Sample #: 71393 Page 1 of 1
Date : 4/8/02 09:07 AM
Time of Injection: 4/5/02 07:31 PM
Low Point : 32.16 mV High Point : 212.50 mV
Plot Scale: 180.3 mV



Chromatogram

Sample Name : 157881-014,71393
FileName : G:\GC13\CHB\095B007.RAW
Method : BTEH072.MTH
Start Time : 0.01 min End Time : 31.91 min
Scale Factor: 0.0 Plot Offset: 24 mV

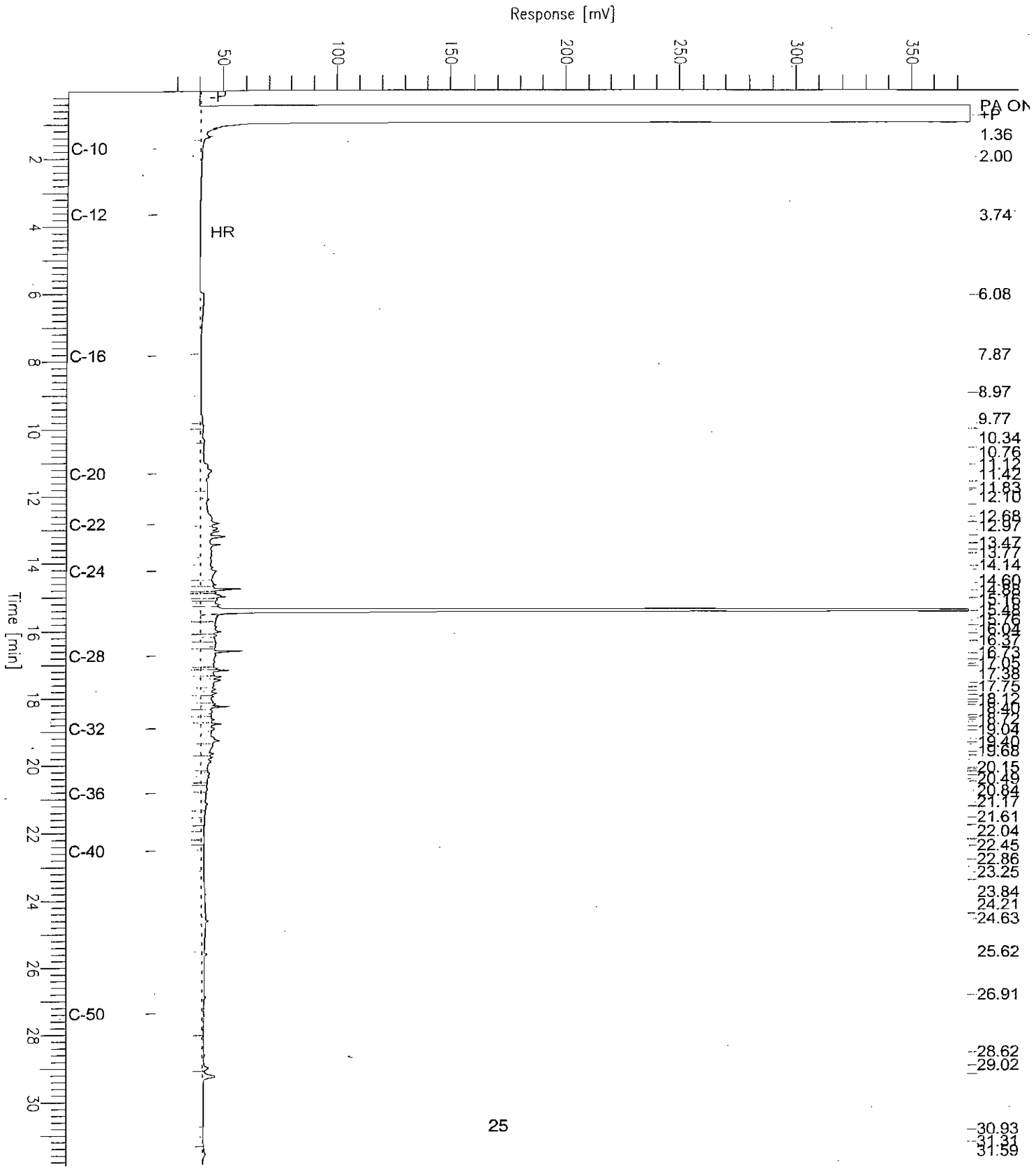
Sample #: 71393 Page 1 of 1
Date : 4/8/02 09:08 AM
Time of Injection: 4/5/02 08:50 PM
Low Point : 24.42 mV High Point : 281.86 mV
Plot Scale: 257.4 mV



Chromatogram

Sample Name : 157881-022,71393
FileName : G:\GC13\CHB\095B009.RAW
Method : BTEH072.MTH
Start Time : 0.01 min End Time : 31.91 min
Scale Factor: 0.0 Plot Offset: 22 mV

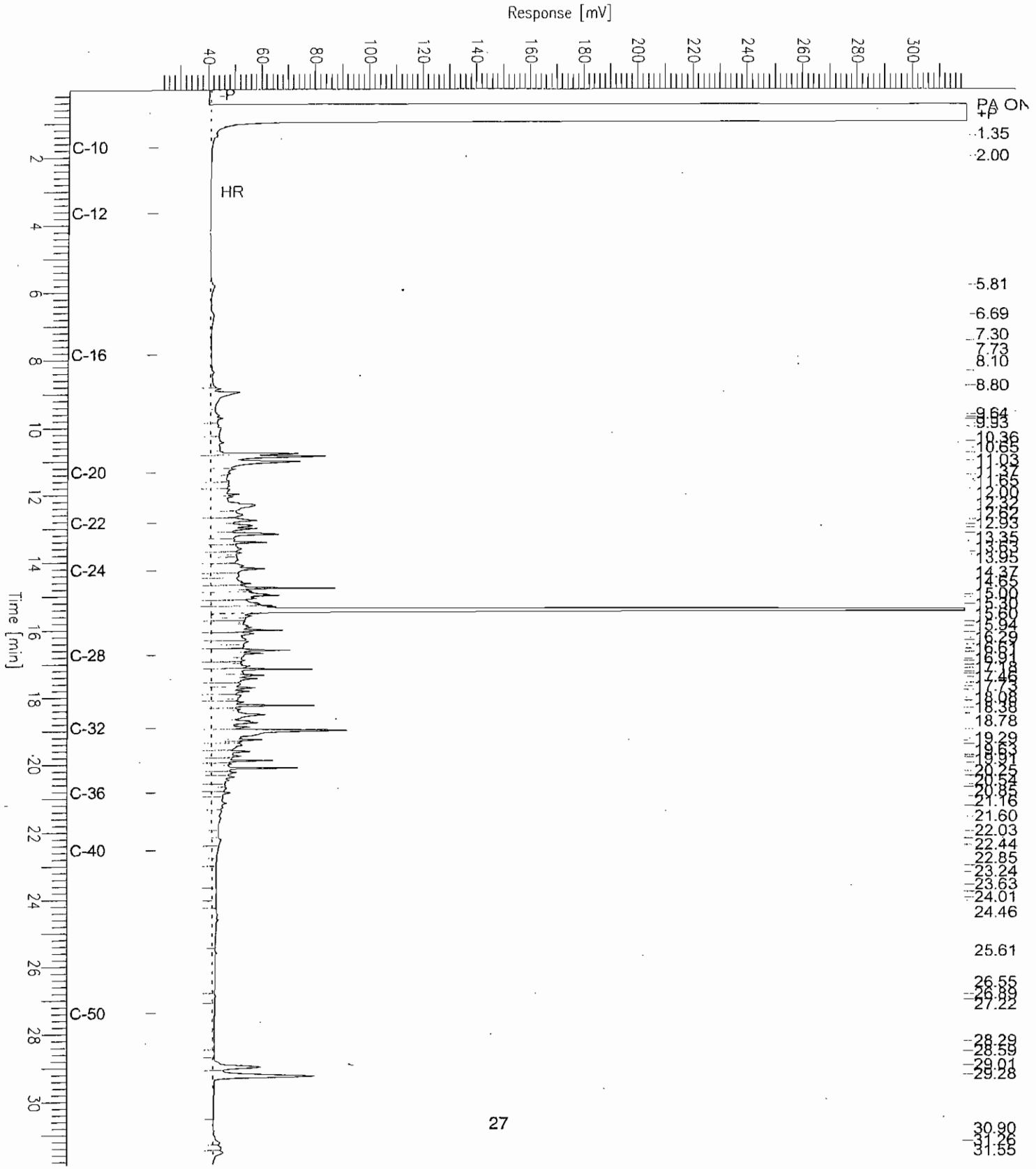
Sample #: 71393 Page 1 of 1
Date : 4/8/02 09:10 AM
Time of Injection: 4/5/02 10:09 PM
Low Point : 21.53 mV High Point : 375.60 mV
Plot Scale: 354.1 mV



Chromatogram

Sample Name : 157881-027,71393
FileName : G:\GC13\CHB\095B012.RAW
Method : BTEH072.MTH
Start Time : 0.01 min End Time : 31.91 min
Scale Factor: 0.0 Plot Offset: 22 mV

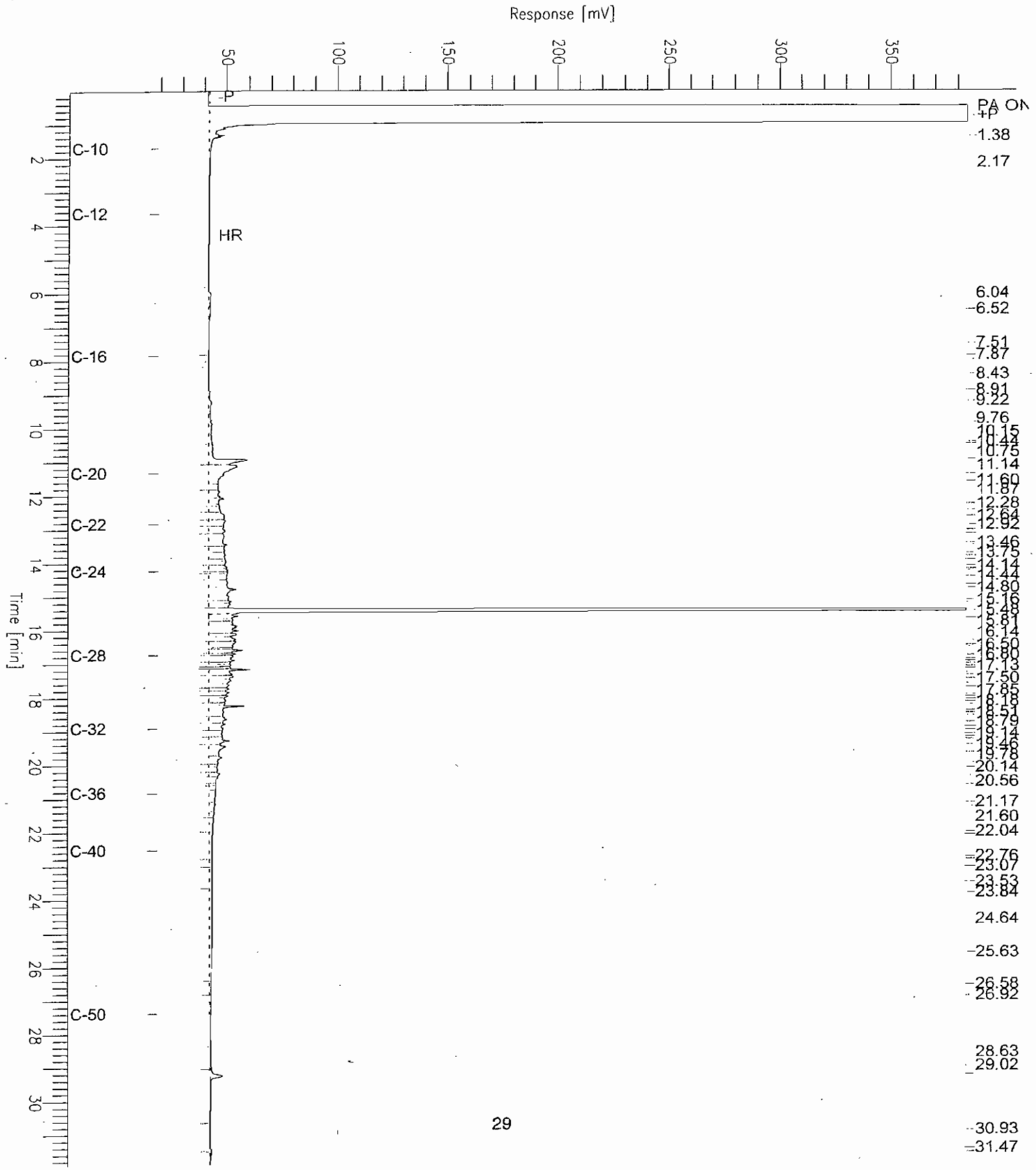
Sample #: 71393 Page 1 of 1
Date : 4/8/02 09:12 AM
Time of Injection: 4/6/02 12:06 AM
Low Point : 22.04 mV High Point : 320.00 mV
Plot Scale: 298.0 mV



Chromatogram

Sample Name : 157881-035,71393
FileName : G:\GC13\CHB\095B014.RAW
Method : BTEH072.MTH
Start Time : 0.01 min End Time : 31.91 min
Scale Factor: 0.0 Plot Offset: 19 mV

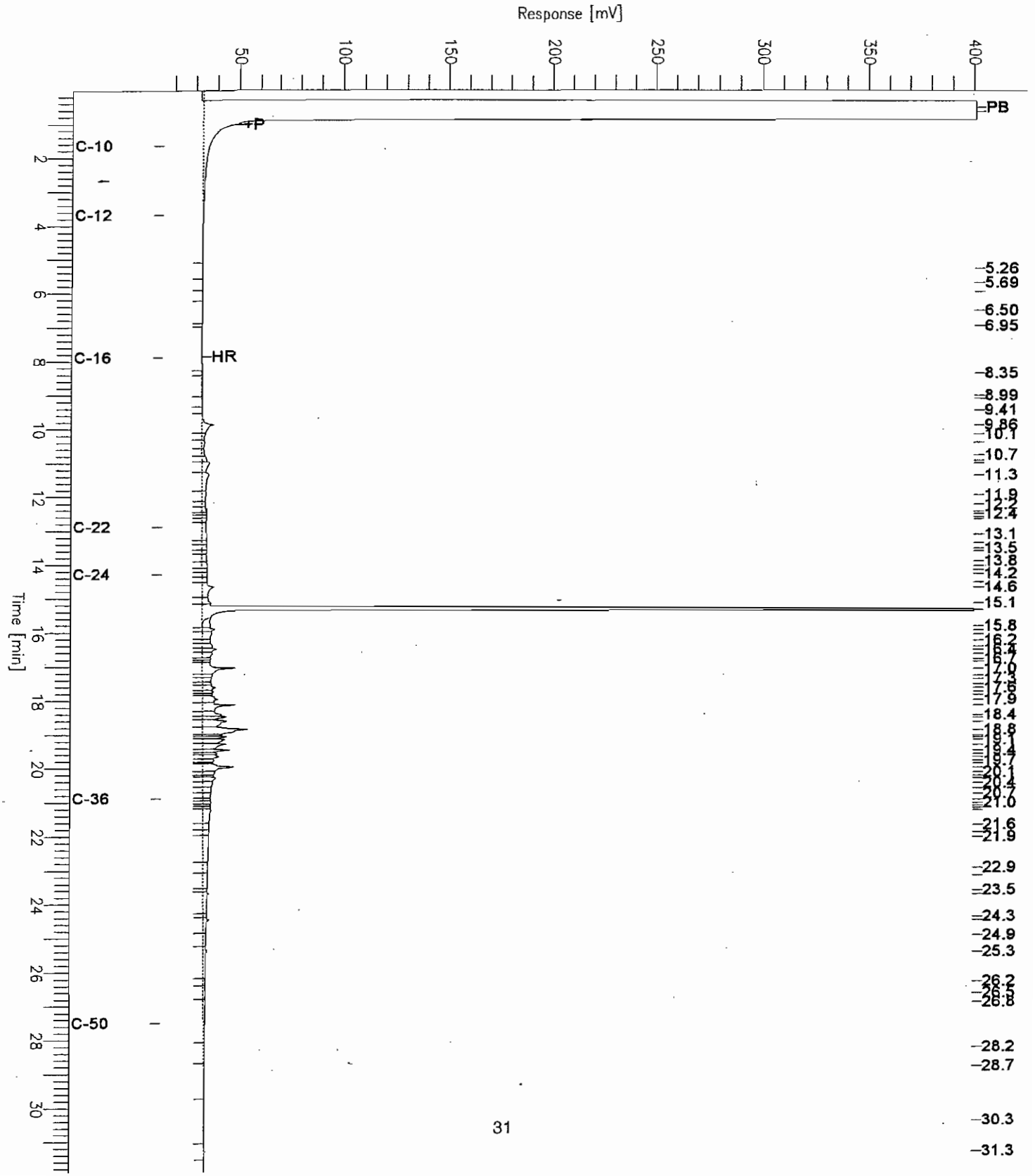
Sample #: 71393 Page 1 of 1
Date : 4/8/02 09:13 AM
Time of Injection: 4/6/02 01:24 AM
Low Point : 19.29 mV High Point : 384.01 mV
Plot Scale: 364.7 mV



Chromatogram

Sample Name : 157881-044,71402
FileName : G:\GC15\CHB\098B013.RAW
Method : BTEH065.MTH
Start Time : 0.01 min End Time : 31.91 min
Scale Factor: 0.0 Plot Offset: 14 mV

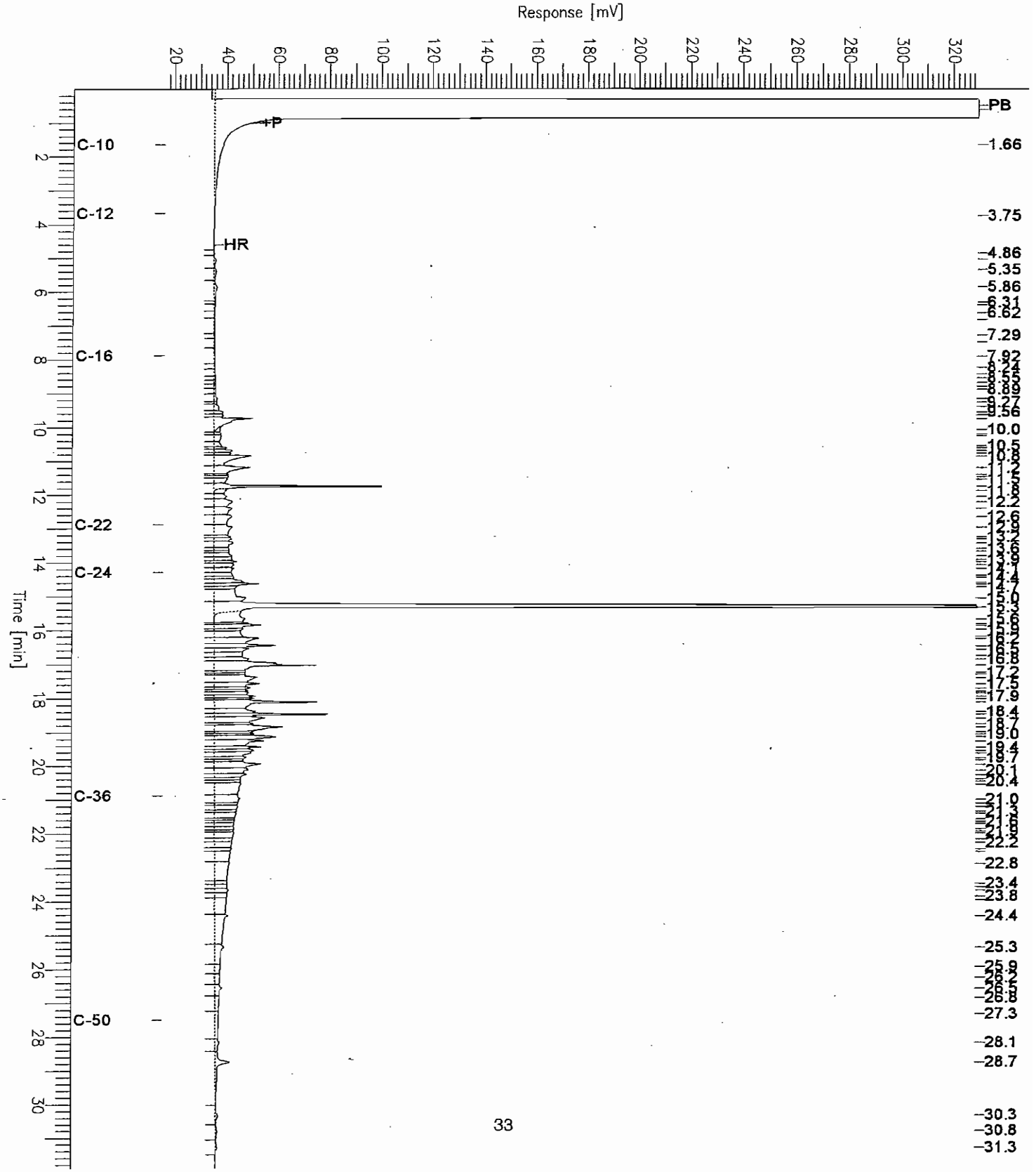
Sample #: 71402 Page 1 of 1
Date : 04/09/2002 09:17 AM
Time of Injection: 04/08/2002 07:43 PM
Low Point : 14.49 mV High Point : 400.73 mV
Plot Scale: 386.2 mV



Chromatogram

Sample Name : 157881-048,71402
FileName : G:\GC15\CHB\098B020.RAW
Method : BTEH065.MTH
Start Time : 0.01 min End Time : 31.91 min
Scale Factor: 0.0 Plot Offset: 16 mV

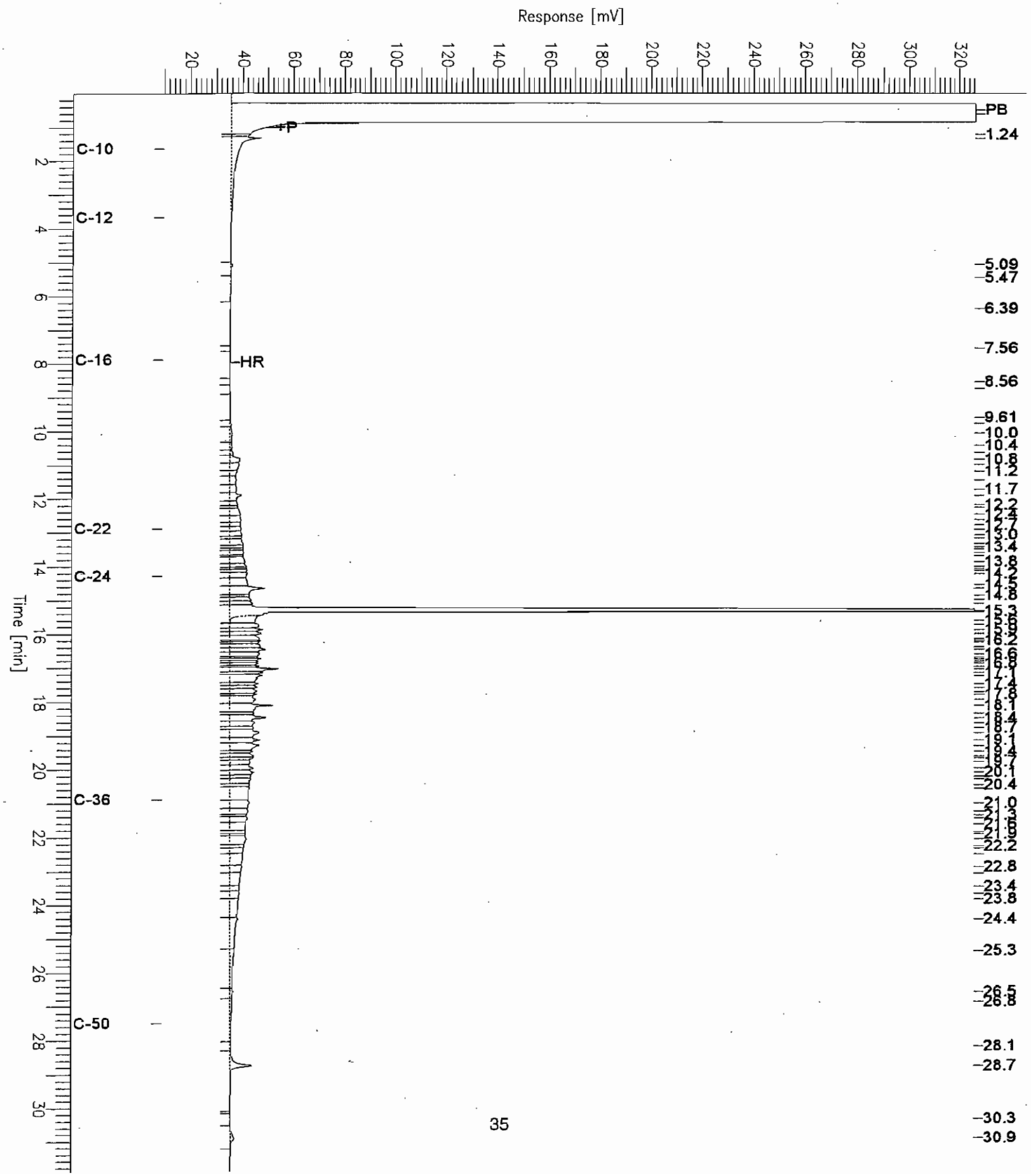
Sample #: 71402 Page 1 of 1
Date : 04/09/2002 09:21 AM
Time of Injection: 04/09/2002 12:27 AM
Low Point : 16.27 mV High Point : 329.38 mV
Plot Scale: 313.1 mV



Chromatogram

Sample Name : 157881-052,71402
FileName : G:\GC15\CHB\098B024.RAW
Method : BTEH065.MTH
Start Time : 0.01 min End Time : 31.91 min
Scale Factor: 0.0 Plot Offset: 10 mV

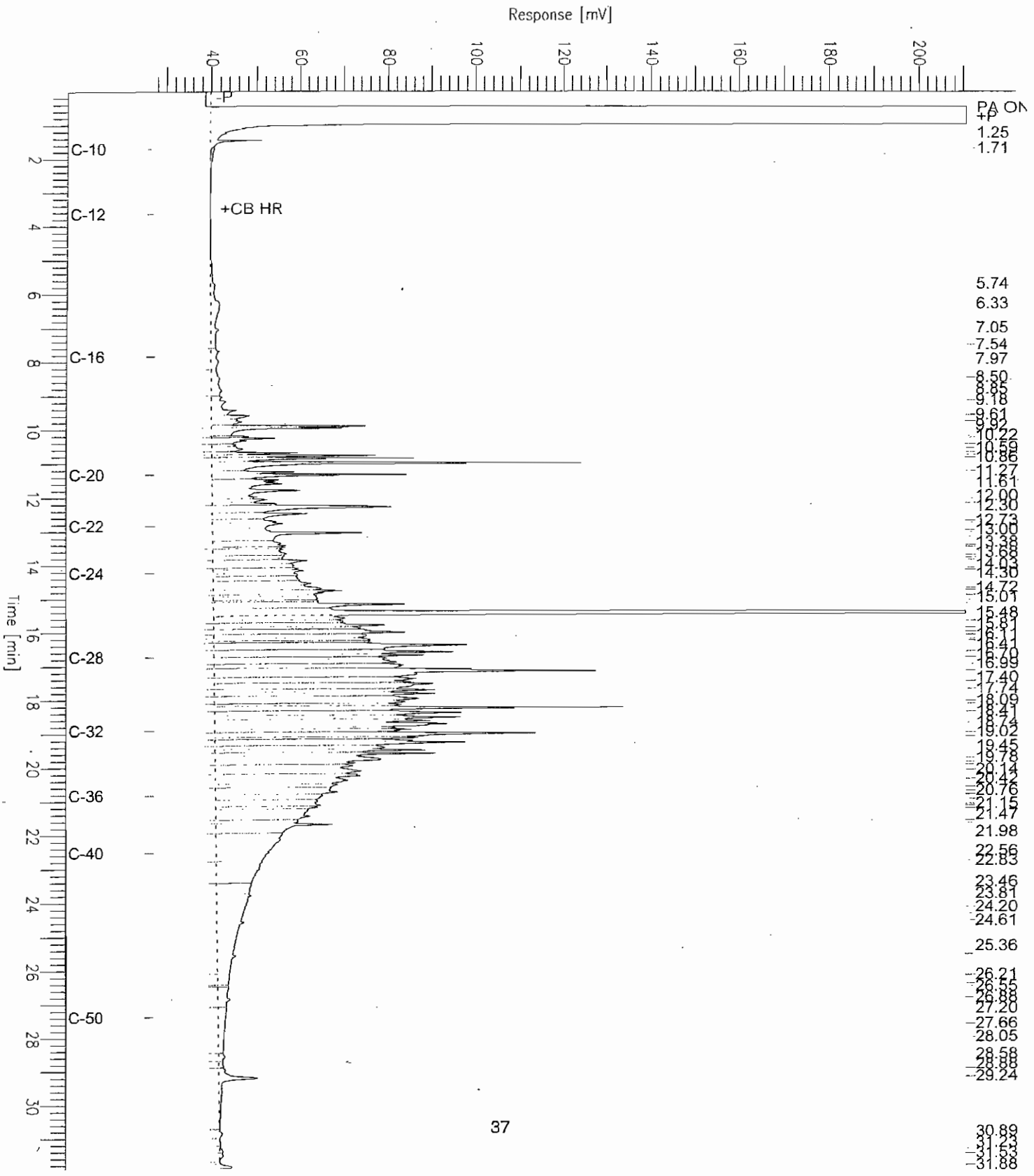
Sample #: 71402 Page 1 of 1
Date : 04/09/2002 09:24 AM
Time of Injection: 04/09/2002 03:08 AM
Low Point : 9.79 mV High Point : 326.36 mV
Plot Scale: 316.6 mV



Chromatogram

Sample Name : 157881-056,71402
FileName : G:\GC13\CHB\098B038.RAW
Method : BTEH072.MTH
Start Time : 0.01 min End Time : 31.91 min
Scale Factor: 0.0 Plot Offset: 28 mV

Sample #: 71402 Page 1 of 1
Date : 4/9/02 12:53 PM
Time of Injection: 4/9/02 12:14 PM
Low Point : 27.75 mV High Point : 210.61 mV
Plot Scale: 182.9 mV

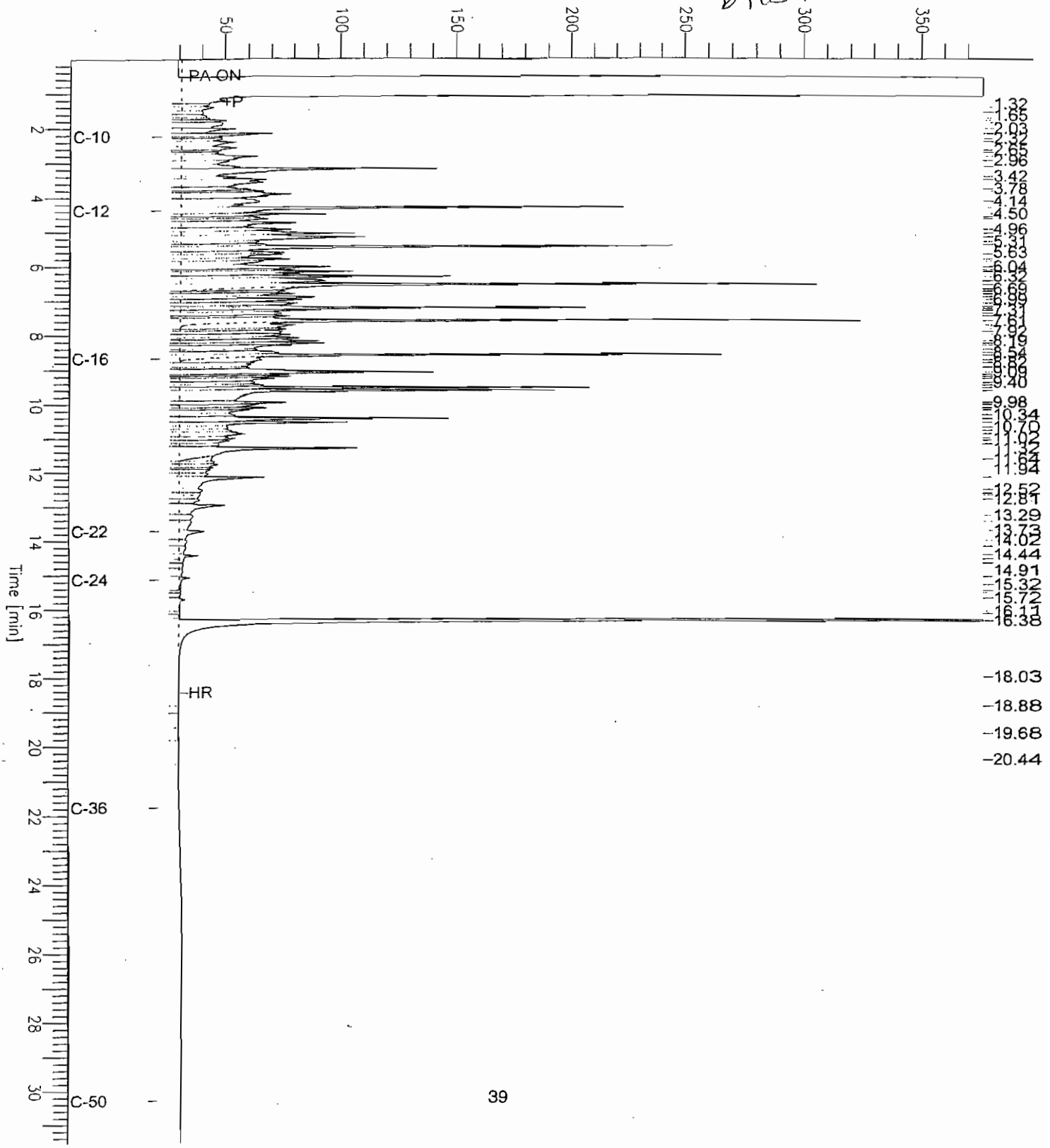


Chromatogram

Sample Name : ccv,02ws0309,dsl
FileName : G:\GC11\CHA\095A002.RAW
Method : ATEH092.MTH
Start Time : 0.01 min End Time : 31.55 min
Scale Factor: 0.0 Plot Offset: 22 mV

Sample #: 500mg/L Page 1 of 1
Date : 4/5/02 04:15 PM
Time of Injection: 4/5/02 01:52 PM
Low Point : 22.25 mV High Point : 376.20 mV
Plot Scale: 353.9 mV

Diesel Standard



Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	SHAKER TABLE
Project#:	STANDARD	Analysis:	EPA 8015B(M)
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC175053	Batch#:	71393
Matrix:	Soil	Prepared:	04/05/02
Units:	mg/Kg	Analyzed:	04/09/02
Basis:	as received		

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	50.25	34.45	69	67-121

Surrogate	%REC	Limits
Hexacosane	67	48-137

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	SHAKER TABLE
Project#:	STANDARD	Analysis:	EPA 8015B(M)
Field ID:	ZZZZZZZZZZ	Batch#:	71393
MSS Lab ID:	157875-001	Sampled:	04/02/02
Matrix:	Soil	Received:	04/03/02
Units:	mg/Kg	Prepared:	04/05/02
Basis:	dry	Analyzed:	04/05/02
Diln Fac:	1.000		

Type: MS
Lab ID: QC175054
Moisture: 7%
Cleanup Method: EPA 3630C

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	9.159	53.45	48.10	73	35-146

Surrogate	%REC	Limits
Hexacosane	71	48-137

Type: MSD
Lab ID: QC175055
Moisture: 7%
Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	54.23	49.84	75	35-146	2	48

Surrogate	%REC	Limits
Hexacosane	77	48-137

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3520C
Project#:	STANDARD	Analysis:	EPA 8015B(M)
Field ID:	RINSATE	Batch#:	71360
Matrix:	Water	Sampled:	04/01/02
Units:	ug/L	Received:	04/02/02
Diln Fac:	1.000	Prepared:	04/04/02

Type: SAMPLE Analyzed: 04/06/02
Lab ID: 157881-061

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	103	39-137

Type: BLANK Analyzed: 04/05/02
Lab ID: QC174932 Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	97	39-137

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3520C
Project#:	STANDARD	Analysis:	EPA 8015B(M)
Field ID:	ZZZZZZZZZZ	Batch#:	71360
MSS Lab ID:	157893-009	Sampled:	04/03/02
Matrix:	Water	Received:	04/03/02
Units:	ug/L	Prepared:	04/04/02
Diln Fac:	1.000	Analyzed:	04/05/02

Type: MS Cleanup Method: EPA 3630C
Lab ID: QC174934

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	<32.00	2,500	2,270	91	44-131

Surrogate	%REC	Limits
Hexacosane	93	39-137

Type: MSD Cleanup Method: EPA 3630C
Lab ID: QC174935

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,105	84	44-131	8	26

Surrogate	%REC	Limits
Hexacosane	89	39-137

RPD= Relative Percent Difference

INITIAL CALIBRATION REPORT FOR 157881 TEH Soil
Curtis & Tompkins Laboratories

Instrument: GC11A Gas Chromatograph #11 (Channel A) TEH Reviewed By:
Calnum: 112005357002 Name: Motor Oil Type: (normal) Date: 04-JAN-2002 05:54 Inj Vol (uL): 3

Calibration levels:

#	Filename	Seqnum	Samplenum	Analyzed	Standards
1	003a020	112005357020	mo-50	04-JAN-2002 05:54	01WS1888
2	003a021	112005357021	mo-250	04-JAN-2002 06:34	01WS1887
3	003a022	112005357022	mo-500	04-JAN-2002 07:14	01WS1886
4	003a023	112005357023	mo-1000	04-JAN-2002 07:54	01WS1885
5	003a024	112005357024	mo-2500	04-JAN-2002 08:33	01WS1884
6	003a025	112005357025	mo-5000	04-JAN-2002 09:13	01WS1883

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	units	avg	%RSD	r^2 MnR^2	MxRSD	Flags
Motor Oil C12-C50	39242	47850	43394	43169	35211	41027	AVRG		2.401E-5		mg/L	41649	10	0.995	20	
Motor Oil C20-C36	38274	46200	42037	41689	33699	39006	AVRG		2.491E-5		mg/L	40151	11	0.995	20	
Motor Oil C22-C32	31940	37025	34687	34694	28302	31878	AVRG		3.022E-5		mg/L	33087	9	0.995	20	
Motor Oil C22-C36	34228	41262	37340	36717	29429	34880	AVRG		2.806E-5		mg/L	35643	11	0.995	20	
Motor Oil C24-C36	27270	33161	29593	28714	22163	27753	AVRG		3.558E-5		mg/L	28109	13	0.995	20	

Curves: AVRG: Average response factor
Instrument amount = a0 + response * a1 + response^2 * a2

INITIAL CALIBRATION REPORT FOR 157881 TEH Soil
Curtis & Tompkins Laboratories

Instrument: GC13B Gas Chromatograph #13 (Channel B) TEH Reviewed By:
Calnum: 142102764001 Name: Diesel Type: (normal) Date: 12-MAR-2002 22:05 Inj Vol (uL): 3

Calibration levels:

#	Filename	Seqnum	Samplenum	Analyzed	Standards
1	071b013	142102764013	dsl	12-MAR-2002 22:05	02WS0257
2	071b014	142102764014	dsl	12-MAR-2002 22:44	02WS0256
3	071b015	142102764015	dsl	12-MAR-2002 23:22	02WS0255
4	071b016	142102764016	dsl	13-MAR-2002 00:01	02WS0254
5	071b017	142102764017	dsl	13-MAR-2002 00:40	02WS0253
6	071b018	142102764018	dsl	13-MAR-2002 01:19	02WS0252
7	071b019	142102764019	dsl	13-MAR-2002 01:58	02WS0251

Analyte	L1	L2	L3	L4	L5	L6	L7	Type	a0	a1	a2	units	avg	%RSD	r^2 MnR^2	MxRSD	Flags
Diesel C10-C22	43190	48712	49397	50022	50782	52573	51149	AVRG		2.024E-5		mg/L	49403	6	0.995	20	
Diesel C10-C24	43554	49351	49958	50328	51147	52996	51515	AVRG		2.007E-5		mg/L	49836	6	0.995	20	
Diesel C10-C28	44252	49460	50181	50484	51284	53141	51668	AVRG		1.997E-5		mg/L	50067	6	0.995	20	
Diesel C10-C20	43190	46961	48123	48636	49389	51068	49707	AVRG		2.077E-5		mg/L	48154	5	0.995	20	
Diesel C12-C22	40099	42070	41155	41577	42373	45403	43974	AVRG		2.360E-5		mg/L	42379	4	0.995	20	
Diesel C12-C24	40463	42710	41716	41883	42738	45826	44340	AVRG		2.336E-5		mg/L	42811	4	0.995	20	
Diesel C12-C28	41161	42818	41939	42039	42875	45971	44494	AVRG		2.323E-5		mg/L	43042	4	0.995	20	
Diesel C12-C36	41619	42866	41962	42044	42875	45995	44503	AVRG		2.319E-5		mg/L	43123	4	0.995	20	

Curves: AVRG: Average response factor
Instrument amount = a0 + response * a1 + response^2 * a2

INITIAL CALIBRATION REPORT FOR 157881 TEH Soil
Curtis & Tompkins Laboratories

Instrument: GC13B Gas Chromatograph #13 (Channel B) TEH Reviewed By:
Calnum: 142102764003 Name: Hexacosane Type: (normal) Date: 12-MAR-2002 18:11 Inj Vol (uL): 3

Calibration levels:

#	Filename	Seqnum	Samplenum	Analyzed	Standards
1	071b007	142102764007	hex	12-MAR-2002 18:11	02WS0262
2	071b008	142102764008	hex	12-MAR-2002 18:50	02WS0263
3	071b009	142102764009	hex	12-MAR-2002 19:28	02WS0264
4	071b010	142102764010	hex	12-MAR-2002 20:07	02WS0265
5	071b011	142102764011	hex	12-MAR-2002 20:46	02WS0266

Analyte	L1	L2	L3	L4	L5	Type	a0	a1	a2	units	avg	%RSD	r^2 MnR^2	MxRSD	Flags
Hexacosane	51325	54911	55469	57018	56056	AVRG		1.820E-5		mg/L	54956	4	0.995	20	

53

Curves: AVRG: Average response factor
Instrument amount = a0 + response * a1 + response^2 * a2

INITIAL CALIBRATION REPORT FOR 157881 TEH Soil
Curtis & Tompkins Laboratories

Instrument: GC15B Gas Chromatograph #15 (Channel B) TEH Reviewed By:
Calnum: 161518831002 Name: Motor Oil Type: (normal) Date: 27-DEC-2001 05:00 Inj Vol (uL): 3

Calibration levels:

#	Filename	Seqnum	Samplenum	Analyzed	Standards
1	360b022	161518831022	mo-50	27-DEC-2001 05:00	01WS1888
2	360b023	161518831023	mo-250	27-DEC-2001 05:40	01WS1887
3	360b024	161518831024	mo-500	27-DEC-2001 06:21	01WS1886
4	360b025	161518831025	mo-1000	27-DEC-2001 07:01	01WS1885
5	360b026	161518831026	mo-2500	27-DEC-2001 07:42	01WS1884
6	360b027	161518831027	mo-5000	27-DEC-2001 08:22	01WS1883

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	units	avg	r^2 %RSD	MnR^2	MxRSD	Flags
Motor Oil C12-C50	42702	48926	50271	52593	51020	49223	AVRG		2.036E-5		mg/L	49122	7	0.995	20	
Motor Oil C20-C36	41736	47364	48328	49844	49091	47707	AVRG		2.112E-5		mg/L	47345	6	0.995	20	
Motor Oil C22-C32	34851	38289	38560	39846	40103	38635	AVRG		2.605E-5		mg/L	38381	5	0.995	20	
Motor Oil C22-C36	37455	42378	43231	44669	44334	42481	AVRG		2.357E-5		mg/L	42425	6	0.995	20	
Motor Oil C22-C50	37455	42533	43650	45870	44387	42631	AVRG		2.339E-5		mg/L	42754	7	0.995	20	
Motor Oil C24-C36	28712	32856	34909	35981	35731	34080	AVRG		2.966E-5		mg/L	33712	8	0.995	20	

Curves: AVRG: Average response factor
Instrument amount = a0 + response * a1 + response^2 * a2

CONTINUING CALIBRATION SUMMARY FOR 157881 TEH Soil
Curtis & Tompkins Laboratories

Analyte: Diesel C10-C24

Instid	Ch	Seqnum	Injected	Calnum	Caldate	Avg RF/CF	RF/CF	SpkAmt	QntAmt	Units	%D	Max %D	Flags
GC11A	A	112137486002	05-APR-2002 13:52	112005357001	04-JAN-2002	47465	49089	500.00	517.11	mg/L	3	15	
GC11A	A	112137486018	06-APR-2002 04:57	112005357001	04-JAN-2002	47465	44125	1500.0	1394.4	mg/L	-7	15	
GC11A	A	112141661031	09-APR-2002 06:42	112005357001	04-JAN-2002	47465	40332	100.00	84.971	mg/L	-15	15	
GC11A	A	112141661037	09-APR-2002 14:11	112005357001	04-JAN-2002	47465	45889	500.00	483.39	mg/L	-3	15	
GC13B	B	142137609002	05-APR-2002 14:08	142102764001	12-MAR-2002	49836	53714	500.00	538.91	mg/L	8	15	
GC13B	B	142137609018	06-APR-2002 04:02	142102764001	12-MAR-2002	49836	51994	1500.0	1565.0	mg/L	4	15	
GC13B	B	142141662029	09-APR-2002 06:19	142102764001	12-MAR-2002	49836	52007	100.00	104.36	mg/L	4	15	
GC13B	B	142141662042	09-APR-2002 14:51	142102764001	12-MAR-2002	49836	51728	500.00	518.99	mg/L	4	15	
GC15B	B	162141663002	08-APR-2002 10:24	161518831001	27-DEC-2001	50781	51877	500.00	510.79	mg/L	2	15	
GC15B	B	162141663016	08-APR-2002 21:44	161518831001	27-DEC-2001	50781	52856	1500.0	1561.3	mg/L	4	15	
GC15B	B	162141663030	09-APR-2002 07:12	161518831001	27-DEC-2001	50781	47980	100.00	94.483	mg/L	-6	15	

CONTINUING CALIBRATION SUMMARY FOR 157881 TEH Soil
Curtis & Tompkins Laboratories

Analyte: Hexacosane

Instid	Ch	Seqnum	Injected	Calnum	Caldate	Avg RF/CF	RF/CF	SpkAmt	OntAmt	Units	%D	Max %D	Flags
GC11A	A	112137486002	05-APR-2002 13:52	112005357003	03-JAN-2002	50850	51793	50.000	50.927	mg/L	2	15	
GC11A	A	112137486018	06-APR-2002 04:57	112005357003	03-JAN-2002	50850	50095	50.000	49.258	mg/L	-1	15	
GC11A	A	112141661031	09-APR-2002 06:42	112005357003	03-JAN-2002	50850	49341	50.000	48.516	mg/L	-3	15	
GC11A	A	112141661037	09-APR-2002 14:11	112005357003	03-JAN-2002	50850	48321	50.000	47.513	mg/L	-5	15	
GC13B	B	142137609002	05-APR-2002 14:08	142102764003	12-MAR-2002	54956	60124	50.000	54.702	mg/L	9	15	
GC13B	B	142137609018	06-APR-2002 04:02	142102764003	12-MAR-2002	54956	59129	50.000	53.797	mg/L	8	15	
GC13B	B	142141662029	09-APR-2002 06:19	142102764003	12-MAR-2002	54956	55356	50.000	50.364	mg/L	1	15	
GC13B	B	142141662042	09-APR-2002 14:51	142102764003	12-MAR-2002	54956	57944	50.000	52.719	mg/L	5	15	
GC15B	B	162141663002	08-APR-2002 10:24	161518831003	26-DEC-2001	56520	53436	50.000	47.271	mg/L	-5	15	
GC15B	B	162141663016	08-APR-2002 21:44	161518831003	26-DEC-2001	56520	55668	50.000	49.247	mg/L	-2	15	
GC15B	B	162141663030	09-APR-2002 07:12	161518831003	26-DEC-2001	56520	55105	50.000	48.748	mg/L	-3	15	

SEQUENCE SUMMARY FOR 157881 TEH Soil
Curtis & Tompkins Laboratories

Sequence: 142137609 Instrument: GC13B Gas Chromatograph #13 (Channel B)' TEH Begun: 05-APR-2002

#	Filename	Type	Samplenum	Batch	Matrix	Analyzed	IDF	PDF	IQC	SPK uL	Stds Used	>LR
001	095b001	X	ib			05-APR-2002 13:29	1.0					
002	095b002	CCV	dsl			05-APR-2002 14:08	1.0	1.0		3	1	
003	095b003	CCV	mo			05-APR-2002 14:47	1.0	1.0		3	2	
004	095b004	X	ib			05-APR-2002 18:35	1.0					
005	095b005	SAMPLE	157881-006	71393	Soil	05-APR-2002 19:31	1.0	0.100949		3		
006	095b006	SAMPLE	157881-010	71393	Soil	05-APR-2002 20:11	1.0	0.100543		3		
007	095b007	SAMPLE	157881-014	71393	Soil	05-APR-2002 20:50	1.0	0.100543		3		
008	095b008	SAMPLE	157881-018	71393	Soil	05-APR-2002 21:29	1.0	0.100685		3		1:BUNKC:=5436.46
009	095b009	SAMPLE	157881-022	71393	Soil	05-APR-2002 22:09	1.0	0.099582		3		
010	095b010	X	ib			05-APR-2002 22:48	1.0	1.0		3		
011	095b011	SAMPLE	157881-026	71393	Soil	05-APR-2002 23:27	1.0	0.100583		3		
012	095b012	SAMPLE	157881-027	71393	Soil	06-APR-2002 00:06	1.0	0.100261		3		
013	095b013	SAMPLE	157881-031	71393	Soil	06-APR-2002 00:45	1.0	0.099562		3		
014	095b014	SAMPLE	157881-035	71393	Soil	06-APR-2002 01:24	1.0	0.100060		3		
015	095b015	SAMPLE	157881-039	71393	Soil	06-APR-2002 02:04	1.0	0.100604		3		
016	095b016	X	ib			06-APR-2002 02:43	1.0					
017	095b017	X	dsl			06-APR-2002 03:23	1.0				3	
018	095b018	CCV	dsl			06-APR-2002 04:02	1.0	1.0		3	3	
019	095b019	CCV	mo			06-APR-2002 04:41	1.0	1.0		3	4	

Stds used: 1=02WS0309 2=02WS0235 3=02WS0424 4=02WS0487

SEQUENCE SUMMARY FOR 157881 TEH Soil
Curtis & Tompkins Laboratories

Sequence: 112141661 Instrument: GC11A Gas Chromatograph #11 (Channel A) TEH Begun: 08-APR-2002

#	Filename	Type	Samplenum	Batch	Matrix	Analyzed	IDF	PDF	IQC	SPK	uL	Stds Used	>LR
033	098a033	X	ib			09-APR-2002 10:50	1.0						
034	098a034	X	QC175053	71393	Soil	09-APR-2002 11:42	1.0	0.100503			3		
035	098a035	SAMPLE	157893-007	71360	Water	09-APR-2002 12:21	1.0	0.0050		1	3		
036	098a036	LCS	QC175053 S	71393	Soil	09-APR-2002 13:22	1.0	0.100503	1		3		
037	098a037	CCV	dsl			09-APR-2002 14:11	1.0	1.0			3	1	
038	098a038	CCV	mo			09-APR-2002 14:51	1.0	1.0			3	5	
039	098a039	SAMPLE	157893-007	71360	Water	09-APR-2002 15:50	1.0	0.0050			3		
040	098a040	SAMPLE	157948-026	71468	Water	09-APR-2002 16:30	1.0	0.0050			3		
041	098a041	SAMPLE	157949-001	71468	Water	09-APR-2002 17:10	1.0	0.0050			3		
042	098a042	SAMPLE	157948-014	71423	Soil	09-APR-2002 17:49	5.0	0.100040			3		
043	098a043	SAMPLE	157948-010	71423	Soil	09-APR-2002 18:30	2.0	0.099502			3		
044	098a044	X	ib			09-APR-2002 19:09	1.0	1.0			3		
045	098a045	SAMPLE	157948-012	71423	Soil	09-APR-2002 19:49	1.0	0.100402			3		
046	098a046	SAMPLE	157929-005 S	71385	Soil	09-APR-2002 20:29	2.0	0.100160			3		
047	098a047	X	ib			09-APR-2002 21:08	1.0						
048	098a048	X	dsl			09-APR-2002 21:48	1.0					4	
049	098a049	CCV	dsl			09-APR-2002 22:27	1.0	1.0			3	4	
050	098a050	CCV	mo			09-APR-2002 23:07	1.0	1.0			3	5	

Stds used: 1=02WS0309 2=02WS0235 3=02WS0595 4=02WS0424 5=02WS0487 6=02WS0418

SEQUENCE SUMMARY FOR 157881 TEH Soil
Curtis & Tompkins Laboratories

Sequence: 142141662 Instrument: GC13B Gas Chromatograph #13 (Channel B) TEH Begun: 08-APR-2002

#	Filename	Type	Samplenum	Batch	Matrix	Analyzed	IDF	PDF	IQC	SPK	uL	Stds Used	>LR
033	098b033	SAMPLE	157948-012	71423	Soil	09-APR-2002 08:57	2.0	0.100402			3		
034	098b034	SAMPLE	157948-010	71423	Soil	09-APR-2002 09:36	10.0	0.099502			3		
035	098b035	X	ib			09-APR-2002 10:15	1.0	1.0			3		
036	098b036	SAMPLE	157881-057	71402	Soil	09-APR-2002 10:55	1.0	0.100867			3		
037	098b037	SAMPLE	157881-059	71402	Soil	09-APR-2002 11:34	1.0	0.100180			3		
038	098b038	SAMPLE	157881-056	71402	Soil	09-APR-2002 12:14	1.0	0.100482			3		
039	098b039	SAMPLE	157881-058	71402	Soil	09-APR-2002 12:53	1.0	0.099940			3		
040	098b040	X	ib			09-APR-2002 13:32	1.0						
041	098b041	X	dsl			09-APR-2002 14:12	1.0					1	
042	098b042	CCV	dsl			09-APR-2002 14:51	1.0	1.0			3	1	
043	098b043	CCV	mo			09-APR-2002 15:30	1.0	1.0			3	2	
044	098b044	X	surrtest			09-APR-2002 16:33	1.0						
045	098b045	LCS	QC175283 S	71452	Soil	09-APR-2002 18:10	1.0	0.100140			3		
046	098b046	BLANK	QC175282 S	71452	Soil	09-APR-2002 18:49	1.0	0.100969	9		3		
047	098b047	MS	QC175284 S	71452	Soil	09-APR-2002 19:29	1.0	0.099423			3		2:BUNKC:=11935.2
048	098b048	MSD	QC175285 S	71452	Soil	09-APR-2002 20:08	1.0	0.099840		4	3		7:BUNKC:=15899.6
049	098b049	MSS	157943-001 S	71452	Soil	09-APR-2002 20:47	1.0	0.099522	8		3		1:BUNKC:=9725.64
050	098b050	SAMPLE	157943-002 S	71452	Soil	09-APR-2002 21:27	1.0	0.100040			3		1:BUNKC:=8619.00
051	098b051	X	ib			09-APR-2002 22:06	1.0	1.0			3		
052	098b052	SAMPLE	157949-002	71452	Soil	09-APR-2002 22:45	1.0	0.100847			3		
053	098b053	SAMPLE	157949-003	71452	Soil	09-APR-2002 23:24	1.0	0.100888			3		
054	098b054	SAMPLE	157893-027 S	71452	Soil	10-APR-2002 00:04	1.0	0.099641			3		
055	098b055	SAMPLE	157893-026 S	71452	Soil	10-APR-2002 00:43	2.0	0.100990			3		1:BUNKC:=10876.9
056	098b056	X	ib			10-APR-2002 01:23	1.0						
057	098b057	X	dsl			10-APR-2002 02:02	1.0					3	
058	098b058	CCV	dsl			10-APR-2002 02:42	1.0	1.0			3	3	
059	098b059	CCV	mo			10-APR-2002 03:21	1.0	1.0			3	2	

Stds used: 1=02WS0309 2=02WS0487 3=02WS0424 4=02WS0418

SEQUENCE SUMMARY FOR 157881 TEH Soil
Curtis & Tompkins Laboratories

Sequence: 162141663 Instrument: GC15B Gas Chromatograph #15 (Channel B) TEH Begun: 08-APR-2002

#	Filename	Type	Samplenum	Batch	Matrix	Analyzed	IDF	PDF	IQC	SPK	uL	Stds Used	>LR
033	098b033	BLANK	QC175350	71468	Water	09-APR-2002 13:05	1.0	0.0050	8		3		
034	098b034	BS	QC175351	71468	Water	09-APR-2002 13:45	1.0	0.0050			3		
035	098b035	BSD	QC175352	71468	Water	09-APR-2002 14:26	1.0	0.0050			3		
036	098b036	SAMPLE	157963-001	71468	Water	09-APR-2002 15:07	1.0	0.0050			3		
037	098b037	SAMPLE	157963-002	71468	Water	09-APR-2002 15:48	1.0	0.0050			3		
038	098b038	SAMPLE	157963-003	71468	Water	09-APR-2002 16:28	1.0	0.0050			3		
039	098b039	SAMPLE	157963-004	71468	Water	09-APR-2002 17:09	1.0	0.0050			3		
040	098b040	SAMPLE	157964-001	71468	Water	09-APR-2002 17:55	1.0	0.0050			3		
041	098b041	SAMPLE	157964-002	71468	Water	09-APR-2002 18:35	1.0	0.0050			3		
042	098b042	SAMPLE	157964-003	71468	Water	09-APR-2002 19:15	1.0	0.0050			3		
043	098b043	X	ds1			09-APR-2002 19:56	1.0					1	
044	098b044	CCV	ds1			09-APR-2002 20:36	1.0	1.0			3	1	
045	098b045	CCV	mo			09-APR-2002 21:17	1.0	1.0			3	2	
046	098b046	SAMPLE	157893-022 S	71452	Soil	09-APR-2002 21:58	1.0	0.099384			3		
047	098b047	SAMPLE	157893-025 S	71452	Soil	09-APR-2002 22:38	1.0	0.100140			3		
048	098b048	SAMPLE	157893-023 S	71452	Soil	09-APR-2002 23:19	1.0	0.100241		1	3		
049	098b049	SAMPLE	157893-016 S	71452	Soil	09-APR-2002 23:59	20.0	0.099463			3		
050	098b050	X	ib			10-APR-2002 00:40	1.0	1.0			3		
051	098b051	SAMPLE	157893-017 S	71452	Soil	10-APR-2002 01:21	5.0	0.100827			3		
052	098b052	SAMPLE	157893-018 S	71452	Soil	10-APR-2002 02:01	2.0	0.099325			3		1:BUNKC:=6741.22
053	098b053	SAMPLE	157893-019 S	71452	Soil	10-APR-2002 02:42	2.0	0.099206			3		1:BUNKC:=5090.50
054	098b054	X	ib			10-APR-2002 03:23	1.0	1.0			3		
055	098b055	SAMPLE	157893-020 S	71452	Soil	10-APR-2002 04:04	25.0	0.099840			3		
056	098b056	SAMPLE	157893-021 S	71452	Soil	10-APR-2002 04:44	2.0	0.100583			3		1:BUNKC:=6812.51
057	098b057	SAMPLE	157893-024 S	71452	Soil	10-APR-2002 05:25	2.0	0.099980			3		
058	098b058	X	ib			10-APR-2002 06:06	1.0						
059	098b059	X	ib			10-APR-2002 06:46	1.0						
060	098b060	X	ds1			10-APR-2002 07:27	1.0					3	
061	098b061	CCV	ds1			10-APR-2002 08:08	1.0	1.0			3	3	
062	098b062	CCV	mo			10-APR-2002 08:48	1.0	1.0			3	2	

Stds used: 1=02WS0309 2=02WS0487 3=02WS0424 4=02WS0418

Curtis and Tompkins, Ltd **EXTRACTABLE HYDROCARBONS SOIL PREP LOG** **BK1521**

LIMS Batch No: 71393
LIMS Analysis: TEH
Extracted by: KR
Date Extracted: 4.5.02

Extraction Method:
☒ mod "LUFT" shaker table
☐ mod. EPA 3550 sonication
☐ ________

Page 10
Continued from Page ________

	Sample ID	Weight of Sample (g)	Final Volume (mL)	Comments
1	~~157844-013~~	~~49.69~~		SG spiked – redo [illegible] 4/5/02
	14	49.50	5	after sg, below limit
	15	50.39		
	16	49.67		
5	17	49.63		
	18	49.92		
	157875-001	49.52		
	157881-006	49.53		
	10	49.73		
10	14	49.73		
	18	49.66		
	22	50.21		
	26	49.71		
	27	49.87		
15	31	50.22		
	35	49.97		
	39	49.70		
	157912-001	49.77		SG Possible Sharp, e cont
	2	49.94		
20	5	50.39		
	MB QC175052	50.13		
	LCS 53	49.75		
	MS 54	50.29		
	MSD 55	49.57		
	157844-013	50.01		SG

	Mfg & Lot # / LIMS # / Time	Date/Initials
Sand weighed out for QC samples	EM128078/128534	4.5.02/KR
Samples were dried with CH2Cl2-rinsed granular Na2SO4	EM41053148/41180148	
1.0 mL of TEH_SURR surrogate solution was added to all samples	02WS0304C	
1.0 mL of D-SPIKE matrix spiking solution was added to all spikes	02WS0403C	
≥ 75 mL of 1+1 (CH_2Cl_2+Acetone) was added to all CH_2Cl_2	42015	
Acetone	41281	
Samples were: ☐ sonicated 3 times ☒ placed on shaker table at:	13:27	
taken off shaker table at:	15:45	
Extracts filtered through baked, rinsed powdered Na_2SO_4	EM41053148	
Concentrated to volumes as noted above	✓	

[signature] 4.5.02 [signature] 4/5/02

SAMPLE PREPARATION SUMMARY

04/05/02 15:50:07

Batch Number : 71402
Date Extracted : 05-APR-02
Extracted By : Kevin Riley
Prep Method : SHAKER TABLE

Analysis: TEH
Bgroup : N/A
Units : g
Clean-up:

Spike #1 ID : 02WS0304 D
Spike #2 ID : 02WS0403 B
Spike #3 ID :

Sample No.	Type		Client	Matrx	Init W/V	U	Final Vol	Prep D.F.	Clean pH D.F.	Spike #1 Vol	Spike #2 Vol	Spike #3 Vol	Analysis	Comments
~~157881-043~~			IT Corporation	Soil	50.4	g	5	.099206	1	1	0		TEH	
157881-044			IT Corporation	Soil	49.65	g	5	.100704	1	1	0		TEH	
157881-045			IT Corporation	Soil	50.16	g	5	.099681	1	1	0		TEH	
157881-046			IT Corporation	Soil	49.64	g	5	.100725	1	1	0		TEH	
157881-047			IT Corporation	Soil	49.86	g	5	.100280	1	1	0		TEH	
157881-048			IT Corporation	Soil	49.94	g	5	.100120	1	1	0		TEH	
157881-049			IT Corporation	Soil	50.08	g	5	.099840	1	1	0		TEH	
157881-050			IT Corporation	Soil	49.69	g	5	.100623	1	1	0		TEH	
157881-051			IT Corporation	Soil	50.38	g	5	.099245	1	1	0		TEH	
157881-052			IT Corporation	Soil	49.94	g	5	.100120	1	1	0		TEH	
157881-053			IT Corporation	Soil	49.67	g	5	.100664	1	1	0		TEH	
157881-054			IT Corporation	Soil	49.69	g	5	.100623	1	1	0		TEH	
157881-055			IT Corporation	Soil	50.28	g	5	.099443	1	1	0		TEH	
157881-056			IT Corporation	Soil	49.76	g	5	.100482	1	1	0		TEH	
157881-057			IT Corporation	Soil	49.57	g	5	.100867	1	1	0		TEH	
157881-058			IT Corporation	Soil	50.03	g	5	.099940	1	1	0		TEH	
157881-059			IT Corporation	Soil	49.91	g	5	.100180	1	1	0		TEH	
157921-001			McCulley, Frick & Gilman, Inc.	Soil	49.99	g	5	.100020	1	1	0		TEH	
157921-002			McCulley, Frick & Gilman, Inc.	Soil	50.35	g	5	.099304	1	1	0		TEH	
157921-003			McCulley, Frick & Gilman, Inc.	Soil	49.74	g	5	.100522	1	1	0		TEH	
QC175086	MB			Soil	49.7	g	5	.100603	1	1	0		TEH	
QC175087	LCS			Soil	49.99	g	5	.100020	1	1	1		TEH	
QC175088	MS	of 157881-052		Soil	49.95	g	5	.100100	1	1	1		TEH	
QC175089	MSD	of 157881-052		Soil	49.89	g	5	.100220	1	1	1		TEH	

Prep Chemist: Kevin Riley Reviewed By: [signature] Date: 4/6/02

Relinquished By: [signature] Received By: [signature] Date: 4/8/02

INITIAL CALIBRATION REPORT FOR 157881 TEH Water
Curtis & Tompkins Laboratories

Instrument: GC15B Gas Chromatograph #15 (Channel B) TEH
Calnum: 161518831001 Name: Diesel Type: (normal) Date: 27-DEC-2001 00:17 Inj Vol (uL): 3

Calibration levels:

#	Filename	Seqnum	Samplenum	Analyzed	Standards
1	360b015	161518831015	dsl-10	27-DEC-2001 00:17	01WS1925
2	360b016	161518831016	dsl-100	27-DEC-2001 00:57	01WS1924
3	360b017	161518831017	dsl-250	27-DEC-2001 01:38	01WS1923
4	360b018	161518831018	dsl-500	27-DEC-2001 02:18	01WS1922
5	360b019	161518831019	dsl-1000	27-DEC-2001 02:59	01WS1921
6	360b020	161518831020	dsl-2500	27-DEC-2001 03:39	01WS1920
7	360b021	161518831021	dsl-5000	27-DEC-2001 04:20	01WS1919

Analyte	L1	L2	L3	L4	L5	L6	L7	Type	a0	a1	a2	units	avg	%RSD	r^2 MnR^2	MxRSD	Flags
Diesel C10-C22	48832	52025	50109	49159	50043	53321	49304	AVRG		1.984E-5		mg/L	50399	3	0.995	20	
Diesel C10-C24	49246	52399	50474	49560	50376	53723	49691	AVRG		1.969E-5		mg/L	50781	3	0.995	20	
Diesel C10-C28	50441	52492	50606	49673	50478	53864	49830	AVRG		1.959E-5		mg/L	51055	3	0.995	20	
Diesel C10-C20	48063	50581	48683	47851	48733	51873	47851	AVRG		2.037E-5		mg/L	49091	3	0.995	20	
Diesel C12-C22	36308	42761	41598	40795	41923	45995	42296	AVRG		2.400E-5		mg/L	41668	7	0.995	20	
Diesel C12-C24	36722	43135	41964	41196	42255	46398	42682	AVRG		2.378E-5		mg/L	42050	7	0.995	20	
Diesel C10-C40	50758	52503	50609	49675	50483	53876	49844	AVRG		1.957E-5		mg/L	51107	3	0.995	20	
Diesel C12-C32	38038	43239	42098	41311	42363	46549	42835	AVRG		2.361E-5		mg/L	42348	6	0.995	20	

Curves: AVRG: Average response factor
Instrument amount = a0 + response * a1 + response^2 * a2

INITIAL CALIBRATION REPORT FOR 157881 TEH Water
Curtis & Tompkins Laboratories

Instrument: GC15B Gas Chromatograph #15 (Channel B) TEH
Calnum: 161518831003 Name: Hexacosane Type: (normal) Date: 26-DEC-2001 20:54 Inj Vol (uL): 3

Calibration levels:

#	Filename	Seqnum	Samplenum	Analyzed	Standards
1	360b010	161518831010	hex-5	26-DEC-2001 20:54	01WS1759
2	360b011	161518831011	hex-10	26-DEC-2001 21:35	01WS1758
3	360b012	161518831012	hex-25	26-DEC-2001 22:15	01WS1757
4	360b013	161518831013	hex-50	26-DEC-2001 22:56	01WS1756
5	360b014	161518831014	hex-75	26-DEC-2001 23:36	01WS1755

Analyte	L1	L2	L3	L4	L5	Type	a0	a1	a2	units	avg	%RSD	r^2 MnR^2	MxRSD	Flags
Hexacosane	56896	56320	57767	56780	54838	AVRG		1.769E-5		mg/L	56520	2	0.995	20	

75

Curves: AVRG: Average response factor
Instrument amount = a0 + response * a1 + response^2 * a2

CONTINUING CALIBRATION SUMMARY FOR 157881 TEH Water
Curtis & Tompkins Laboratories

Analyte: Motor Oil C24-C36

Instid	Ch	Segnum	Injected	Calnum	Caldate	Avg RF/CF	RF/CF	SpkAmt	QntAmt	Units	%D	Max %D	Flags
GC15B	B	162137616003	05-APR-2002 14:56	161518831002	27-DEC-2001	33712	32112	500.00	476.28	mg/L	-5	15	
GC15B	B	162137616016	06-APR-2002 00:18	161518831002	27-DEC-2001	33712	32719	500.00	485.28	mg/L	-3	15	
GC15B	B	162137616030	06-APR-2002 09:44	161518831002	27-DEC-2001	33712	32971	500.00	489.02	mg/L	-2	15	

SEQUENCE SUMMARY FOR 157881 TEH Water
Curtis & Tompkins Laboratories

Sequence: 162137616 Instrument: GC15B Gas Chromatograph #15 (Channel B) TEH Begun: 05-APR-2002

#	Filename	Type	Samplenum	Batch	Matrix	Analyzed	IDF	PDF	IQC	SPK uL	Stds Used	>LR
001	095b001	X	ib			05-APR-2002 13:36	1.0					
002	095b002	CCV	dsl			05-APR-2002 14:16	1.0	1.0		3	1	
003	095b003	CCV	mo			05-APR-2002 14:56	1.0	1.0		3	2	
004	095b004	BLANK	QC174932 S	71360	Water	05-APR-2002 16:12	1.0	0.0050	8	3		
005	095b005	LCS	QC174933 S	71360	Water	05-APR-2002 16:52	1.0	0.0050		3		
006	095b006	MS	QC174934 S	71360	Water	05-APR-2002 17:33	1.0	0.0050		3		
007	095b007	MSD	QC174935 S	71360	Water	05-APR-2002 18:13	1.0	0.0050		3		
008	095b008	X	157893-007 S	71360	Water	05-APR-2002 18:54	1.0	0.0050		3		
009	095b009	SAMPLE	157893-008 S	71360	Water	05-APR-2002 19:34	1.0	0.0050		3		
010	095b010	MSS	157893-009 S	71360	Water	05-APR-2002 20:15	1.0	0.0050	7	3		
011	095b011	SAMPLE	157893-010 S	71360	Water	05-APR-2002 20:55	1.0	0.0050		3		
012	095b012	SAMPLE	157893-011 S	71360	Water	05-APR-2002 21:35	1.0	0.0050		3		
013	095b013	SAMPLE	157893-012 S	71360	Water	05-APR-2002 22:16	1.0	0.0050		3		
014	095b014	X	dsl			05-APR-2002 22:56	1.0				3	
015	095b015	CCV	dsl			05-APR-2002 23:37	1.0	1.0		3	3	
016	095b016	CCV	mo			06-APR-2002 00:18	1.0	1.0		3	2	
017	095b017	SAMPLE	157893-014 S	71360	Water	06-APR-2002 00:58	1.0	0.0050		3		
018	095b018	SAMPLE	157893-015 S	71360	Water	06-APR-2002 01:39	1.0	0.0050		3		
019	095b019	SAMPLE	157892-001 S	71360	Water	06-APR-2002 02:19	1.0	0.0050		3		
020	095b020	SAMPLE	157892-002 S	71360	Water	06-APR-2002 03:00	1.0	0.0050		3		
021	095b021	SAMPLE	157881-061	71360	Water	06-APR-2002 03:40	1.0	0.0050		3		
022	095b022	X	ib			06-APR-2002 04:21	1.0	1.0		3		
023	095b023	X	157875-001 S	71393	Soil	06-APR-2002 05:01	1.0	0.100969		3		
024	095b024	SAMPLE	157912-001 S	71393	Soil	06-APR-2002 05:41	1.0	0.100462		3		
025	095b025	SAMPLE	157912-002 S	71393	Soil	06-APR-2002 06:22	1.0	0.100120		3		
026	095b026	X	157912-005 S	71393	Soil	06-APR-2002 07:02	1.0	0.099226		3		
027	095b027	X	ib			06-APR-2002 07:43	1.0					
028	095b028	X	dsl			06-APR-2002 08:23	1.0				4	
029	095b029	CCV	dsl			06-APR-2002 09:04	1.0	1.0		3	4	
030	095b030	CCV	mo			06-APR-2002 09:44	1.0	1.0		3	2	

Stds used: 1=02WS0309 2=02WS0487 3=02WS0424 4=02WS0418

Curtis and Tompkins, Ltd EXTRACTABLE HYDROCARBONS WATER PREP LOG BK1505

LIMS Batch No: 71360
LIMS Analysis: TEH
Extracted by: J.S.
Date Extracted: 4.4.02.

Extraction Method:
- ☐ mod. EPA 3510 sep. funnel
- ☐ mod. EPA 3520 cont. L/L
- ☐ _____

Page 57
Continued from Page —

Sample ID	Volume of Sample (mL)	Sample pH	Final Volume (mL)	Comments
157881-061:A	500	6	2.5	
157892-001:L		7		SG
-002:L				
157893-007:B				
-008:B				
-009:J				MSS
-010:E				
-011:E				
-012:E				
-014:E				
-015:E				
MB QC 174932		N/A		
LCS 174933				
MS 174934		7		157893-009:K
MSD 174935				" " "
~~157892-001:M~~ 4.4.02	~~1000~~	~~7~~		

	Mfg & Lot # / LIMS # / Time	Date/Initials
.5 ~~1.0~~ mL of surrogate solution TEH-SURR was added to all samples	02WS0304 D	J.S. 4.4.02
.5 mL of D-SPIKE matrix spiking solution was added to all spikes	02WS0403 C	
pH of all samples adjusted to pH ≤ 2 with H_2SO_4	V05054	
o Samples were extracted with approximately 450 mL of CH2Cl2	EM 42015	
Extraction Start Time:	13:40 ~~14:00~~	
Extraction End Time:	9:10	J.S. 4.5.02
X Samples were extracted 3 times with 60 mL of CH_2Cl_2	EM 42015	MF 4.5.02
Extracts filtered through baked, rinsed ~~powdered~~ granular Na_2SO_4	EM 41186148	
Concentrated to volumes as noted above	✓	

J. S. 4.4.02
Extraction Chemist **Date**

81

Continued on Page —

Meghan P. 4.5.02
Reviewed by **Date**

Curtis & Tompkins, Ltd.

PAH Results & QC Summary

Curtis & Tompkins, Ltd.

Polynuclear Aromatics by HPLC

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3550
Project#:	STANDARD	Analysis:	EPA 8310
Field ID:	GR-1-0	Batch#:	71401
Lab ID:	157881-006	Sampled:	04/01/02
Matrix:	Soil	Received:	04/02/02
Units:	ug/Kg	Prepared:	04/05/02
Basis:	dry	Analyzed:	04/09/02
Diln Fac:	1.000		

Moisture: 16%

Analyte	Result	RL
Naphthalene	ND	40
Acenaphthylene	ND	80
Acenaphthene	ND	40
Fluorene	ND	40
Phenanthrene	ND	20
Anthracene	ND	20
Fluoranthene	ND	16
Pyrene	ND	8.0
Benzo(a)anthracene	ND	4.0
Chrysene	ND	4.0
Benzo(b)fluoranthene	ND	8.0
Benzo(k)fluoranthene	ND	4.0
Benzo(a)pyrene	ND	4.0
Dibenz(a,h)anthracene	ND	8.0
Benzo(g,h,i)perylene	ND	8.0
Indeno(1,2,3-cd)pyrene	ND	4.0

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	85	40-133
1-Methylnaphthalene (F)	86	39-132

ND= Not Detected
RL= Reporting Limit
Page 1 of 1

Curtis & Tompkins, Ltd.

Polynuclear Aromatics by HPLC

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3550
Project#:	STANDARD	Analysis:	EPA 8310
Field ID:	GR-2-0	Batch#:	71401
Lab ID:	157881-010	Sampled:	04/01/02
Matrix:	Soil	Received:	04/02/02
Units:	ug/Kg	Prepared:	04/05/02
Basis:	dry	Analyzed:	04/09/02
Diln Fac:	1.000		

Moisture: 16%

Analyte	Result	RL
Naphthalene	ND	39
Acenaphthylene	ND	78
Acenaphthene	ND	39
Fluorene	ND	39
Phenanthrene	ND	20
Anthracene	ND	20
Fluoranthene	ND	16
Pyrene	ND	7.8
Benzo(a)anthracene	ND	3.9
Chrysene	ND	3.9
Benzo(b)fluoranthene	ND	7.8
Benzo(k)fluoranthene	ND	3.9
Benzo(a)pyrene	ND	3.9
Dibenz(a,h)anthracene	ND	7.8
Benzo(g,h,i)perylene	ND	7.8
Indeno(1,2,3-cd)pyrene	ND	3.9

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	57	40-133
1-Methylnaphthalene (F)	57	39-132

ND= Not Detected
RL= Reporting Limit
Page 1 of 1

Curtis & Tompkins, Ltd.

Polynuclear Aromatics by HPLC

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3550
Project#:	STANDARD	Analysis:	EPA 8310
Field ID:	GR-3-0	Batch#:	71401
Lab ID:	157881-014	Sampled:	04/01/02
Matrix:	Soil	Received:	04/02/02
Units:	ug/Kg	Prepared:	04/05/02
Basis:	dry	Analyzed:	04/08/02
Diln Fac:	1.000		

Moisture: 14%

Analyte	Result	RL
Naphthalene	ND	39
Acenaphthylene	ND	78
Acenaphthene	ND	39
Fluorene	ND	39
Phenanthrene	ND	19
Anthracene	ND	19
Fluoranthene	ND	16
Pyrene	ND	7.8
Benzo(a)anthracene	ND	3.9
Chrysene	ND	3.9
Benzo(b)fluoranthene	ND	7.8
Benzo(k)fluoranthene	ND	3.9
Benzo(a)pyrene	ND	3.9
Dibenz(a,h)anthracene	ND	7.8
Benzo(g,h,i)perylene	ND	7.8
Indeno(1,2,3-cd)pyrene	ND	3.9

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	72	40-133
1-Methylnaphthalene (F)	73	39-132

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polynuclear Aromatics by HPLC

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3550
Project#:	STANDARD	Analysis:	EPA 8310
Field ID:	GR-4-0	Batch#:	71401
Lab ID:	157881-018	Sampled:	04/01/02
Matrix:	Soil	Received:	04/02/02
Units:	ug/Kg	Prepared:	04/05/02
Basis:	dry	Analyzed:	04/11/02
Diln Fac:	1.000		

Moisture: 14%

Analyte	Result	RL
Naphthalene	ND	39
Acenaphthylene	ND	78
Acenaphthene	ND	39
Fluorene	ND	39
Phenanthrene	ND	19
Anthracene	ND	19
Fluoranthene	ND	16
Pyrene	ND	7.8
Benzo(a)anthracene	ND	3.9
Chrysene	ND	3.9
Benzo(b)fluoranthene	ND	7.8
Benzo(k)fluoranthene	ND	3.9
Benzo(a)pyrene	ND	3.9
Dibenz(a,h)anthracene	ND	7.8
Benzo(g,h,i)perylene	ND	7.8
Indeno(1,2,3-cd)pyrene	ND	3.9

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	77	40-133
1-Methylnaphthalene (F)	79	39-132

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polynuclear Aromatics by HPLC

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3550
Project#:	STANDARD	Analysis:	EPA 8310
Field ID:	GR-5-0A	Batch#:	71401
Lab ID:	157881-022	Sampled:	04/01/02
Matrix:	Soil	Received:	04/02/02
Units:	ug/Kg	Prepared:	04/05/02
Basis:	dry	Analyzed:	04/09/02
Diln Fac:	1.000		

Moisture: 16%

Analyte	Result	RL
Naphthalene	ND	40
Acenaphthylene	ND	80
Acenaphthene	ND	40
Fluorene	ND	40
Phenanthrene	ND	20
Anthracene	ND	20
Fluoranthene	ND	16
Pyrene	10	8.0
Benzo(a)anthracene	6.0	4.0
Chrysene	6.3	4.0
Benzo(b)fluoranthene	ND	8.0
Benzo(k)fluoranthene	ND	4.0
Benzo(a)pyrene	6.5	4.0
Dibenz(a,h)anthracene	ND	8.0
Benzo(g,h,i)perylene	11	8.0
Indeno(1,2,3-cd)pyrene	4.9	4.0

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	79	40-133
1-Methylnaphthalene (F)	82	39-132

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polynuclear Aromatics by HPLC

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3550
Project#:	STANDARD	Analysis:	EPA 8310
Field ID:	GR-5-0B	Batch#:	71401
Lab ID:	157881-026	Sampled:	04/01/02
Matrix:	Soil	Received:	04/02/02
Units:	ug/Kg	Prepared:	04/05/02
Basis:	dry	Analyzed:	04/10/02
Diln Fac:	1.000		

Moisture: 17%

Analyte	Result	RL
Naphthalene	ND	40
Acenaphthylene	ND	80
Acenaphthene	ND	40
Fluorene	ND	40
Phenanthrene	ND	20
Anthracene	ND	20
Fluoranthene	ND	16
Pyrene	ND	8.0
Benzo(a)anthracene	ND	4.0
Chrysene	ND	4.0
Benzo(b)fluoranthene	ND	8.0
Benzo(k)fluoranthene	ND	4.0
Benzo(a)pyrene	ND	4.0
Dibenz(a,h)anthracene	ND	8.0
Benzo(g,h,i)perylene	ND	8.0
Indeno(1,2,3-cd)pyrene	ND	4.0

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	68	40-133
1-Methylnaphthalene (F)	69	39-132

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polynuclear Aromatics by HPLC

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3550
Project#:	STANDARD	Analysis:	EPA 8310
Field ID:	GR-6-0	Batch#:	71401
Lab ID:	157881-027	Sampled:	04/01/02
Matrix:	Soil	Received:	04/02/02
Units:	ug/Kg	Prepared:	04/05/02
Basis:	dry	Analyzed:	04/10/02
Diln Fac:	1.000		

Moisture: 15%

Analyte	Result	RL
Naphthalene	ND	39
Acenaphthylene	ND	78
Acenaphthene	ND	39
Fluorene	ND	39
Phenanthrene	ND	19
Anthracene	ND	19
Fluoranthene	ND	16
Pyrene	9.7	7.8
Benzo(a)anthracene	5.6	3.9
Chrysene	5.9	3.9
Benzo(b)fluoranthene	ND	7.8
Benzo(k)fluoranthene	ND	3.9
Benzo(a)pyrene	6.5	3.9
Dibenz(a,h)anthracene	ND	7.8
Benzo(g,h,i)perylene	11	7.8
Indeno(1,2,3-cd)pyrene	6.4	3.9

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	49	40-133
1-Methylnaphthalene (F)	51	39-132

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polynuclear Aromatics by HPLC

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3550
Project#:	STANDARD	Analysis:	EPA 8310
Field ID:	GR-7-0	Batch#:	71401
Lab ID:	157881-031	Sampled:	04/01/02
Matrix:	Soil	Received:	04/02/02
Units:	ug/Kg	Prepared:	04/05/02
Basis:	dry	Analyzed:	04/09/02
Diln Fac:	1.000		

Moisture: 15%

Analyte	Result	RL
Naphthalene	ND	39
Acenaphthylene	ND	78
Acenaphthene	ND	39
Fluorene	ND	39
Phenanthrene	ND	20
Anthracene	ND	20
Fluoranthene	ND	16
Pyrene	ND	7.8
Benzo(a)anthracene	ND	3.9
Chrysene	ND	3.9
Benzo(b)fluoranthene	ND	7.8
Benzo(k)fluoranthene	ND	3.9
Benzo(a)pyrene	ND	3.9
Dibenz(a,h)anthracene	ND	7.8
Benzo(g,h,i)perylene	ND	7.8
Indeno(1,2,3-cd)pyrene	ND	3.9

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	62	40-133
1-Methylnaphthalene (F)	63	39-132

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polynuclear Aromatics by HPLC

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3550
Project#:	STANDARD	Analysis:	EPA 8310
Field ID:	GR-8-0	Batch#:	71401
Lab ID:	157881-035	Sampled:	04/01/02
Matrix:	Soil	Received:	04/02/02
Units:	ug/Kg	Prepared:	04/05/02
Basis:	dry	Analyzed:	04/09/02
Diln Fac:	1.000		

Moisture: 14%

Analyte	Result	RL
Naphthalene	ND	39
Acenaphthylene	ND	78
Acenaphthene	ND	39
Fluorene	ND	39
Phenanthrene	ND	20
Anthracene	ND	20
Fluoranthene	ND	16
Pyrene	ND	7.8
Benzo(a)anthracene	ND	3.9
Chrysene	ND	3.9
Benzo(b)fluoranthene	ND	7.8
Benzo(k)fluoranthene	ND	3.9
Benzo(a)pyrene	ND	3.9
Dibenz(a,h)anthracene	ND	7.8
Benzo(g,h,i)perylene	ND	7.8
Indeno(1,2,3-cd)pyrene	ND	3.9

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	65	40-133
1-Methylnaphthalene (F)	66	39-132

ND= Not Detected
RL= Reporting Limit
Page 1 of 1

Curtis & Tompkins, Ltd.

Polynuclear Aromatics by HPLC

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3550
Project#:	STANDARD	Analysis:	EPA 8310
Field ID:	GR-9-0	Batch#:	71401
Lab ID:	157881-039	Sampled:	04/01/02
Matrix:	Soil	Received:	04/02/02
Units:	ug/Kg	Prepared:	04/05/02
Basis:	dry	Analyzed:	04/11/02

Moisture: 15%

Analyte	Result	RL	Diln Fac
Naphthalene	170	39	1.000
Acenaphthylene	ND	79	1.000
Acenaphthene	ND	39	1.000
Fluorene	78	39	1.000
Phenanthrene	640	98	5.000
Anthracene	150	20	1.000
Fluoranthene	660	16	1.000
Pyrene	520	39	5.000
Benzo(a)anthracene	240	3.9	1.000
Chrysene	220	3.9	1.000
Benzo(b)fluoranthene	240	7.9	1.000
Benzo(k)fluoranthene	120	3.9	1.000
Benzo(a)pyrene	210	3.9	1.000
Dibenz(a,h)anthracene	280	7.9	1.000
Benzo(g,h,i)perylene	100	7.9	1.000
Indeno(1,2,3-cd)pyrene	230	3.9	1.000

Surrogate	%REC	Limits	Diln Fac
1-Methylnaphthalene (UV)	113	40-133	1.000
1-Methylnaphthalene (F)	109	39-132	1.000

ND= Not Detected
RL= Reporting Limit
Page 1 of 1

Curtis & Tompkins, Ltd.

Polynuclear Aromatics by HPLC

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3550
Project#:	STANDARD	Analysis:	EPA 8310
Field ID:	GR-9-0.5	Batch#:	71619
Lab ID:	157881-040	Sampled:	04/01/02
Matrix:	Soil	Received:	04/02/02
Units:	ug/Kg	Prepared:	04/15/02
Basis:	dry	Analyzed:	04/17/02
Diln Fac:	1.000		

Moisture: 17%

Analyte	Result	RL
Naphthalene	ND	40
Acenaphthylene	ND	81
Acenaphthene	ND	40
Fluorene	ND	40
Phenanthrene	98	20
Anthracene	ND	20
Fluoranthene	90	16
Pyrene	67	8.1
Benzo(a)anthracene	35	4.0
Chrysene	32	4.0
Benzo(b)fluoranthene	32	8.1
Benzo(k)fluoranthene	17	4.0
Benzo(a)pyrene	25	4.0
Dibenz(a,h)anthracene	55	8.1
Benzo(g,h,i)perylene	26	8.1
Indeno(1,2,3-cd)pyrene	33	4.0

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	91	40-133
1-Methylnaphthalene (F)	101	39-132

ND= Not Detected
RL= Reporting Limit
Page 1 of 1

Curtis & Tompkins, Ltd.

Polynuclear Aromatics by HPLC

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3550
Project#:	STANDARD	Analysis:	EPA 8310
Field ID:	GR-9-1	Batch#:	71619
Lab ID:	157881-041	Sampled:	04/01/02
Matrix:	Soil	Received:	04/02/02
Units:	ug/Kg	Prepared:	04/15/02
Basis:	dry	Analyzed:	04/17/02
Diln Fac:	1.000		

Moisture: 16%

Analyte	Result	RL
Naphthalene	ND	40
Acenaphthylene	ND	80
Acenaphthene	ND	40
Fluorene	ND	40
Phenanthrene	ND	20
Anthracene	ND	20
Fluoranthene	ND	16
Pyrene	ND	8.0
Benzo(a)anthracene	ND	4.0
Chrysene	ND	4.0
Benzo(b)fluoranthene	ND	8.0
Benzo(k)fluoranthene	ND	4.0
Benzo(a)pyrene	ND	4.0
Dibenz(a,h)anthracene	ND	8.0
Benzo(g,h,i)perylene	ND	8.0
Indeno(1,2,3-cd)pyrene	ND	4.0

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	86	40-133
1-Methylnaphthalene (F)	87	39-132

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polynuclear Aromatics by HPLC

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3550
Project#:	STANDARD	Analysis:	EPA 8310
Field ID:	GR-9-1.5	Batch#:	71619
Lab ID:	157881-042	Sampled:	04/01/02
Matrix:	Soil	Received:	04/02/02
Units:	ug/Kg	Prepared:	04/15/02
Basis:	dry	Analyzed:	04/17/02
Diln Fac:	1.000		

Moisture: 16%

Analyte	Result	RL
Naphthalene	ND	40
Acenaphthylene	ND	79
Acenaphthene	ND	40
Fluorene	ND	40
Phenanthrene	44	20
Anthracene	ND	20
Fluoranthene	43	16
Pyrene	35	7.9
Benzo(a)anthracene	20	4.0
Chrysene	17	4.0
Benzo(b)fluoranthene	20	7.9
Benzo(k)fluoranthene	11	4.0
Benzo(a)pyrene	16	4.0
Dibenz(a,h)anthracene	35	7.9
Benzo(g,h,i)perylene	23	7.9
Indeno(1,2,3-cd)pyrene	22	4.0

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	80	40-133
1-Methylnaphthalene (F)	85	39-132

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polynuclear Aromatics by HPLC

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3550
Project#:	STANDARD	Analysis:	EPA 8310
Field ID:	GR-10-0	Batch#:	71401
Lab ID:	157881-043	Sampled:	04/01/02
Matrix:	Soil	Received:	04/02/02
Units:	ug/Kg	Prepared:	04/05/02
Basis:	dry	Analyzed:	04/09/02
Diln Fac:	1.000		

Moisture: 8%

Analyte	Result	RL
Naphthalene	ND	36
Acenaphthylene	ND	72
Acenaphthene	ND	36
Fluorene	ND	36
Phenanthrene	ND	18
Anthracene	ND	18
Fluoranthene	ND	14
Pyrene	ND	7.2
Benzo(a)anthracene	ND	3.6
Chrysene	ND	3.6
Benzo(b)fluoranthene	ND	7.2
Benzo(k)fluoranthene	ND	3.6
Benzo(a)pyrene	ND	3.6
Dibenz(a,h)anthracene	ND	7.2
Benzo(g,h,i)perylene	ND	7.2
Indeno(1,2,3-cd)pyrene	ND	3.6

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	65	40-133
1-Methylnaphthalene (F)	66	39-132

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polynuclear Aromatics by HPLC

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3550
Project#:	STANDARD	Analysis:	EPA 8310
Field ID:	GR-10-0.5	Batch#:	71401
Lab ID:	157881-044	Sampled:	04/01/02
Matrix:	Soil	Received:	04/02/02
Units:	ug/Kg	Prepared:	04/05/02
Basis:	dry	Analyzed:	04/11/02
Diln Fac:	1.000		

Moisture: 18%

Analyte	Result	RL
Naphthalene	ND	40
Acenaphthylene	ND	80
Acenaphthene	ND	40
Fluorene	ND	40
Phenanthrene	ND	20
Anthracene	ND	20
Fluoranthene	ND	16
Pyrene	ND	8.0
Benzo(a)anthracene	ND	4.0
Chrysene	ND	4.0
Benzo(b)fluoranthene	ND	8.0
Benzo(k)fluoranthene	ND	4.0
Benzo(a)pyrene	ND	4.0
Dibenz(a,h)anthracene	ND	8.0
Benzo(g,h,i)perylene	ND	8.0
Indeno(1,2,3-cd)pyrene	ND	4.0

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	97	40-133
1-Methylnaphthalene (F)	98	39-132

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polynuclear Aromatics by HPLC

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3550
Project#:	STANDARD	Analysis:	EPA 8310
Field ID:	GR-10-5	Batch#:	71401
Lab ID:	157881-045	Sampled:	04/01/02
Matrix:	Soil	Received:	04/02/02
Units:	ug/Kg	Prepared:	04/05/02
Basis:	dry	Analyzed:	04/09/02
Diln Fac:	1.000		

Moisture: 32%

Analyte	Result	RL
Naphthalene	ND	49
Acenaphthylene	ND	98
Acenaphthene	ND	49
Fluorene	ND	49
Phenanthrene	ND	25
Anthracene	ND	25
Fluoranthene	ND	20
Pyrene	ND	9.8
Benzo(a)anthracene	ND	4.9
Chrysene	ND	4.9
Benzo(b)fluoranthene	ND	9.8
Benzo(k)fluoranthene	ND	4.9
Benzo(a)pyrene	ND	4.9
Dibenz(a,h)anthracene	ND	9.8
Benzo(g,h,i)perylene	ND	9.8
Indeno(1,2,3-cd)pyrene	ND	4.9

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	62	40-133
1-Methylnaphthalene (F)	62	39-132

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polynuclear Aromatics by HPLC

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3550
Project#:	STANDARD	Analysis:	EPA 8310
Field ID:	GR-10-5.5	Batch#:	71401
Lab ID:	157881-046	Sampled:	04/01/02
Matrix:	Soil	Received:	04/02/02
Units:	ug/Kg	Prepared:	04/05/02
Basis:	dry	Analyzed:	04/09/02
Diln Fac:	1.000		

Moisture: 44%

Analyte	Result	RL
Naphthalene	ND	60
Acenaphthylene	ND	120
Acenaphthene	ND	60
Fluorene	ND	60
Phenanthrene	ND	30
Anthracene	ND	30
Fluoranthene	ND	24
Pyrene	ND	12
Benzo(a)anthracene	ND	6.0
Chrysene	ND	6.0
Benzo(b)fluoranthene	ND	12
Benzo(k)fluoranthene	ND	6.0
Benzo(a)pyrene	ND	6.0
Dibenz(a,h)anthracene	ND	12
Benzo(g,h,i)perylene	ND	12
Indeno(1,2,3-cd)pyrene	ND	6.0

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	49	40-133
1-Methylnaphthalene (F)	49	39-132

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polynuclear Aromatics by HPLC

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3550
Project#:	STANDARD	Analysis:	EPA 8310
Field ID:	GR-11-0	Batch#:	71401
Lab ID:	157881-047	Sampled:	04/01/02
Matrix:	Soil	Received:	04/02/02
Units:	ug/Kg	Prepared:	04/05/02
Basis:	dry	Analyzed:	04/11/02
Diln Fac:	1.000		

Moisture: 11%

Analyte	Result	RL
Naphthalene	ND	37
Acenaphthylene	ND	74
Acenaphthene	ND	37
Fluorene	ND	37
Phenanthrene	ND	19
Anthracene	ND	19
Fluoranthene	ND	15
Pyrene	ND	7.4
Benzo(a)anthracene	ND	3.7
Chrysene	ND	3.7
Benzo(b)fluoranthene	ND	7.4
Benzo(k)fluoranthene	ND	3.7
Benzo(a)pyrene	ND	3.7
Dibenz(a,h)anthracene	ND	7.4
Benzo(g,h,i)perylene	ND	7.4
Indeno(1,2,3-cd)pyrene	ND	3.7

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	63	40-133
1-Methylnaphthalene (F)	64	39-132

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polynuclear Aromatics by HPLC

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3550
Project#:	STANDARD	Analysis:	EPA 8310
Field ID:	GR-11-0.5	Batch#:	71401
Lab ID:	157881-048	Sampled:	04/01/02
Matrix:	Soil	Received:	04/02/02
Units: -	ug/Kg	Prepared:	04/05/02
Basis:	dry	Analyzed:	04/11/02
Diln Fac:	1.000		

Moisture: 22%

Analyte	Result	RL
Naphthalene	ND	42
Acenaphthylene	ND	85
Acenaphthene	ND	42
Fluorene	ND	42
Phenanthrene	ND	21
Anthracene	ND	21
Fluoranthene	ND	17
Pyrene	ND	8.5
Benzo(a)anthracene	ND	4.2
Chrysene	ND	4.2
Benzo(b)fluoranthene	ND	8.5
Benzo(k)fluoranthene	ND	4.2
Benzo(a)pyrene	ND	4.2
Dibenz(a,h)anthracene	ND	8.5
Benzo(g,h,i)perylene	ND	8.5
Indeno(1,2,3-cd)pyrene	ND	4.2

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	74	40-133
1-Methylnaphthalene (F)	73	39-132

ND= Not Detected
RL= Reporting Limit
Page 1 of 1

Curtis & Tompkins, Ltd.

Polynuclear Aromatics by HPLC

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3550
Project#:	STANDARD	Analysis:	EPA 8310
Field ID:	GR-11-5A	Batch#:	71401
Lab ID:	157881-049	Sampled:	04/01/02
Matrix:	Soil	Received:	04/02/02
Units:	ug/Kg	Prepared:	04/05/02
Basis:	dry	Analyzed:	04/09/02
Diln Fac:	1.000		

Moisture: 27%

Analyte	Result	RL
Naphthalene	ND	46
Acenaphthylene	ND	93
Acenaphthene	ND	46
Fluorene	ND	46
Phenanthrene	ND	23
Anthracene	ND	23
Fluoranthene	ND	19
Pyrene	ND	9.3
Benzo(a)anthracene	ND	4.6
Chrysene	ND	4.6
Benzo(b)fluoranthene	ND	9.3
Benzo(k)fluoranthene	ND	4.6
Benzo(a)pyrene	ND	4.6
Dibenz(a,h)anthracene	ND	9.3
Benzo(g,h,i)perylene	ND	9.3
Indeno(1,2,3-cd)pyrene	ND	4.6

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	43	40-133
1-Methylnaphthalene (F)	43	39-132

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polynuclear Aromatics by HPLC

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3550
Project#:	STANDARD	Analysis:	EPA 8310
Field ID:	GR-11-5B	Batch#:	71573
Lab ID:	157881-050	Sampled:	04/01/02
Matrix:	Soil	Received:	04/02/02
Units:	ug/Kg	Prepared:	04/12/02
Basis:	dry	Analyzed:	04/12/02
Diln Fac:	1.000		

Moisture: 34%

Analyte	Result	RL
Naphthalene	ND	51
Acenaphthylene	ND	100
Acenaphthene	ND	51
Fluorene	ND	51
Phenanthrene	ND	25
Anthracene	ND	25
Fluoranthene	ND	20
Pyrene	ND	10
Benzo(a)anthracene	ND	5.1
Chrysene	ND	5.1
Benzo(b)fluoranthene	ND	10
Benzo(k)fluoranthene	ND	5.1
Benzo(a)pyrene	ND	5.1
Dibenz(a,h)anthracene	ND	10
Benzo(g,h,i)perylene	ND	10
Indeno(1,2,3-cd)pyrene	ND	5.1

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	82	40-133
1-Methylnaphthalene (F)	83	39-132

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polynuclear Aromatics by HPLC

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3550
Project#:	STANDARD	Analysis:	EPA 8310
Field ID:	GR-11-5.5	Batch#:	71401
Lab ID:	157881-051	Sampled:	04/01/02
Matrix:	Soil	Received:	04/02/02
Units:	ug/Kg	Prepared:	04/05/02
Basis:	dry	Analyzed:	04/10/02
Diln Fac:	1.000		

Moisture: 38%

Analyte	Result	RL
Naphthalene	ND	53
Acenaphthylene	ND	110
Acenaphthene	ND	53
Fluorene	ND	53
Phenanthrene	ND	27
Anthracene	ND	27
Fluoranthene	ND	21
Pyrene	ND	11
Benzo(a)anthracene	ND	5.3
Chrysene	ND	5.3
Benzo(b)fluoranthene	ND	11
Benzo(k)fluoranthene	ND	5.3
Benzo(a)pyrene	ND	5.3
Dibenz(a,h)anthracene	ND	11
Benzo(g,h,i)perylene	ND	11
Indeno(1,2,3-cd)pyrene	ND	5.3

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	48	40-133
1-Methylnaphthalene (F)	47	39-132

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polynuclear Aromatics by HPLC

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3550
Project#:	STANDARD	Analysis:	EPA 8310
Field ID:	GR-12-0	Batch#:	71401
Lab ID:	157881-052	Sampled:	04/01/02
Matrix:	Soil	Received:	04/02/02
Units:	ug/Kg	Prepared:	04/05/02
Basis:	dry	Analyzed:	04/10/02
Diln Fac:	1.000		

Moisture: 8%

Analyte	Result	RL
Naphthalene	ND	37
Acenaphthylene	ND	73
Acenaphthene	ND	37
Fluorene	ND	37
Phenanthrene	ND	18
Anthracene	ND	18
Fluoranthene	ND	15
Pyrene	ND	7.3
Benzo(a)anthracene	ND	3.7
Chrysene	ND	3.7
Benzo(b)fluoranthene	ND	7.3
Benzo(k)fluoranthene	ND	3.7
Benzo(a)pyrene	ND	3.7
Dibenz(a,h)anthracene	ND	7.3
Benzo(g,h,i)perylene	ND	7.3
Indeno(1,2,3-cd)pyrene	ND	3.7

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	58	40-133
1-Methylnaphthalene (F)	59	39-132

ND= Not Detected
RL= Reporting Limit
Page 1 of 1

Curtis & Tompkins, Ltd.

Polynuclear Aromatics by HPLC

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3550
Project#:	STANDARD	Analysis:	EPA 8310
Field ID:	GR-12-0.5	Batch#:	71447
Lab ID:	157881-053	Sampled:	04/01/02
Matrix:	Soil	Received:	04/02/02
Units:	ug/Kg	Prepared:	04/08/02
Basis:	dry	Analyzed:	04/10/02
Diln Fac:	1.000		

Moisture: 8%

Analyte	Result	RL
Naphthalene	ND	36
Acenaphthylene	ND	72
Acenaphthene	ND	36
Fluorene	ND	36
Phenanthrene	ND	18
Anthracene	ND	18
Fluoranthene	ND	14
Pyrene	18	7.2
Benzo(a)anthracene	11	3.6
Chrysene	12	3.6
Benzo(b)fluoranthene	10	7.2
Benzo(k)fluoranthene	6.0	3.6
Benzo(a)pyrene	10	3.6
Dibenz(a,h)anthracene	ND	7.2
Benzo(g,h,i)perylene	12	7.2
Indeno(1,2,3-cd)pyrene	9.7	3.6

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	96	40-133
1-Methylnaphthalene (F)	102	39-132

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polynuclear Aromatics by HPLC

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3550
Project#:	STANDARD	Analysis:	EPA 8310
Field ID:	GR-12-5	Batch#:	71447
Lab ID:	157881-054	Sampled:	04/01/02
Matrix:	Soil	Received:	04/02/02
Units:	ug/Kg	Prepared:	04/08/02
Basis:	dry	Analyzed:	04/10/02
Diln Fac:	1.000		

Moisture: 42%

Analyte	Result	RL
Naphthalene	ND	58
Acenaphthylene	ND	120
Acenaphthene	ND	58
Fluorene	ND	58
Phenanthrene	ND	29
Anthracene	ND	29
Fluoranthene	ND	23
Pyrene	ND	12
Benzo(a)anthracene	ND	5.8
Chrysene	ND	5.8
Benzo(b)fluoranthene	ND	12
Benzo(k)fluoranthene	ND	5.8
Benzo(a)pyrene	ND	5.8
Dibenz(a,h)anthracene	ND	12
Benzo(g,h,i)perylene	ND	12
Indeno(1,2,3-cd)pyrene	ND	5.8

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	87	40-133
1-Methylnaphthalene (F)	87	39-132

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polynuclear Aromatics by HPLC

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3550
Project#:	STANDARD	Analysis:	EPA 8310
Field ID:	GR-12-5.5	Batch#:	71447
Lab ID:	157881-055	Sampled:	04/01/02
Matrix:	Soil	Received:	04/02/02
Units:	ug/Kg	Prepared:	04/08/02
Basis:	dry	Analyzed:	04/10/02
Diln Fac:	1.000		

Moisture: 19%

Analyte	Result	RL
Naphthalene	ND	42
Acenaphthylene	ND	84
Acenaphthene	ND	42
Fluorene	ND	42
Phenanthrene	ND	21
Anthracene	ND	21
Fluoranthene	ND	17
Pyrene	ND	8.4
Benzo(a)anthracene	ND	4.2
Chrysene	ND	4.2
Benzo(b)fluoranthene	ND	8.4
Benzo(k)fluoranthene	ND	4.2
Benzo(a)pyrene	ND	4.2
Dibenz(a,h)anthracene	ND	8.4
Benzo(g,h,i)perylene	ND	8.4
Indeno(1,2,3-cd)pyrene	ND	4.2

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	56	40-133
1-Methylnaphthalene (F)	55	39-132

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polynuclear Aromatics by HPLC

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3550
Project#:	STANDARD	Analysis:	EPA 8310
Field ID:	SW-1-0	Batch#:	71447
Lab ID:	157881-056	Sampled:	04/01/02
Matrix:	Soil	Received:	04/02/02
Units:	ug/Kg	Prepared:	04/08/02
Basis:	dry	Analyzed:	04/10/02
Diln Fac:	1.000		

Moisture: 17%

Analyte	Result	RL
Naphthalene	ND	40
Acenaphthylene	ND	80
Acenaphthene	ND	40
Fluorene	ND	40
Phenanthrene	ND	20
Anthracene	ND	20
Fluoranthene	ND	16
Pyrene	ND	8.0
Benzo(a)anthracene	4.5	4.0
Chrysene	ND	4.0
Benzo(b)fluoranthene	ND	8.0
Benzo(k)fluoranthene	ND	4.0
Benzo(a)pyrene	5.4	4.0
Dibenz(a,h)anthracene	ND	8.0
Benzo(g,h,i)perylene	ND	8.0
Indeno(1,2,3-cd)pyrene	6.5	4.0

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	94	40-133
1-Methylnaphthalene (F)	97	39-132

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polynuclear Aromatics by HPLC

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3550
Project#:	STANDARD	Analysis:	EPA 8310
Field ID:	SW-1-2	Batch#:	71447
Lab ID:	157881-057	Sampled:	04/01/02
Matrix:	Soil	Received:	04/02/02
Units:	ug/Kg	Prepared:	04/08/02
Basis:	dry	Analyzed:	04/10/02
Diln Fac:	1.000		

Moisture: 34%

Analyte	Result	RL
Naphthalene	ND	51
Acenaphthylene	ND	100
Acenaphthene	ND	51
Fluorene	ND	51
Phenanthrene	ND	25
Anthracene	ND	25
Fluoranthene	ND	20
Pyrene	ND	10
Benzo(a)anthracene	ND	5.1
Chrysene	ND	5.1
Benzo(b)fluoranthene	ND	10
Benzo(k)fluoranthene	ND	5.1
Benzo(a)pyrene	ND	5.1
Dibenz(a,h)anthracene	ND	10
Benzo(g,h,i)perylene	ND	10
Indeno(1,2,3-cd)pyrene	ND	5.1

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	96	40-133
1-Methylnaphthalene (F)	99	39-132

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polynuclear Aromatics by HPLC

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3550
Project#:	STANDARD	Analysis:	EPA 8310
Field ID:	SW-2-0	Batch#:	71447
Lab ID:	157881-058	Sampled:	04/01/02
Matrix:	Soil	Received:	04/02/02
Units:	ug/Kg	Prepared:	04/08/02
Basis:	dry	Analyzed:	04/11/02
Diln Fac:	1.000		

Moisture: 28%

Analyte	Result	RL
Naphthalene	ND	47
Acenaphthylene	ND	93
Acenaphthene	ND	47
Fluorene	ND	47
Phenanthrene	ND	23
Anthracene	ND	23
Fluoranthene	ND	19
Pyrene	15	9.3
Benzo(a)anthracene	7.8	4.7
Chrysene	ND	4.7
Benzo(b)fluoranthene	12	9.3
Benzo(k)fluoranthene	4.8	4.7
Benzo(a)pyrene	6.9	4.7
Dibenz(a,h)anthracene	ND	9.3
Benzo(g,h,i)perylene	21	9.3
Indeno(1,2,3-cd)pyrene	8.1	4.7

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	90	40-133
1-Methylnaphthalene (F)	93	39-132

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polynuclear Aromatics by HPLC

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3550
Project#:	STANDARD	Analysis:	EPA 8310
Field ID:	SW-2-2	Batch#:	71447
Lab ID:	157881-059	Sampled:	04/01/02
Matrix:	Soil	Received:	04/02/02
Units:	ug/Kg	Prepared:	04/08/02
Basis:	dry	Analyzed:	04/10/02
Diln Fac:	1.000		

Moisture: 43%

Analyte	Result	RL
Naphthalene	ND	59
Acenaphthylene	ND	120
Acenaphthene	ND	59
Fluorene	ND	59
Phenanthrene	ND	29
Anthracene	ND	29
Fluoranthene	ND	24
Pyrene	ND	12
Benzo(a)anthracene	6.7	5.9
Chrysene	ND	5.9
Benzo(b)fluoranthene	ND	12
Benzo(k)fluoranthene	ND	5.9
Benzo(a)pyrene	ND	5.9
Dibenz(a,h)anthracene	ND	12
Benzo(g,h,i)perylene	ND	12
Indeno(1,2,3-cd)pyrene	ND	5.9

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	54	40-133
1-Methylnaphthalene (F)	56	39-132

ND= Not Detected
RL= Reporting Limit
Page 1 of 1

Curtis & Tompkins, Ltd.

Polynuclear Aromatics by HPLC

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3550
Project#:	STANDARD	Analysis:	EPA 8310
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC175082	Batch#:	71401
Matrix:	Soil	Prepared:	04/05/02
Units:	ug/Kg	Analyzed:	04/08/02
Basis:	as received		

Analyte	Result	RL
Naphthalene	ND	33
Acenaphthylene	ND	66
Acenaphthene	ND	33
Fluorene	ND	33
Phenanthrene	ND	16
Anthracene	ND	16
Fluoranthene	ND	13
Pyrene	ND	6.6
Benzo(a)anthracene	ND	3.3
Chrysene	ND	3.3
Benzo(b)fluoranthene	ND	6.6
Benzo(k)fluoranthene	ND	3.3
Benzo(a)pyrene	ND	3.3
Dibenz(a,h)anthracene	ND	6.6
Benzo(g,h,i)perylene	ND	6.6
Indeno(1,2,3-cd)pyrene	ND	3.3

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	87	40-133
1-Methylnaphthalene (F)	88	39-132

ND= Not Detected
RL= Reporting Limit
Page 1 of 1

Curtis & Tompkins, Ltd.

Polynuclear Aromatics by HPLC

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3550
Project#:	STANDARD	Analysis:	EPA 8310
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC175083	Batch#:	71401
Matrix:	Soil	Prepared:	04/05/02
Units:	ug/Kg	Analyzed:	04/08/02
Basis:	as received		

Analyte	Spiked	Result	%REC	Limits
Naphthalene	332.7	312.8	94	34-122
Acenaphthylene	665.3	611.4	92	33-120
Acenaphthene	332.7	333.3	100	34-121
Fluorene	66.53	64.98	98	36-120
Phenanthrene	33.27	30.67	92	37-120
Anthracene	33.27	30.79	93	27-120
Benzo(k)fluoranthene	33.27	31.00	93	37-120
Indeno(1,2,3-cd)pyrene	33.27	32.61	98	36-124

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	77	40-133
1-Methylnaphthalene (F)	78	39-132

Curtis & Tompkins, Ltd.

Polynuclear Aromatics by HPLC

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3550
Project#:	STANDARD	Analysis:	EPA 8310
Field ID:	GR-3-0	Batch#:	71401
MSS Lab ID:	157881-014	Sampled:	04/01/02
Matrix:	Soil	Received:	04/02/02
Units:	ug/Kg	Prepared:	04/05/02
Basis:	dry	Analyzed:	04/08/02
Diln Fac:	1.000		

Type: MS Moisture: 14%
Lab ID: QC175084

Analyte	MSS Result	Spiked	Result	%REC	Limits
Naphthalene	<11.05	387.6	268.0	69	25-148
Acenaphthylene	<30.23	775.2	512.4	66	15-149
Acenaphthene	<30.23	387.6	317.6	82	37-132
Fluorene	<2.791	77.52	55.47	72	39-124
Phenanthrene	<0.7442	38.76	32.11	83	36-141
Anthracene	<0.6395	38.76	26.29	68	16-132
Benzo(k)fluoranthene	<0.9070	38.76	29.94	77	23-146
Indeno(1,2,3-cd)pyrene	2.956	38.76	31.96	75	19-130

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	69	40-133
1-Methylnaphthalene (F)	71	39-132

Type: MSD Moisture: 14%
Lab ID: QC175085

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Naphthalene	390.9	243.0	62	25-148	11	42
Acenaphthylene	781.7	476.3	61	15-149	8	50
Acenaphthene	390.9	264.1	68	37-132	19	42
Fluorene	78.17	51.76	66	39-124	8	42
Phenanthrene	39.09	30.00	77	36-141	8	45
Anthracene	39.09	24.80	63	16-132	7	42
Benzo(k)fluoranthene	39.09	29.59	76	23-146	2	41
Indeno(1,2,3-cd)pyrene	39.09	31.83	74	19-130	1	44

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	63	40-133
1-Methylnaphthalene (F)	64	39-132

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Polynuclear Aromatics by HPLC

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3550
Project#:	STANDARD	Analysis:	EPA 8310
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC175261	Batch#:	71447
Matrix:	Soil	Prepared:	04/08/02
Units:	ug/Kg	Analyzed:	04/10/02
Basis:	as received		

Analyte	Result	RL
Naphthalene	ND	33
Acenaphthylene	ND	67
Acenaphthene	ND	33
Fluorene	ND	33
Phenanthrene	ND	17
Anthracene	ND	17
Fluoranthene	ND	13
Pyrene	ND	6.7
Benzo(a)anthracene	ND	3.3
Chrysene	ND	3.3
Benzo(b)fluoranthene	ND	6.7
Benzo(k)fluoranthene	ND	3.3
Benzo(a)pyrene	ND	3.3
Dibenz(a,h)anthracene	ND	6.7
Benzo(g,h,i)perylene	ND	6.7
Indeno(1,2,3-cd)pyrene	ND	3.3

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	96	40-133
1-Methylnaphthalene (F)	98	39-132

ND= Not Detected
RL= Reporting Limit
Page 1 of 1

Curtis & Tompkins, Ltd.

Polynuclear Aromatics by HPLC

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3550
Project#:	STANDARD	Analysis:	EPA 8310
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC175262	Batch#:	71447
Matrix:	Soil	Prepared:	04/08/02
Units:	ug/Kg	Analyzed:	04/10/02
Basis:	as received		

Analyte	Spiked	Result	%REC	Limits
Naphthalene	338.1	203.8	60	34-122
Acenaphthylene	676.1	346.3	51	33-120
Acenaphthene	338.1	211.5	63	34-121
Fluorene	67.61	40.99	61	36-120
Phenanthrene	33.81	21.61	64	37-120
Anthracene	33.81	16.24	48	27-120
Benzo(k)fluoranthene	33.81	21.76	64	37-120
Indeno(1,2,3-cd)pyrene	33.81	23.18	69	36-124

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	65	40-133
1-Methylnaphthalene (F)	67	39-132

Curtis & Tompkins, Ltd.

Polynuclear Aromatics by HPLC

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3550
Project#:	STANDARD	Analysis:	EPA 8310
Field ID:	GR-12-0.5	Batch#:	71447
MSS Lab ID:	157881-053	Sampled:	04/01/02
Matrix:	Soil	Received:	04/02/02
Units:	ug/Kg	Prepared:	04/08/02
Basis:	dry	Analyzed:	04/10/02
Diln Fac:	1.000		

Type: MS Moisture: 8%
Lab ID: QC175263

Analyte	MSS Result	Spiked	Result	%REC	Limits
Naphthalene	<10.33	367.2	328.8	90	25-148
Acenaphthylene	<28.26	734.4	593.9	81	15-149
Acenaphthene	<28.26	367.2	298.7	81	37-132
Fluorene	<2.609	73.44	65.54	89	39-124
Phenanthrene	<0.6848	36.72	40.41	110	36-141
Anthracene	<0.5978	36.72	30.00	82	16-132
Benzo(k)fluoranthene	5.972	36.72	36.54	83	23-146
Indeno(1,2,3-cd)pyrene	9.693	36.72	39.25	80	19-130

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	93	40-133
1-Methylnaphthalene (F)	97	39-132

Type: MSD Moisture: 8%
Lab ID: QC175264

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Naphthalene	362.1	304.5	84	25-148	6	42
Acenaphthylene	724.2	567.7	78	15-149	3	50
Acenaphthene	362.1	273.4	76	37-132	7	42
Fluorene	72.42	62.21	86	39-124	4	42
Phenanthrene	36.21	34.50	95	36-141	14	45
Anthracene	36.21	27.41	76	16-132	8	42
Benzo(k)fluoranthene	36.21	32.86	74	23-146	9	41
Indeno(1,2,3-cd)pyrene	36.21	34.70	69	19-130	11	44

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	86	40-133
1-Methylnaphthalene (F)	88	39-132

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Polynuclear Aromatics by HPLC

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3550
Project#:	STANDARD	Analysis:	EPA 8310
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC175727	Batch#:	71573
Matrix:	Soil	Prepared:	04/12/02
Units:	ug/Kg	Analyzed:	04/12/02
Basis:	as received		

Analyte	Result	RL
Naphthalene	ND	33
Acenaphthylene	ND	67
Acenaphthene	ND	33
Fluorene	ND	33
Phenanthrene	ND	17
Anthracene	ND	17
Fluoranthene	ND	13
Pyrene	ND	6.7
Benzo(a)anthracene	ND	3.3
Chrysene	ND	3.3
Benzo(b)fluoranthene	ND	6.7
Benzo(k)fluoranthene	ND	3.3
Benzo(a)pyrene	ND	3.3
Dibenz(a,h)anthracene	ND	6.7
Benzo(g,h,i)perylene	ND	6.7
Indeno(1,2,3-cd)pyrene	ND	3.3

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	79	40-133
1-Methylnaphthalene (F)	81	39-132

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polynuclear Aromatics by HPLC

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3550
Project#:	STANDARD	Analysis:	EPA 8310
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC175728	Batch#:	71573
Matrix:	Soil	Prepared:	04/12/02
Units:	ug/Kg	Analyzed:	04/12/02
Basis:	as received		

Analyte	Spiked	Result	%REC	Limits
Naphthalene	332.3	330.6	99	34-122
Acenaphthylene	664.7	504.1	76	33-120
Acenaphthene	332.3	317.2	95	34-121
Fluorene	66.47	66.00	99	36-120
Phenanthrene	33.23	32.74	99	37-120
Anthracene	33.23	21.90	66	27-120
Benzo(k)fluoranthene	33.23	34.90	105	37-120
Indeno(1,2,3-cd)pyrene	33.23	35.93	108	36-124

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	94	40-133
1-Methylnaphthalene (F)	96	39-132

Curtis & Tompkins, Ltd.

Polynuclear Aromatics by HPLC

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3550
Project#:	STANDARD	Analysis:	EPA 8310
Field ID:	GR-11-5B	Batch#:	71573
MSS Lab ID:	157881-050	Sampled:	04/01/02
Matrix:	Soil	Received:	04/02/02
Units:	ug/Kg	Prepared:	04/12/02
Basis:	dry	Analyzed:	04/12/02
Diln Fac:	1.000		

Type: MS
Lab ID: QC175729

Moisture: 34%

Analyte	MSS Result	Spiked	Result	%REC	Limits
Naphthalene	<14.39	504.2	418.8	83	25-148
Acenaphthylene	<39.39	1,008	655.9	65	15-149
Acenaphthene	<39.39	504.2	427.1	85	37-132
Fluorene	<3.636	100.8	86.98	86	39-124
Phenanthrene	<0.9697	50.42	42.17	84	36-141
Anthracene	<0.8333	50.42	32.04	64	16-132
Benzo(k)fluoranthene	<1.182	50.42	43.79	87	23-146
Indeno(1,2,3-cd)pyrene	<0.7727	50.42	46.29	92	19-130

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	87	40-133
1-Methylnaphthalene (F)	89	39-132

Type: MSD
Lab ID: QC175730

Moisture: 34%

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Naphthalene	505.9	432.7	86	25-148	3	42
Acenaphthylene	1,012	635.3	63	15-149	4	50
Acenaphthene	505.9	513.1	101	37-132	18	42
Fluorene	101.2	95.28	94	39-124	9	42
Phenanthrene	50.59	46.94	93	36-141	10	45
Anthracene	50.59	31.95	63	16-132	1	42
Benzo(k)fluoranthene	50.59	47.02	93	23-146	7	41
Indeno(1,2,3-cd)pyrene	50.59	49.29	97	19-130	6	44

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	92	40-133
1-Methylnaphthalene (F)	94	39-132

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Polynuclear Aromatics by HPLC

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3550
Project#:	STANDARD	Analysis:	EPA 8310
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC175889	Batch#:	71619
Matrix:	Soil	Prepared:	04/15/02
Units:	ug/Kg	Analyzed:	04/17/02
Basis:	as received		

Analyte	Result	RL
Naphthalene	ND	33
Acenaphthylene	ND	66
Acenaphthene	ND	33
Fluorene	ND	33
Phenanthrene	ND	17
Anthracene	ND	17
Fluoranthene	ND	13
Pyrene	ND	6.6
Benzo(a)anthracene	ND	3.3
Chrysene	ND	3.3
Benzo(b)fluoranthene	ND	6.6
Benzo(k)fluoranthene	ND	3.3
Benzo(a)pyrene	ND	3.3
Dibenz(a,h)anthracene	ND	6.6
Benzo(g,h,i)perylene	ND	6.6
Indeno(1,2,3-cd)pyrene	ND	3.3

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	88	40-133
1-Methylnaphthalene (F)	89	39-132

ND= Not Detected
RL= Reporting Limit
Page 1 of 1

Curtis & Tompkins, Ltd.

Polynuclear Aromatics by HPLC

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3550
Project#:	STANDARD	Analysis:	EPA 8310
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC175890	Batch#:	71619
Matrix:	Soil	Prepared:	04/15/02
Units:	ug/Kg	Analyzed:	04/17/02
Basis:	as received		

Analyte	Spiked	Result	%REC	Limits
Naphthalene	329.2	279.5	85	34-122
Acenaphthylene	658.3	455.0	69	33-120
Acenaphthene	329.2	293.9	89	34-121
Fluorene	65.83	59.60	91	36-120
Phenanthrene	32.92	28.49	87	37-120
Anthracene	32.92	21.69	66	27-120
Benzo(k)fluoranthene	32.92	29.33	89	37-120
Indeno(1,2,3-cd)pyrene	32.92	30.66	93	36-124

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	88	40-133
1-Methylnaphthalene (F)	90	39-132

Curtis & Tompkins, Ltd.

Polynuclear Aromatics by HPLC

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3550
Project#:	STANDARD	Analysis:	EPA 8310
Field ID:	GR-9-1.5	Batch#:	71619
MSS Lab ID:	157881-042	Sampled:	04/01/02
Matrix:	Soil	Received:	04/02/02
Units:	ug/Kg	Prepared:	04/15/02
Basis:	as received	Analyzed:	04/17/02
Diln Fac:	1.000		

Type: MS Lab ID: QC175891

Analyte	MSS Result	Spiked	Result	%REC	Limits
Naphthalene	<11.00	333.7	313.6	94	25-148
Acenaphthylene	<10.00	667.3	523.6	78	15-149
Acenaphthene	<23.00	333.7	316.4	95	37-132
Fluorene	<3.700	66.73	64.23	96	39-124
Phenanthrene	36.84	33.37	33.72	-9 *	36-141
Anthracene	<0.1700	33.37	25.99	78	16-132
Benzo(k)fluoranthene	8.935	33.37	33.28	73	23-146
Indeno(1,2,3-cd)pyrene	18.06	33.37	34.19	48	19-130

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	94	40-133
1-Methylnaphthalene (F)	96	39-132

Type: MSD Lab ID: QC175892

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Naphthalene	334.6	306.7	92	25-148	2	42
Acenaphthylene	669.1	553.8	83	15-149	5	50
Acenaphthene	334.6	312.6	93	37-132	1	42
Fluorene	66.91	68.05	102	39-124	6	42
Phenanthrene	33.46	38.24	4 *	36-141	12	45
Anthracene	33.46	26.80	80	16-132	3	42
Benzo(k)fluoranthene	33.46	35.75	80	23-146	7	41
Indeno(1,2,3-cd)pyrene	33.46	39.08	63	19-130	13	44

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	96	40-133
1-Methylnaphthalene (F)	99	39-132

*= Value outside of QC limits; see narrative
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Polynuclear Aromatics by HPLC

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3520C
Project#:	STANDARD	Analysis:	EPA 8310
Field ID:	RINSATE	Batch#:	71405
Lab ID:	157881-060	Sampled:	04/01/02
Matrix:	Water	Received:	04/02/02
Units:	ug/L	Prepared:	04/05/02
Diln Fac:	1.000	Analyzed:	04/08/02

Analyte	Result	RL
Naphthalene	ND	1.0
Acenaphthylene	ND	2.0
Acenaphthene	ND	1.0
Fluorene	ND	1.0
Phenanthrene	ND	0.50
Anthracene	ND	0.50
Fluoranthene	ND	0.40
Pyrene	ND	0.20
Benzo(a)anthracene	ND	0.10
Chrysene	ND	0.10
Benzo(b)fluoranthene	ND	0.20
Benzo(k)fluoranthene	ND	0.10
Benzo(a)pyrene	ND	0.10
Dibenz(a,h)anthracene	ND	0.20
Benzo(g,h,i)perylene	ND	0.20
Indeno(1,2,3-cd)pyrene	ND	0.14

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	83	65-135
1-Methylnaphthalene (F)	83	65-135

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polynuclear Aromatics by HPLC

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3520C
Project#:	STANDARD	Analysis:	EPA 8310
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC175101	Batch#:	71405
Matrix:	Water	Prepared:	04/05/02
Units:	ug/L	Analyzed:	04/08/02

Analyte	Result	RL
Naphthalene	ND	1.0
Acenaphthylene	ND	2.0
Acenaphthene	ND	1.0
Fluorene	ND	1.0
Phenanthrene	ND	0.50
Anthracene	ND	0.50
Fluoranthene	ND	0.40
Pyrene	ND	0.20
Benzo(a)anthracene	ND	0.10
Chrysene	ND	0.10
Benzo(b)fluoranthene	ND	0.20
Benzo(k)fluoranthene	ND	0.10
Benzo(a)pyrene	ND	0.10
Dibenz(a,h)anthracene	ND	0.20
Benzo(g,h,i)perylene	ND	0.20
Indeno(1,2,3-cd)pyrene	ND	0.14

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	86	65-135
1-Methylnaphthalene (F)	82	65-135

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polynuclear Aromatics by HPLC

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3520C
Project#:	STANDARD	Analysis:	EPA 8310
Matrix:	Water	Batch#:	71405
Units:	ug/L	Prepared:	04/05/02
Diln Fac:	1.000	Analyzed:	04/08/02

Type: BS Lab ID: QC175102

Analyte	Spiked	Result	%REC	Limits
Naphthalene	10.00	8.762	88	65-135
Acenaphthylene	20.00	16.98	85	65-135
Acenaphthene	10.00	8.995	90	65-135
Fluorene	2.000	1.777	89	65-135
Phenanthrene	1.000	0.8768	88	65-135
Anthracene	1.000	0.8486	85	65-135
Benzo(k)fluoranthene	1.000	0.9335	93	65-135
Indeno(1,2,3-cd)pyrene	1.000	0.9603	96	65-135

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	91	65-135
1-Methylnaphthalene (F)	89	65-135

Type: BSD Lab ID: QC175103

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Naphthalene	10.00	9.257	93	65-135	6	20
Acenaphthylene	20.00	17.18	86	65-135	1	20
Acenaphthene	10.00	8.899	89	65-135	1	20
Fluorene	2.000	1.831	92	65-135	3	20
Phenanthrene	1.000	0.8839	88	65-135	1	20
Anthracene	1.000	0.8361	84	65-135	1	20
Benzo(k)fluoranthene	1.000	0.9006	90	65-135	4	20
Indeno(1,2,3-cd)pyrene	1.000	0.9598	96	65-135	0	20

Surrogate	%REC	Limits
1-Methylnaphthalene (UV)	92	65-135
1-Methylnaphthalene (F)	89	65-135

RPD= Relative Percent Difference

INITIAL CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instrument: HPLC02 High Pressure Liquid Chromatograph #2 Reviewed By:
Calnum: 272091727001 Name: Type: (normal) Date: 04-MAR-2002 19:31 Inj Vol (uL): 10

Calibration levels:

#	Filename	Seqnum	Samplenum	Analyzed	Standards
1	06300006	272091727006		04-MAR-2002 19:31	01WS2197
2	06300007	272091727007		04-MAR-2002 20:03	01WS2198
3	06300008	272091727008		04-MAR-2002 20:36	01WS2199
4	06300010	272091727010		04-MAR-2002 21:41	01WS2201
5	06300011	272091727011		04-MAR-2002 22:14	01WS2202
6	06300012	272091727012		04-MAR-2002 22:47	01WS2203
7	06300099	272091727099		06-MAR-2002 16:49	01WS2200

Analyte	Ch	L1	L2	L3	L4	L5	L6	L7	Type	a0	a1	a2	units	avg	r^2 %RSD	MnR^2	MxRSD	Flags
Naphthalene	1	0.0116	0.0112	0.0123	0.0121	0.0117	0.0116	0.0120	LINR	-140.763	86.22487		ug/L	0.0118	1.00	0.99	20	
Acenaphthylene	1	0.0097	0.0081	0.0085	0.0085	0.0083	0.0081	0.0083	LINR	-406.741	123.9338		ug/L	0.0085	1.00	0.99	20	
Acenaphthene	1	0.0047	0.0046	0.0038	0.0045	0.0043	0.0041	0.0042	LINR	-273.669	242.0328		ug/L	0.0043	1.00	0.99	20	
Fluorene	1	0.0626	0.0593	0.0565	0.0574	0.0568	0.0550	0.0564	LINR	-40.4878	18.15685		ug/L	0.0577	1.00	0.99	20	
Phenanthrene	1	0.1711	0.1707	0.1674	0.1615	0.1631	0.1606	0.1603	LINR	-7.67837	6.219617		ug/L	0.1650	1.00	0.99	20	
Anthracene	1	0.4528	0.4135	0.4276	0.4160	0.4139	0.4005	0.4089	LINR	-19.8529	2.491484		ug/L	0.4190	1.00	0.99	20	
Fluoranthene	1	0.0527	0.0351	0.0400	0.0378	0.0380	0.0358	0.0363	LINR	-64.1763	27.82009		ug/L	0.0394	1.00	0.99	20	
Pyrene	1	0.0793	0.0257	0.0352	0.0292	0.0299	0.0292	0.0268	LINR	-24.4537	34.37202		ug/L	0.0365	1.00	0.99	20	
Benzo(a)anthracene	1	0.0930	0.0760	0.0836	0.0805	0.0821	0.0824	0.0778	LINR	9.224800	12.12642		ug/L	0.0822	1.00	0.99	20	
Chrysene	1	0.1292	0.1147	0.1148	0.1116	0.1144	0.1127	0.1075	LINR	0.885466	8.847651		ug/L	0.1150	1.00	0.99	20	
Benzo(b)fluoranthene	1	0.0921	0.0876	0.0958	0.0930	0.0941	0.0932	0.0911	LINR	2.226585	10.70784		ug/L	0.0924	1.00	0.99	20	
Benzo(k)fluoranthene	1	0.0860	0.0829	0.0716	0.0760	0.0770	0.0760	0.0731	LINR	1.369846	13.11920		ug/L	0.0775	1.00	0.99	20	
Benzo(a)pyrene	1	0.0590	0.1010	0.0903	0.0803	0.0822	0.0815	0.0701	LINR	6.823923	12.24330		ug/L	0.0806	1.00	0.99	20	
Dibenz(a,h)anthracene	1	0.0257	0.0191	0.0188	0.0192	0.0192	0.0193	0.0188	LINR	6.743632	51.74222		ug/L	0.0200	1.00	0.99	20	
Benzo(g,h,i)perylene	1	0.0328	0.0342	0.0316	0.0327	0.0333	0.0335	0.0322	LINR	23.72709	29.78790		ug/L	0.0329	1.00	0.99	20	
Indeno(1,2,3-cd)pyrene	1	0.0819	0.1047	0.0965	0.0965	0.0982	0.0984	0.0954	LINR	7.898825	10.15533		ug/L	0.0959	1.00	0.99	20	
1-Methylnaphthalene (UV)	1	0.0084	0.0078	0.0079	0.0077	0.0075	0.0074	0.0076	LINR	-765.364	135.0264		ug/L	0.0078	1.00	0.99	20	
Acenaphthylene	2	0.0282	0.0253	0.0257	0.0250	0.0251	0.0248	0.0253	LINR	-190.204	40.32956		ug/L	0.0256	1.00	0.99	20	
1-Methylnaphthalene (UV)	2	0.0033	0.0030	0.0030	0.0029	0.0029	0.0028	0.0030	LINR	-468.554	352.2100		ug/L	0.0030	1.00	0.99	20	

Curves: LINR: Linear regression
Instrument amount = a0 + response * a1 + response^2 * a2

INITIAL CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instrument: HPLC02 High Pressure Liquid Chromatograph #2 Reviewed By:
Calnum: 272091727001 Name: Type: (normal) Date: 04-MAR-2002 19:31 Inj Vol (uL): 10

Analyte	Ch	L1	L2	L3	L4	L5	L6	L7	Type	a0	a1	a2	units	avg	r^2 %RSD	MnR^2	MxRSD	Flags
Naphthalene	3	0.0045	0.0050	0.0064	0.0068	0.0062		0.0068	LINR	-124.831	159.0831		ug/L	0.0060	1.00	0.99	20	
Acenaphthene	3	0.0030	0.0032	0.0044	0.0052	0.0053	0.0053	0.0049	LINR	330.9744	186.8130		ug/L	0.0045	1.00	0.99	20	
Fluorene	3	0.0034	0.0039	0.0046	0.0066	0.0073	0.0075	0.0056	LINR	172.2825	131.4089		ug/L	0.0056	1.00	0.99	20	
Phenanthrene	3	0.0772	0.0875	0.1019	0.1056	0.1071	0.1051	0.1036	LINR	5.919369	9.466957		ug/L	0.0983	1.00	0.99	20	
Anthracene	3	0.0274	0.0257	0.0319	0.0384	0.0403	0.0400	0.0357	LINR	37.81047	24.77102		ug/L	0.0342	1.00	0.99	20	
Fluoranthene	3	0.0863	0.0931	0.1031	0.1048	0.1048	0.0994	0.1039	LINR	-42.6311	9.997626		ug/L	0.0993	1.00	0.99	20	
Pyrene	3	0.0415	0.0421	0.0510	0.0586	0.0602	0.0602	0.0571	LINR	27.90665	16.51028		ug/L	0.0529	1.00	0.99	20	
Benzo(a)anthracene	3	0.0768	0.0868	0.1018	0.1102	0.1126	0.1116	0.1077	LINR	17.31156	8.909323		ug/L	0.1011	1.00	0.99	20	
Chrysene	3	0.0371	0.0358	0.0425	0.0506	0.0523	0.0510	0.0483	LINR	20.86038	19.43223		ug/L	0.0453	1.00	0.99	20	
Benzo(b)fluoranthene	3	0.0511	0.0595	0.0697	0.0747	0.0758	0.0745	0.0725	LINR	21.37070	13.34563		ug/L	0.0683	1.00	0.99	20	
Benzo(k)fluoranthene	3	0.1108	0.1274	0.1472	0.1571	0.1585	0.1585	0.1529	LINR	16.57046	6.285262		ug/L	0.1446	1.00	0.99	20	
Benzo(a)pyrene	3	0.1352	0.1547	0.1779	0.1865	0.1904	0.1903	0.1666	LINR	26.62297	5.222811		ug/L	0.1717	1.00	0.99	20	
Dibenz(a,h)anthracene	3	0.0070	0.0074	0.0100	0.0119	0.0122	0.0125	0.0110	LINR	96.59951	79.75457		ug/L	0.0103	1.00	0.99	20	
Benzo(g,h,i)perylene	3	0.0242	0.0289	0.0344	0.0373	0.0381	0.0387	0.0346	LINR	70.20282	25.71929		ug/L	0.0337	1.00	0.99	20	
Indeno(1,2,3-cd)pyrene	3	0.1357	0.1475	0.1642	0.1707	0.1735	0.1747	0.1664	LINR	18.92257	5.706828		ug/L	0.1618	1.00	0.99	20	
1-Methylnaphthalene (F)	3	0.0033	0.0038	0.0043	0.0044	0.0044	0.0043	0.0044	LINR	-174.991	231.7080		ug/L	0.0041	1.00	0.99	20	

Curves: LINR: Linear regression
Instrument amount = a0 + response * a1 + response^2 * a2

SEQUENCE SUMMARY
Curtis & Tompkins Laboratories

Sequence: 72147476 Instrument: MET07 TJA Trace ICP Begun: 12-APR-2002

#	Filename	Type	Samplenum	Batch	Matrix	Analyzed	IDF	PDF	IQC	SPK uL	Stds Used	>LR
001	tr176914	CS				12-APR-2002 09:56	1.0	1.0			1	
002	tr176915	ICV				12-APR-2002 10:04	1.0	1.0			2	
003	tr176916	ICB				12-APR-2002 10:08	1.0	1.0				
004	tr176917	CRI				12-APR-2002 10:14	1.0	1.0			3	
005	tr176918	ICSAB				12-APR-2002 10:27	1.0	1.0			4	4:AL=547400
006	tr176919	SAMPLE	157958-040	71474	Soil	12-APR-2002 10:32	1.0	41.49378	4			5:FE=428800
007	tr176920	SAMPLE	157958-044	71474	Soil	12-APR-2002 10:36	1.0	44.44444	2			6:FE=379000
008	tr176921	SAMPLE	157958-044	71474	Soil	12-APR-2002 10:40	20.0	44.44444	1			
009	tr176922	SAMPLE	157911-004	71456	Water	12-APR-2002 10:43	1.0	1.0				
010	tr176923	SAMPLE	158020-010	71542	Filtra	12-APR-2002 10:47	1.0	1.0				
011	tr176924	SAMPLE	158020-004	71542	Filtra	12-APR-2002 10:52	20.0	1.0				
012	tr176925	SAMPLE	158020-008	71542	Filtra	12-APR-2002 10:56	20.0	1.0				
013	tr176926	SAMPLE	158020-009	71542	Filtra	12-APR-2002 10:59	20.0	1.0	1			1:AS=26400.0
014	tr176927	CCV				12-APR-2002 11:05	1.0	1.0			5	
015	tr176928	CCB				12-APR-2002 11:09	1.0	1.0				
016	tr176929	BLANK	QC175353	71469	Soil	12-APR-2002 11:13	1.0	50.0				
017	tr176930	BS	QC175354	71469	Soil	12-APR-2002 11:16	1.0	50.0				
018	tr176931	BSD	QC175355	71469	Soil	12-APR-2002 11:20	1.0	50.0				
019	tr176932	MSS	157881-056	71469	Soil	12-APR-2002 11:23	1.0	42.91845				
020	tr176933	MSS	157881-056	71469	Soil	12-APR-2002 11:33	1.0	42.91845				
021	tr176934	MS	QC175356	71469	Soil	12-APR-2002 11:36	1.0	41.49378		2		2:AL=177000
022	tr176935	MSD	QC175357	71469	Soil	12-APR-2002 11:39	1.0	45.04505		2		1:AL=167000
023	tr176936	SER	QC175358	71469	Soil	12-APR-2002 11:44	5.0	42.91845		1		
024	tr176937	ICSAB				12-APR-2002 11:55	1.0	1.0			4	4:AL=557000
025	tr176938	CCV				12-APR-2002 12:09	1.0	1.0			6	
026	tr176939	CCB				12-APR-2002 12:12	1.0	1.0				
027	tr176940	SAMPLE	157961-001	71469	Soil	12-APR-2002 12:16	1.0	38.31418	6			4:FE=499900
028	tr176941	SAMPLE	157961-002	71469	Soil	12-APR-2002 12:19	1.0	47.39336				1:FE=157700
029	tr176942	SAMPLE	157961-005	71469	Soil	12-APR-2002 12:23	1.0	45.04505				3:FE=423800
030	tr176943	SAMPLE	157961-007	71469	Soil	12-APR-2002 12:26	1.0	47.16981				1:FE=179500
031	tr176944	SAMPLE	157961-002	71469	Soil	12-APR-2002 12:30	1.0	47.39336	1			1:FE=156500
032	tr176945	SAMPLE	157961-005	71469	Soil	12-APR-2002 12:33	1.0	45.04505				3:FE=417500

Stds used: 1=02WS0548 2=02WS0158 3=02WS0594 4=02WS0163 5=02WS0160 6=02WS0159 7=02WS0161

Analyst: _____ Date: 4/12/02

SEQUENCE SUMMARY
Curtis & Tompkins Laboratories

Sequence: 72147476 Instrument: MET07 TJA Trace ICP Begun: 12-APR-2002

#	Filename	Type	Samplenum	Batch	Matrix	Analyzed	IDF	PDF	IQC	SPK uL	Stds Used	>LR
033	tr176946	SAMPLE	157961-007	71469	Soil	12-APR-2002 12:36	1.0	47.16981	11			
034	tr176947	SAMPLE	157961-013	71469	Soil	12-APR-2002 12:40	1.0	47.16981	2			3:FE=475900
035	tr176948	SAMPLE	157961-013	71469	Soil	12-APR-2002 12:44	1.0	47.16981	2			3:FE=480800
036	tr176949	SAMPLE	157961-013	71469	Soil	12-APR-2002 12:48	20.0	47.16981	1			
037	tr176950	CCV				12-APR-2002 12:54	1.0	1.0			7	
038	tr176951	CCB				12-APR-2002 12:59	1.0	1.0				
039	tr176952	SAMPLE	157961-001	71469	Soil	12-APR-2002 13:05	1.0	38.31418	2			4:FE=493700
040	tr176953	SAMPLE	157961-001	71469	Soil	12-APR-2002 13:09	20.0	38.31418				
041	tr176954	SAMPLE	157961-014	71469	Soil	12-APR-2002 13:12	1.0	40.16064				1:FE=186500
042	tr176955	SAMPLE	157961-015	71469	Soil	12-APR-2002 13:16	1.0	46.08295				1:FE=165500
043	tr176956	SAMPLE	157961-016	71469	Soil	12-APR-2002 13:19	1.0	47.16981				
044	tr176957	SAMPLE	157881-053	71469	Soil	12-APR-2002 13:22	1.0	38.31418				2:AL=453100
045	tr176958	SAMPLE	157881-054	71469	Soil	12-APR-2002 13:26	1.0	36.49635				1:AL=161500
046	tr176959	SAMPLE	157881-055	71469	Soil	12-APR-2002 13:29	1.0	42.37288	1			1:FE=171000
047	tr176960	SAMPLE	157881-054	71469	Soil	12-APR-2002 13:33	1.0	36.49635	1			1:AL=160100
048	tr176961	CCV				12-APR-2002 13:37	1.0	1.0			6	
049	tr176962	CCB				12-APR-2002 13:41	1.0	1.0				
050	tr176963	SAMPLE	157881-055	71469	Soil	12-APR-2002 13:45	1.0	42.37288	1			1:FE=173100
051	tr176964	SAMPLE	157881-057	71469	Soil	12-APR-2002 13:49	1.0	47.61905				
052	tr176965	SAMPLE	157881-058	71469	Soil	12-APR-2002 13:52	1.0	47.84689	1			
053	tr176966	SAMPLE	157881-059	71469	Soil	12-APR-2002 13:56	1.0	43.85965				
054	tr176967	SAMPLE	157909-020	71469	Soil	12-APR-2002 13:59	1.0	48.07692				
055	tr176968	SAMPLE	157912-003	71469	Soil	12-APR-2002 14:02	1.0	45.24887	2			4:FE=340200
056	tr176969	SAMPLE	157969-002	71469	Soil	12-APR-2002 14:06	1.0	45.04505	1			2:FE=219800
057	tr176970	SAMPLE	157969-003	71469	Soil	12-APR-2002 14:09	1.0	49.75124	1			4:FE=207600
058	tr176971	X	157912-002			12-APR-2002 14:12	1.0	1.0				2:FE=366200
059	tr176972	CCV				12-APR-2002 14:20	1.0	1.0			5	
060	tr176973	CCB				12-APR-2002 14:24	1.0	1.0				
061	tr176974	SAMPLE	157909-001	71436	Soil	12-APR-2002 14:30	1.0	48.78049				
062	tr176975	SAMPLE	157881-058	71469	Soil	12-APR-2002 14:33	1.0	47.84689	1			
063	tr176976	SAMPLE	157912-003	71469	Soil	12-APR-2002 14:37	1.0	45.24887	2			4:FE=337200
064	tr176977	SAMPLE	157912-003	71469	Soil	12-APR-2002 14:41	20.0	45.24887				

Stds used: 1=02WS0548 2=02WS0158 3=02WS0594 4=02WS0163 5=02WS0160 6=02WS0159 7=02WS0161

Analyst: MLW Date: 4/16/02

SEQUENCE SUMMARY
Curtis & Tompkins Laboratories

Sequence: 72147476 Instrument: MET07 TJA Trace ICP Begun: 12-APR-2002

#	Filename	Type	Samplenum	Batch	Matrix	Analyzed	IDF	PDF	IOC SPK uL	Stds Used	>LR
065	tr176978	SAMPLE	157969-002	71469	Soil	12-APR-2002 14:44	20.0	45.04505			
066	tr176979	SAMPLE	157969-003	71469	Soil	12-APR-2002 14:47	20.0	49.75124			
067	tr176980	SAMPLE	157909-002	71436	Soil	12-APR-2002 14:51	1.0	49.01961			
068	tr176981	SAMPLE	157909-003	71436	Soil	12-APR-2002 14:54	1.0	49.26108			
069	tr176982	SAMPLE	157909-004	71436	Soil	12-APR-2002 14:58	1.0	48.54369			
070	tr176983	SAMPLE	157909-005	71436	Soil	12-APR-2002 15:01	1.0	48.30918	1		
071	tr176984	CCV				12-APR-2002 15:06	1.0	1.0		5	
072	tr176985	CCB				12-APR-2002 15:10	1.0	1.0			
073	tr176986	SAMPLE	157909-005	71436	Soil	12-APR-2002 15:15	1.0	48.30918			
074	tr176987	SAMPLE	157909-006	71436	Soil	12-APR-2002 15:18	1.0	43.85965			
075	tr176988	SAMPLE	157909-007	71436	Soil	12-APR-2002 15:22	1.0	46.29630	1		
076	tr176989	SAMPLE	157909-008	71436	Soil	12-APR-2002 15:26	1.0	44.64286			
077	tr176990	SAMPLE	157909-009	71436	Soil	12-APR-2002 15:29	1.0	48.54369			
078	tr176991	SAMPLE	157909-010	71436	Soil	12-APR-2002 15:32	1.0	46.72897			
079	tr176992	SAMPLE	157909-011	71436	Soil	12-APR-2002 15:36	1.0	42.55319			
080	tr176993	SAMPLE	157909-012	71436	Soil	12-APR-2002 15:39	1.0	43.29004			
081	tr176994	SAMPLE	157909-014	71436	Soil	12-APR-2002 15:43	1.0	42.55319			
082	tr176995	SAMPLE	157909-015	71436	Soil	12-APR-2002 15:46	1.0	47.39336			
083	tr176996	CCV				12-APR-2002 15:50	1.0	1.0		7	
084	tr176997	CCB				12-APR-2002 15:58	1.0	1.0			
085	tr176998	SAMPLE	157909-007	71436	Soil	12-APR-2002 16:02	1.0	46.29630	1		
086	tr176999	SAMPLE	157909-016	71436	Soil	12-APR-2002 16:05	1.0	47.84689			1:AL=191600
087	tr177000	SAMPLE	157909-017	71436	Soil	12-APR-2002 16:08	1.0	44.44444			
088	tr177001	SAMPLE	157909-018	71436	Soil	12-APR-2002 16:12	1.0	49.01961			
089	tr177002	SAMPLE	157909-019	71436	Soil	12-APR-2002 16:15	1.0	46.72897			
090	tr177003	SAMPLE	157909-019	71436	Soil	12-APR-2002 16:20	1.0	46.72897			
091	tr177004	BLANK	QC175658	71556	Water	12-APR-2002 16:24	1.0	1.0			
092	tr177005	BS	QC175659	71556	Water	12-APR-2002 16:27	1.0	1.0			
093	tr177006	BSD	QC175660	71556	Water	12-APR-2002 16:30	1.0	1.0			
094	tr177007	MSS	157998-001	71556	Water	12-APR-2002 16:34	1.0	1.0			2:MG=1560000
095	tr177009	CCV				12-APR-2002 16:50	1.0	1.0		6	
096	tr177010	CCB				12-APR-2002 16:54	1.0	1.0			

Stds used: 1=02WS0548 2=02WS0158 3=02WS0594 4=02WS0163 5=02WS0160 6=02WS0159 7=02WS0161

Analyst: MeWa Date: 4/12/02

SEQUENCE SUMMARY
Curtis & Tompkins Laboratories

Sequence: 72147476 Instrument: MET07 TJA Trace ICP Begun: 12-APR-2002

#	Filename	Type	Samplenum	Batch	Matrix	Analyzed	IDF	PDF	IQC	SPK uL	Stds Used	>LR
097	tr177011	ICSAB				12-APR-2002 16:57	1.0	1.0			4	4:AL=536900
098	tr177012	SDUP	QC175661	71556	Water	12-APR-2002 17:02	1.0	1.0	2			2:MG=1735000
099	tr177013	SSPIKE	QC175662	71556	Water	12-APR-2002 17:07	1.0	1.0		15		2:MG=1781000
100	tr177014	SAMPLE	157979-001	71556	Water	12-APR-2002 17:14	1.0	1.0	1			3:FE=433000
101	tr177015	SAMPLE	157979-002	71556	Water	12-APR-2002 17:18	1.0	1.0				3:FE=841500
102	tr177016	SAMPLE	157945-001	71556	Water	12-APR-2002 17:23	1.0	1.0				1:MG=339400
103	tr177017	SAMPLE	157945-002	71556	Water	12-APR-2002 17:27	1.0	1.0				1:MG=350800

336

Stds used: 1=02WS0548 2=02WS0158 3=02WS0594 4=02WS0163 5=02WS0160 6=02WS0159 7=02WS0161

Analyst: MeWu Date: 4/12/02

Method: 6010B Standard: blank
Run Time: 04/12/02 09:48:47

Elem	Sb2068	Sb206A	As1890	Ba4934	Be3130	Cd2265	Cr2677
Avge	.005	.006	.003	.004	-.052	.017	.002
SDev	.001	.007	.001	.003	.005	.010	.001
%RSD	10.3	117.	46.0	76.5	9.44	57.2	51.1
#1	.006	.001	.002	.006	-.056	.024	.003
#2	.005	.010	.004	.002	-.049	.010	.002

Elem	Co2286	Cu3247	Pb2203	Pb220A	Mo2020	Ni2316	Se1960
Avge	-.001	-.017	.018	-.007	-.000	.002	-.007
SDev	.000	.006	.011	.020	.004	.005	.001
%RSD	4.88	36.2	63.3	301.	3720.	206.	8.80
#1	-.001	-.021	.010	.008	-.003	-.001	-.007
#2	-.001	-.013	.025	-.021	.003	.006	-.007

Elem	Se196A	Ag3280	Tl1908	V_2924	Zn2138	Al3082	Ca3179
Avge	-.002	.002	-.002	.003	.225	.1863	.0024
SDev	.000	.006	.005	.001	.000	.0013	.0002
%RSD	18.9	266.	273.	30.1	.042	.7084	7.857
#1	-.002	-.002	.002	.004	.225	.1854	.0023
#2	-.002	.006	-.006	.002	.225	.1873	.0025

Elem	Fe2714	Mg2790	Mn2576	Ti3349
Avge	.0011	.0033	.006	1.96
SDev	.0019	.0003	.006	.00
%RSD	166.4	8.485	89.7	.144
#1	-.0002	.0031	.002	1.96
#2	.0025	.0035	.010	1.96

Method: 6010B Standard: cst hi
Run Time: 04/12/02 09:52:34

Elem	Sb2068	Sb206A	As1890	Ba4934	Be3130	Cd2265	Cr2677
Avge	3.84	2.72	1.32	49.1	14.2	7.34	.968
SDev	.35	.12	.00	.1	.0	.00	.000
%RSD	9.11	4.35	.043	.181	.187	.029	.029
#1	3.59	2.64	1.32	49.1	14.2	7.34	.968
#2	4.09	2.80	1.32	49.0	14.2	7.35	.968

Elem	Co2286	Cu3247	Pb2203	Pb220A	Mo2020	Ni2316	Se1960
Avge	3.48	1.35	4.52	5.03	6.43	10.2	1.20
SDev	.00	.00	.02	.01	.02	.0	.01
%RSD	.074	.262	.397	.261	.344	.070	.436
#1	3.49	1.35	4.53	5.02	6.42	10.2	1.20
#2	3.48	1.35	4.50	5.04	6.45	10.2	1.20

Elem	Se196A	Ag3280	Tl1908	V_2924	Zn2138	Al3082	Ca3179
Avge	1.70	.900	.842	3.12	1.06	.4434	1.086
SDev	.00	.003	.009	.01	.00	.0010	.001
%RSD	.286	.330	1.12	.320	.129	.2339	.1303
#1	1.69	.902	.849	3.13	1.06	.4441	1.087
#2	1.70	.898	.835	3.12	1.06	.4427	1.085

Elem	Fe2714	Mg2790	Mn2576	Ti3349
Avge	.4955	1.081	3.62	27.2
SDev	.0062	.000	.01	.0
%RSD	1.256	.0393	.155	.003
#1	.4999	1.080	3.63	27.2
#2	.4911	1.081	3.62	27.2

Standardization Report 04/12/02 09:56:32 AM page 1

Method: 6010B Slope = Conc(SIR)/IR

Element	Wavelen	High std	Low std	Slope	Y-intercept	Date Standardized
Sb2068	206.831	Multiple	Standards	259.752	-1.41998	04/12/02 09:52:34
Sb206A	206.832	Multiple	Standards	361.413	-2.06005	04/12/02 09:52:34
As1890	189.042	Multiple	Standards	381.042	-1.05422	04/12/02 09:52:34
Ba4934	493.409	Multiple	Standards	20.3863	-.082904	04/12/02 09:52:34
Be3130	313.042	Multiple	Standards	6.77704	.355343	04/12/02 09:52:34
Cd2265	226.502	Multiple	Standards	13.6301	-.228986	04/12/02 09:52:34
Cr2677	267.716	Multiple	Standards	207.331	-.497594	04/12/02 09:52:34
Co2286	228.616	Multiple	Standards	143.483	.138700	04/12/02 09:52:34
Cu3247	324.754	Multiple	Standards	146.274	2.47773	04/12/02 09:52:34
Pb2203	220.351	Multiple	Standards	111.160	-1.94529	04/12/02 09:52:34
Pb220A	220.352	Multiple	Standards	98.4693	.669592	04/12/02 09:52:34
Mo2020	202.030	Multiple	Standards	155.410	.015541	04/12/02 09:52:34
Ni2316	231.604	Multiple	Standards	48.8447	-.120484	04/12/02 09:52:34
Se1960	196.021	Multiple	Standards	414.370	2.88678	04/12/02 09:52:34
Se196A	196.022	Multiple	Standards	294.265	.588530	04/12/02 09:52:34
Ag3280	328.068	Multiple	Standards	111.412	-.245107	04/12/02 09:52:34
Tl1908	190.864	Multiple	Standards	595.778	1.19156	04/12/02 09:52:34
V_2924	292.402	Multiple	Standards	160.073	-.501561	04/12/02 09:52:34
Zn2138	213.856	Multiple	Standards	124.673	-28.0017	04/12/02 09:52:34
Al3082	308.215	Multiple	Standards	3940.18	-734.188	04/12/02 09:52:34
Ca3179	317.933	Multiple	Standards	1846.40	-4.43137	04/12/02 09:52:34
Fe2714	271.441	Multiple	Standards	2109.27	-2.39050	04/12/02 09:52:34
Mg2790	279.079	Multiple	Standards	1855.87	-6.18624	04/12/02 09:52:34
Mn2576	257.610	Multiple	Standards	27.6383	-.171357	04/12/02 09:52:34
Pb sum	220.353	NONE	NONE	1.00000	.000000	*04/12/02 09:52:34
Sb sum	206.838	NONE	NONE	1.00000	.000000	*04/12/02 09:52:34
Se sum	196.026	NONE	NONE	1.00000	.000000	*04/12/02 09:52:34
Ti3349	334.941	Multiple	Standards	39.6420	-77.8093	04/12/02 09:52:34

INITIAL CALIBRATION CHECK STANDARD
Curtis & Tompkins Laboratories

Instid : MET07 Run Name :
Seqnum : 72147476001 Filename : tr176914 Injected : 12-APR-2002 09:56
Caltype :

Standards: 02WS0548

Analyte	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum	1000.000	999.8000	ug/L	0	5	
Antimony	1000.000	995.0000	ug/L	-1	5	
Arsenic	500.0000	502.0000	ug/L	0	5	
Barium	1000.000	998.0000	ug/L	0	5	
Beryllium	100.0000	99.80000	ug/L	0	5	
Cadmium	100.0000	100.0000	ug/L	0	5	
Calcium	2000.000	1996.000	ug/L	0	5	
Chromium	200.0000	200.0000	ug/L	0	5	
Cobalt	500.0000	499.0000	ug/L	0	5	
Copper	200.0000	200.0000	ug/L	0	5	
Iron	1000.000	1015.000	ug/L	2	5	
Lead	500.0000	496.0000	ug/L	-1	5	
Magnesium	2000.000	2005.000	ug/L	0	5	
Manganese	100.0000	99.80000	ug/L	0	5	
Molybdenum	1000.000	998.0000	ug/L	0	5	
Nickel	500.0000	500.0000	ug/L	0	5	
Selenium	500.0000	496.0000	ug/L	-1	5	
Silver	100.0000	100.0000	ug/L	0	5	
Thallium	500.0000	496.0000	ug/L	-1	5	
Titanium	1000.000	998.0000	ug/L	0	5	
Vanadium	500.0000	499.0000	ug/L	0	5	
Zinc	100.0000	100.0000	ug/L	0	5	

SECOND SOURCE CALIBRATION VERIFICATION
Curtis & Tompkins Laboratories

Instid : MET07 Run Name :
Seqnum : 72147476002 Filename : tr176915 Injected : 12-APR-2002 10:04
Caltype :

Standards: 02WS0158

Analyte	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum	500.0000	495.3000	ug/L	-1	10	
Antimony	500.0000	544.0000	ug/L	9	10	
Arsenic	250.0000	264.0000	ug/L	6	10	
Barium	500.0000	504.0000	ug/L	1	10	
Beryllium	50.00000	50.50000	ug/L	1	10	
Cadmium	50.00000	50.70000	ug/L	1	10	
Calcium	1000.000	1007.000	ug/L	1	10	
Chromium	100.0000	102.0000	ug/L	2	10	
Cobalt	250.0000	251.0000	ug/L	0	10	
Copper	100.0000	99.70000	ug/L	0	10	
Iron	500.0000	489.0000	ug/L	-2	10	
Lead	250.0000	258.0000	ug/L	3	10	
Magnesium	1000.000	1034.000	ug/L	3	10	
Manganese	50.00000	50.00000	ug/L	0	10	
Molybdenum	500.0000	514.0000	ug/L	3	10	
Nickel	250.0000	258.0000	ug/L	3	10	
Selenium	250.0000	258.0000	ug/L	3	10	
Silver	50.00000	50.20000	ug/L	0	10	
Thallium	250.0000	249.0000	ug/L	0	10	
Titanium	500.0000	526.0000	ug/L	5	10	
Vanadium	250.0000	252.0000	ug/L	1	10	
Zinc	50.00000	50.70000	ug/L	1	10	

INSTRUMENT BLANK REPORT
Curtis & Tompkins Laboratories

Instrument: MET07 TJA Trace ICP
Seqnum: 72147476003 Run Name: Injected: 12-APR-2002 10:08
Filename: tr176916 Blank Type: ICB

Analyte	QuantAmt	RL	Units	Req Flags
Aluminum	[0.9079]	100.0000	ug/L	<RL
Antimony	[50.800]	60.00000	ug/L	<RL
Arsenic	ND	5.000000	ug/L	<RL
Barium	[0.1420]	10.00000	ug/L	<RL
Beryllium	[0.0080]	2.000000	ug/L	<RL
Cadmium	ND	5.000000	ug/L	<RL
Calcium	ND	500.0000	ug/L	<RL
Chromium	ND	10.00000	ug/L	<RL
Cobalt	ND	20.00000	ug/L	<RL
Copper	ND	10.00000	ug/L	<RL
Iron	ND	100.0000	ug/L	<RL
Lead	[1.0300]	3.000000	ug/L	<RL
Magnesium	ND	500.0000	ug/L	<RL
Manganese	ND	10.00000	ug/L	<RL
Molybdenum	[5.4700]	20.00000	ug/L	<RL
Nickel	ND	20.00000	ug/L	<RL
Selenium	[1.0400]	5.000000	ug/L	<RL
Silver	ND	5.000000	ug/L	<RL
Thallium	[0.8590]	5.000000	ug/L	<RL
Titanium	[1.4900]	10.00000	ug/L	<RL
Vanadium	ND	10.00000	ug/L	<RL
Zinc	[0.1260]	20.00000	ug/L	<RL

LOW-LEVEL PERFORMANCE VERIFICATION STANDARD
Curtis & Tompkins Laboratories

Instid : MET07 Run Name :
Seqnum : 72147476004 Filename : tr176917 Injected : 12-APR-2002 10:14
Caltype :

Standards: 02WS0594

Analyte	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum	100.0000	91.44000	ug/L	-9	50	
Antimony	60.00000	72.20000	ug/L	20	50	
Arsenic	5.000000	3.480000	ug/L	-30	50	
Barium	10.00000	10.10000	ug/L	1	50	
Beryllium	2.000000	1.960000	ug/L	-2	50	
Cadmium	5.000000	4.930000	ug/L	-1	50	
Chromium	10.00000	9.860000	ug/L	-1	50	
Cobalt	20.00000	19.80000	ug/L	-1	50	
Copper	10.00000	9.130000	ug/L	-9	50	
Iron	100.0000	100.5000	ug/L	1	50	
Lead	3.000000	4.130000	ug/L	38	50	
Manganese	10.00000	9.930000	ug/L	-1	50	
Molybdenum	20.00000	20.10000	ug/L	1	50	
Nickel	20.00000	21.20000	ug/L	6	50	
Selenium	5.000000	6.850000	ug/L	37	50	
Silver	5.000000	3.960000	ug/L	-21	50	
Thallium	5.000000	2.740000	ug/L	-45	50	
Vanadium	10.00000	9.010000	ug/L	-10	50	
Zinc	20.00000	20.80000	ug/L	4	50	

INTERFERENCE CHECK STANDARD AB
Curtis & Tompkins Laboratories

Instid : MET07 Run Name :
Seqnum : 72147476005 Filename : tr176918 Injected : 12-APR-2002 10:27
Caltype :

Standards: 02WS0163

Analyte	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum	500000.0	547400.0	ug/L	9		
Antimony	500.0000	446.0000	ug/L	-11	20	
Arsenic	500.0000	485.0000	ug/L	-3	20	
Barium	500.0000	517.0000	ug/L	3	20	
Beryllium	500.0000	482.0000	ug/L	-4	20	
Cadmium	1000.000	900.0000	ug/L	-10	20	
Calcium	500000.0	447500.0	ug/L	-11		
Chromium	500.0000	471.0000	ug/L	-6	20	
Cobalt	500.0000	446.0000	ug/L	-11	20	
Copper	500.0000	539.0000	ug/L	8	20	
Iron	200000.0	192900.0	ug/L	-4		
Lead	1000.000	889.0000	ug/L	-11	20	
Magnesium	500000.0	505300.0	ug/L	1		
Manganese	500.0000	474.0000	ug/L	-5	20	
Molybdenum	500.0000	463.0000	ug/L	-7	20	
Nickel	1000.000	989.0000	ug/L	-1	20	
Selenium	500.0000	466.0000	ug/L	-7	20	
Silver	1000.000	1030.000	ug/L	3	20	
Thallium	500.0000	428.0000	ug/L	-14	20	
Titanium	20000.00	2060.000	ug/L	-90		
Vanadium	500.0000	500.0000	ug/L	0	20	
Zinc	1000.000	955.0000	ug/L	-4	20	

CONTINUING CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instid : MET07 Run Name :
Seqnum : 72147476014 Filename : tr176927 Injected : 12-APR-2002 11:05
Caltype :

Standards: 02WS0160

Analyte	RF/CF	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum		750.0000	791.4000	ug/L	6	10	
Antimony		750.0000	787.0000	ug/L	5	10	
Arsenic		375.0000	406.0000	ug/L	8	10	
Barium		750.0000	770.0000	ug/L	3	10	
Beryllium		75.00000	78.00000	ug/L	4	10	
Cadmium		75.00000	76.40000	ug/L	2	10	
Calcium		1500.000	1609.000	ug/L	7	10	
Chromium		150.0000	155.0000	ug/L	3	10	
Cobalt		375.0000	382.0000	ug/L	2	10	
Copper		150.0000	157.0000	ug/L	5	10	
Iron		750.0000	793.3000	ug/L	6	10	
Lead		375.0000	392.0000	ug/L	5	10	
Magnesium		1500.000	1573.000	ug/L	5	10	
Manganese		75.00000	77.10000	ug/L	3	10	
Molybdenum		750.0000	770.0000	ug/L	3	10	
Nickel		375.0000	394.0000	ug/L	5	10	
Selenium		375.0000	393.0000	ug/L	5	10	
Silver		75.00000	79.70000	ug/L	6	10	
Thallium		375.0000	379.0000	ug/L	1	10	
Titanium		750.0000	796.0000	ug/L	6	10	
Vanadium		375.0000	385.0000	ug/L	3	10	
Zinc		75.00000	77.20000	ug/L	3	10	

INSTRUMENT BLANK REPORT
Curtis & Tompkins Laboratories

Instrument: MET07 TJA Trace ICP
Seqnum: 72147476015 Run Name: Injected: 12-APR-2002 11:09
Filename: tr176928 Blank Type: CCB

Analyte	QuantAmt	RL	Units	Req Flags
Aluminum	ND	100.0000	ug/L	<RL
Antimony	[15.200]	60.00000	ug/L	<RL
Arsenic	[3.3900]	5.000000	ug/L	<RL
Barium	[0.1970]	10.00000	ug/L	<RL
Beryllium	ND	2.000000	ug/L	<RL
Cadmium	ND	5.000000	ug/L	<RL
Calcium	[1.0460]	500.0000	ug/L	<RL
Chromium	ND	10.00000	ug/L	<RL
Cobalt	[0.1630]	20.00000	ug/L	<RL
Copper	ND	10.00000	ug/L	<RL
Iron	ND	100.0000	ug/L	<RL
Lead	ND	3.000000	ug/L	<RL
Magnesium	ND	500.0000	ug/L	<RL
Manganese	ND	10.00000	ug/L	<RL
Molybdenum	[5.6900]	20.00000	ug/L	<RL
Nickel	ND	20.00000	ug/L	<RL
Selenium	[0.1390]	5.000000	ug/L	<RL
Silver	ND	5.000000	ug/L	<RL
Thallium	ND	5.000000	ug/L	<RL
Titanium	[0.4850]	10.00000	ug/L	<RL
Vanadium	[0.0060]	10.00000	ug/L	<RL
Zinc	ND	20.00000	ug/L	<RL

INTERFERENCE CHECK STANDARD AB
Curtis & Tompkins Laboratories

Instid : MET07 Run Name :
Seqnum : 72147476024 Filename : tr176937 Injected : 12-APR-2002 11:55
Caltype :

Standards: 02WS0163

Analyte	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum	500000.0	557000.0	ug/L	11		
Antimony	500.0000	503.0000	ug/L	1	20	
Arsenic	500.0000	471.0000	ug/L	-6	20	
Barium	500.0000	528.0000	ug/L	6	20	
Beryllium	500.0000	484.0000	ug/L	-3	20	
Cadmium	1000.000	893.0000	ug/L	-11	20	
Calcium	500000.0	452000.0	ug/L	-10		
Chromium	500.0000	467.0000	ug/L	-7	20	
Cobalt	500.0000	440.0000	ug/L	-12	20	
Copper	500.0000	547.0000	ug/L	9	20	
Iron	200000.0	191900.0	ug/L	-4		
Lead	1000.000	882.0000	ug/L	-12	20	
Magnesium	500000.0	500600.0	ug/L	0		
Manganese	500.0000	472.0000	ug/L	-6	20	
Molybdenum	500.0000	460.0000	ug/L	-8	20	
Nickel	1000.000	985.0000	ug/L	-2	20	
Selenium	500.0000	462.0000	ug/L	-8	20	
Silver	1000.000	1120.000	ug/L	12	20	
Thallium	500.0000	425.0000	ug/L	-15	20	
Titanium	20000.00	2020.000	ug/L	-90		
Vanadium	500.0000	498.0000	ug/L	0	20	
Zinc	1000.000	951.0000	ug/L	-5	20	

CONTINUING CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instid : MET07 Run Name :
Seqnum : 72147476025 Filename : tr176938 Injected : 12-APR-2002 12:09
Caltype :

Standards: 02WS0159

Analyte	RF/CF	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum		500.0000	527.4000	ug/L	5	10	
Antimony		500.0000	477.0000	ug/L	-5	10	
Arsenic		250.0000	261.0000	ug/L	4	10	
Barium		500.0000	518.0000	ug/L	4	10	
Beryllium		50.00000	51.50000	ug/L	3	10	
Cadmium		50.00000	50.70000	ug/L	1	10	
Calcium		1000.000	1049.000	ug/L	5	10	
Chromium		100.0000	102.0000	ug/L	2	10	
Cobalt		250.0000	252.0000	ug/L	1	10	
Copper		100.0000	104.0000	ug/L	4	10	
Iron		500.0000	504.0000	ug/L	1	10	
Lead		250.0000	258.0000	ug/L	3	10	
Magnesium		1000.000	1053.000	ug/L	5	10	
Manganese		50.00000	50.30000	ug/L	1	10	
Molybdenum		500.0000	507.0000	ug/L	1	10	
Nickel		250.0000	262.0000	ug/L	5	10	
Selenium		250.0000	260.0000	ug/L	4	10	
Silver		50.00000	51.60000	ug/L	3	10	
Thallium		250.0000	248.0000	ug/L	-1	10	
Titanium		500.0000	536.0000	ug/L	7	10	
Vanadium		250.0000	256.0000	ug/L	2	10	
Zinc		50.00000	51.00000	ug/L	2	10	

INSTRUMENT BLANK REPORT
Curtis & Tompkins Laboratories

Instrument: MET07 TJA Trace ICP
Seqnum: 72147476026 Run Name: Injected: 12-APR-2002 12:12
Filename: tr176939 Blank Type: CCB

Analyte	QuantAmt	RL	Units	Req Flags
Aluminum	ND	100.0000	ug/L	<RL
Antimony	[53.600]	60.00000	ug/L	<RL
Arsenic	[1.2200]	5.000000	ug/L	<RL
Barium	[0.3200]	10.00000	ug/L	<RL
Beryllium	ND	2.000000	ug/L	<RL
Cadmium	ND	5.000000	ug/L	<RL
Calcium	[5.9040]	500.0000	ug/L	<RL
Chromium	ND	10.00000	ug/L	<RL
Cobalt	[0.0770]	20.00000	ug/L	<RL
Copper	ND	10.00000	ug/L	<RL
Iron	ND	100.0000	ug/L	<RL
Lead	[0.0190]	3.000000	ug/L	<RL
Magnesium	[0.6172]	500.0000	ug/L	<RL
Manganese	ND	10.00000	ug/L	<RL
Molybdenum	[7.8800]	20.00000	ug/L	<RL
Nickel	[0.0230]	20.00000	ug/L	<RL
Selenium	[0.1220]	5.000000	ug/L	<RL
Silver	[1.0100]	5.000000	ug/L	<RL
Thallium	[0.4230]	5.000000	ug/L	<RL
Titanium	[0.3570]	10.00000	ug/L	<RL
Vanadium	ND	10.00000	ug/L	<RL
Zinc	ND	20.00000	ug/L	<RL

CONTINUING CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instid : MET07 Run Name :
Seqnum : 72147476037 Filename : tr176950 Injected : 12-APR-2002 12:54
Caltype :

Standards: 02WS0161

Analyte	RF/CF	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum		250.0000	251.8000	ug/L	1	10	
Antimony		250.0000	245.0000	ug/L	-2	10	
Arsenic		125.0000	135.0000	ug/L	8	10	
Barium		250.0000	268.0000	ug/L	7	10	
Beryllium		25.00000	26.80000	ug/L	7	10	
Cadmium		25.00000	26.80000	ug/L	7	10	
Calcium		500.0000	521.2000	ug/L	4	10	
Chromium		50.00000	53.10000	ug/L	6	10	
Cobalt		125.0000	132.0000	ug/L	6	10	
Copper		50.00000	54.20000	ug/L	8	10	
Iron		250.0000	275.2000	ug/L	10	10	
Lead		125.0000	137.0000	ug/L	10	10	
Magnesium		500.0000	537.2000	ug/L	7	10	
Manganese		25.00000	26.20000	ug/L	5	10	
Molybdenum		250.0000	263.0000	ug/L	5	10	
Nickel		125.0000	138.0000	ug/L	10	10	
Selenium		125.0000	135.0000	ug/L	8	10	
Silver		25.00000	26.60000	ug/L	6	10	
Thallium		125.0000	130.0000	ug/L	4	10	
Titanium		250.0000	272.0000	ug/L	9	10	
Vanadium		125.0000	131.0000	ug/L	5	10	
Zinc		25.00000	27.00000	ug/L	8	10	

INSTRUMENT BLANK REPORT
Curtis & Tompkins Laboratories

Instrument: MET07 TJA Trace ICP
Seqnum: 72147476038 Run Name: Injected: 12-APR-2002 12:59
Filename: tr176951 Blank Type: CCB

Analyte	QuantAmt	RL	Units	Req Flags
Aluminum	ND	100.0000	ug/L	<RL
Antimony	[23.400]	60.00000	ug/L	<RL
Arsenic	[0.8130]	5.000000	ug/L	<RL
Barium	[0.1330]	10.00000	ug/L	<RL
Beryllium	[0.1630]	2.000000	ug/L	<RL
Cadmium	ND	5.000000	ug/L	<RL
Calcium	[5.1730]	500.0000	ug/L	<RL
Chromium	ND	10.00000	ug/L	<RL
Cobalt	ND	20.00000	ug/L	<RL
Copper	ND	10.00000	ug/L	<RL
Iron	[3.5220]	100.0000	ug/L	<RL
Lead	[0.5230]	3.000000	ug/L	<RL
Magnesium	ND	500.0000	ug/L	<RL
Manganese	[0.0660]	10.00000	ug/L	<RL
Molybdenum	[3.6900]	20.00000	ug/L	<RL
Nickel	ND	20.00000	ug/L	<RL
Selenium	ND	5.000000	ug/L	<RL
Silver	ND	5.000000	ug/L	<RL
Thallium	ND	5.000000	ug/L	<RL
Titanium	[1.2600]	10.00000	ug/L	<RL
Vanadium	ND	10.00000	ug/L	<RL
Zinc	[0.3740]	20.00000	ug/L	<RL

CONTINUING CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instid : MET07 Run Name :
Seqnum : 72147476048 Filename : tr176961 Injected : 12-APR-2002 13:37
Caltype :

Standards: 02WS0159

Analyte	RF/CF	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum		500.0000	542.2000	ug/L	8	10	
Antimony		500.0000	503.0000	ug/L	1	10	
Arsenic		250.0000	272.0000	ug/L	9	10	
Barium		500.0000	522.0000	ug/L	4	10	
Beryllium		50.00000	52.30000	ug/L	5	10	
Cadmium		50.00000	52.50000	ug/L	5	10	
Calcium		1000.000	1014.000	ug/L	1	10	
Chromium		100.0000	104.0000	ug/L	4	10	
Cobalt		250.0000	257.0000	ug/L	3	10	
Copper		100.0000	102.0000	ug/L	2	10	
Iron		500.0000	528.6000	ug/L	6	10	
Lead		250.0000	268.0000	ug/L	7	10	
Magnesium		1000.000	1056.000	ug/L	6	10	
Manganese		50.00000	50.20000	ug/L	0	10	
Molybdenum		500.0000	526.0000	ug/L	5	10	
Nickel		250.0000	269.0000	ug/L	8	10	
Selenium		250.0000	271.0000	ug/L	8	10	
Silver		50.00000	50.20000	ug/L	0	10	
Thallium		250.0000	254.0000	ug/L	2	10	
Titanium		500.0000	539.0000	ug/L	8	10	
Vanadium		250.0000	257.0000	ug/L	3	10	
Zinc		50.00000	52.90000	ug/L	6	10	

INSTRUMENT BLANK REPORT
Curtis & Tompkins Laboratories

Instrument: MET07 TJA Trace ICP
Seqnum: 72147476049 Run Name: Injected: 12-APR-2002 13:41
Filename: tr176962 Blank Type: CCB

Analyte	QuantAmt	RL	Units	Req Flags
Aluminum	[18.710]	100.0000	ug/L	<RL
Antimony	[13.600]	60.00000	ug/L	<RL
Arsenic	ND	5.000000	ug/L	<RL
Barium	[0.2620]	10.00000	ug/L	<RL
Beryllium	[0.3340]	2.000000	ug/L	<RL
Cadmium	ND	5.000000	ug/L	<RL
Calcium	[5.6030]	500.0000	ug/L	<RL
Chromium	ND	10.00000	ug/L	<RL
Cobalt	ND	20.00000	ug/L	<RL
Copper	ND	10.00000	ug/L	<RL
Iron	[4.7920]	100.0000	ug/L	<RL
Lead	[0.8490]	3.000000	ug/L	<RL
Magnesium	[0.7430]	500.0000	ug/L	<RL
Manganese	[0.1840]	10.00000	ug/L	<RL
Molybdenum	[2.4600]	20.00000	ug/L	<RL
Nickel	ND	20.00000	ug/L	<RL
Selenium	[1.2300]	5.000000	ug/L	<RL
Silver	ND	5.000000	ug/L	<RL
Thallium	ND	5.000000	ug/L	<RL
Titanium	ND	10.00000	ug/L	<RL
Vanadium	ND	10.00000	ug/L	<RL
Zinc	ND	20.00000	ug/L	<RL

CONTINUING CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instid : MET07 Run Name :
Seqnum : 72147476059 Filename : tr176972 Injected : 12-APR-2002 14:20
Caltype :

Standards: 02WS0160

Analyte	RF/CF	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum		750.0000	750.9000	ug/L	0	10	
Antimony		750.0000	748.0000	ug/L	0	10	
Arsenic		375.0000	397.0000	ug/L	6	10	
Barium		750.0000	754.0000	ug/L	1	10	
Beryllium		75.00000	76.10000	ug/L	1	10	
Cadmium		75.00000	76.70000	ug/L	2	10	
Calcium		1500.000	1417.000	ug/L	-6	10	
Chromium		150.0000	149.0000	ug/L	-1	10	
Cobalt		375.0000	373.0000	ug/L	-1	10	
Copper		150.0000	149.0000	ug/L	-1	10	
Iron		750.0000	763.3000	ug/L	2	10	
Lead		375.0000	389.0000	ug/L	4	10	
Magnesium		1500.000	1508.000	ug/L	1	10	
Manganese		75.00000	72.60000	ug/L	-3	10	
Molybdenum		750.0000	760.0000	ug/L	1	10	
Nickel		375.0000	390.0000	ug/L	4	10	
Selenium		375.0000	395.0000	ug/L	5	10	
Silver		75.00000	73.50000	ug/L	-2	10	
Thallium		375.0000	375.0000	ug/L	0	10	
Titanium		750.0000	771.0000	ug/L	3	10	
Vanadium		375.0000	371.0000	ug/L	-1	10	
Zinc		75.00000	76.90000	ug/L	3	10	

INSTRUMENT BLANK REPORT
Curtis & Tompkins Laboratories

Instrument: MET07 TJA Trace ICP
Seqnum: 72147476060 Run Name: Injected: 12-APR-2002 14:24
Filename: tr176973 Blank Type: CCB

Analyte	QuantAmt	RL	Units	Req Flags
Aluminum	[20.480]	100.0000	ug/L	<RL
Antimony	[8.5800]	60.00000	ug/L	<RL
Arsenic	[0.5430]	5.000000	ug/L	<RL
Barium	[0.0200]	10.00000	ug/L	<RL
Beryllium	[0.4630]	2.000000	ug/L	<RL
Cadmium	ND	5.000000	ug/L	<RL
Calcium	[7.5170]	500.0000	ug/L	<RL
Chromium	ND	10.00000	ug/L	<RL
Cobalt	ND	20.00000	ug/L	<RL
Copper	ND	10.00000	ug/L	<RL
Iron	[15.450]	100.0000	ug/L	<RL
Lead	[0.9700]	3.000000	ug/L	<RL
Magnesium	[4.8890]	500.0000	ug/L	<RL
Manganese	[0.5290]	10.00000	ug/L	<RL
Molybdenum	[1.6300]	20.00000	ug/L	<RL
Nickel	ND	20.00000	ug/L	<RL
Selenium	[0.6530]	5.000000	ug/L	<RL
Silver	ND	5.000000	ug/L	<RL
Thallium	ND	5.000000	ug/L	<RL
Titanium	[1.2100]	10.00000	ug/L	<RL
Vanadium	ND	10.00000	ug/L	<RL
Zinc	[0.7570]	20.00000	ug/L	<RL

CONTINUING CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instid : MET07 Run Name :
Seqnum : 72147476071 Filename : tr176984 Injected : 12-APR-2002 15:06
Caltype :

Standards: 02WS0160

Analyte	RF/CF	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum		750.0000	737.3000	ug/L	-2	10	
Antimony		750.0000	799.0000	ug/L	7	10	
Arsenic		375.0000	393.0000	ug/L	5	10	
Barium		750.0000	753.0000	ug/L	0	10	
Beryllium		75.00000	75.10000	ug/L	0	10	
Cadmium		75.00000	76.30000	ug/L	2	10	
Calcium		1500.000	1383.000	ug/L	-8	10	
Chromium		150.0000	147.0000	ug/L	-2	10	
Cobalt		375.0000	372.0000	ug/L	-1	10	
Copper		150.0000	148.0000	ug/L	-1	10	
Iron		750.0000	753.8000	ug/L	1	10	
Lead		375.0000	386.0000	ug/L	3	10	
Magnesium		1500.000	1498.000	ug/L	0	10	
Manganese		75.00000	70.90000	ug/L	-5	10	
Molybdenum		750.0000	760.0000	ug/L	1	10	
Nickel		375.0000	388.0000	ug/L	3	10	
Selenium		375.0000	394.0000	ug/L	5	10	
Silver		75.00000	73.20000	ug/L	-2	10	
Thallium		375.0000	374.0000	ug/L	0	10	
Titanium		750.0000	763.0000	ug/L	2	10	
Vanadium		375.0000	369.0000	ug/L	-2	10	
Zinc		75.00000	75.40000	ug/L	1	10	

INSTRUMENT BLANK REPORT
Curtis & Tompkins Laboratories

Instrument: MET07 TJA Trace ICP
Seqnum: 72147476072 Run Name: Injected: 12-APR-2002 15:10
Filename: tr176985 Blank Type: CCB

Analyte	QuantAmt	RL	Units	Req Flags
Aluminum	[10.560]	100.0000	ug/L	<RL
Antimony	[22.400]	60.00000	ug/L	<RL
Arsenic	[0.5160]	5.000000	ug/L	<RL
Barium	[0.2530]	10.00000	ug/L	<RL
Beryllium	[0.6330]	2.000000	ug/L	<RL
Cadmium	ND	5.000000	ug/L	<RL
Calcium	[4.1270]	500.0000	ug/L	<RL
Chromium	ND	10.00000	ug/L	<RL
Cobalt	[0.0190]	20.00000	ug/L	<RL
Copper	ND	10.00000	ug/L	<RL
Iron	[3.8570]	100.0000	ug/L	<RL
Lead	[1.1900]	3.000000	ug/L	<RL
Magnesium	[0.2480]	500.0000	ug/L	<RL
Manganese	[0.0760]	10.00000	ug/L	<RL
Molybdenum	[5.5400]	20.00000	ug/L	<RL
Nickel	ND	20.00000	ug/L	<RL
Selenium	ND	5.000000	ug/L	<RL
Silver	ND	5.000000	ug/L	<RL
Thallium	[0.1050]	5.000000	ug/L	<RL
Titanium	ND	10.00000	ug/L	<RL
Vanadium	ND	10.00000	ug/L	<RL
Zinc	ND	20.00000	ug/L	<RL

CONTINUING CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instid : MET07 Run Name :
Seqnum : 72147476083 Filename : tr176996 Injected : 12-APR-2002 15:50
Caltype :

Standards: 02WS0161

Analyte	RF/CF	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum		250.0000	257.2000	ug/L	3	10	
Antimony		250.0000	233.0000	ug/L	-7	10	
Arsenic		125.0000	134.0000	ug/L	7	10	
Barium		250.0000	257.0000	ug/L	3	10	
Beryllium		25.00000	26.50000	ug/L	6	10	
Cadmium		25.00000	26.80000	ug/L	7	10	
Calcium		500.0000	464.2000	ug/L	-7	10	
Chromium		50.00000	50.00000	ug/L	0	10	
Cobalt		125.0000	130.0000	ug/L	4	10	
Copper		50.00000	50.50000	ug/L	1	10	
Iron		250.0000	249.4000	ug/L	0	10	
Lead		125.0000	135.0000	ug/L	8	10	
Magnesium		500.0000	518.4000	ug/L	4	10	
Manganese		25.00000	24.40000	ug/L	-2	10	
Molybdenum		250.0000	254.0000	ug/L	2	10	
Nickel		125.0000	136.0000	ug/L	9	10	
Selenium		125.0000	134.0000	ug/L	7	10	
Silver		25.00000	24.20000	ug/L	-3	10	
Thallium		125.0000	130.0000	ug/L	4	10	
Titanium		250.0000	261.0000	ug/L	4	10	
Vanadium		125.0000	126.0000	ug/L	1	10	
Zinc		25.00000	26.50000	ug/L	6	10	

INSTRUMENT BLANK REPORT
Curtis & Tompkins Laboratories

Instrument: MET07 TJA Trace ICP
Seqnum: 72147476084 Run Name: Injected: 12-APR-2002 15:58
Filename: tr176997 Blank Type: CCB

Analyte	QuantAmt	RL	Units	Req Flags
Aluminum	[11.780]	100.0000	ug/L	<RL
Antimony	[57.300]	60.00000	ug/L	<RL
Arsenic	ND	5.000000	ug/L	<RL
Barium	[0.4320]	10.00000	ug/L	<RL
Beryllium	[0.7270]	2.000000	ug/L	<RL
Cadmium	ND	5.000000	ug/L	<RL
Calcium	[3.0140]	500.0000	ug/L	<RL
Chromium	ND	10.00000	ug/L	<RL
Cobalt	[0.3970]	20.00000	ug/L	<RL
Copper	ND	10.00000	ug/L	<RL
Iron	ND	100.0000	ug/L	<RL
Lead	[0.6680]	3.000000	ug/L	<RL
Magnesium	ND	500.0000	ug/L	<RL
Manganese	[0.0310]	10.00000	ug/L	<RL
Molybdenum	[5.4100]	20.00000	ug/L	<RL
Nickel	[0.3260]	20.00000	ug/L	<RL
Selenium	[0.9030]	5.000000	ug/L	<RL
Silver	[0.1560]	5.000000	ug/L	<RL
Thallium	[0.6960]	5.000000	ug/L	<RL
Titanium	[1.8400]	10.00000	ug/L	<RL
Vanadium	ND	10.00000	ug/L	<RL
Zinc	[0.5020]	20.00000	ug/L	<RL

CONTINUING CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instid : MET07 Run Name :
Seqnum : 72147476095 Filename : tr177009 Injected : 12-APR-2002 16:50
Caltype :

Standards: 02WS0159

Analyte	RF/CF	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum		500.0000	502.1000	ug/L	0	10	
Antimony		500.0000	453.0000	ug/L	-9	10	
Arsenic		250.0000	261.0000	ug/L	4	10	
Barium		500.0000	504.0000	ug/L	1	10	
Beryllium		50.00000	51.00000	ug/L	2	10	
Cadmium		50.00000	50.60000	ug/L	1	10	
Calcium		1000.000	1004.000	ug/L	0	10	
Chromium		100.0000	101.0000	ug/L	1	10	
Cobalt		250.0000	251.0000	ug/L	0	10	
Copper		100.0000	99.50000	ug/L	-1	10	
Iron		500.0000	508.7000	ug/L	2	10	
Lead		250.0000	257.0000	ug/L	3	10	
Magnesium		1000.000	1044.000	ug/L	4	10	
Manganese		50.00000	50.00000	ug/L	0	10	
Molybdenum		500.0000	498.0000	ug/L	0	10	
Nickel		250.0000	258.0000	ug/L	3	10	
Selenium		250.0000	253.0000	ug/L	1	10	
Silver		50.00000	49.10000	ug/L	-2	10	
Thallium		250.0000	244.0000	ug/L	-2	10	
Titanium		500.0000	522.0000	ug/L	4	10	
Vanadium		250.0000	251.0000	ug/L	0	10	
Zinc		50.00000	50.50000	ug/L	1	10	

INSTRUMENT BLANK REPORT
Curtis & Tompkins Laboratories

Instrument: MET07 TJA Trace ICP
Seqnum: 72147476096 Run Name: Injected: 12-APR-2002 16:54
Filename: tr177010 Blank Type: CCB

Analyte	QuantAmt	RL	Units	Req Flags
Aluminum	ND	100.0000	ug/L	<RL
Antimony	[41.300]	60.00000	ug/L	<RL
Arsenic	[0.7670]	5.000000	ug/L	<RL
Barium	[0.3000]	10.00000	ug/L	<RL
Beryllium	[1.1800]	2.000000	ug/L	<RL
Cadmium	ND	5.000000	ug/L	<RL
Calcium	[3.0610]	500.0000	ug/L	<RL
Chromium	ND	10.00000	ug/L	<RL
Cobalt	[0.1580]	20.00000	ug/L	<RL
Copper	ND	10.00000	ug/L	<RL
Iron	ND	100.0000	ug/L	<RL
Lead	[1.1400]	3.000000	ug/L	<RL
Magnesium	[2.1080]	500.0000	ug/L	<RL
Manganese	ND	10.00000	ug/L	<RL
Molybdenum	[5.5100]	20.00000	ug/L	<RL
Nickel	[0.3590]	20.00000	ug/L	<RL
Selenium	[1.2300]	5.000000	ug/L	<RL
Silver	ND	5.000000	ug/L	<RL
Thallium	[0.5190]	5.000000	ug/L	<RL
Titanium	[0.0340]	10.00000	ug/L	<RL
Vanadium	ND	10.00000	ug/L	<RL
Zinc	ND	20.00000	ug/L	<RL

INTERFERENCE CHECK STANDARD AB
Curtis & Tompkins Laboratories

Instid : MET07 Run Name :
Seqnum : 72147476097 Filename : tr177011 Injected : 12-APR-2002 16:57
Caltype :

Standards: 02WS0163

Analyte	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum	500000.0	536900.0	ug/L	7		
Antimony	500.0000	423.0000	ug/L	-15	20	
Arsenic	500.0000	479.0000	ug/L	-4	20	
Barium	500.0000	520.0000	ug/L	4	20	
Beryllium	500.0000	468.0000	ug/L	-6	20	
Cadmium	1000.000	919.0000	ug/L	-8	20	
Calcium	500000.0	427800.0	ug/L	-14		
Chromium	500.0000	465.0000	ug/L	-7	20	
Cobalt	500.0000	444.0000	ug/L	-11	20	
Copper	500.0000	529.0000	ug/L	6	20	
Iron	200000.0	191400.0	ug/L	-4		
Lead	1000.000	901.0000	ug/L	-10	20	
Magnesium	500000.0	498700.0	ug/L	0		
Manganese	500.0000	464.0000	ug/L	-7	20	
Molybdenum	500.0000	445.0000	ug/L	-11	20	
Nickel	1000.000	989.0000	ug/L	-1	20	
Selenium	500.0000	464.0000	ug/L	-7	20	
Silver	1000.000	1050.000	ug/L	5	20	
Thallium	500.0000	424.0000	ug/L	-15	20	
Titanium	20000.00	1980.000	ug/L	-90		
Vanadium	500.0000	498.0000	ug/L	0	20	
Zinc	1000.000	970.0000	ug/L	-3	20	

SAMPLE PREPARATION SUMMARY

04/08/02 17:20:55

Batch Number : 71469
Date Extracted : 08-APR-02
Extracted By : Victor Vergara
Prep Method : 3050

Analysis: N/A
Bgroup : ICAP
Units : g
Clean-up:

Spike #1 ID : 01SS186
Spike #2 ID : 01SS187
Spike #3 ID :

Sample No.	Type		Client	Matrx	Init W/V	U	Final Vol	Prep D.F.	Clean pH D.F.	Spike #1 Vol	Spike #2 Vol	Spike #3 Vol	Analysis	Comments
157881-053			IT Corporation	Soil	2.61	g	100	38.3141	1				T26/ICP	
157881-054			IT Corporation	Soil	2.74	g	100	36.4963	1				T26/ICP	
157881-055			IT Corporation	Soil	2.36	g	100	42.3728	1				T26/ICP	
157881-056			IT Corporation	Soil	2.33	g	100	42.9184	1				T26/ICP	mss
157881-057			IT Corporation	Soil	2.1	g	100	47.6190	1				T26/ICP	
157881-058			IT Corporation	Soil	2.09	g	100	47.8468	1				T26/ICP	
157881-059			IT Corporation	Soil	2.28	g	100	43.8596	1				T26/ICP	
157909-020			U.S. Army Corps of Engineers	Soil	2.08	g	100	48.0769	1				T26/ICP	
157912-003			Subsurface Consultants	Soil	2.21	g	100	45.2488	1				T26/ICP	
157961-001			LFR Levine Fricke	Soil	2.61	g	100	38.3141	1				T26/ICP	
157961-002			LFR Levine Fricke	Soil	2.11	g	100	47.3933	1				T26/ICP	
157961-005			LFR Levine Fricke	Soil	2.22	g	100	45.0450	1				T26/ICP	
157961-007			LFR Levine Fricke	Soil	2.12	g	100	47.1698	1				T26/ICP	
157961-013			LFR Levine Fricke	Soil	2.12	g	100	47.1698	1				T26/ICP	
157961-014			LFR Levine Fricke	Soil	2.49	g	100	40.1606	1				T26/ICP	
157961-015			LFR Levine Fricke	Soil	2.17	g	100	46.0829	1				T26/ICP	
157961-016			LFR Levine Fricke	Soil	2.12	g	100	47.1698	1				T26/ICP	
157989-002			Erler & Kalinowski, Inc.	Soil	2.22	g	100	45.0450	1				T26/ICP	
157989-003			Erler & Kalinowski, Inc.	Soil	2.01	g	100	49.7512	1				MN	
QC175353	BLANK			Soil	2	g	100	50	1					
QC175354	BS			Soil	2	g	100	50	1	1	1			
QC175355	BSD			Soil	2	g	100	50	1	1	1			
QC175356	MS	of 157881-056		Soil	2.41	g	100	41.4937	1	1	1			
QC175357	MSD	of 157881-056		Soil	2.22	g	100	45.0450	1	1	1			
QC175358	SER	of 157881-056		Soil	2.33	g	100	42.9184	1					

Prep Chemist: _____ Reviewed By: MN Date: 4/12/02

Relinquished By: _____ Received By: MN Date: 4/12/02

04/08/02 BH 7/469 ICAP/M3050

Sample	mass(g)	final vol (ml) 100 ml	filtered yes/no	COMMENTS
BLK QC 175353	∅		NO	SPIKES
BS 175354				#0155186 (1.0ml)
BSD 175355	↓			#0155187 ↓
157881-056 MS	A 2.41			
-056 MSD	2.22			
-053	2.61			
-054	2.74			
-055	2.36			
MSD -056	2.33			
-057	2.10			
-058	2.09			
↓ -059	↓ 2.78			
157909-020	A 2.08			
157912- ~~002~~ 001	A ~~2.29~~			
↓ -003	↓ 2.21			
157961-001	A 2.61			
-002	2.11			
-005	↓ 2.22			
-007	A 2.12			
-013	F 2.12			
-014	2.49			
-015	2.17			
↓ -016	↓ 2.12			
157969-002	D 2.22			
↓ 003	12.01			

Reagents lot num
HNO3 JTBaker 202028
H2O2 JWR #41152129
HCL Fisher #410250

Continued on Page

Read and Understood By

Patricia Vergara 04/08/02 Signed Date

Patricia Vergara 04/09/02 Signed Date

SEQUENCE SUMMARY
Curtis & Tompkins Laboratories

Sequence: 72141694 Instrument: MET07 TJA Trace ICP Begun: 08-APR-2002

#	Filename	Type	Samplenum	Batch	Matrix	Analyzed	IDF	PDF	IOC SPK uL	Stds Used	>LR
001	tr176243	CS				08-APR-2002 09:34	1.0	1.0		1	
002	tr176244	ICV				08-APR-2002 09:39	1.0	1.0		2	
003	tr176245	ICB				08-APR-2002 09:44	1.0	1.0			
004	tr176246	CRI				08-APR-2002 09:48	1.0	1.0		3	
005	tr176247	ICSAB				08-APR-2002 09:52	1.0	1.0		4	5:AL=483900
006	tr176248	BLANK	QC174908	71352	Filtra	08-APR-2002 10:03	1.0	1.0			
007	tr176249	SSPIKE	QC174912	71352	Filtra	08-APR-2002 10:07	1.0	1.0	1		
008	tr176250	SAMPLE	157774-008	71352	Filtra	08-APR-2002 10:10	1.0	1.0			
009	tr176251	SAMPLE	157774-009	71352	Filtra	08-APR-2002 10:14	1.0	1.0			
010	tr176252	SAMPLE	157774-010	71352	Filtra	08-APR-2002 10:17	1.0	1.0			
011	tr176253	SAMPLE	157774-011	71352	Filtra	08-APR-2002 10:20	1.0	1.0			
012	tr176254	SAMPLE	157774-012	71352	Filtra	08-APR-2002 10:24	1.0	1.0			
013	tr176255	SAMPLE	157774-013	71352	Filtra	08-APR-2002 10:27	1.0	1.0			
014	tr176256	CCV				08-APR-2002 10:34	1.0	1.0		5	
015	tr176257	CCB				08-APR-2002 10:47	1.0	1.0			
016	tr176258	SAMPLE	157774-014	71352	Filtra	08-APR-2002 10:59	1.0	1.0	1		
017	tr176259	SAMPLE	157774-015	71352	Filtra	08-APR-2002 11:03	1.0	1.0			
018	tr176260	SAMPLE	157774-016	71352	Filtra	08-APR-2002 11:06	1.0	1.0			
019	tr176261	SAMPLE	157774-014	71352	Filtra	08-APR-2002 11:13	1.0	1.0			
020	tr176262	BLANK	QC175090	71403	Water	08-APR-2002 11:17	1.0	1.0			
021	tr176263	BS	QC175091	71403	Water	08-APR-2002 11:21	1.0	1.0			
022	tr176264	BSD	QC175092	71403	Water	08-APR-2002 11:24	1.0	1.0			
023	tr176265	MSS	157909-023	71403	Water	08-APR-2002 11:29	1.0	1.0			
024	tr176266	MS	QC175093	71403	Water	08-APR-2002 11:33	1.0	1.0			
025	tr176267	MSD	QC175094	71403	Water	08-APR-2002 11:36	1.0	1.0			
026	tr176268	CCV				08-APR-2002 11:45	1.0	1.0		6	
027	tr176269	CCB				08-APR-2002 11:52	1.0	1.0			
028	tr176270	SAMPLE	157881-062	71403	Water	08-APR-2002 11:56	1.0	1.0			
029	tr176271	SAMPLE	157887-001	71403	Water	08-APR-2002 12:00	1.0	1.0			
030	tr176272	SAMPLE	157887-002	71403	Water	08-APR-2002 12:04	1.0	1.0			
031	tr176273	SAMPLE	157907-001	71403	Water	08-APR-2002 12:07	1.0	1.0			1:CA=328200
032	tr176274	SAMPLE	157908-001	71403	Water	08-APR-2002 12:11	1.0	1.0			

Stds used: 1=02WS0548 2=02WS0158 3=02WS0594 4=02WS0163 5=02WS0160 6=02WS0159 7=02WS0161

Analyst: MW Date: 4/8/02

SEQUENCE SUMMARY
Curtis & Tompkins Laboratories

Sequence: 72141694 Instrument: MET07 TJA Trace ICP Begun: 08-APR-2002

#	Filename	Type	Samplenum	Batch	Matrix	Analyzed	IDF	PDF	IQC	SPK uL	Stds Used	>LR
033	tr176275	SAMPLE	157950-001	71403	Water	08-APR-2002 12:14	1.0	1.0	1			2:CA=204500
034	tr176276	SAMPLE	157950-001	71403	Water	08-APR-2002 12:20	10.0	1.0				
035	tr176277	BLANK	QC175096	71404	Soil	08-APR-2002 12:24	1.0	50.0				
036	tr176278	BS	QC175097	71404	Soil	08-APR-2002 12:28	1.0	50.0				
037	tr176279	BSD	QC175098	71404	Soil	08-APR-2002 12:31	1.0	50.0				
038	tr176280	CCV				08-APR-2002 12:55	1.0	1.0			7	
039	tr176281	CCB				08-APR-2002 13:03	1.0	1.0				
040	tr176282	MSS	157877-012	71404	Soil	08-APR-2002 13:07	1.0	40.65041				5:FE=613300
041	tr176283	SDUP	QC175099	71404	Soil	08-APR-2002 13:10	1.0	43.66812	5			5:FE=632500
042	tr176284	SSPIKE	QC175100	71404	Soil	08-APR-2002 13:14	1.0	46.51163		2		5:FE=609300
043	tr176285	MSS	157877-012	71404	Soil	08-APR-2002 13:18	20.0	40.65041				
044	tr176286	SDUP	QC175099	71404	Soil	08-APR-2002 13:21	20.0	43.66812				
045	tr176287	SAMPLE	157877-017	71404	Soil	08-APR-2002 13:24	1.0	49.75124				4:FE=304900
046	tr176288	SAMPLE	157900-001	71404	Soil	08-APR-2002 13:28	1.0	47.39336				4:FE=413800
047	tr176289	SAMPLE	157903-001	71404	Miscel	08-APR-2002 13:32	1.0	45.45455				
048	tr176291	BLANK	QC175158	71424	WET DI	08-APR-2002 13:41	1.0	1.0	1			
049	tr176292	BS	QC175159	71424	WET DI	08-APR-2002 13:45	1.0	1.0				
050	tr176293	CCV				08-APR-2002 13:48	1.0	1.0			5	
051	tr176294	CCB				08-APR-2002 13:52	1.0	1.0				
052	tr176295	BLANK	QC175158	71424	WET DI	08-APR-2002 13:56	1.0	1.0				
053	tr176296	BSD	QC175160	71424	WET DI	08-APR-2002 14:00	1.0	1.0				
054	tr176297	MSS	157841-001	71424	WET DI	08-APR-2002 14:05	1.0	1.0				
055	tr176298	SDUP	QC175161	71424	WET DI	08-APR-2002 14:08	1.0	1.0		2		
056	tr176299	SSPIKE	QC175162	71424	WET DI	08-APR-2002 14:12	1.0	1.0		1		
057	tr176300	BLANK	QC175200	71436	Soil	08-APR-2002 14:15	1.0	50.0	1			
058	tr176301	MSS	157841-001	71424	WET DI	08-APR-2002 14:19	1.0	1.0	1			
059	tr176302	MSS	157841-001	71424	WET DI	08-APR-2002 14:23	1.0	1.0	1			
060	tr176303	SDUP	QC175161	71424	WET DI	08-APR-2002 14:27	1.0	1.0		2		
061	tr176305	CCV				08-APR-2002 14:32	1.0	1.0			7	
062	tr176306	CCB				08-APR-2002 14:40	1.0	1.0				
063	tr176307	BLANK	QC175200	71436	Soil	08-APR-2002 14:46	1.0	50.0				
064	tr176308	BS	QC175201	71436	Soil	08-APR-2002 14:49	1.0	50.0				

Stds used: 1=02WS0548 2=02WS0158 3=02WS0594 4=02WS0163 5=02WS0160 6=02WS0159 7=02WS0161

Analyst: MW Date: 4/8/02

SEQUENCE SUMMARY
Curtis & Tompkins Laboratories

Sequence: 72141694 Instrument: MET07 TJA Trace ICP Begun: 08-APR-2002

#	Filename	Type	Samplenum	Batch	Matrix	Analyzed	IDF	PDF	IQC	SPK uL	Stds Used	>LR
065	tr176309	BSD	QC175202	71436	Soil	08-APR-2002 14:53	1.0	50.0				
066	tr176310	MSS	157909-013	71436	Soil	08-APR-2002 14:56	1.0	48.30918				
067	tr176311	MS	QC175203	71436	Soil	08-APR-2002 15:00	1.0	47.84689		2		
068	tr176312	MSD	QC175204	71436	Soil	08-APR-2002 15:03	1.0	49.26108		2		
069	tr176313	SAMPLE	157810-005	71436	Soil	08-APR-2002 15:07	1.0	40.16064				4:FE=596000
070	tr176314	SAMPLE	157912-002	71404	Soil	08-APR-2002 15:10	1.0	39.37008				2:FE=388000
071	tr176315	SAMPLE	157912-002	71404	Soil	08-APR-2002 15:14	1.0	39.37008				2:FE=379400
072	tr176316	SAMPLE	157921-001	71404	Soil	08-APR-2002 15:18	1.0	42.91845	1			4:FE=310600
073	tr176317	CCV				08-APR-2002 15:23	1.0	1.0			6	
074	tr176318	CCB				08-APR-2002 15:30	1.0	1.0				
075	tr176319	SER	QC175205	71436	Soil	08-APR-2002 15:34	5.0	48.30918				
076	tr176320	BLANK	QC175308	71457	WET Le	08-APR-2002 15:38	10.0	5.0				
077	tr176321	BS	QC175309	71457	WET Le	08-APR-2002 15:41	1.0	1.0				
078	tr176322	BSD	QC175310	71457	WET Le	08-APR-2002 15:45	1.0	1.0				
079	tr176323	MSS	157874-001	71457	WET Le	08-APR-2002 15:50	10.0	5.0				
080	tr176325	SDUP	QC175311	71457	Soil	08-APR-2002 15:58	10.0	5.0				
081	tr176326	SSPIKE	QC175312	71457	Soil	08-APR-2002 16:02	10.0	5.0				
082	tr176327	SAMPLE	157947-001	71457	WET Le	08-APR-2002 16:05	10.0	5.0		1		
083	tr176328	ICSAB				08-APR-2002 16:09	1.0	1.0			4	5:MG=486200
084	tr176329	CCV				08-APR-2002 16:15	1.0	1.0			5	
085	tr176330	CCB				08-APR-2002 16:21	1.0	1.0				

Stds used: 1=02WS0548 2=02WS0158 3=02WS0594 4=02WS0163 5=02WS0160 6=02WS0159 7=02WS0161

Analyst: MW Date: 4/8/02

Method: 6010B Standard: blank
Run Time: 04/08/02 09:21:13

Elem	Sb2068	Sb206A	As1890	Ba4934	Be3130	Cd2265	Cr2677
Avge	-.005	.009	-.005	.006	-.848	.017	.002
SDev	.004	.001	.002	.002	.002	.008	.000
%RSD	92.0	15.2	33.7	24.3	.183	48.4	11.6
#1	-.008	.008	-.004	.005	-.849	.011	.002
#2	-.002	.010	-.006	.007	-.847	.023	.002

Elem	Co2286	Cu3247	Pb2203	Pb220A	Mo2020	Ni2316	Se1960
Avge	-.001	.019	.032	-.007	.004	.009	-.019
SDev	.000	.003	.015	.003	.001	.006	.004
%RSD	13.5	13.8	45.4	38.0	40.0	67.4	18.7
#1	-.002	.017	.042	-.009	.005	.005	-.017
#2	-.001	.021	.022	-.005	.003	.014	-.022

Elem	Se196A	Ag3280	Tl1908	V_2924	Zn2138	Al3082	Ca3179
Avge	.014	-.001	-.009	.003	.094	.2108	.0050
SDev	.006	.004	.003	.000	.000	.0004	.0004
%RSD	47.6	566.	30.3	7.00	.251	.2012	8.542
#1	.009	-.003	-.011	.003	.094	.2111	.0053
#2	.018	.002	-.007	.004	.094	.2105	.0047

Elem	Fe2714	Mg2790	Mn2576	Ti3349
Avge	-.0105	.0015	.009	.769
SDev	.0023	.0008	.000	.002
%RSD	21.62	51.43	1.03	.239
#1	-.0089	.0009	.009	.768
#2	-.0121	.0020	.009	.770

Method: 6010B Standard: cst hi
Run Time: 04/08/02 09:29:36

Elem	Sb2068	Sb206A	As1890	Ba4934	Be3130	Cd2265	Cr2677
Avge	5.31	3.32	1.37	80.8	17.6	6.78	1.26
SDev	.01	.04	.00	.3	.0	.00	.00
%RSD	.167	1.11	.262	.351	.242	.055	.292
#1	5.30	3.30	1.36	80.6	17.6	6.78	1.26
#2	5.32	3.35	1.37	81.0	17.6	6.78	1.26

Elem	Co2286	Cu3247	Pb2203	Pb220A	Mo2020	Ni2316	Se1960
Avge	3.90	2.50	4.55	4.84	7.93	10.8	1.31
SDev	.01	.01	.02	.00	.04	.0	.01
%RSD	.231	.381	.368	.092	.480	.188	.986
#1	3.89	2.49	4.54	4.83	7.90	10.8	1.31
#2	3.91	2.51	4.56	4.84	7.96	10.8	1.32

Elem	Se196A	Ag3280	Tl1908	V_2924	Zn2138	Al3082	Ca3179
Avge	1.72	1.50	.892	4.62	.977	.7375	1.841
SDev	.00	.00	.001	.01	.002	.0008	.003
%RSD	.101	.207	.148	.205	.164	.1023	.1792
#1	1.72	1.50	.893	4.61	.976	.7370	1.839
#2	1.72	1.50	.891	4.62	.978	.7381	1.843

Elem	Fe2714	Mg2790	Mn2576	Ti3349
Avge	.6477	1.080	5.54	38.7
SDev	.0018	.002	.01	.1
%RSD	.2766	.1528	.123	.239
#1	.6489	1.079	5.54	38.7
#2	.6464	1.081	5.55	38.8

Standardization Report 04/08/02 09:33:56 AM page 1

Method: 6010B Slope = Conc(SIR)/IR

Element	Wavelen	High std	Low std	Slope	Y-intercept	Date Standardized
Sb2068	206.831	Multiple	Standards	187.278	.892691	04/08/02 09:29:36
Sb206A	206.832	Multiple	Standards	295.960	-2.65378	04/08/02 09:29:36
As1890	189.042	Multiple	Standards	365.302	1.78998	04/08/02 09:29:36
Ba4934	493.409	Multiple	Standards	12.3803	-.076758	04/08/02 09:29:36
Be3130	313.042	Multiple	Standards	5.23930	4.44380	04/08/02 09:29:36
Cd2265	226.502	Multiple	Standards	14.7726	-.257537	04/08/02 09:29:36
Cr2677	267.716	Multiple	Standards	159.314	-.323939	04/08/02 09:29:36
Co2286	228.616	Multiple	Standards	128.149	.179409	04/08/02 09:29:36
Cu3247	324.754	Multiple	Standards	80.5820	-1.51024	04/08/02 09:29:36
Pb2203	220.351	Multiple	Standards	110.709	-3.53163	04/08/02 09:29:36
Pb220A	220.352	Multiple	Standards	102.456	.737686	04/08/02 09:29:36
Mo2020	202.030	Multiple	Standards	126.133	-.445668	04/08/02 09:29:36
Ni2316	231.604	Multiple	Standards	46.3499	-.424874	04/08/02 09:29:36
Se1960	196.021	Multiple	Standards	374.879	7.28516	04/08/02 09:29:36
Se196A	196.022	Multiple	Standards	292.988	-4.00417	04/08/02 09:29:36
Ag3280	328.068	Multiple	Standards	66.5838	.044389	04/08/02 09:29:36
Tl1908	190.864	Multiple	Standards	557.907	5.11415	04/08/02 09:29:36
V_2924	292.402	Multiple	Standards	108.280	-.364542	04/08/02 09:29:36
Zn2138	213.856	Multiple	Standards	117.389	-11.0385	04/08/02 09:29:36
Al3082	308.215	Multiple	Standards	1923.09	-405.451	04/08/02 09:29:36
Ca3179	317.933	Multiple	Standards	1089.24	-5.40989	04/08/02 09:29:36
Fe2714	271.441	Multiple	Standards	1584.51	16.5846	04/08/02 09:29:36
Mg2790	279.079	Multiple	Standards	1854.27	-2.71959	04/08/02 09:29:36
Mn2576	257.610	Multiple	Standards	18.0643	-.164988	04/08/02 09:29:36
Pb sum	220.353	NONE	NONE	1.00000	.000000	*04/08/02 09:29:36
Sb sum	206.838	NONE	NONE	1.00000	.000000	*04/08/02 09:29:36
Se sum	196.026	NONE	NONE	1.00000	.000000	*04/08/02 09:29:36
Ti3349	334.941	Multiple	Standards	26.3526	-20.2678	04/08/02 09:29:36

INITIAL CALIBRATION CHECK STANDARD
Curtis & Tompkins Laboratories

Instid : MET07 Run Name :
Seqnum : 72141694001 Filename : tr176243 Injected : 08-APR-2002 09:34
Caltype :

Standards: 02WS0548

Analyte	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum	1000.000	996.8000	ug/L	0	5	
Antimony	1000.000	972.0000	ug/L	-3	5	
Arsenic	500.0000	500.0000	ug/L	0	5	
Barium	1000.000	996.0000	ug/L	0	5	
Beryllium	100.0000	99.90000	ug/L	0	5	
Cadmium	100.0000	99.80000	ug/L	0	5	
Calcium	2000.000	1999.000	ug/L	0	5	
Chromium	200.0000	200.0000	ug/L	0	5	
Cobalt	500.0000	499.0000	ug/L	0	5	
Copper	200.0000	199.0000	ug/L	-1	5	
Iron	1000.000	1001.000	ug/L	0	5	
Lead	500.0000	498.0000	ug/L	0	5	
Magnesium	2000.000	2001.000	ug/L	0	5	
Manganese	100.0000	99.80000	ug/L	0	5	
Molybdenum	1000.000	991.0000	ug/L	-1	5	
Nickel	500.0000	500.0000	ug/L	0	5	
Selenium	500.0000	497.0000	ug/L	-1	5	
Silver	100.0000	99.60000	ug/L	0	5	
Thallium	500.0000	501.0000	ug/L	0	5	
Titanium	1000.000	995.0000	ug/L	-1	5	
Vanadium	500.0000	499.0000	ug/L	0	5	
Zinc	100.0000	100.0000	ug/L	0	5	

SECOND SOURCE CALIBRATION VERIFICATION
Curtis & Tompkins Laboratories

Instid : MET07 Run Name :
Seqnum : 72141694002 Filename : tr176244 Injected : 08-APR-2002 09:39
Caltype :

Standards: 02WS0158

Analyte	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum	500.0000	488.2000	ug/L	-2	10	
Antimony	500.0000	484.0000	ug/L	-3	10	
Arsenic	250.0000	255.0000	ug/L	2	10	
Barium	500.0000	490.0000	ug/L	-2	10	
Beryllium	50.00000	49.10000	ug/L	-2	10	
Cadmium	50.00000	48.60000	ug/L	-3	10	
Calcium	1000.000	1003.000	ug/L	0	10	
Chromium	100.0000	98.60000	ug/L	-1	10	
Cobalt	250.0000	243.0000	ug/L	-3	10	
Copper	100.0000	100.0000	ug/L	0	10	
Iron	500.0000	506.3000	ug/L	1	10	
Lead	250.0000	247.0000	ug/L	-1	10	
Magnesium	1000.000	1001.000	ug/L	0	10	
Manganese	50.00000	48.60000	ug/L	-3	10	
Molybdenum	500.0000	490.0000	ug/L	-2	10	
Nickel	250.0000	250.0000	ug/L	0	10	
Selenium	250.0000	248.0000	ug/L	-1	10	
Silver	50.00000	50.00000	ug/L	0	10	
Thallium	250.0000	241.0000	ug/L	-4	10	
Titanium	500.0000	506.0000	ug/L	1	10	
Vanadium	250.0000	246.0000	ug/L	-2	10	
Zinc	50.00000	49.30000	ug/L	-1	10	

INSTRUMENT BLANK REPORT
Curtis & Tompkins Laboratories

Instrument: MET07 TJA Trace ICP
Seqnum: 72141694003 Run Name: Injected: 08-APR-2002 09:44
Filename: tr176245 Blank Type: ICB

Analyte	QuantAmt	RL	Units	Req Flags
Aluminum	ND	100.0000	ug/L	<RL
Antimony	[23.700]	60.00000	ug/L	<RL
Arsenic	ND	5.000000	ug/L	<RL
Barium	[0.0680]	10.00000	ug/L	<RL
Beryllium	[0.0100]	2.000000	ug/L	<RL
Cadmium	ND	5.000000	ug/L	<RL
Calcium	[0.5806]	500.0000	ug/L	<RL
Chromium	ND	10.00000	ug/L	<RL
Cobalt	ND	20.00000	ug/L	<RL
Copper	ND	10.00000	ug/L	<RL
Iron	ND	100.0000	ug/L	<RL
Lead	[0.2550]	3.000000	ug/L	<RL
Magnesium	ND	500.0000	ug/L	<RL
Manganese	ND	10.00000	ug/L	<RL
Molybdenum	[1.9900]	20.00000	ug/L	<RL
Nickel	ND	20.00000	ug/L	<RL
Selenium	ND	5.000000	ug/L	<RL
Silver	ND	5.000000	ug/L	<RL
Thallium	[0.4690]	5.000000	ug/L	<RL
Titanium	[0.0670]	10.00000	ug/L	<RL
Vanadium	ND	10.00000	ug/L	<RL
Zinc	ND	20.00000	ug/L	<RL

LOW-LEVEL PERFORMANCE VERIFICATION STANDARD
Curtis & Tompkins Laboratories

Instid : MET07 Run Name :
Seqnum : 72141694004 Filename : tr176246 Injected : 08-APR-2002 09:48
Caltype :

Standards: 02WS0594

Analyte	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum	100.0000	104.4000	ug/L	4	50	
Antimony	60.00000	53.50000	ug/L	-11	50	
Arsenic	5.000000	5.800000	ug/L	16	50	
Barium	10.00000	9.890000	ug/L	-1	50	
Beryllium	2.000000	1.980000	ug/L	-1	50	
Cadmium	5.000000	4.850000	ug/L	-3	50	
Chromium	10.00000	10.30000	ug/L	3	50	
Cobalt	20.00000	19.80000	ug/L	-1	50	
Copper	10.00000	10.40000	ug/L	4	50	
Iron	100.0000	110.6000	ug/L	11	50	
Lead	3.000000	2.940000	ug/L	-2	50	
Manganese	10.00000	9.890000	ug/L	-1	50	
Molybdenum	20.00000	20.50000	ug/L	3	50	
Nickel	20.00000	20.80000	ug/L	4	50	
Selenium	5.000000	5.670000	ug/L	13	50	
Silver	5.000000	4.890000	ug/L	-2	50	
Thallium	5.000000	6.620000	ug/L	32	50	
Vanadium	10.00000	9.710000	ug/L	-3	50	
Zinc	20.00000	21.00000	ug/L	5	50	

INTERFERENCE CHECK STANDARD AB
Curtis & Tompkins Laboratories

Instid : MET07 Run Name :
Seqnum : 72141694005 Filename : tr176247 Injected : 08-APR-2002 09:52
Caltype :

Standards: 02WS0163

Analyte	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum	500000.0	483900.0	ug/L	-3		
Antimony	500.0000	496.0000	ug/L	-1	20	
Arsenic	500.0000	477.0000	ug/L	-5	20	
Barium	500.0000	472.0000	ug/L	-6	20	
Beryllium	500.0000	452.0000	ug/L	-10	20	
Cadmium	1000.000	825.0000	ug/L	-17	20	
Calcium	500000.0	377300.0	ug/L	-25		
Chromium	500.0000	431.0000	ug/L	-14	20	
Cobalt	500.0000	445.0000	ug/L	-11	20	
Copper	500.0000	489.0000	ug/L	-2	20	
Iron	200000.0	170600.0	ug/L	-15		
Lead	1000.000	837.0000	ug/L	-16	20	
Magnesium	500000.0	470400.0	ug/L	-6		
Manganese	500.0000	434.0000	ug/L	-13	20	
Molybdenum	500.0000	428.0000	ug/L	-14	20	
Nickel	1000.000	900.0000	ug/L	-10	20	
Selenium	500.0000	478.0000	ug/L	-4	20	
Silver	1000.000	1000.000	ug/L	0	20	
Thallium	500.0000	428.0000	ug/L	-14	20	
Titanium	20000.00	20900.00	ug/L	5		
Vanadium	500.0000	460.0000	ug/L	-8	20	
Zinc	1000.000	895.0000	ug/L	-11	20	

CONTINUING CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instid : MET07 Run Name :
Seqnum : 72141694014 Filename : tr176256 Injected : 08-APR-2002 10:34
Caltype :

Standards: 02WS0160

Analyte	RF/CF	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum		750.0000	760.9000	ug/L	1	10	
Antimony		750.0000	754.0000	ug/L	1	10	
Arsenic		375.0000	405.0000	ug/L	8	10	
Barium		750.0000	765.0000	ug/L	2	10	
Beryllium		75.00000	77.90000	ug/L	4	10	
Cadmium		75.00000	77.20000	ug/L	3	10	
Calcium		1500.000	1524.000	ug/L	2	10	
Chromium		150.0000	154.0000	ug/L	3	10	
Cobalt		375.0000	383.0000	ug/L	2	10	
Copper		150.0000	155.0000	ug/L	3	10	
Iron		750.0000	776.8000	ug/L	4	10	
Lead		375.0000	394.0000	ug/L	5	10	
Magnesium		1500.000	1559.000	ug/L	4	10	
Manganese		75.00000	76.40000	ug/L	2	10	
Molybdenum		750.0000	767.0000	ug/L	2	10	
Nickel		375.0000	392.0000	ug/L	5	10	
Selenium		375.0000	400.0000	ug/L	7	10	
Silver		75.00000	78.70000	ug/L	5	10	
Thallium		375.0000	381.0000	ug/L	2	10	
Titanium		750.0000	790.0000	ug/L	5	10	
Vanadium		375.0000	385.0000	ug/L	3	10	
Zinc		75.00000	76.80000	ug/L	2	10	

INSTRUMENT BLANK REPORT
Curtis & Tompkins Laboratories

Instrument: MET07 TJA Trace ICP
Seqnum: 72141694015 Run Name: Injected: 08-APR-2002 10:47
Filename: tr176257 Blank Type: CCB

Analyte	QuantAmt	RL	Units	Req Flags
Aluminum	[54.480]	100.0000	ug/L	<RL
Antimony	[19.200]	60.00000	ug/L	<RL
Arsenic	[4.4800]	5.000000	ug/L	<RL
Barium	[0.4310]	10.00000	ug/L	<RL
Beryllium	[0.0020]	2.000000	ug/L	<RL
Cadmium	[0.1810]	5.000000	ug/L	<RL
Calcium	[2.5070]	500.0000	ug/L	<RL
Chromium	[1.6800]	10.00000	ug/L	<RL
Cobalt	[1.2900]	20.00000	ug/L	<RL
Copper	[0.4070]	10.00000	ug/L	<RL
Iron	ND	100.0000	ug/L	<RL
Lead	ND	3.000000	ug/L	<RL
Magnesium	ND	500.0000	ug/L	<RL
Manganese	ND	10.00000	ug/L	<RL
Molybdenum	[2.3600]	20.00000	ug/L	<RL
Nickel	[0.8830]	20.00000	ug/L	<RL
Selenium	ND	5.000000	ug/L	<RL
Silver	[2.1100]	5.000000	ug/L	<RL
Thallium	ND	5.000000	ug/L	<RL
Titanium	[5.4400]	10.00000	ug/L	<RL
Vanadium	[1.4700]	10.00000	ug/L	<RL
Zinc	[3.9300]	20.00000	ug/L	<RL

CONTINUING CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instid : MET07 Run Name :
Seqnum : 72141694026 Filename : tr176268 Injected : 08-APR-2002 11:45
Caltype :

Standards: 02WS0159

Analyte	RF/CF	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum		500.0000	492.7000	ug/L	-1	10	
Antimony		500.0000	492.0000	ug/L	-2	10	
Arsenic		250.0000	265.0000	ug/L	6	10	
Barium		500.0000	505.0000	ug/L	1	10	
Beryllium -		50.00000	51.50000	ug/L	3	10	
Cadmium		50.00000	51.00000	ug/L	2	10	
Calcium		1000.000	1014.000	ug/L	1	10	
Chromium		100.0000	102.0000	ug/L	2	10	
Cobalt		250.0000	254.0000	ug/L	2	10	
Copper		100.0000	102.0000	ug/L	2	10	
Iron		500.0000	515.5000	ug/L	3	10	
Lead		250.0000	258.0000	ug/L	3	10	
Magnesium		1000.000	1036.000	ug/L	4	10	
Manganese		50.00000	50.70000	ug/L	1	10	
Molybdenum		500.0000	508.0000	ug/L	2	10	
Nickel		250.0000	260.0000	ug/L	4	10	
Selenium		250.0000	256.0000	ug/L	2	10	
Silver		50.00000	51.40000	ug/L	3	10	
Thallium		250.0000	250.0000	ug/L	0	10	
Titanium		500.0000	528.0000	ug/L	6	10	
Vanadium		250.0000	255.0000	ug/L	2	10	
Zinc		50.00000	50.90000	ug/L	2	10	

INSTRUMENT BLANK REPORT
Curtis & Tompkins Laboratories

Instrument: MET07 TJA Trace ICP
Seqnum: 72141694027 Run Name: Injected: 08-APR-2002 11:52
Filename: tr176269 Blank Type: CCB

Analyte	QuantAmt	RL	Units	Req Flags
Aluminum	ND	100.0000	ug/L	<RL
Antimony	[27.600]	60.00000	ug/L	<RL
Arsenic	[0.9260]	5.000000	ug/L	<RL
Barium	[0.3790]	10.00000	ug/L	<RL
Beryllium	[0.8500]	2.000000	ug/L	<RL
Cadmium	[0.0410]	5.000000	ug/L	<RL
Calcium	ND	500.0000	ug/L	<RL
Chromium	[0.4440]	10.00000	ug/L	<RL
Cobalt	[0.7340]	20.00000	ug/L	<RL
Copper	ND	10.00000	ug/L	<RL
Iron	[2.0060]	100.0000	ug/L	<RL
Lead	[0.8930]	3.000000	ug/L	<RL
Magnesium	ND	500.0000	ug/L	<RL
Manganese	[0.0720]	10.00000	ug/L	<RL
Molybdenum	[3.3000]	20.00000	ug/L	<RL
Nickel	[0.4970]	20.00000	ug/L	<RL
Selenium	[1.3200]	5.000000	ug/L	<RL
Silver	[0.3810]	5.000000	ug/L	<RL
Thallium	[1.8700]	5.000000	ug/L	<RL
Titanium	[6.0700]	10.00000	ug/L	<RL
Vanadium	[0.5560]	10.00000	ug/L	<RL
Zinc	[1.6600]	20.00000	ug/L	<RL

CONTINUING CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instid : MET07 Run Name :
Seqnum : 72141694038 Filename : tr176280 Injected : 08-APR-2002 12:55
Caltype :

Standards: 02WS0161

Analyte	RF/CF	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum		250.0000	246.2000	ug/L	-2	10	
Antimony		250.0000	243.0000	ug/L	-3	10	
Arsenic		125.0000	131.0000	ug/L	5	10	
Barium		250.0000	254.0000	ug/L	2	10	
Beryllium		25.00000	25.50000	ug/L	2	10	
Cadmium		25.00000	25.60000	ug/L	2	10	
Calcium		500.0000	486.7000	ug/L	-3	10	
Chromium		50.00000	50.90000	ug/L	2	10	
Cobalt		125.0000	127.0000	ug/L	2	10	
Copper		50.00000	50.40000	ug/L	1	10	
Iron		250.0000	241.6000	ug/L	-3	10	
Lead		125.0000	129.0000	ug/L	3	10	
Magnesium		500.0000	509.1000	ug/L	2	10	
Manganese		25.00000	24.90000	ug/L	0	10	
Molybdenum		250.0000	247.0000	ug/L	-1	10	
Nickel		125.0000	131.0000	ug/L	5	10	
Selenium		125.0000	129.0000	ug/L	3	10	
Silver		25.00000	25.40000	ug/L	2	10	
Thallium		125.0000	126.0000	ug/L	1	10	
Titanium		250.0000	259.0000	ug/L	4	10	
Vanadium		125.0000	127.0000	ug/L	2	10	
Zinc		25.00000	24.70000	ug/L	-1	10	

INSTRUMENT BLANK REPORT
Curtis & Tompkins Laboratories

Instrument: MET07 TJA Trace ICP
Seqnum: 72141694039 Run Name: Injected: 08-APR-2002 13:03
Filename: tr176281 Blank Type: CCB

Analyte	QuantAmt	RL	Units	Req Flags
Aluminum	ND	100.0000	ug/L	<RL
Antimony	[1.6900]	60.00000	ug/L	<RL
Arsenic	ND	5.000000	ug/L	<RL
Barium	ND	10.00000	ug/L	<RL
Beryllium	[0.1870]	2.000000	ug/L	<RL
Cadmium	ND	5.000000	ug/L	<RL
Calcium	ND	500.0000	ug/L	<RL
Chromium	[0.3130]	10.00000	ug/L	<RL
Cobalt	[0.2950]	20.00000	ug/L	<RL
Copper	ND	10.00000	ug/L	<RL
Iron	ND	100.0000	ug/L	<RL
Lead	[0.0650]	3.000000	ug/L	<RL
Magnesium	ND	500.0000	ug/L	<RL
Manganese	ND	10.00000	ug/L	<RL
Molybdenum	ND	20.00000	ug/L	<RL
Nickel	[0.3260]	20.00000	ug/L	<RL
Selenium	ND	5.000000	ug/L	<RL
Silver	[0.4490]	5.000000	ug/L	<RL
Thallium	ND	5.000000	ug/L	<RL
Titanium	ND	10.00000	ug/L	<RL
Vanadium	ND	10.00000	ug/L	<RL
Zinc	ND	20.00000	ug/L	<RL

CONTINUING CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instid : MET07 Run Name :
Seqnum : 72141694050 Filename : tr176293 Injected : 08-APR-2002 13:48
Caltype :

Standards: 02WS0160

Analyte	RF/CF	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum		750.0000	719.9000	ug/L	-4	10	
Antimony		750.0000	784.0000	ug/L	5	10	
Arsenic		375.0000	397.0000	ug/L	6	10	
Barium		750.0000	757.0000	ug/L	1	10	
Beryllium		75.00000	74.40000	ug/L	-1	10	
Cadmium		75.00000	78.00000	ug/L	4	10	
Calcium		1500.000	1377.000	ug/L	-8	10	
Chromium		150.0000	150.0000	ug/L	0	10	
Cobalt		375.0000	374.0000	ug/L	0	10	
Copper		150.0000	145.0000	ug/L	-3	10	
Iron		750.0000	744.8000	ug/L	-1	10	
Lead		375.0000	387.0000	ug/L	3	10	
Magnesium		1500.000	1500.000	ug/L	0	10	
Manganese		75.00000	71.30000	ug/L	-5	10	
Molybdenum		750.0000	739.0000	ug/L	-1	10	
Nickel		375.0000	390.0000	ug/L	4	10	
Selenium		375.0000	398.0000	ug/L	6	10	
Silver		75.00000	72.90000	ug/L	-3	10	
Thallium		375.0000	377.0000	ug/L	1	10	
Titanium		750.0000	762.0000	ug/L	2	10	
Vanadium		375.0000	369.0000	ug/L	-2	10	
Zinc		75.00000	76.30000	ug/L	2	10	

INSTRUMENT BLANK REPORT
Curtis & Tompkins Laboratories

Instrument: MET07 TJA Trace ICP
Seqnum: 72141694051 Run Name: Injected: 08-APR-2002 13:52
Filename: tr176294 Blank Type: CCB

Analyte	QuantAmt	RL	Units	Req Flags
Aluminum	[16.400]	100.0000	ug/L	<RL
Antimony	[50.500]	60.00000	ug/L	<RL
Arsenic	ND	5.000000	ug/L	<RL
Barium	[0.0040]	10.00000	ug/L	<RL
Beryllium	[0.9150]	2.000000	ug/L	<RL
Cadmium	[0.0930]	5.000000	ug/L	<RL
Calcium	ND	500.0000	ug/L	<RL
Chromium	[0.0970]	10.00000	ug/L	<RL
Cobalt	[0.3740]	20.00000	ug/L	<RL
Copper	ND	10.00000	ug/L	<RL
Iron	ND	100.0000	ug/L	<RL
Lead	[0.7720]	3.000000	ug/L	<RL
Magnesium	ND	500.0000	ug/L	<RL
Manganese	ND	10.00000	ug/L	<RL
Molybdenum	[3.9400]	20.00000	ug/L	<RL
Nickel	[0.3390]	20.00000	ug/L	<RL
Selenium	[0.3250]	5.000000	ug/L	<RL
Silver	[0.3750]	5.000000	ug/L	<RL
Thallium	ND	5.000000	ug/L	<RL
Titanium	[1.4000]	10.00000	ug/L	<RL
Vanadium	[0.0530]	10.00000	ug/L	<RL
Zinc	[0.5590]	20.00000	ug/L	<RL

CONTINUING CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instid : MET07 Run Name :
Seqnum : 72141694061 Filename : tr176305 Injected : 08-APR-2002 14:32
Caltype :

Standards: 02WS0161

Analyte	RF/CF	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum		250.0000	249.5000	ug/L	0	10	
Antimony		250.0000	229.0000	ug/L	-8	10	
Arsenic		125.0000	134.0000	ug/L	7	10	
Barium		250.0000	253.0000	ug/L	1	10	
Beryllium		25.00000	25.60000	ug/L	2	10	
Cadmium		25.00000	26.40000	ug/L	6	10	
Calcium		500.0000	502.6000	ug/L	1	10	
Chromium		50.00000	49.80000	ug/L	0	10	
Cobalt		125.0000	126.0000	ug/L	1	10	
Copper		50.00000	47.10000	ug/L	-6	10	
Iron		250.0000	233.3000	ug/L	-7	10	
Lead		125.0000	131.0000	ug/L	5	10	
Magnesium		500.0000	497.2000	ug/L	-1	10	
Manganese		25.00000	23.50000	ug/L	-6	10	
Molybdenum		250.0000	245.0000	ug/L	-2	10	
Nickel		125.0000	132.0000	ug/L	6	10	
Selenium		125.0000	136.0000	ug/L	9	10	
Silver		25.00000	24.30000	ug/L	-3	10	
Thallium		125.0000	126.0000	ug/L	1	10	
Titanium		250.0000	252.0000	ug/L	1	10	
Vanadium		125.0000	123.0000	ug/L	-2	10	
Zinc		25.00000	25.90000	ug/L	4	10	

INSTRUMENT BLANK REPORT
Curtis & Tompkins Laboratories

Instrument: MET07 TJA Trace ICP
Seqnum: 72141694062 Run Name: Injected: 08-APR-2002 14:40
Filename: tr176306 Blank Type: CCB

Analyte	QuantAmt	RL	Units	Req Flags
Aluminum	[13.940]	100.0000	ug/L	<RL
Antimony	[20.000]	60.00000	ug/L	<RL
Arsenic	ND	5.000000	ug/L	<RL
Barium	ND	10.00000	ug/L	<RL
Beryllium	[1.2900]	2.000000	ug/L	<RL
Cadmium	[0.0060]	5.000000	ug/L	<RL
Calcium	ND	500.0000	ug/L	<RL
Chromium	ND	10.00000	ug/L	<RL
Cobalt	ND	20.00000	ug/L	<RL
Copper	ND	10.00000	ug/L	<RL
Iron	ND	100.0000	ug/L	<RL
Lead	[0.2040]	3.000000	ug/L	<RL
Magnesium	ND	500.0000	ug/L	<RL
Manganese	ND	10.00000	ug/L	<RL
Molybdenum	ND	20.00000	ug/L	<RL
Nickel	ND	20.00000	ug/L	<RL
Selenium	[0.0490]	5.000000	ug/L	<RL
Silver	ND	5.000000	ug/L	<RL
Thallium	ND	5.000000	ug/L	<RL
Titanium	[0.0990]	10.00000	ug/L	<RL
Vanadium	ND	10.00000	ug/L	<RL
Zinc	[0.1750]	20.00000	ug/L	<RL

CONTINUING CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instid : MET07 Run Name :
Seqnum : 72141694073 Filename : tr176317 Injected : 08-APR-2002 15:23
Caltype :

Standards: 02WS0159

Analyte	RF/CF	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum		500.0000	496.2000	ug/L	-1	10	
Antimony		500.0000	496.0000	ug/L	-1	10	
Arsenic		250.0000	264.0000	ug/L	6	10	
Barium		500.0000	504.0000	ug/L	1	10	
Beryllium		50.00000	48.20000	ug/L	-4	10	
Cadmium		50.00000	52.50000	ug/L	5	10	
Calcium		1000.000	987.4000	ug/L	-1	10	
Chromium		100.0000	98.10000	ug/L	-2	10	
Cobalt		250.0000	248.0000	ug/L	-1	10	
Copper		100.0000	93.40000	ug/L	-7	10	
Iron		500.0000	541.4000	ug/L	8	10	
Lead		250.0000	258.0000	ug/L	3	10	
Magnesium		1000.000	1001.000	ug/L	0	10	
Manganese		50.00000	46.70000	ug/L	-7	10	
Molybdenum		500.0000	497.0000	ug/L	-1	10	
Nickel		250.0000	262.0000	ug/L	5	10	
Selenium		250.0000	260.0000	ug/L	4	10	
Silver		50.00000	46.50000	ug/L	-7	10	
Thallium		250.0000	254.0000	ug/L	2	10	
Titanium		500.0000	501.0000	ug/L	0	10	
Vanadium		250.0000	240.0000	ug/L	-4	10	
Zinc		50.00000	51.80000	ug/L	4	10	

INSTRUMENT BLANK REPORT
Curtis & Tompkins Laboratories

Instrument: MET07 TJA Trace ICP
Seqnum: 72141694074 Run Name: Injected: 08-APR-2002 15:30
Filename: tr176318 Blank Type: CCB

Analyte	QuantAmt	RL	Units	Req Flags
Aluminum	[35.510]	100.0000	ug/L	<RL
Antimony	[40.800]	60.00000	ug/L	<RL
Arsenic	ND	5.000000	ug/L	<RL
Barium	[0.4020]	10.00000	ug/L	<RL
Beryllium	[0.5030]	2.000000	ug/L	<RL
Cadmium	ND	5.000000	ug/L	<RL
Calcium	ND	500.0000	ug/L	<RL
Chromium	ND	10.00000	ug/L	<RL
Cobalt	[0.4440]	20.00000	ug/L	<RL
Copper	ND	10.00000	ug/L	<RL
Iron	ND	100.0000	ug/L	<RL
Lead	[0.6570]	3.000000	ug/L	<RL
Magnesium	ND	500.0000	ug/L	<RL
Manganese	[0.1340]	10.00000	ug/L	<RL
Molybdenum	[2.2900]	20.00000	ug/L	<RL
Nickel	[0.0350]	20.00000	ug/L	<RL
Selenium	[0.2530]	5.000000	ug/L	<RL
Silver	ND	5.000000	ug/L	<RL
Thallium	[0.4950]	5.000000	ug/L	<RL
Titanium	[2.7900]	10.00000	ug/L	<RL
Vanadium	ND	10.00000	ug/L	<RL
Zinc	[0.7800]	20.00000	ug/L	<RL

INTERFERENCE CHECK STANDARD AB
Curtis & Tompkins Laboratories

Instid : MET07 Run Name :
Seqnum : 72141694083 Filename : tr176328 Injected : 08-APR-2002 16:09
Caltype :

Standards: 02WS0163

Analyte	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum	500000.0	484700.0	ug/L	-3		
Antimony	500.0000	512.0000	ug/L	2	20	
Arsenic	500.0000	482.0000	ug/L	-4	20	
Barium	500.0000	504.0000	ug/L	1	20	
Beryllium	500.0000	449.0000	ug/L	-10	20	
Cadmium	1000.000	870.0000	ug/L	-13	20	
Calcium	500000.0	387600.0	ug/L	-22		
Chromium	500.0000	446.0000	ug/L	-11	20	
Cobalt	500.0000	457.0000	ug/L	-9	20	
Copper	500.0000	524.0000	ug/L	5	20	
Iron	200000.0	177500.0	ug/L	-11		
Lead	1000.000	858.0000	ug/L	-14	20	
Magnesium	500000.0	486200.0	ug/L	-3		
Manganese	500.0000	447.0000	ug/L	-11	20	
Molybdenum	500.0000	448.0000	ug/L	-10	20	
Nickel	1000.000	948.0000	ug/L	-5	20	
Selenium	500.0000	484.0000	ug/L	-3	20	
Silver	1000.000	1030.000	ug/L	3	20	
Thallium	500.0000	437.0000	ug/L	-13	20	
Titanium	20000.00	21300.00	ug/L	7		
Vanadium	500.0000	489.0000	ug/L	-2	20	
Zinc	1000.000	921.0000	ug/L	-8	20	

CONTINUING CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instid : MET07 Run Name :
Seqnum : 72141694084 Filename : tr176329 Injected : 08-APR-2002 16:15
Caltype :

Standards: 02WS0160

Analyte	RF/CF	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum		750.0000	773.6000	ug/L	3	10	
Antimony		750.0000	707.0000	ug/L	-6	10	
Arsenic		375.0000	391.0000	ug/L	4	10	
Barium		750.0000	750.0000	ug/L	0	10	
Beryllium		75.00000	74.20000	ug/L	-1	10	
Cadmium		75.00000	74.90000	ug/L	0	10	
Calcium		1500.000	1438.000	ug/L	-4	10	
Chromium		150.0000	147.0000	ug/L	-2	10	
Cobalt		375.0000	367.0000	ug/L	-2	10	
Copper		150.0000	146.0000	ug/L	-3	10	
Iron		750.0000	730.9000	ug/L	-3	10	
Lead		375.0000	376.0000	ug/L	0	10	
Magnesium		1500.000	1503.000	ug/L	0	10	
Manganese		75.00000	71.60000	ug/L	-5	10	
Molybdenum		750.0000	735.0000	ug/L	-2	10	
Nickel		375.0000	378.0000	ug/L	1	10	
Selenium		375.0000	390.0000	ug/L	4	10	
Silver		75.00000	74.90000	ug/L	0	10	
Thallium		375.0000	367.0000	ug/L	-2	10	
Titanium		750.0000	762.0000	ug/L	2	10	
Vanadium		375.0000	367.0000	ug/L	-2	10	
Zinc		75.00000	73.40000	ug/L	-2	10	

INSTRUMENT BLANK REPORT
Curtis & Tompkins Laboratories

Instrument: MET07 TJA Trace ICP
Segnum: 72141694085 Run Name: Injected: 08-APR-2002 16:21
Filename: tr176330 Blank Type: CCB

Analyte	QuantAmt	RL	Units	Req Flags
Aluminum	[60.620]	100.0000	ug/L	<RL
Antimony	[9.2200]	60.00000	ug/L	<RL
Arsenic	ND	5.000000	ug/L	<RL
Barium	ND	10.00000	ug/L	<RL
Beryllium	[0.9980]	2.000000	ug/L	<RL
Cadmium	[0.1010]	5.000000	ug/L	<RL
Calcium	[26.420]	500.0000	ug/L	<RL
Chromium	ND	10.00000	ug/L	<RL
Cobalt	ND	20.00000	ug/L	<RL
Copper	ND	10.00000	ug/L	<RL
Iron	ND	100.0000	ug/L	<RL
Lead	[0.1220]	3.000000	ug/L	<RL
Magnesium	[24.500]	500.0000	ug/L	<RL
Manganese	ND	10.00000	ug/L	<RL
Molybdenum	ND	20.00000	ug/L	<RL
Nickel	ND	20.00000	ug/L	<RL
Selenium	[0.5450]	5.000000	ug/L	<RL
Silver	ND	5.000000	ug/L	<RL
Thallium	ND	5.000000	ug/L	<RL
Titanium	[2.0400]	10.00000	ug/L	<RL
Vanadium	ND	10.00000	ug/L	<RL
Zinc	[0.7100]	20.00000	ug/L	<RL

SAMPLE PREPARATION SUMMARY

04/05/02 16:30:16

Batch Number : 71403
Date Extracted : 05-APR-02
Extracted By : Patricia V. Vergara
Prep Method : 3010

Analysis: N/A
Bgroup : ICAP
Units : ml
Clean-up:

Spike #1 ID : 01SS188
Spike #2 ID : 01SS189
Spike #3 ID :

Sample No.	Type		Client	Matrx	Init W/V	U	Final Vol	Prep D.F.	Clean pH D.F.	Spike #1 Vol	Spike #2 Vol	Spike #3 Vol	Analysis	Comments
157881-062			IT Corporation	Water	50	ml	50	1	1				T26/ICP	
157882-001			Acme Fill Corp.	Water	50	ml	50	1	1				AG	
157883-002			Professional Finishing	Water	50	ml	50	1	1				CU	
157884-003			California Oils Corporation	Water	50	ml	50	1	1				CU	
157887-001			Bay Area Rapid Transit Dist.	Water	50	ml	50	1	1				CD	
157887-002			Bay Area Rapid Transit Dist.	Water	50	ml	50	1	1				CD	
157888-001			Polymatrix	Water	50	ml	50	1	1				CD	
157899-001			Clearwater Env. Mgmt.	Water	50	ml	50	1	1				CU	
157906-001			ATC Associates, Inc.	Water	50	ml	50	1	1				B	
157906-002			ATC Associates, Inc.	Water	50	ml	50	1	1				B	
157906-003			ATC Associates, Inc.	Water	50	ml	50	1	1				B	
157906-004			ATC Associates, Inc.	Water	50	ml	50	1	1				B	
157906-005			ATC Associates, Inc.	Water	50	ml	50	1	1				B	
157906-006			ATC Associates, Inc.	Water	50	ml	50	1	1				B	
157907-001			Brown and Caldwell	Water	50	ml	50	1	1				ZN	
157908-001			Lithonia Lighting	Water	50	ml	50	1	1				CD	
157909-023			U.S. Army Corps of Engineers	Water	50	ml	50	1	1				T26/ICP	mss
157910-002			CP Shades	Water	50	ml	50	1	1				CU	
157923-001			SECOR	Water	50	ml	50	1	1				CU	
157950-001			Sherwin Williams	Water	50	ml	50	1	1				ZN	
QC175090	BLANK			Water	50	ml	50	1	1					
QC175091	BS			Water	50	ml	50	1	1	.5	.5			
QC175092	BSD			Water	50	ml	50	1	1	.5	.5			
QC175093	MS	of 157909-023		Water	50	ml	50	1	1	.5	.5			
QC175094	MSD	of 157909-023		Water	50	ml	50	1	1	.5	.5			
QC175095	SER	of 157909-023		Water	50	ml	50	1	1					

Prep Chemist: Patricia Vergara Reviewed By: [signature] Date: 4/8/02

Relinquished By: Patricia Vergara Received By: [signature] Date: 4/8/02

PROJECT H2O Digestion

04/05/02 Batch# 71403 ICAP/M 3010

Sample ID	initial vol/Final vol		Filtered yes/no	Comments
Blk QC 175090	50.0	50.0 ml	yes	Spikes
*BS 175091				* 0155188 (0.5
*BSD 175092				* 0155189
*MS 909-023			NO	
*MSD 909-023				Reagents
ser 909-023				HNO3 JTBaker#
A 157881-002				X02028
J 157882-001				HCL Fisher#
A 157883-002				4101056
A 157884-003				
A 157887-001			yes	
002			NO	
157888-001				
D 157899-001			yes	
A 157900-001			NO	
002				
003				
004				
005				
006				
157907-001			yes	
157908-001			NO	
157909-023 MSS				
157910-002				
157913-001				
157950-001	5.50		yes	

Continued on Page -0-

Read and Understood By

Patricia Vergara 04/05/02 392 [signature] 4/5/02
Signed Date Signed Date

SEQUENCE SUMMARY
Curtis & Tompkins Laboratories

Sequence: 42137391 Instrument: MET04 HydraAA HG Analyzer Begun: 05-APR-2002
Analyte: Mercury

#	Filename	Type	Samplenum	Subj Samp	Batch	Matrix	Analyzed	IDF	PDF	Stds	Spiked	Result	RL	Units	%Rec	RPD	Flags
001	71379	ICV					05-APR-2002 09:51	1.0	1.0	1	5.000	4.620		ug/L	92		
002	71379	ICB					05-APR-2002 09:53	1.0	1.0			ND	0.20	ug/L			
003	71379	BLANK	QC175001		71379	Soil	05-APR-2002 09:55	1.0	100.0			ND	0.020	mg/Kg			u
004	71379	BS	QC175002		71379	Soil	05-APR-2002 10:03	1.0	100.0		0.5000	0.5010	0.020	mg/Kg	100		u
005	71379	BSD	QC175003		71379	Soil	05-APR-2002 10:08	1.0	100.0		0.5000	0.5050	0.020	mg/Kg	101	1	u
006	71379	MSS	157881-006		71379	Soil	05-APR-2002 10:09	1.0	100.0			0.065	0.020	mg/Kg			u
007	71379	MS	QC175004	157881-006	71379	Soil	05-APR-2002 10:11	1.0	92.59259		0.4630	0.5769	0.019	mg/Kg	111		u
008	71379	MSD	QC175005	157881-006	71379	Soil	05-APR-2002 10:13	1.0	89.28571		0.4464	0.5384	0.018	mg/Kg	106	4	u
009	71379	SAMPLE	157881-010		71379	Soil	05-APR-2002 10:15	1.0	100.0			0.066	0.020	mg/Kg			u
010	71379	SAMPLE	157881-014		71379	Soil	05-APR-2002 10:16	1.0	98.03922			0.041	0.020	mg/Kg			u
011	71379	SAMPLE	157881-018		71379	Soil	05-APR-2002 10:18	1.0	100.0			0.055	0.020	mg/Kg			u
012	71379	SAMPLE	157881-022		71379	Soil	05-APR-2002 10:20	1.0	86.20690			0.072	0.017	mg/Kg			u
013	71379	CCV					05-APR-2002 10:22	1.0	1.0	2	5.000	4.650		ug/L	93		
014	71379	CCB					05-APR-2002 10:24	1.0	1.0			ND	0.20	ug/L			
015	71379	SAMPLE	157881-026		71379	Soil	05-APR-2002 10:26	1.0	94.33962			0.052	0.019	mg/Kg			u
016	71379	SAMPLE	157881-027		71379	Soil	05-APR-2002 10:27	1.0	87.71930			0.046	0.018	mg/Kg			u
017	71379	SAMPLE	157881-031		71379	Soil	05-APR-2002 10:29	1.0	100.0			0.041	0.020	mg/Kg			u
018	71379	SAMPLE	157881-035		71379	Soil	05-APR-2002 10:31	1.0	100.0			0.064	0.020	mg/Kg			u
019	71379	SAMPLE	157881-039		71379	Soil	05-APR-2002 10:33	1.0	86.20690			0.074	0.017	mg/Kg			u
020	71379	SAMPLE	157881-043		71379	Soil	05-APR-2002 10:35	1.0	98.03922			ND	0.020	mg/Kg			u
021	71379	SAMPLE	157881-044		71379	Soil	05-APR-2002 10:36	1.0	100.0			0.024	0.020	mg/Kg			u
022	71379	SAMPLE	157881-045		71379	Soil	05-APR-2002 10:39	1.0	100.0			ND	0.020	mg/Kg			u
023	71379	SAMPLE	157881-046		71379	Soil	05-APR-2002 10:41	1.0	94.33962			ND	0.019	mg/Kg			u
024	71379	SAMPLE	157881-047		71379	Soil	05-APR-2002 10:43	1.0	100.0			0.22	0.020	mg/Kg			u
025	71379	CCV					05-APR-2002 10:45	1.0	1.0	3	2.500	2.790		ug/L	112		
026	71379	CCB					05-APR-2002 10:46	1.0	1.0			ND	0.20	ug/L			
027	71379	SAMPLE	157881-048		71379	Soil	05-APR-2002 10:48	1.0	100.0			0.057	0.020	mg/Kg			u
028	71379	SAMPLE	157881-049		71379	Soil	05-APR-2002 10:50	1.0	100.0			ND	0.020	mg/Kg			u
029	71379	SAMPLE	157881-050		71379	Soil	05-APR-2002 10:51	1.0	87.71930			ND	0.018	mg/Kg			u
030	71379	SAMPLE	157881-051		71379	Soil	05-APR-2002 10:53	1.0	96.15385			ND	0.019	mg/Kg			u
031	71379	SAMPLE	157881-052		71379	Soil	05-APR-2002 10:55	1.0	92.59259			0.027	0.019	mg/Kg			u
032	71379	CCV					05-APR-2002 10:56	1.0	1.0	4	7.500	8.180		ug/L	109		
033	71379	CCB					05-APR-2002 10:58	1.0	1.0			ND	0.20	ug/L			

Stds used: 1=02WS0551 2=02WS0553 3=02WS0552 4=02WS0554
Flags used: u=use

Analyst: _____ Date: 04/05/02

POST-RUN REPORT

Line	Conc.	Units	SD/RSD	1	2	3	4	5

*** Standard: 1 Rep: 1 Seq: 28 09:33:12 05 Apr 02 HG

Hg .000 ppb 4502

*** Standard: 2 Rep: 1 Seq: 29 09:34:51 05 Apr 02 HG

Hg .200 ppb 13574

*** Standard: 3 Rep: 1 Seq: 30 09:36:41 05 Apr 02 HG

Hg .500 ppb 27480

*** Standard: 4 Rep: 1 Seq: 31 09:38:36 05 Apr 02 HG

Hg 2.00 ppb 98302

*** Standard: 5 Rep: 1 Seq: 32 09:40:29 05 Apr 02 HG

Hg 5.00 ppb 245247

*** Standard: 6 Rep: 1 Seq: 33 09:42:35 05 Apr 02 HG

Hg 10.0 ppb 492610

*** Check Standard: 2 Ck2WS0551 Seq: 35 09:51:53 05 Apr 02 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		92.4	4.62	5.00	ppb	.000 %

*** Check Standard: 1 Ck1ICB Seq: 36 09:53:45 05 Apr 02 HG

Line	Flag	Found	Range(+/-)	Units	SD/RSD
Hg		-.051	.000	ppb	.000 %

*** Sample ID: QC175001 Seq: 37 09:55:21 05 Apr 02 HG

71379,1

Hg -.074 ppb .000 % -.074

==========

*** Sample ID: QC175002 Seq: 40 10:03:03 05 Apr 02 HG

71379,1

Hg 5.01 ppb .000 % 5.01

==========

*** Sample ID: QC175003 Seq: 42 10:08:08 05 Apr 02 HG

71379,1

Hg 5.05 ppb .000 % 5.05

==========

Line	Conc.	Units	SD/RSD	1	2	3	4	5

*** Sample ID: 157881-006 Seq: 43 10:09:49 05 Apr 02 HG
71379,1
Hg .649 ppb .000 % .649

*** Sample ID: QC175004 Seq: 44 10:11:39 05 Apr 02 HG
71379,1
Hg 6.23 ppb .000 % 6.23

*** Sample ID: QC175005 Seq: 45 10:13:18 05 Apr 02 HG
71379,1
Hg 6.03 ppb .000 % 6.03

*** Sample ID: 157881-010 Seq: 46 10:15:19 05 Apr 02 HG
71379,1
Hg .664 ppb .000 % .664

*** Sample ID: 157881-014 Seq: 47 10:16:59 05 Apr 02 HG
71379,1
Hg .419 ppb .000 % .419

*** Sample ID: 157881-018 Seq: 48 10:18:40 05 Apr 02 HG
71379,1
Hg .548 ppb .000 % .548

*** Sample ID: 157881-022 Seq: 49 10:20:42 05 Apr 02 HG
71379,1
Hg .838 ppb .000 % .838

*** Check Standard: 5 Ck5ws0553 Seq: 50 10:22:34 05 Apr 02 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		93.0	4.65	5.00	ppb	.000 %

*** Check Standard: 6 Ck6ccb Seq: 51 10:24:12 05 Apr 02 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		^^^^^^	-.126	.000	ppb	.000 %

*** Sample ID: 157881-026 Seq: 52 10:26:02 05 Apr 02 HG
71379,1
Hg .552 ppb .000 % .552

Line	Conc.	Units	SD/RSD	1	2	3	4	5

*** Sample ID: 157881-027 Seq: 53 10:27:42 05 Apr 02 HG

71379,1

Hg .522 ppb .000 % .522

=

*** Sample ID: 157881-031 Seq: 54 10:29:35 05 Apr 02 HG

71379,1

Hg .413 ppb .000 % .413

=

*** Sample ID: 157881-035 Seq: 55 10:31:18 05 Apr 02 HG

71379,1

Hg .639 ppb .000 % .639

=

*** Sample ID: 157881-039 Seq: 56 10:33:21 05 Apr 02 HG

71379,1

Hg .860 ppb .000 % .860

=

*** Sample ID: 157881-043 Seq: 57 10:35:15 05 Apr 02 HG

71379,1

Hg .175 ppb .000 % .175

=

*** Sample ID: 157881-044 Seq: 58 10:36:54 05 Apr 02 HG

71379,1

Hg .238 ppb .000 % .238

=

*** Sample ID: 157881-045 Seq: 59 10:39:42 05 Apr 02 HG

71379,1

Hg .159 ppb .000 % .159

=

*** Sample ID: 157881-046 Seq: 60 10:41:42 05 Apr 02 HG

71379,1

Hg .000 ppb .000 % .000

=

*** Sample ID: 157881-047 Seq: 61 10:43:22 05 Apr 02 HG

71379,1

Hg 2.20 ppb .000 % 2.20

=

*** Check Standard: 3 Ck3ws0552 Seq: 62 10:45:11 05 Apr 02 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		111.	2.79	2.50	ppb	.000 %

=

```
Line   Conc.  Units     SD/RSD      1        2        3        4        5
-------------------------------------------------------------------------------

*** Check Standard: 6  Ck6ccb       Seq:  63      10:46:49 05 Apr 02   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          ^^^^^^  -.151    .000   ppb        .000  %
                                                                              =
*** Sample ID: 157881-048           Seq:  64      10:48:32 05 Apr 02   HG
                          71379,1
Hg    .570    ppb       .000  %   .570
                                                                              =
===============================================================================
*** Sample ID: 157881-049           Seq:  65      10:50:12 05 Apr 02   HG
                          71379,1
Hg    .137    ppb       .000  %   .137
                                                                              =
===============================================================================
*** Sample ID: 157881-050           Seq:  66      10:51:52 05 Apr 02   HG
                          71379,1
Hg    .108    ppb       .000  %   .108
                                                                              =
===============================================================================
*** Sample ID: 157881-051           Seq:  67      10:53:32 05 Apr 02   HG
                          71379,1
Hg    .053    ppb       .000  %   .053
                                                                              =
===============================================================================
*** Sample ID: 157881-052           Seq:  68      10:55:12 05 Apr 02   HG
                          71379,1
Hg    .288    ppb       .000  %   .288
                                                                              =
*** Check Standard: 4  Ck4WS0554    Seq:  69      10:56:55 05 Apr 02   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          109.     8.18    7.50   ppb        .000  %
                                                                              =
*** Check Standard: 6  Ck6ccb       Seq:  70      10:58:46 05 Apr 02   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          ^^^^^^  -.076    .000   ppb        .000  %
                                                                              =
```

SAMPLE PREPARATION SUMMARY

04/04/02 17:15:49

Batch Number : 71379
Date Extracted : 04-APR-02
Extracted By : Morris Luong Tran
Prep Method : METHOD

Analysis: N/A
Bgroup : HG
Units : g
Clean-up:

Spike #1 ID : 02WS0549
Spike #2 ID :
Spike #3 ID :

Sample No.	Type		Client	Matrx	Init W/V	U	Final Vol	Prep D.F.	Clean pH D.F.	Spike #1 Vol	Spike #2 Vol	Spike #3 Vol	Analysis	Comments
157881-006			IT Corporation	Soil	.5	g	50	100	1				T26/HG	
157881-010			IT Corporation	Soil	.5	g	50	100	1				T26/HG	
157881-014			IT Corporation	Soil	.51	g	50	98.0392	1				T26/HG	
157881-018			IT Corporation	Soil	.5	g	50	100	1				T26/HG	
157881-022			IT Corporation	Soil	.58	g	50	86.2068	1				T26/HG	
157881-026			IT Corporation	Soil	.53	g	50	94.3396	1				T26/HG	
157881-027			IT Corporation	Soil	.57	g	50	87.7192	1				T26/HG	
157881-031			IT Corporation	Soil	.5	g	50	100	1				T26/HG	
157881-035			IT Corporation	Soil	.5	g	50	100	1				T26/HG	
157881-039			IT Corporation	Soil	.58	g	50	86.2068	1				T26/HG	
157881-043			IT Corporation	Soil	.51	g	50	98.0392	1				T26/HG	
157881-044			IT Corporation	Soil	.5	g	50	100	1				T26/HG	
157881-045			IT Corporation	Soil	.5	g	50	100	1				T26/HG	
157881-046			IT Corporation	Soil	.53	g	50	94.3396	1				T26/HG	
157881-047			IT Corporation	Soil	.5	g	50	100	1				T26/HG	
157881-048			IT Corporation	Soil	.5	g	50	100	1				T26/HG	
157881-049			IT Corporation	Soil	.5	g	50	100	1				T26/HG	
157881-050			IT Corporation	Soil	.57	g	50	87.7192	1				T26/HG	
157881-051			IT Corporation	Soil	.52	g	50	96.1538	1				T26/HG	
157881-052			IT Corporation	Soil	.54	g	50	92.5925	1				T26/HG	
QC175001	MB			Soil	.5	g	50	100	1					
QC175002	BS			Soil	.5	g	50	100	1	2.5				
QC175003	BSD			Soil	.5	g	50	100	1	2.5				
QC175004	MS	of 157881-006		Soil	.54	g	50	92.5925	1	2.5				
QC175005	MSD	of 157881-006		Soil	.56	g	50	89.2857	1	2.5				

Prep Chemist: _____ Reviewed By: _____ Date: _____

Relinquished By: _____ Received By: _____ Date: _____

MG 4/4/02

PROJECT Hg / ~~Water~~ Soil

Notebook No. MK 1516

Continued From Page

04/04/02 B# 71379

Time on: 5:05PM
Time off: 5:35Pm
Temp: 95°C

Sample#	Mass(g)/Vol(ml)		Method	Comments
157881-6 A	0.50	50.0	7471	
10	0.50	↓	↓	
14	0.51			
18	0.50			
22	0.58			
26	0.53			
27	~~0.37~~ 0.57 (MT 4/4)			
31	0.50			
35	0.50			
39	0.58			
43	0.51			
44	0.50			
45	0.50			
46	0.53			
47	0.50			
48	0.50			
49	0.50			
50	0.57			
51	0.52			
52 ↓	0.54			
BMK	0.50			
BS	↓			$
BSD				$
157881-6 MS	.54			$
6 MSD	.56	↓	↓	$

$ = 2.5 ml 02WS0549

ICV, CCV$_{1,2,3}$ = 02WS0551 (52, 53, 54)

Reagents / BK0337 (P29-67)

Continued on Page

Read and Understood By

[signature] 04/04/02 Signed Date

[signature] 04.04.02 Signed Date

SEQUENCE SUMMARY
Curtis & Tompkins Laboratories

Sequence: 42139221 Instrument: MET04 HydraAA HG Analyzer Begun: 06-APR-2002
Analyte: Mercury

#	Filename	Type	Samplenum	Subj Samp	Batch	Matrix	Analyzed	IDF	PDF	Stds	Spiked	Result	RL	Units	%Rec	RPD	Flags
001	71422	ICV					06-APR-2002 16:21	1.0	1.0	1	5.000	4.850		ug/L	97		
002	71422	ICB					06-APR-2002 16:23	1.0	1.0			ND	0.20	ug/L			
003	71422	BLANK	QC175147		71422	Soil	06-APR-2002 16:24	1.0	250.0			ND	0.050	mg/Kg			u
004	71422	BS	QC175148		71422	Soil	06-APR-2002 16:26	1.0	250.0		1.250	1.245	0.050	mg/Kg	100		u
005	71422	BSD	QC175149		71422	Soil	06-APR-2002 16:28	1.0	250.0		1.250	1.238	0.050	mg/Kg	99	1	u
006	71422	MSS	157858-002		71422	Soil	06-APR-2002 16:30	1.0	100.0			ND	0.020	mg/Kg			u
007	71422	MS	QC175150	157858-002	71422	Soil	06-APR-2002 16:32	1.0	250.0		1.250	1.373	0.050	mg/Kg	108		u
008	71422	MSD	QC175151	157858-002	71422	Soil	06-APR-2002 16:34	1.0	250.0		1.250	1.375	0.050	mg/Kg	109	0	u
009	71422	SAMPLE	157858-003		71422	Soil	06-APR-2002 16:35	1.0	100.0			0.028	0.020	mg/Kg			u
010	71422	SAMPLE	157881-053		71422	Soil	06-APR-2002 16:37	1.0	86.20690			0.044	0.017	mg/Kg			u
011	71422	SAMPLE	157881-054		71422	Soil	06-APR-2002 16:39	1.0	87.71930			ND	0.018	mg/Kg			u
012	71422	SAMPLE	157881-055		71422	Soil	06-APR-2002 16:41	1.0	84.74576			ND	0.017	mg/Kg			u
013	71422	CCV					06-APR-2002 16:43	1.0	1.0	2	5.000	4.790		ug/L	96		
014	71422	CCB					06-APR-2002 16:44	1.0	1.0			ND	0.20	ug/L			
015	71422	SAMPLE	157881-056		71422	Soil	06-APR-2002 16:46	1.0	100.0			0.067	0.020	mg/Kg			u
016	71422	SAMPLE	157881-057		71422	Soil	06-APR-2002 16:48	1.0	100.0			ND	0.020	mg/Kg			u
017	71422	SAMPLE	157881-058		71422	Soil	06-APR-2002 16:49	1.0	86.20690			0.043	0.017	mg/Kg			u
018	71422	SAMPLE	157881-059		71422	Soil	06-APR-2002 16:52	1.0	92.59259			ND	0.019	mg/Kg			u
019	71422	SAMPLE	157912-002		71422	Soil	06-APR-2002 16:53	1.0	86.20690			0.047	0.017	mg/Kg			u
020	71422	SAMPLE	157921-001		71422	Soil	06-APR-2002 16:55	1.0	100.0			0.060	0.020	mg/Kg			u
021	71422	SAMPLE	157921-002		71422	Soil	06-APR-2002 16:57	1.0	100.0			0.070	0.020	mg/Kg			u
022	71422	SAMPLE	157921-003		71422	Soil	06-APR-2002 16:59	1.0	100.0			0.057	0.020	mg/Kg			u
023	71422	SAMPLE	157921-004		71422	Soil	06-APR-2002 17:01	1.0	94.33962			0.051	0.019	mg/Kg			u
024	71422	SAMPLE	157948-021		71422	Soil	06-APR-2002 17:03	1.0	100.0			0.038	0.020	mg/Kg			u
025	71422	CCV					06-APR-2002 17:05	1.0	1.0	3	2.500	2.650		ug/L	106		
026	71422	CCB					06-APR-2002 17:07	1.0	1.0			ND	0.20	ug/L			
027	71422	SAMPLE	157948-022		71422	Soil	06-APR-2002 17:09	1.0	100.0			ND	0.020	mg/Kg			u
028	71422	SAMPLE	157948-023		71422	Soil	06-APR-2002 17:11	1.0	96.15385			0.093	0.019	mg/Kg			u
029	71422	SAMPLE	157948-024		71422	Soil	06-APR-2002 17:12	1.0	100.0			0.46	0.020	mg/Kg			u
030	71422	SAMPLE	157948-025		71422	Soil	06-APR-2002 17:14	1.0	100.0			ND	0.020	mg/Kg			u
031	71422	CCV					06-APR-2002 17:15	1.0	1.0	4	7.500	8.200		ug/L	109		
032	71422	CCB					06-APR-2002 17:17	1.0	1.0			[0.1220]	0.20	ug/L			

Stds used: 1=02WS0576 2=02WS0578 3=02WS0577 4=02WS0579
Flags used: u=use

Analyst: _____ Date: 04/06/02

```
Line   Conc.  Units     SD/RSD      1       2       3       4       5
-------------------------------------------------------------------------------

*** Standard: 1 Rep: 1              Seq:  1       11:55:23 06 Apr 02   HG

Hg     .000    ppb       2933

*** Standard: 2 Rep: 1              Seq:  2       11:57:35 06 Apr 02   HG

Hg     .200    ppb       11953

*** Standard: 3 Rep: 1              Seq:  3       11:59:24 06 Apr 02   HG

Hg     .500    ppb       26275

*** Standard: 4 Rep: 1              Seq:  4       12:01:23 06 Apr 02   HG

Hg     2.00    ppb       102893

*** Standard: 5 Rep: 1              Seq:  5       12:03:04 06 Apr 02   HG

Hg     5.00    ppb       247168

*** Standard: 6 Rep: 1              Seq:  6       12:04:47 06 Apr 02   HG

Hg     10.0    ppb       503598

*** Check Standard: 2  Ck2WS0576    Seq:  42      16:21:40 06 Apr 02   HG
Line   Flag  %Rcv.   Found    True  Units      SD/RSD
Hg           97.0    4.85    5.00  ppb         .000  %

*** Check Standard: 1  Ck1ICB       Seq:  43      16:23:18 06 Apr 02   HG
Line   Flag  Found Range(+/-) Units      SD/RSD
Hg          -.004     .000     ppb        .000  %

*** Sample ID: QC175147             Seq:  44      16:24:59 06 Apr 02   HG
                          71422,1
Hg     .057    ppb       .000  %    .057

===============================================================================
*** Sample ID: QC175148             Seq:  45      16:26:40 06 Apr 02   HG
                          71422,1
Hg     4.98    ppb       .000  %    4.98
                                                                             =
===============================================================================
*** Sample ID: QC175149             Seq:  46      16:28:42 06 Apr 02   HG
                          71422,1
Hg     4.95    ppb       .000  %    4.95
                                                                             =
===============================================================================
```

POST-RUN REPORT

Line	Conc.	Units	SD/RSD	1	2	3	4	5

*** Sample ID: 157858-002 Seq: 47 16:30:20 06 Apr 02 HG
71422,1
Hg .184 ppb .000 % .184

*** Sample ID: QC175150 Seq: 48 16:32:30 06 Apr 02 HG
71422,1
Hg 5.49 ppb .000 % 5.49

*** Sample ID: QC175151 Seq: 49 16:34:08 06 Apr 02 HG
71422,1
Hg 5.50 ppb .000 % 5.50

*** Sample ID: 157858-003 Seq: 50 16:35:57 06 Apr 02 HG
71422,1
Hg .282 ppb .000 % .282

*** Sample ID: 157881-053 Seq: 51 16:37:36 06 Apr 02 HG
71422,1
Hg .516 ppb .000 % .516

*** Sample ID: 157881-054 Seq: 52 16:39:30 06 Apr 02 HG
71422,1
Hg .064 ppb .000 % .064

*** Sample ID: 157881-055 Seq: 53 16:41:20 06 Apr 02 HG
71422,1
Hg .037 ppb .000 % .037

*** Check Standard: 5 Ck5ws0578 Seq: 54 16:43:09 06 Apr 02 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		95.8	4.79	5.00	ppb	.000 %

*** Check Standard: 6 Ck6ccb Seq: 55 16:44:59 06 Apr 02 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		^^^^^^	-.028	.000	ppb	.000 %

*** Sample ID: 157881-056 Seq: 56 16:46:37 06 Apr 02 HG
71422,1
Hg .673 ppb .000 % .673

Line	Conc.	Units	SD/RSD	1	2	3	4	5

*** Sample ID: 157881-057 Seq: 57 16:48:20 06 Apr 02 HG

71422,1

Hg	.052	ppb	.000	%	.052

=

*** Sample ID: 157881-058 Seq: 58 16:49:58 06 Apr 02 HG

71422,1

Hg	.495	ppb	.000	%	.495

=

*** Sample ID: 157881-059 Seq: 59 16:52:09 06 Apr 02 HG

71422,1,

Hg	.116	ppb	.000	%	.116

=

*** Sample ID: 157912-002 Seq: 60 16:53:50 06 Apr 02 HG

71422,1

Hg	.541	ppb	.000	%	.541

=

*** Sample ID: 157921-001 Seq: 61 16:55:39 06 Apr 02 HG

71422,1

Hg	.601	ppb	.000	%	.601

=

*** Sample ID: 157921-002 Seq: 62 16:57:29 06 Apr 02 HG

71422,1

Hg	.698	ppb	.000	%	.698

=

*** Sample ID: 157921-003 Seq: 63 16:59:29 06 Apr 02 HG

71422,1

Hg	.570	ppb	.000	%	.570

=

*** Sample ID: 157921-004 Seq: 64 17:01:19 06 Apr 02 HG

71422,1

Hg	.538	ppb	.000	%	.538

=

*** Sample ID: 157948-021 Seq: 65 17:03:14 06 Apr 02 HG

71422,1

Hg	.379	ppb	.000	%	.379

=

*** Check Standard: 3 Ck3ws0577 Seq: 66 17:05:53 06 Apr 02 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		106.	2.65	2.50	ppb	.000 %

=

POST-RUN REPORT

Line	Conc.	Units	SD/RSD	1	2	3	4	5

*** Check Standard: 6 Ck6ccb Seq: 67 17:07:35 06 Apr 02 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		^^^^^^	-.105	.000	ppb	.000 %

*** Sample ID: 157948-022 Seq: 68 17:09:19 06 Apr 02 HG

71422,1

Hg	.066	ppb	.000	%	.066

*** Sample ID: 157948-023 Seq: 69 17:11:00 06 Apr 02 HG

71422,1

Hg	.972	ppb	.000	%	.972

*** Sample ID: 157948-024 Seq: 70 17:12:39 06 Apr 02 HG

71422,1

Hg	4.55	ppb	.000	%	4.55

*** Sample ID: 157948-025 Seq: 71 17:14:18 06 Apr 02 HG

71422,1

Hg	.125	ppb	.000	%	.125

*** Check Standard: 4 Ck4WS0579 Seq: 72 17:15:57 06 Apr 02 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		109.	8.20	7.50	ppb	.000 %

*** Check Standard: 6 Ck6ccb Seq: 73 17:17:56 06 Apr 02 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		^^^^^^	.122	.000	ppb	.000 %

SAMPLE PREPARATION SUMMARY

04/06/02 13:29:40

Batch Number : 71422
Date Extracted : 06-APR-02
Extracted By : Morris Luong Tran
Prep Method : METHOD

Analysis: N/A
Bgroup : HG
Units : g
Clean-up:

Spike #1 ID : 02WS0574
Spike #2 ID :
Spike #3 ID :

Sample No.	Type		Client	Matrx	Init W/V	U	Final Vol	Prep D.F.	Clean pH D.F.	Spike #1 Vol	Spike #2 Vol	Spike #3 Vol	Analysis	Comments
157858-002			IT Corporation	Soil	.5	g	50	100	1				T26/HG	
157858-003			IT Corporation	Soil	.5	g	50	100	1				T26/HG	
157881-053			IT Corporation	Soil	.58	g	50	86.2068	1				T26/HG	
157881-054			IT Corporation	Soil	.57	g	50	87.7192	1				T26/HG	
157881-055			IT Corporation	Soil	.59	g	50	84.7457	1				T26/HG	
157881-056			IT Corporation	Soil	.5	g	50	100	1				T26/HG	
157881-057			IT Corporation	Soil	.5	g	50	100	1				T26/HG	
157881-058			IT Corporation	Soil	.58	g	50	86.2068	1				T26/HG	
157881-059			IT Corporation	Soil	.54	g	50	92.5925	1				T26/HG	
157912-002			Subsurface Consultants	Soil	.58	g	50	86.2068	1				T26/HG	
157921-001			McCulley, Frick & Gilman, Inc.	Soil	.5	g	50	100	1				T26/HG	
157921-002			McCulley, Frick & Gilman, Inc.	Soil	.5	g	50	100	1				T26/HG	
157921-003			McCulley, Frick & Gilman, Inc.	Soil	.5	g	50	100	1				T26/HG	
157921-004			McCulley, Frick & Gilman, Inc.	Soil	.53	g	50	94.3396	1				T26/HG	
157948-021			LFR Levine Fricke	Soil	.5	g	50	100	1				T26/HG	
157948-022			LFR Levine Fricke	Soil	.5	g	50	100	1				T26/HG	
157948-023			LFR Levine Fricke	Soil	.52	g	50	96.1538	1				T26/HG	
157948-024			LFR Levine Fricke	Soil	.5	g	50	100	1				T26/HG	
157948-025			LFR Levine Fricke	Soil	.5	g	50	100	1				T26/HG	
QC175147	MB			Soil	.2	g	50	250	1					
QC175148	BS			Soil	.2	g	50	250	1	2.5				
QC175149	BSD			Soil	.2	g	50	250	1	2.5				
QC175150	MS	of 157858-002		Soil	.2	g	50	250	1	2.5				
QC175151	MSD	of 157858-002		Soil	.2	g	50	250	1	2.5				

Prep Chemist: _____ Reviewed By: _____ Date: _____

Relinquished By: _____ Received By: _____ Date: _____

PROJECT Hyboil — Notebook No. BK1516

Continued From Page

04/06/02

B# 31422

Time on: 2:40 pm
Time off: 3:10 pm
Temp. 95°C.

Sample#	Mass (g)	Vol (ml)	Method	Comments
157858-2 A	0.5	50.0	7471	
3 A	0.5	↓	↓	
157948-21 A	0.50			
22 A	0.50			
23 A	0.52			
24 A	0.50			
25 A	0.50			
157912-2 A	0.58			
157881-53 A	0.58			
54	0.57			
55	0.59			
56	0.5			
57	↓			
58	0.58			
59	0.54			
157921-1 A	0.50			
2	0.50			
3	0.50			
4	0.53			
MB	0.50			
BS	↓			$
BSD	↓			$
157858-2MS	0.50			$
2MSD	0.50	↓	↓	$

2.5ml OTWS OWS0574
ICV, CCV, CCV, CCV OWS0576 (77, 78, 79)
Reagents BK3337 (p. 29-67)
HNO_3 lot# V41022 JT Baker
HCl lot# 4101050 Fisher

Continued on Page

Read and Understood By

Signed [signature] Date 04/06/02

Signed [signature] Date 04/06/02

SEQUENCE SUMMARY
Curtis & Tompkins Laboratories

Sequence: 42136178 Instrument: MET04 HydraAA HG Analyzer Begun: 04-APR-2002
Analyte: Mercury

#	Filename	Type	Samplenum	Subj Samp	Batch	Matrix	Analyzed	IDF	PDF	Stds	Spiked	Result	RL	Units	%Rec	RPD	Flags
001	71351	ICV					04-APR-2002 13:38	1.0	1.0	1	5.000	5.410		ug/L	108		
002	71351	ICB					04-APR-2002 13:40	1.0	1.0			ND	0.20	ug/L			
003	71351	BLANK	QC174900		71351	Water	04-APR-2002 13:42	1.0	1.0			ND	0.20	ug/L			u
004	71351	BS	QC174901		71351	Water	04-APR-2002 13:43	1.0	1.0		5.000	5.000	0.20	ug/L	100		u
005	71351	BSD	QC174902		71351	Water	04-APR-2002 13:45	1.0	1.0		5.000	5.060	0.20	ug/L	101	1	u
006	71351	SAMPLE	157823-001		71351	Water	04-APR-2002 13:47	1.0	1.0			ND	0.20	ug/L			u
007	71351	MSS	157830-001		71351	Water	04-APR-2002 13:48	1.0	1.0			ND	0.20	ug/L			u
008	71351	MS	QC174903	157830-001	71351	Water	04-APR-2002 13:50	1.0	1.0		5.000	5.350	0.20	ug/L	107		u
009	71351	MSD	QC174904	157830-001	71351	Water	04-APR-2002 13:52	1.0	1.0		5.000	5.080	0.20	ug/L	102	5	u
010	71351	BLANK	QC174907		71351	TCLP L	04-APR-2002 13:54	1.0	5.0			ND	1.0	ug/L			u
011	71351	MSS	157841-001		71351	TCLP L	04-APR-2002 13:56	1.0	5.0			ND	1.0	ug/L			u
012	71351	SDUP	QC174905	157841-001	71351	WET Le	04-APR-2002 13:57	1.0	5.0			ND	1.0	ug/L		--	u
013	71351	CCV					04-APR-2002 13:59	1.0	1.0	2	5.000	5.340		ug/L	107		
014	71351	CCB					04-APR-2002 14:01	1.0	1.0			ND	0.20	ug/L			
015	71351	SSPIKE	QC174906	157841-001	71351	WET Le	04-APR-2002 14:03	1.0	5.0		25.00	25.00	1.0	ug/L	100		u
016	71351	SAMPLE	157844-007		71351	Water	04-APR-2002 14:05	1.0	1.0			ND	0.20	ug/L			u
017	71351	SAMPLE	157844-008		71351	Water	04-APR-2002 14:07	1.0	1.0			ND	0.20	ug/L			u
018	71351	SAMPLE	157844-009		71351	Water	04-APR-2002 14:08	1.0	1.0			ND	0.20	ug/L			u
019	71351	SAMPLE	157858-001		71351	Water	04-APR-2002 14:10	1.0	1.0			ND	0.20	ug/L			u
020	71351	SAMPLE	157868-001		71351	Water	04-APR-2002 14:12	1.0	1.0			0.23	0.20	ug/L			u
021	71351	SAMPLE	157870-008		71351	Water	04-APR-2002 14:13	1.0	1.0			ND	0.20	ug/L			u
022	71351	SAMPLE	157879-001		71351	Water	04-APR-2002 14:15	1.0	1.0			ND	0.20	ug/L			u
023	71351	SAMPLE	157881-062		71351	Water	04-APR-2002 14:17	1.0	1.0			ND	0.20	ug/L			u
024	71351	SAMPLE	157882-001		71351	Water	04-APR-2002 14:19	1.0	1.0			0.63	0.20	ug/L			u
025	71351	CCV					04-APR-2002 14:21	1.0	1.0	3	2.500	2.800		ug/L	112		
026	71351	CCB					04-APR-2002 14:23	1.0	1.0			[0.02900]	0.20	ug/L			
027	71351	SAMPLE	157883-002		71351	Water	04-APR-2002 14:25	1.0	1.0			0.20	0.20	ug/L			u
028	71351	CCV					04-APR-2002 14:27	1.0	1.0	4	7.500	8.150		ug/L	109		
029	71351	CCB					04-APR-2002 14:29	1.0	1.0			ND	0.20	ug/L			

Stds used: 1=02WS0551 2=02WS0553 3=02WS0552 4=02WS0554
Flags used: u=use

Analyst: _____ Date: 04/04/02

Line	Conc.	Units	SD/RSD	1	2	3	4	5

*** Standard: 1 Rep: 1 Seq: 3 13:03:35 04 Apr 02 HG

Hg .000 ppb 2721

*** Standard: 2 Rep: 1 Seq: 4 13:05:24 04 Apr 02 HG

Hg .200 ppb 12248

*** Standard: 3 Rep: 1 Seq: 5 13:07:29 04 Apr 02 HG

Hg .500 ppb 27765

*** Standard: 4 Rep: 1 Seq: 6 13:09:12 04 Apr 02 HG

Hg 2.00 ppb 113821

*** Standard: 5 Rep: 1 Seq: 7 13:10:52 04 Apr 02 HG

Hg 5.00 ppb 270727

*** Standard: 6 Rep: 1 Seq: 8 13:13:06 04 Apr 02 HG

Hg 10.0 ppb 535702

*** Check Standard: 2 Ck2WS0551 Seq: 9 13:38:37 04 Apr 02 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		108.	5.41	5.00	ppb	.000 %

*** Check Standard: 1 Ck1ICB Seq: 10 13:40:26 04 Apr 02 HG

Line	Flag	Found	Range(+/-)	Units	SD/RSD
Hg		-.013	.000	ppb	.000 %

*** Sample ID: QC174900 Seq: 11 13:42:04 04 Apr 02 HG

71351,1

Hg -.032 ppb .000 % -.032

*** Sample ID: QC174901 Seq: 12 13:43:46 04 Apr 02 HG

71351,1

Hg 5.00 ppb .000 % 5.00

*** Sample ID: QC174902 Seq: 13 13:45:26 04 Apr 02 HG

71351,1

Hg 5.06 ppb .000 % 5.06

Line	Conc.	Units	SD/RSD	1	2	3	4	5
*** Sample ID: 157823-001			Seq: 14	13:47:20 04 Apr 02	HG			
			71351,1					
Hg	-.015	ppb	.000 %	-.015				
*** Sample ID: 157830-001			Seq: 15	13:48:58 04 Apr 02	HG			
			71351,1					
Hg	.009	ppb	.000 %	.009				
*** Sample ID: QC174903			Seq: 16	13:50:52 04 Apr 02	HG			
			71351,1					
Hg	5.35	ppb	.000 %	5.35				
*** Sample ID: QC174904			Seq: 17	13:52:30 04 Apr 02	HG			
			71351,1					
Hg	5.08	ppb	.000 %	5.08				
*** Sample ID: QC174907			Seq: 18	13:54:24 04 Apr 02	HG			
			71351,1					
Hg	-.055	ppb	.000 %	-.055				
*** Sample ID: 157841-001			Seq: 19	13:56:05 04 Apr 02	HG			
			71351,1					
Hg	-.088	ppb	.000 %	-.088				
*** Sample ID: QC174905			Seq: 20	13:57:44 04 Apr 02	HG			
			71351,1					
Hg	-.024	ppb	.000 %	-.024				

*** Check Standard: 5 Ck5ws0553			Seq: 21	13:59:24 04 Apr 02	HG
Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		107.	5.34	5.00	ppb	.000 %

*** Check Standard: 6 Ck6ccb			Seq: 22	14:01:28 04 Apr 02	HG
Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		^^^^^^	-.050	.000	ppb	.000 %

*** Sample ID: QC174906			Seq: 23	14:03:29 04 Apr 02	HG			
			71351,1					
Hg	5.00	ppb	.000 %	5.00				

Line	Conc.	Units	SD/RSD	1	2	3	4	5

*** Sample ID: 157844-007 Seq: 24 14:05:07 04 Apr 02 HG
71351,1
Hg -.053 ppb .000 % -.053

*** Sample ID: 157844-008 Seq: 25 14:07:01 04 Apr 02 HG
71351,1
Hg -.067 ppb .000 % -.067

*** Sample ID: 157844-009 Seq: 26 14:08:40 04 Apr 02 HG
71351,1
Hg -.001 ppb .000 % -.001

*** Sample ID: 157858-001 Seq: 27 14:10:32 04 Apr 02 HG
71351,1
Hg -.069 ppb .000 % -.069

*** Sample ID: 157868-001 Seq: 28 14:12:16 04 Apr 02 HG
71351,1
Hg .230 ppb .000 % .230

*** Sample ID: 157870-008 Seq: 29 14:13:55 04 Apr 02 HG
71351,1
Hg -.065 ppb .000 % -.065

*** Sample ID: 157879-001 Seq: 30 14:15:33 04 Apr 02 HG
71351,1
Hg -.058 ppb .000 % -.058

*** Sample ID: 157881-062 Seq: 31 14:17:35 04 Apr 02 HG
71351,1
Hg -.080 ppb .000 % -.080

*** Sample ID: 157882-001 Seq: 32 14:19:26 04 Apr 02 HG
71351,1
Hg .627 ppb .000 % .627

*** Check Standard: 3 Ck3ws0552 Seq: 33 14:21:30 04 Apr 02 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		112.	2.80	2.50	ppb	.000 %

Line	Conc.	Units	SD/RSD	1	2	3	4	5

*** Check Standard: 6 Ck6ccb Seq: 34 14:23:52 04 Apr 02 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		^^^^^^	.029	.000	ppb	.000 %

*** Sample ID: 157883-002 Seq: 35 14:25:40 04 Apr 02 HG
71351,1

Hg	.200	ppb	.000	%	.200	

*** Check Standard: 4 Ck4WS0554 Seq: 36 14:27:23 04 Apr 02 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		109.	8.15	7.50	ppb	.000 %

*** Check Standard: 6 Ck6ccb Seq: 37 14:29:04 04 Apr 02 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		^^^^^^	-.057	.000	ppb	.000 %

SAMPLE PREPARATION SUMMARY

04/23/02 10:02:22

Batch Number : 71351
Date Extracted : 04-APR-02
Extracted By : Morris Luong Tran
Prep Method : METHOD

Analysis: N/A
Bgroup : HG
Units : ml
Clean-up:

Spike #1 ID : 02WS0549
Spike #2 ID :
Spike #3 ID :

Sample No.	Type		Client	Matrx	Init W/V	U	Final Vol	Prep D.F.	Clean pH D.F.	Spike #1 Vol	Spike #2 Vol	Spike #3 Vol	Analysis	Comments
157823-001			Reed International	Water	50	ml	50	1	1				RCRA/HG	
157830-001			Tetra Tech EMI	Water	50	ml	50	1	1				TAL/HG	
157841-001			URS Corporation	TCLP	10	ml	50	5	1				TAL/HG	
157844-007			Erler & Kalinowski, Inc.	Water	50	ml	50	1	1				T26/HG	
157844-008			Erler & Kalinowski, Inc.	Water	50	ml	50	1	1				T26/HG	
157844-009			Erler & Kalinowski, Inc.	Water	50	ml	50	1	1				T26/HG	
157858-001			IT Corporation	Water	50	ml	50	1	1				T26/HG	
157868-001			Acme Fill Corp.	Water	50	ml	50	1	1				HG	
157870-008			Erler & Kalinowski, Inc.	Water	50	ml	50	1	1				T26/HG	
157879-001			Arcadis G&M	Water	50	ml	50	1	1				T26/HG	
157881-062			IT Corporation	Water	50	ml	50	1	1				T26/HG	
157882-001			Acme Fill Corp.	Water	50	ml	50	1	1				HG	
157883-002			Professional Finishing	Water	50	ml	50	1	1				HG	
QC174900	MB			Water	50	ml	50	1	1					
QC174901	BS			Water	50	ml	50	1	1	2.5				
QC174902	BSD			Water	50	ml	50	1	1	2.5				
QC174903	MS	of 157830-001		Water	50	ml	50	1	1	2.5				
QC174904	MSD	of 157830-001		Water	50	ml	50	1	1	2.5				
QC174905	SDUP	of 157841-001		TCLP	10	ml	50	5	1					
QC174906	SSPIK	of 157841-001		TCLP	10	ml	50	5	1	2.5				
QC174907	PREPB			TCLP	10	ml	50	5	1					

Prep Chemist: _____ Reviewed By: _____ Date: _____

Relinquished By: _____ Received By: _____ Date: _____

PROJECT Hg/Water/TCLP

Notebook No. BK 1516

Continued From Page

04/04/02 B# 71351

Time 1: 9:00 Am
Time 2: 11:00 Am
Temp: 95°C

Sample#	Init(ml)	Final(ml)	Method	Comments
157823-1B	50.0	50.0	7470	
157830-1D	↓	↓	↓	
157844-7D				
8D				
9D				
157858-1F				
157868-1I				
157870-8D				
157879-1A				
157881-6A				
157882-1J				
157883-2A				
MB				
BS				$
BSD				$
157830-1MS				$
1MSD				$
157841-1	10.0			TCLP
PrepBlk	10.0			
157841-1D				
1#	↓	↓	↓	↓ $

$ = 2.5ml 02WS0549

ICV, CCV1,2,3 = 02WS0551 (52, 53, 54)

Reagents BK0338 (P29-67)

Continued on Page

Read and Understood By

04/04/02 9.9.02

APPENDIX D

JOHNSON AND ETTINGER MODEL RUNS

Table D-1
Soil Gas Intrusion Modeling and Risk Characterization of Chlorinated Hydrocarbon Detection Limits
ARK/Monarch Schools Site, Santa Cruz, California

Compound	Soil Gas Maximum Detection Limit ($\mu g/m^3$)	Depth of Maximum	Attenuation Factor	Maximum Indoor Air Concentration ($\mu g/m^3$)	Unit Cancer Risk ($\mu g/m^3$)	Cancer Risk	Chronic Recommended Exposure Level (µg/m3)	Hazard Quotient
Trichloroethene	8.1	3.0	1.35E-05	1.1E-04	2.0E-06	2.E-10	600	0.0000002
cis-1,2-Dichloroehtylene	6.0	3.0	1.34E-05	8.0E-05			35	0.000002
1,1-Dichloroethene	6.0	3.0	1.38E-05	8.2E-05	5.0E-05	4.E-09	2.6	0.00003
Tetrachloroethylene	10.2	3.0	1.34E-05	1.4E-04	5.9E-06	8.E-10	350	0.0000004
1,1,1-Trichloroethane	8.2	3.0	1.35E-05	1.1E-04			1015	0.0000001
					Total Cancer Risk	5.E-09	Hazard Index	0.000035

Notes

Attenuation Factor and Maximum Indoor Air Concentration Estimated Using EPA (2001) Johnson & Ettinger model for soil gas intrusion into residential indoor air

Used default soil parameters except for depth of soil gas

Unit Cancer Risk Factor and Chronic Recommended Exposure Level (REL) from OEHHA Toxicity Criteria Database for TCE, and PCE

Unit Cancer risk for 1,1-DCE is from IRIS. CRELs for cis-1,2-DCE, 1,1-DCE, PCE, and 1,1,1-TCA from 2000 PRG Tables. Reference doses converted to REL by multiplying by 70 kg and dividing by 20 m3 per day

Cancer risk estimated as maximum indoor air concentration times the unit cancer risk

Hazard Quotient estimated as maximum indoor air concentration divided by the chronic REL

DATA ENTRY SHEET

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
71432	1.80E+01			Benzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	90.9	10	L		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)
1.5	0.43	0.3

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	30	30	350

END

CHEMICAL PROPERTIES SHEET

Diffusivity in air, D_a (cm^2/s)	Diffusivity in water, D_w (cm^2/s)	Henry's law constant at reference temperature, H (atm-m^3/mol)	Henry's law constant reference temperature, T_R (^oC)	Enthalpy of vaporization at the normal boiling point, $\Delta H_{v,b}$ (cal/mol)	Normal boiling point, T_B (^oK)	Critical temperature, T_C (^oK)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)	Molecular weight, MW (g/mol)
8.80E-02	9.80E-06	5.56E-03	25	7,342	353.24	562.16	7.8E-06	0.0E+00	78.11

END

INTERMEDIATE CALCULATIONS SHEET

Source-building separation, L_T (cm)	Vadose zone soil air-filled porosity, θ_a^V (cm^3/cm^3)	Vadose zone effective total fluid saturation, S_{te} (cm^3/cm^3)	Vadose zone soil intrinsic permeability, k_i (cm^2)	Vadose zone soil relative air permeability, k_{rg} (cm^2)	Vadose zone soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
75.9	0.130	0.648	1.85E-09	0.490	9.08E-10	3,844	1.80E+01	5.63E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} ($atm\text{-}m^3/mol$)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Vadose zone effective diffusion coefficient, D^{eff}_v (cm^2/s)	Diffusion path length, L_d (cm)
9.24E+05	4.16E-04	15	8,122	2.69E-03	1.16E-01	1.75E-04	5.42E-04	75.9

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, $\exp(Pe^f)$ (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)
15	1.80E+01	0.10	8.77E-01	5.42E-04	3.84E+02	2.89E+27	1.37E-05	2.47E-04

Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
7.8E-06	NA

END

RESULTS SHEET

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
7.9E-10	NA

MESSAGE SUMMARY BELOW:

END

DATA ENTRY SHEET

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75354	5.95E+00			1,1-Dichloroethylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	90.9	10	L		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)
1.5	0.43	0.3

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	30	30	350

END

CHEMICAL PROPERTIES SHEET

Diffusivity in air, D_a (cm^2/s)	Diffusivity in water, D_w (cm^2/s)	Henry's law constant at reference temperature, H (atm-m^3/mol)	Henry's law constant reference temperature, T_R (°C)	Enthalpy of vaporization at the normal boiling point, $\Delta H_{v,b}$ (cal/mol)	Normal boiling point, T_B (°K)	Critical temperature, T_C (°K)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)	Molecular weight, MW (g/mol)
9.00E-02	1.04E-05	2.61E-02	25	6,247	304.75	576.05	5.0E-05	0.0E+00	96.94

END

INTERMEDIATE CALCULATIONS SHEET

Source-building separation, L_T (cm)	Vadose zone soil air-filled porosity, θ_a^V (cm^3/cm^3)	Vadose zone effective total fluid saturation, S_{te} (cm^3/cm^3)	Vadose zone soil intrinsic permeability, k_i (cm^2)	Vadose zone soil relative air permeability, k_{rg} (cm^2)	Vadose zone soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
75.9	0.130	0.648	1.85E-09	0.490	9.08E-10	3,844	5.95E+00	5.63E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Vadose zone effective diffusion coefficient, D^{eff}_V (cm^2/s)	Diffusion path length, L_d (cm)
9.24E+05	4.16E-04	15	6,392	1.47E-02	6.34E-01	1.75E-04	5.47E-04	75.9

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)
15	5.95E+00	0.10	8.77E-01	5.47E-04	3.84E+02	1.55E+27	1.38E-05	8.18E-05

Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
5.0E-05	NA

END

RESULTS SHEET

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
1.7E-09	NA

MESSAGE SUMMARY BELOW:

END

DATA ENTRY SHEET

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
156592	5.95E+00			cis-1,2-Dichloroethylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	90.9	10	L		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)
1.5	0.43	0.3

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	30	30	350

END

CHEMICAL PROPERTIES SHEET

Diffusivity in air, D_a (cm^2/s)	Diffusivity in water, D_w (cm^2/s)	Henry's law constant at reference temperature, H ($atm\text{-}m^3/mol$)	Henry's law constant reference temperature, T_R (^oC)	Enthalpy of vaporization at the normal boiling point, $\Delta H_{v,b}$ (cal/mol)	Normal boiling point, T_B (^oK)	Critical temperature, T_C (^oK)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)	Molecular weight, MW (g/mol)
7.36E-02	1.13E-05	4.07E-03	25	7,192	333.65	544.00	0.0E+00	3.5E-02	96.94

END

INTERMEDIATE CALCULATIONS SHEET

Source-building separation, L_T (cm)	Vadose zone soil air-filled porosity, θ_a^V (cm^3/cm^3)	Vadose zone effective total fluid saturation, S_{te} (cm^3/cm^3)	Vadose zone soil intrinsic permeability, k_i (cm^2)	Vadose zone soil relative air permeability, k_{rg} (cm^2)	Vadose zone soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
75.9	0.130	0.648	1.85E-09	0.490	9.08E-10	3,844	5.95E+00	5.63E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Vadose zone effective diffusion coefficient, D^{eff}_v (cm^2/s)	Diffusion path length, L_d (cm)
9.24E+05	4.16E-04	15	7,734	2.04E-03	8.77E-02	1.75E-04	4.59E-04	75.9

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe') (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)
15	5.95E+00	0.10	8.77E-01	4.59E-04	3.84E+02	2.67E+32	1.34E-05	8.00E-05

Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
NA	3.5E-02

END

RESULTS SHEET

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	2.2E-06

MESSAGE SUMMARY BELOW:

MESSAGE: Risk/HQ or risk-based soil concentration is based on a route-to-route extrapolation.

END

DATA ENTRY SHEET

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
100414	1.85E+01			Ethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	90.9	10	L		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)
1.5	0.43	0.3

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	30	30	350

END

CHEMICAL PROPERTIES SHEET

Diffusivity in air, D_a (cm^2/s)	Diffusivity in water, D_w (cm^2/s)	Henry's law constant at reference temperature, H (atm-m^3/mol)	Henry's law constant reference temperature, T_R (°C)	Enthalpy of vaporization at the normal boiling point, $\Delta H_{v,b}$ (cal/mol)	Normal boiling point, T_B (°K)	Critical temperature, T_C (°K)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)	Molecular weight, MW (g/mol)
7.50E-02	7.80E-06	7.88E-03	25	8,501	409.34	617.20	0.0E+00	1.0E+00	106.17

END

INTERMEDIATE CALCULATIONS SHEET

Source-building separation, L_T (cm)	Vadose zone soil air-filled porosity, θ_a^v (cm^3/cm^3)	Vadose zone effective total fluid saturation, S_{te} (cm^3/cm^3)	Vadose zone soil intrinsic permeability, k_i (cm^2)	Vadose zone soil relative air permeability, k_{rg} (cm^2)	Vadose zone soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
75.9	0.130	0.648	1.85E-09	0.490	9.08E-10	3,844	1.85E+01	5.63E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Vadose zone effective diffusion coefficient, D^{eff}_v (cm^2/s)	Diffusion path length, L_d (cm)
9.24E+05	4.16E-04	15	10,155	3.18E-03	1.37E-01	1.75E-04	4.60E-04	75.9

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, $\exp(Pe^f)$ (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)
15	1.85E+01	0.10	8.77E-01	4.60E-04	3.84E+02	2.11E+32	1.35E-05	2.49E-04

Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
NA	1.0E+00

END

RESULTS SHEET

INCREMENTAL RISK,CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	2.4E-07

MESSAGE SUMMARY BELOW:

END

DATA ENTRY SHEET

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
127184	1.02E+01			Tetrachloroethylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	90.9	10	L		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)
1.5	0.43	0.3

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	30	30	350

END

CHEMICAL PROPERTIES SHEET

Diffusivity in air, D_a (cm^2/s)	Diffusivity in water, D_w (cm^2/s)	Henry's law constant at reference temperature, H (atm-m^3/mol)	Henry's law constant reference temperature, T_R (^oC)	Enthalpy of vaporization at the normal boiling point, $\Delta H_{v,b}$ (cal/mol)	Normal boiling point, T_B (^oK)	Critical temperature, T_C (^oK)	Unit risk factor, URF ($\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)	Molecular weight, MW (g/mol)
7.20E-02	8.20E-06	1.84E-02	25	8,288	394.40	620.20	5.8E-07	0.0E+00	165.83

END

INTERMEDIATE CALCULATIONS SHEET

Source-building separation, L_T (cm)	Vadose zone soil air-filled porosity, θ_a^V (cm^3/cm^3)	Vadose zone effective total fluid saturation, S_{te} (cm^3/cm^3)	Vadose zone soil intrinsic permeability, k_i (cm^2)	Vadose zone soil relative air permeability, k_{rg} (cm^2)	Vadose zone soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
75.9	0.130	0.648	1.85E-09	0.490	9.08E-10	3,844	1.02E+01	5.63E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Vadose zone effective diffusion coefficient, D^{eff}_v (cm^2/s)	Diffusion path length, L_d (cm)
9.24E+05	4.16E-04	15	9,553	7.83E-03	3.37E-01	1.75E-04	4.39E-04	75.9

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, $\exp(Pe^f)$ (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)
15	1.02E+01	0.10	8.77E-01	4.39E-04	3.84E+02	7.96E+33	1.34E-05	1.36E-04

Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
5.8E-07	NA

END

RESULTS SHEET

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
3.2E-11	NA

MESSAGE SUMMARY BELOW:

END

DATA ENTRY SHEET

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
108883	2.19E+01			Toluene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	90.9	10	L		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)
1.5	0.43	0.3

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	30	30	350

END

CHEMICAL PROPERTIES SHEET

Diffusivity in air, D_a (cm^2/s)	Diffusivity in water, D_w (cm^2/s)	Henry's law constant at reference temperature, H (atm-m^3/mol)	Henry's law constant reference temperature, T_R (°C)	Enthalpy of vaporization at the normal boiling point, $\Delta H_{v,b}$ (cal/mol)	Normal boiling point, T_B (°K)	Critical temperature, T_C (°K)	Unit risk factor, URF ($\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)	Molecular weight, MW (g/mol)
8.70E-02	8.60E-06	6.63E-03	25	7,930	383.78	591.79	0.0E+00	4.0E-01	92.14

END

INTERMEDIATE CALCULATIONS SHEET

Source-building separation, L_T (cm)	Vadose zone soil air-filled porosity, θ_a^v (cm^3/cm^3)	Vadose zone effective total fluid saturation, S_{te} (cm^3/cm^3)	Vadose zone soil intrinsic permeability, k_i (cm^2)	Vadose zone soil relative air permeability, k_{rg} (cm^2)	Vadose zone soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
75.9	0.130	0.648	1.85E-09	0.490	9.08E-10	3,844	2.19E+01	5.63E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Vadose zone effective diffusion coefficient, D^{eff}_v (cm^2/s)	Diffusion path length, L_d (cm)
9.24E+05	4.16E-04	15	9,154	2.92E-03	1.26E-01	1.75E-04	5.34E-04	75.9

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)
15	2.19E+01	0.10	8.77E-01	5.34E-04	3.84E+02	7.16E+27	1.37E-05	3.00E-04

Unit risk factor, URF ($\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
NA	4.0E-01

END

RESULTS SHEET

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	7.2E-07

MESSAGE SUMMARY BELOW:

END

DATA ENTRY SHEET

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_s ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
71556	8.19E+00			1,1,1-Trichloroethane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	90.9	10	L		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)
1.5	0.43	0.3

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	30	30	350

END

CHEMICAL PROPERTIES SHEET

Diffusivity in air, D_a (cm^2/s)	Diffusivity in water, D_w (cm^2/s)	Henry's law constant at reference temperature, H ($atm\text{-}m^3/mol$)	Henry's law constant reference temperature, T_R (°C)	Enthalpy of vaporization at the normal boiling point, $\Delta H_{v,b}$ (cal/mol)	Normal boiling point, T_B (°K)	Critical temperature, T_C (°K)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)	Molecular weight, MW (g/mol)
7.80E-02	8.80E-06	1.72E-02	25	7,136	347.24	545.00	0.0E+00	1.0E+00	133.41

END

INTERMEDIATE CALCULATIONS SHEET

Source-building separation, L_T (cm)	Vadose zone soil air-filled porosity, θ_a^V (cm^3/cm^3)	Vadose zone effective total fluid saturation, S_{te} (cm^3/cm^3)	Vadose zone soil intrinsic permeability, k_i (cm^2)	Vadose zone soil relative air permeability, k_{rg} (cm^2)	Vadose zone soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
75.9	0.130	0.648	1.85E-09	0.490	9.08E-10	3,844	8.19E+00	5.63E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Vadose zone effective diffusion coefficient, D^{eff}_v (cm^2/s)	Diffusion path length, L_d (cm)
9.24E+05	4.16E-04	15	7,885	8.50E-03	3.66E-01	1.75E-04	4.75E-04	75.9

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe') (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)
15	8.19E+00	0.10	8.77E-01	4.75E-04	3.84E+02	2.03E+31	1.35E-05	1.11E-04

Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
NA	1.0E+00

END

RESULTS SHEET

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	1.1E-07

MESSAGE SUMMARY BELOW:

END

DATA ENTRY SHEET

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
79016	8.06E+00			Trichloroethylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	90.9	10	L		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)
1.5	0.43	0.3

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	30	30	350

END

CHEMICAL PROPERTIES SHEET

Diffusivity in air, D_a (cm^2/s)	Diffusivity in water, D_w (cm^2/s)	Henry's law constant at reference temperature, H (atm-m^3/mol)	Henry's law constant reference temperature, T_R (°C)	Enthalpy of vaporization at the normal boiling point, $\Delta H_{v,b}$ (cal/mol)	Normal boiling point, T_B (°K)	Critical temperature, T_C (°K)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)	Molecular weight, MW (g/mol)
7.90E-02	9.10E-06	1.03E-02	25	7,505	360.36	544.20	1.7E-06	0.0E+00	131.39

END

INTERMEDIATE CALCULATIONS SHEET

Source-building separation, L_T (cm)	Vadose zone soil air-filled porosity, θ_a^V (cm^3/cm^3)	Vadose zone effective total fluid saturation, S_{te} (cm^3/cm^3)	Vadose zone soil intrinsic permeability, k_i (cm^2)	Vadose zone soil relative air permeability, k_{rg} (cm^2)	Vadose zone soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
75.9	0.130	0.648	1.85E-09	0.490	9.08E-10	3,844	8.06E+00	5.63E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Vadose zone effective diffusion coefficient, D^{eff}_v (cm^2/s)	Diffusion path length, L_d (cm)
9.24E+05	4.16E-04	15	8,557	4.79E-03	2.06E-01	1.75E-04	4.83E-04	75.9

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)
15	8.06E+00	0.10	8.77E-01	4.83E-04	3.84E+02	6.13E+30	1.35E-05	1.09E-04

Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
1.7E-06	NA

END

RESULTS SHEET

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
7.6E-11	NA

MESSAGE SUMMARY BELOW:

END

Santa Cruz ARK/Monarch School - Using Xylenes as Surrogate for 1,2,4-Trimethylbenzene

SG-SCREEN
Version 1.0; 03/01

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_a ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_a (ppmv)	Chemical
106423	6.98E+01			p-Xylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	90.9	10	L		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)
1.5	0.43	0.3

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	30	30	350

END

CHEMICAL PROPERTIES SHEET

Diffusivity in air, D_a (cm^2/s)	Diffusivity in water, D_w (cm^2/s)	Henry's law constant at reference temperature, H (atm-m^3/mol)	Henry's law constant reference temperature, T_R (°C)	Enthalpy of vaporization at the normal boiling point, $\Delta H_{v,b}$ (cal/mol)	Normal boiling point, T_B (°K)	Critical temperature, T_C (°K)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc.. RfC (mg/m^3)	Molecular weight, MW (g/mol)
7.69E-02	8.44E-06	7.66E-03	26	8,525	411.52	616.20	0.0E+00	7.0E+00	106.17

END

INTERMEDIATE CALCULATIONS SHEET

Source-building separation, L_T (cm)	Vadose zone soil air-filled porosity, θ_a^v (cm^3/cm^3)	Vadose zone effective total fluid saturation, S_{te} (cm^3/cm^3)	Vadose zone soil intrinsic permeability, k_i (cm^2)	Vadose zone soil relative air permeability, k_{rg} (cm^2)	Vadose zone soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
75.9	0.130	0.648	1.85E-09	0.490	9.08E-10	3,844	6.98E+01	5.63E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Vadose zone effective diffusion coefficient, D^{eff}_v (cm^2/s)	Diffusion path length, L_d (cm)
9.24E+05	4.16E-04	15	10,248	2.89E-03	1.24E-01	1.75E-04	4.73E-04	75.9

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, $\exp(Pe^f)$ (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)
15	6.98E+01	0.10	8.77E-01	4.73E-04	3.84E+02	2.92E+31	1.35E-05	9.43E-04

Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
NA	7.0E+00

END

RESULTS SHEET

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	1.3E-07

MESSAGE SUMMARY BELOW:

MESSAGE: Risk/HQ or risk-based soil concentration is based on a route-to-route extrapolation.

END

Santa Cruz ARK/Monarch School - Using Xylenes as Surrogate for 1,3,5-Trimethylbenzene

SG-SCREEN
Version 1.0; 03/01

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
106423	1.23E+01			p-Xylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	90.9	10	L		

MORE ↓

ENTER Vadose zone soil dry bulk density, $\rho_b{}^A$ (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, $\theta_w{}^V$ (cm^3/cm^3)
1.5	0.43	0.3

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	30	30	350

END

CHEMICAL PROPERTIES SHEET

Diffusivity in air, D_a (cm^2/s)	Diffusivity in water, D_w (cm^2/s)	Henry's law constant at reference temperature, H (atm-m^3/mol)	Henry's law constant reference temperature, T_R (°C)	Enthalpy of vaporization at the normal boiling point, $\Delta H_{v,b}$ (cal/mol)	Normal boiling point, T_B (°K)	Critical temperature, T_C (°K)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)	Molecular weight, MW (g/mol)
7.69E-02	8.44E-06	7.66E-03	26	8,525	411.52	616.20	0.0E+00	7.0E+00	106.17

END

INTERMEDIATE CALCULATIONS SHEET

Source-building separation, L_T (cm)	Vadose zone soil air-filled porosity, θ_a^V (cm^3/cm^3)	Vadose zone effective total fluid saturation, S_{te} (cm^3/cm^3)	Vadose zone soil intrinsic permeability, k_i (cm^2)	Vadose zone soil relative air permeability, k_{rg} (cm^2)	Vadose zone soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
75.9	0.130	0.648	1.85E-09	0.490	9.08E-10	3,844	1.23E+01	5.63E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Vadose zone effective diffusion coefficient, D^{eff}_V (cm^2/s)	Diffusion path length, L_d (cm)
9.24E+05	4.16E-04	15	10,248	2.89E-03	1.24E-01	1.75E-04	4.73E-04	75.9

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe') (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)
15	1.23E+01	0.10	8.77E-01	4.73E-04	3.84E+02	2.92E+31	1.35E-05	1.66E-04

Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
NA	7.0E+00

END

RESULTS SHEET

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	2.3E-08

MESSAGE SUMMARY BELOW:

MESSAGE: Risk/HQ or risk-based soil concentration is based on a route-to-route extrapolation.

END

DATA ENTRY SHEET

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
95476	1.33E+01			o-Xylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	90.9	10	L		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)
1.5	0.43	0.3

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	30	30	350

END

CHEMICAL PROPERTIES SHEET

Diffusivity in air, D_a (cm^2/s)	Diffusivity in water, D_w (cm^2/s)	Henry's law constant at reference temperature, H (atm-m^3/mol)	Henry's law constant reference temperature, T_R (^oC)	Enthalpy of vaporization at the normal boiling point, $\Delta H_{v,b}$ (cal/mol)	Normal boiling point, T_B (^oK)	Critical temperature, T_C (^oK)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)	Molecular weight, MW (g/mol)
8.70E-02	1.00E-05	5.20E-03	25	8,661	417.60	630.30	0.0E+00	7.0E+00	106.17

END

INTERMEDIATE CALCULATIONS SHEET

Source-building separation, L_T (cm)	Vadose zone soil air-filled porosity, θ_a^V (cm^3/cm^3)	Vadose zone effective total fluid saturation, S_{te} (cm^3/cm^3)	Vadose zone soil intrinsic permeability, k_i (cm^2)	Vadose zone soil relative air permeability, k_{rg} (cm^2)	Vadose zone soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
75.9	0.130	0.648	1.85E-09	0.490	9.08E-10	3,844	1.33E+01	5.63E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Vadose zone effective diffusion coefficient, D^{eff}_v (cm^2/s)	Diffusion path length, L_d (cm)
9.24E+05	4.16E-04	15	10,404	2.05E-03	8.83E-02	1.75E-04	5.38E-04	75.9

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, $\exp(Pe^f)$ (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)
15	1.33E+01	0.10	8.77E-01	5.38E-04	3.84E+02	4.24E+27	1.37E-05	1.83E-04

Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
NA	7.0E+00

END

RESULTS SHEET

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	2.5E-08

MESSAGE SUMMARY BELOW:

MESSAGE: Risk/HQ or risk-based soil concentration is based on a route-to-route extrapolation.

END

DATA ENTRY SHEET

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
106423	1.33E+01			p-Xylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_s (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	90.9	10	L		

MORE ↓

ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^v (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^v (cm^3/cm^3)
1.5	0.43	0.3

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	30	30	350

END

CHEMICAL PROPERTIES SHEET

Diffusivity in air, D_a (cm^2/s)	Diffusivity in water, D_w (cm^2/s)	Henry's law constant at reference temperature, H ($atm\text{-}m^3/mol$)	Henry's law constant reference temperature, T_R (^oC)	Enthalpy of vaporization at the normal boiling point, $\Delta H_{v,b}$ (cal/mol)	Normal boiling point, T_B (^oK)	Critical temperature, T_C (^oK)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)	Molecular weight, MW (g/mol)
7.69E-02	8.44E-06	7.66E-03	26	8,525	411.52	616.20	0.0E+00	7.0E+00	106.17

END

INTERMEDIATE CALCULATIONS SHEET

Source-building separation, L_T (cm)	Vadose zone soil air-filled porosity, θ_a^V (cm^3/cm^3)	Vadose zone effective total fluid saturation, S_{te} (cm^3/cm^3)	Vadose zone soil intrinsic permeability, k_i (cm^2)	Vadose zone soil relative air permeability, k_{ra} (cm^2)	Vadose zone soil effective vapor permeability, k_v (cm^2)	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)
75.9	0.130	0.648	1.85E-09	0.490	9.08E-10	3,844	1.33E+01	5.63E+04

Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Vadose zone effective diffusion coefficient, D^{eff}_v (cm^2/s)	Diffusion path length, L_d (cm)
9.24E+05	4.16E-04	15	10,248	2.89E-03	1.24E-01	1.75E-04	4.73E-04	75.9

Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe') (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)
15	1.33E+01	0.10	8.77E-01	4.73E-04	3.84E+02	2.92E+31	1.35E-05	1.80E-04

Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
NA	7.0E+00

END

RESULTS SHEET

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	2.5E-08

MESSAGE SUMMARY BELOW:

MESSAGE: Risk/HQ or risk-based soil concentration is based on a route-to-route extrapolation.

END

APPENDIX E

COMMUNITY PROFILE

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
DEPARTMENT OF TOXIC SUBSTANCES CONTROL

COMMUNITY PROFILE

ARK/MONARCH SCHOOL EXPANSION
Santa Cruz City Schools
313 Swift Street, Santa Cruz, California

May 2002

Approved by:

Mike Lozano, Project Manager
Department of Toxic Substances Control
School Property Evaluation
8800 Cal Center Drive
Sacramento, CA 95826

Submitted by:

Santa Cruz City Schools
Bond Project Coordination Team
2931 Mission Street
Santa Cruz, CA 95060

TABLE OF CONTENTS

LIST OF TABLES

LIST OF APPENDICES

1.0 INTRODUCTION

1.1 Purpose of the Community Profile

The California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) requires this Community Profile to describe the community and to determine potential community concerns in the DTSC investigation of environmental conditions of ARK/Monarch school site at 313 Swift Street, in Santa Cruz, California. The proposed project is being proposed by the Santa Cruz City Schools (SCCS) to expand and renovate the ARK/Monarch schools.

The present property is a 4.1 acres, identified as Assessor's Parcel Number 03-161-32. It is within Section 27, Township 11 south, range 2 west, of the Mount Diablo base and meridian. Figure 1 shows the location of the property.

Presently the property is owned by the SCCS; ARK and Monarch schools are located on the parcel. The ARK school is a high school for at risk students and has a population of about 200 students. The Monarch Elementary School is a special alternative school and has an enrollment of about 40 students. This property has 11 one-story structures on the site, housing classrooms for the students and some recreational areas. Two of the structures are permanent and the remaining 9 are portable buildings/classroom structures. There are also greenhouses that are used for educational activities. The SCCS proposes to provide new portable classrooms to replace existing buildings (except two existing portable buildings), additional classrooms for both schools, recreational facilities, a multi-purpose building (independent study area, food service area, weight room), administrative building, and additional parking.

The Community Profile is necessary to evaluate whether public involvement activities are warranted at a given time and to identify sites or facilities with "high" community interest or concern early in the process. The Community Profile also provides a basis for developing a public participation strategy for proposed removal actions at the site, or, it may be used as a basis for development of a Public Participation Plan, should further action be required.

1.2 DTSC Oversight Responsibilities

The SCCS prepared the Community Profile under the direct oversight of the DTSC. The Community Profile is part of a Preliminary Endangerment Assessment (PEA), which is prepared to determine whether current or past waste management practices have resulted in the release or threatened release of hazardous substances that may pose a threat to public health or the environment.

After the PEA phase is complete, the next phase in the process is to determine whether or not cleanup is required. Included in the PEA review process is a 30-day public comment period. After that period, the DTSC will determine if the information and sampling collected supports a decision to cleanup the site or if cleanup is not needed. If cleanup is required, the next phase will be the ***Removal Action*** phase. If DTSC and SCCS determine that this site should move beyond

the PEA phase, further public involvement activities may be required.

1.3 Sources of Information for the Community Profile

Community profiles are based on information from a variety of sources including the Phase I Environmental Site Assessment (ESA) prepared by Weber, Hayes & Associates (December 12, 2000), site visits; discussions with representatives of SCCS; demographic data; and information from various websites and other documents referenced in subsection 2.9.

1.4 Summary of Community Concerns

According to discussions with SCCS's Ms. Cathy Braun (Assistant to the Project Coordinator), as of April 30, 2002, there has been no feedback from the community relating to this project.

1.5 Organization of Community Profile

The Community Profile contains two sections including the Introduction and Community Background. In addition, the appendices provide supplemental information.

2.0 COMMUNITY BACKGROUND / COMMUNITY PROFILE OUTLINE

SITE/PROJECT NAME: ARK/Monarch Schools at 313 Swift Street, Santa Cruz

2.1 Site Location and Project Description:

The proposed rebuilding of ARK/Monarch schools will be at their existing location at 313 Swift Street. The 4.1-acre site is located in the western portion of the city of Santa Cruz, on the west side of Swift Street, approximately 200 feet south of Delaware Avenue. Photographs of the site are provided in the PEA. The present buildings on the site are single-story buildings and are relatively small in size (9 of the 11 buildings are each less than 1,000 square feet) and the other two larger and permanent buildings are 2,400 and 4,800 square feet. There are several scattered sheds, trailers, and various structures on the site, along with a few mature trees. The surface is primarily covered either by asphalt (parking and roads), buildings, and grass. The site is flat and about 45 to 50 feet above mean sea level. The parcel is located about 2,000 feet from the shoreline (the shoreline is south of the property).

The property is located in an area of mixed uses, including commercial, school, and single-family residential. North of the site (between the site and Delaware Avenue) and west of the site are commercial uses with asphalt parking lots. South of the site is the Natural Bridges Elementary School. West of the site is a maintenance yard operated by SCCS; this maintenance facility is used for storage and as a work area for the school district's grounds, maintenance, and transportation departments. Swift Street is located on the eastern side of the property; uses east of Swift Street include residential homes.

The 4.1-acre property has been owned and utilized for ARK/Monarch schools since the mid-1980s. Prior to that time, the site was part of the National Guard Armory. From 1963 to the mid-1980s the site was used to service armored vehicles and trucks of the National Guard. The two larger permanent buildings on the property were built in 1963 for use by the National Guard.

The surrounding area has been developed in its present uses since the 1980s and can be considered a stable area with little growth or development occurring.

A Phase I ESA was prepared in December 2000, based on the information in the Phase I ESA, the DTSC determined further investigations (through a PEA) was necessary due to:

- a formerly used grease rack on the property as an environmental condition of potential concern
- a release of chlorinated solvents from a plating plant that was located hydrogeologically upgradient of the site.

The proposed project is essentially to rebuild the ARK/Monarch schools. The ARK School is for high school students who are at risk for leaving the public school system. There are approximately 200 students at this school. Most of the buildings and facilities are obsolete or inadequate to meet the present classroom standards.

Monarch Elementary School is a special alternative school that has an enrollment of 40 students. The current buildings and facilities are also obsolete and inadequate to meet the present classroom standards. It is anticipated that the Monarch Elementary School will be expanded to about 80 students and will accommodate middle school grades.

The proposed action will include the demolition of most of the buildings on the property, clearing and grubbing of the site, grading of the surface, installing utilities and other infrastructure elements, constructing classrooms (portables) and related school buildings (multi-purpose building, administrative building), preparing/creating playground and field sports areas, and landscaping open areas.

Map/Current Land Use
As described, the areas immediately surrounding the site have uses consisting of a public elementary school, single-family residential units, commercial, and industrial uses. Within a ¼-mile radius of the site, the largest land uses are commercial (north and west of the property), school (south of the property), and residential (east of the property, beyond Swift Street). Information from the Santa Cruz (city) Department of Planning and Community Development (personal communications, May 1, 2002, Ms. Carla Dykes, Assistant Planner) indicates that the property is zoned PF (public facility) school. The area to the north is zoned for industrial, and the surrounding areas (east, west, and south) are zoned residential.

Future Land Use
Because this area is developed, the existing and future land uses are expected to remain the same.

2.2 Site History

A review of the information contained in the Phase I ESA prepared in December 2000 by Weber, Hayes & Associates, the project site has been developed since 1963. Between 1963 and mid-1980, the site served as a National Guard Armory. After mid-1980 to the present, the ARK/Monarch schools have been on the site. The plating plant that was responsible for the release of chlorinated solvents appears to have been built in 1957 or earlier. The other present surrounding uses appeared (in aerial photos) from the early 1980s to the present.

2.3 Agency Involvement

A review of the selected agency databases for documented environmental concerns on the site, or in close proximity to the site, was conducted as part of the Phase I ESA. No records of onsite hazardous waste/substance storage, treatment, or disposal activities were obtained from the agency file review and information requests performed for the site. The search indicated that the subject property does not have a record of any documented contaminant releases, underground/aboveground tank storage of hazardous materials, or generation of hazardous wastes.

However, in a site walk through, a single unidentified groundwater monitoring well located across Swift Street tot he east of the site was discovered. This was a monitoring well related to

the remediation effort of the plating plant (Santa Cruz Industries). In addition, there was evidence of the previous use of the property by the National Guard (e.g., a large concrete ramp at the western property boundary).

Because of the past usage and the contamination from the plating plant, DTSC determined the need for further study through a PEA. The PEA includes soil sampling to determine if the soil contamination is evident and cleanup is necessary to obtain acceptable levels for school uses.

2.4 History of Community Involvement

At this time, no community concern has been voiced. The SCCS has formed a committee (Bond Project Coordination Team) that meets once every two months. These meetings are open to the public and no public concern or opposition to this project has been indicated at these meetings (personal communications, April 30, 2002, Ms. Cathy Braun, Assistant to the Project Coordinator).

On date, a notice was distributed to the neighbors within site of the property. This notice is provided in Appendix A. The notice indicated that field sampling would occur at the site between date and date. About 600 flyers were distributed (see distribution list, Appendix A). The SCCS did not receive any responses on this letter, nor did they receive any requests for additional information.

- Contacts by community members:
  No community inquiries have been made to SCCS regarding the project (as of May 1, 2002).
- Media coverage:
  To date, no media coverage specific to this project has taken place.

2.5 Community Concerns and Issues

The site assessment has not generated much public attention, if any. Discussions with Ms. Cathy Braun, Assistant to the Project Coordinator (April 30-May 1, 2002) have indicated that there is little to no community concern regarding the site.

2.6 Community Demographic Profile

The site is located in a commercial/industrial and residential area of Santa Cruz. Santa Cruz is a coastal community about 74 miles south of San Francisco and 30 miles from San Jose. The site is part of the City of Santa Cruz (in the County of Santa Cruz) and is situated on the northern part of Monterey Bay. The population of the City (2000 US Census) was 54,593; the City has an area of 12 square miles. The major industries include agriculture, tourism, manufacturing, food processing, and high tech firms.

Table 2-1
Area Demographic Characteristics

Characteristic	Census Tract 1012, Block Groups 1 & 2 Approximately 1/3-mile Radius[1]	Census Tract 1012 Approximately 2-mile Radius[2]
Population – 2000 Census	NA	2,751
Population – 1990 Census	619	2,746
1990 to 2000 Population Growth – 0%		
Male Population – 2000 Census	NA	1,396
Male Population – 1990 Census	332	1,404
Female Population – 2000 Census	NA	1,355
Female Population – 1990 Census	287	1,342
Median age – 2000 Census	NA	39.6 years
Median age – 1990 Census	NA	NA
Race – 2000 Census	NA	
White		2,421 (88%)
Black or African American		37 (1.3%)
American Indian and Alaska Native		53 (1.9%)
Asian		144 (5.2%)
Native Hawaiian and Other Pacific Islander		17 (0.6%)
Some other race		205 (7.5%)
Hispanic or Latino (of any race)		346 (12.6%)
Race – 1990 Census		
White	492 (79.5%)	2,429 (88.5%)
Black or African American	23 (3.7%)	67 (2.4%)
American Indian and Alaska Native	4 (0.65%)	18 (.66%)
Asian	55 (8.9%)	117 (4.3%)
Native Hawaiian and Other Pacific Islander	43 (6.9%)	0
Some other race	0	115 (4.2%)
Hispanic or Latino (of any race)	117 (18.9%)	327 (11.9%)
Average Household Size – 2000 Census (persons)	NA	2.58
Average Household Size – 1990 Census (persons)	3.3*	2.7*
Total Housing Units – 2000 Census	NA	1,038
Total Housing Units – 1990 Census	187	1,064
Owner-occupied Housing Units – 1990 Census	179	716
Renter-occupied Housing Units – 1990 Census	126	268
Median value of Owner-occupied Units – 1990 Census	$230,000*	$257,200
Median monthly rent paid – 1990 Census	$930*	$939
Median Family Income (area) –1990 Census	$45,000*	

Information was based on US Census.

* Approximate estimates.

Based on demographic information from the US Census (1990 and 2000), and summarized in this table, the area surrounding the property is very stable with no overall increase in population between 1990 and 2000. The median age is older (39.6 years) than the County's median age (35.0 years) and it appears that the population in the nearby community is remaining in the area and aging. The white population in the surrounding area is about 88 percent; this is about 9

percent higher than the white population in Santa Cruz County. The median household size is similar to the overall County, and the median family income is also comparable to the surrounding area. Owner occupied housing and renter occupied housing is also similar to the County's percentages of 60 percent owner occupied housing to 40 percent renter occupied housing. Vacancy rates for both housing types are very small.

2.6 Key Contact List

Position/Title	Name	Phone Number	Fax Number
School Board Members	Donna Cohick	831.429.3800	831.429.3697
	Judy Cook	831.429.3800	831.429.3697
	Felix Robles	831.429.3800	831.429.3697
	Mick Routh	831.429.3800	831.429.3697
	Barbara Thompson	831.429.3800	831.429.3697
	Tim Willis	831.429.3800	831.429.3697
	Dan Wood	831.429.3800	831.429.3697
Bond Oversight Committee Members	Robert Thornton	831.429.3800	831.429.3697
	Ann Pomper	831.429.3800	831.429.3697
	Laurie Bair	831.429.3800	831.429.3697
	Doug Cook	831.429.3800	831.429.3697
	Matt Farrell	831.429.3800	831.429.3697
	William L. May	831.429.3800	831.429.3697
	Judy McGooden	831.429.3800	831.429.3697
	B. Clark Stamper	831.429.3800	831.429.3697
	Steve Barisof	831.429.3800	831.429.3697
SCCS Assistant Superintendent of Business	Richard C. Moss	831.429.3880	831.429.3538
SCCS Bond Projects Director	Mike Morehouse	831.429.3831	831.425.7639
DTSC Project Manager	Micheal Lozano	916.255.6523	916.255.3734
Shaw E&I. Project Manager	Charles Metzinger	916.928.3300	916.928.3341
Elected officials representing the area:			
♦ U.S. House, District 17	Sam Farr	831.424.2229	831.424.7099
♦ State Senator, District 15	Bruce McPherson	831.425.0401	916.445.8081
♦ State Assemblymember, District 27	Fred Keeley	831.425.1503	831.425.2570
♦ County of Santa Cruz Supervisor, District 3	Mardi Wormhoudt	831.454.2200	831.454.3262
Santa Cruz City Mayor/Council Members:			
Mayor	Christopher Krohn	831.420.5020	831.454.5021
Vice-Mayor	Emily Reilly	831.420.5020	831.454.5021
Council Member	Tim Fitzmaurice	831.420.5020	831.454.5021
Council Member	Scott Kennedy	831.420.5020	831.454.5021
Council Member	Ed Porter	831.420.5020	831.454.5021
Council Member	Mark Primack	831.420.5020	831.454.5021
Council Member	Keith A. Sugar	831.420.5020	831.454.5021

A mailing list is provided in Appendix B, including relevant public officials, school district members, public participation specialists, project managers, and the California Statewide Mandatory Mailing List. Also included is a list of addresses of the surrounding residents/property owners (within ¼ mile radius of the site).

2.8 Recommended Public Participation

It is recommended that a single specific person, preferably an SCCS employee, be identified to serve as liaison between the community and the SCCS on this project, and that regular communication regarding developments takes place.

Once the PEA report is available, the report will at the information repository approved by the DTSC, the SCCS office at 2931 Mission Street, Santa Cruz (telephone 831.429.3800). The repository will be in SCCS's main office for approximately six months. There will also be a second information repository at Garfield Park Branch Library, 705 Woodrow Street, Santa Cruz, CA 95060-5950 (telephone 831.420.6344), at the reference desk. All administrative records for this site are held at the Department of Toxic Substances Control at 1011 N. Grandview Avenue, Glendale, CA, 91201, and will be available for viewing.

DTSC Contact:

Mike Lozano
Project Manager
Department of Toxic Substances Control
8800 Cal Center Drive
Sacramento, CA 95826
Phone: (916) 255-6523
Fax: (916) 255-3734

2.9 References

IT Corporation, *Work Plan, Soil Investigation for Preliminary Endangerment Assessment, Ark/Monarch School Expansion, 313 Swift Street, Santa Cruz, California,* February 25, 2002.

Santa Cruz City Schools, *Negative Declaration for Ark/Monarch Campus Improvement, Swift Street/Delaware Avenue, Santa Cruz, CA, SCH# 2001022026*, March 2001.

U.S. Census Bureau, 1990 and 2000 information for Santa Cruz, census tract 1012, block groups 1 and 2, American FactFinder, website, http://factfinder.census.gov.

Weber, Hayes & Associates, *Phase I Environmental Site Assessment, Ark/Monarch School, 255 Swift Street, Santa Cruz, California, December 12, 2000* (note: address of school was incorrectly identified).

Personal communications, Ms. Carla Dykes, Assistant Planner, Santa Cruz City Department of Planning and Community Development, May 1, 2002.

Personal communications, Ms. Cathy Braun, Assistant to the Project Coordinator, SCCS, April/May 2002.

Appendix A

LETTER OF FIELD SAMPLING NOTIFICATION
DISTRIBUTION LIST FOR LETTER

Santa Cruz *City Schools*

2931 MISSION STREET * SANTA CRUZ, CA 95060 * (831) 429-3800 * FAX 429-3072

ROY G.NELSON Superintendent of Schools
DON IGLESIAS Assistant Superintendent Instruction
RICHARD MOSS Assistant Superintendent Business
KEITH PARKHURST Assistant Superintendent Human Resources

March 22, 2002

TO: Neighbors, Students and Teachers of the Proposed Ark/Monarch Schools Renovation Site at 313 Swift Street, Santa Cruz

FROM: Santa Cruz City Schools (SCCS)

RE: Environmental Investigation of the 4.1-acre site for the Ark/Monarch Schools

We would like to provide you with advance notice of an environmental investigation that will be conducted at 313 Swift Street, which is the present location of the Ark and Monarch Schools for alternative educational programs. This 4.1-acre parcel, identified as Assessor's Parcel Number 03-161-32, has a total of 11 buildings on the site that are used by the Schools. The SCCS plans to renovate and rebuild the schools on the parcel. The National Guard previously used the property. The investigation will be performed by a licensed contractor and will consist of the sampling of soils for any hazardous materials. The SCCS is conducting this work with the oversight of the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC). Although an assessment will be conducted, this does not mean hazardous substances are located on this property. Recently enacted state laws now require that all proposed new school sites undergo a complete environmental review, and if necessary, a cleanup to protect students, faculty and staff who will occupy the schools.

Fieldwork is scheduled to occur between Monday, April 1, 2002 and may possibly continue until Tuesday, April 2, 2002. All fieldwork will be conducted during normal business hours. It is not expected that any street closures will be necessary during the investigation.

SCCS will submit the results of this Preliminary Environmental Assessment (PEA) to DTSC for review; DTSC may require the District to modify or revise the PEA, or may concur with it as written. The PEA will include an assessment of whether hazardous materials are present and, if so, whether the materials are present in concentrations that would require some type of cleanup before reusing the site for a school. If SCCS elects to proceed with school development, the district will hold a public hearing to discuss the investigation results, and will take public comment. All comments received in this process shall be forwarded to DTSC for consideration. When the public participation process is complete, DTSC will issue a final determination with

regard to the PEA.

If you have any questions concerning the upcoming soil investigation or other activities at the Ark and Monarch School Site, please contact Cathy Braun, at SCCS, telephone (831) 427-4813, or at email address cbraun@sccs.santacruz.k12.ca.us

On March 22, 2002:
200 flyers were given to the ARK/ Monarch Principal, Tanya Krause, for distribution to students and staff.
385 flyers were given to the Natural Bridges Principal, Brenda Payne, for distribution to students and staff.

On March 25, 2002 flyers were delivered to neighbors at the following addresses:
320 Chace Street
2117 Delaware
2125 Delaware, Suite A, B, C, D, and E
324 Swift
320 Swift
318 Swift
314 Swift
250 Swift
351 Swift
358 Swift
354 Swift
350 Swift
342 Swift
338 Swift
334 Swift
335 Swift
330 Swift

No inquiries about the Environmental Investigation.

Appendix B
MAILING LIST

STATEWIDE MANDATORY MAILING LIST

Ms. Lora David
DTSC Public Participation Specialist
8800 Cal Center Drive
Sacramento, CA 95826

Ms. Bonnie Holmes
Sierra Club
1414 K Street, Suite 300
Sacramento, CA 95814

Mr. Mike Belliveau
Communities for a Better Environment
500 Howard Street, Suite 506
San Francisco, CA 94105

Ms. Diane Takvorian
Environmental Health Coalition
1717 Kettner Boulevard, Suite 100
San Diego, CA 92101

Mr. Victor Weisser
California Council for Environmental
And Economic Balance
100 Spear Street, Suite 805
San Francisco, CA 94105

Mr. Chuck White
Waste Management, Inc.
915 L Street, Suite 1430
Sacramento, CA 95814

Mr. David Roe
Environmental Defense Fund
Rockridge Market Mall
5655 College Avenue, Suite 304
Oakland, CA 94618

Jody Sparks
Toxics Assessment Group
P.O. Box 186
Stewarts Point, CA 95480

Ms. Ann Coombs
League of Women Voters
65 Avalon Drive
Los Altos, CA 94022
Ms. Jane Williams

California Community Against Toxics
P.O. Box 845
Rosamond, CA 93560

General Counsel
Planning and Conservation League
926 J. Street, Suite 612
Sacramento, CA 95814

Mr. Joe Lyou
Director of Programs
CLCV Education Fund
10780 Santa Monica Blvd., Suite 210
Los Angeles, CA 90025

Mr. Bradley Angel
Greenaction
1095 Market Street, Suite 608
San Francisco, CA 94103

Ms. Kim Delfino
CALPIRG
926 J. Street, #523
Sacramento, CA 95814-2706

Ms. Gwendolyn Eng
Regional Representative, U.S. EPA, Region IX
75 Hawthorne Street
San Francisco, CA 94105

Mr. John Bors
Morrison Knudsen Corporation
1 Market Plaza Steuart Tower, Suite 400
San Francisco, CA 94105

Ms. Liz Allen
Sierra Club
394 Blaisdell
Claremont, CA 91711

Elected Officials – Mailing List

U.S. House of Representatives
District 17

U.S. Representative Sam Farr
100 W. Alisal Street
Salinas, CA 93901

California State Senate
District 15

State Senator Bruce McPherson
701 Ocean Street, Room 318-A
Santa Cruz, CA 95060

California State Assembly
District 27

State Assemblymember Fred Keeley
701 Ocean Street, Room 318-B
Santa Cruz, CA 95060

Santa Cruz County Supervisor
District 3

County Supervisor Mardi Wormhoudt
701 Ocean Street, Room 500
Santa Cruz, CA 95060

Mayor of the City of Santa Cruz

Mayor Christopher Krohn
809 Center Street, Room 10
Santa Cruz, CA 95060

Vice-Mayor Tim Fitzmaurice
809 Center Street, Room 10
Santa Cruz, CA 95060

Santa Cruz – City Council Members

Scott Kennedy
809 Center Street, Room 10
Santa Cruz, CA 95060

Ed Porter
809 Center Street, Room 10
Santa Cruz, CA 95060

Mark Primack
809 Center Street, Room 10
Santa Cruz, CA 95060

Keith A. Sugar
809 Center Street, Room 10
Santa Cruz, CA 95060

Santa Cruz, City Manager

Richard C. Wilson
809 Center Street, Room 10
Santa Cruz, CA 95060

Governmental Agencies

City of Santa Cruz
Fire Department
711 Center Street
Santa Cruz, CA 95060

City of Santa Cruz
Municipal Utilities
809 Center Street
Santa Cruz, CA 95060

City of Santa Cruz
Planning & Community Development
809 Center Street, Room 206
Santa Cruz, CA 95060

City of Santa Cruz
Police Department
212 Locust Street
Santa Cruz, CA 95060

City of Santa Cruz
Public Works Department
809 Center Street
Santa Cruz, CA 95060

City of Santa Cruz
Water Department
809 Center Street
Santa Cruz, CA 95060

Santa Cruz County
Environmental Health Services
701 Ocean Street, Room 312
Santa Cruz, CA 95060

Santa Cruz County
Planning Department
701 Ocean Street, 4th Floor
Santa Cruz, CA 95060

Santa Cruz County
Department of Public Works
701 Ocean Street, Room 410
Santa Cruz, CA 95060

Central Coast Region (3)
81 Higuera Street, Suite 200
San Luis Obispo, CA 93401-5427

Monterey Bay Unified Air Quality Management District
24580 Silver Cloud Court
Monterey, CA 93940

Santa Cruz City School District
Board Members

Donna Cohick
2931 Mission Street
Santa Cruz, CA 95060

Judy Cook
2931 Mission Street
Santa Cruz, CA 95060

Felix Robles
2931 Mission Street
Santa Cruz, CA 95060

Mick Routh
2931 Mission Street
Santa Cruz, CA 95060

Barbara Thompson
2931 Mission Street
Santa Cruz, CA 95060

Tim Willis
2931 Mission Street
Santa Cruz, CA 95060

Dan Wood
2931 Mission Street
Santa Cruz, CA 95060

Santa Cruz City Schools
Bond Oversight Committee Members

Robert Thornton
2931 Mission Street
Santa Cruz, CA 95060

Ann Pomper
2931 Mission Street
Santa Cruz, CA 95060

Laurie Blair
2931 Mission Street
Santa Cruz, CA 95060

Doug Cook
2931 Mission Street
Santa Cruz, CA 95060

Matt Farrell
2931 Mission Street
Santa Cruz, CA 95060

William L. May
2931 Mission Street
Santa Cruz, CA 95060

Judy McGooden
2931 Mission Street
Santa Cruz, CA 95060

B. Clark Stamper
2931 Mission Street
Santa Cruz, CA 95060

Steve Barisof
2931 Mission Street
Santa Cruz, CA 95060

Santa Cruz City Schools
Bond Projects Director

Mike Morehouse
2931 Mission Street
Santa Cruz, CA 95060

Affected Schools and Nearby School

ARK/Monarch Schools
313 Swift Street
Santa Cruz, CA 95060

Natural Bridges Elementary School
255 Swift Street
Santa Cruz, CA 95060

Santa Cruz High School
415 Walnut Avenue
Santa Cruz, CA 95060

Local Newspapers

Santa Cruz Record
291A Water Street
Santa Cruz, CA 95060

Santa Cruz Sentinel
207 Church Street
Santa Cruz, CA 95060

Local Radio

KSCO
2300 Portola Drive
Santa Cruz, CA 95062

KMBY
60 Garden Court, Suite 300
Monterey, CA 93940

KZSC Santa Cruz
Student Music East, UCSC
Santa Cruz, CA 95064

KUSP Radio
P.O. Box 423
Santa Cruz, CA 95061

Local Hospitals/Medical Center

Dominican Hospital
1555 Soquel Drive
Santa Cruz, CA 95065

Sutter Santa Cruz Medical Clinic
2025 Soquel Avenue
Santa Cruz. CA 95062

Local Library

Garfield Park Branch Library
705 Woodrow Street
Santa Cruz, CA 95060-5950

Churches

Bosch Bahai
500 Comstock Lane
Santa Cruz, CA 95060-9615

Santa Cruz Zen Center
115 School Street
Santa Cruz, CA 95060

Calvary Episcopal Church
532 Center Street
Santa Cruz, CA 95060

The Society of Abidance in Truth
1834 Ocean Street
Santa Cruz, CA 95060

Santa Cruz Hillel
2222 Cardiff Place
Santa Cruz, CA 95060

Adjacent Neighbors

320 Chace Street
2117 Delaware

2125 Delaware, Suite A, B, C, D, and E
324 Swift
320 Swift
318 Swift
314 Swift
250 Swift
351 Swift
358 Swift
354 Swift
350 Swift
342 Swift
338 Swift
334 Swift
335 Swift
330 Swift

California Environmental Protection Agency
Department of Toxic Substances Control

Mr. Mike Lozano
Project Manager
8800 Cal Center Drive
Sacramento, CA 95826

Consultant/Contractor Information

Mr. Charles Metzinger
Shaw Environmental (formerly IT Corp.)
1326 N. Market Blvd.
Sacramento, CA 95834

INITIAL CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instrument: HPLC02 High Pressure Liquid Chromatograph #2 Reviewed By:
Calnum: 272091727001 Name: Type: (normal) Date: 04-MAR-2002 19:31 Inj Vol (uL): 10

Analyte	Ch	L1	L2	L3	L4	L5	L6	L7	Type	a0	a1	a2	units	avg	%RSD	r^2 MnR^2	MxRSD	Flags
Naphthalene	3	0.0045	0.0050	0.0064	0.0068	0.0062		0.0068	LINR	-124.831	159.0831		ug/L	0.0060	1.00	0.99	20	
Acenaphthene	3	0.0030	0.0032	0.0044	0.0052	0.0053	0.0053	0.0049	LINR	330.9744	186.8130		ug/L	0.0045	1.00	0.99	20	
Fluorene	3	0.0034	0.0039	0.0046	0.0066	0.0073	0.0075	0.0056	LINR	172.2825	131.4089		ug/L	0.0056	1.00	0.99	20	
Phenanthrene	3	0.0772	0.0875	0.1019	0.1056	0.1071	0.1051	0.1036	LINR	5.919369	9.466957		ug/L	0.0983	1.00	0.99	20	
Anthracene	3	0.0274	0.0257	0.0319	0.0384	0.0403	0.0400	0.0357	LINR	37.81047	24.77102		ug/L	0.0342	1.00	0.99	20	
Fluoranthene	3	0.0863	0.0931	0.1031	0.1048	0.1048	0.0994	0.1039	LINR	-42.6311	9.997626		ug/L	0.0993	1.00	0.99	20	
Pyrene	3	0.0415	0.0421	0.0510	0.0586	0.0602	0.0602	0.0571	LINR	27.90665	16.51028		ug/L	0.0529	1.00	0.99	20	
Benzo(a)anthracene	3	0.0768	0.0868	0.1018	0.1102	0.1126	0.1116	0.1077	LINR	17.31156	8.909323		ug/L	0.1011	1.00	0.99	20	
Chrysene	3	0.0371	0.0358	0.0425	0.0506	0.0523	0.0510	0.0483	LINR	20.86038	19.43223		ug/L	0.0453	1.00	0.99	20	
Benzo(b)fluoranthene	3	0.0511	0.0595	0.0697	0.0747	0.0758	0.0745	0.0725	LINR	21.37070	13.34563		ug/L	0.0683	1.00	0.99	20	
Benzo(k)fluoranthene	3	0.1108	0.1274	0.1472	0.1571	0.1585	0.1585	0.1529	LINR	16.57046	6.285262		ug/L	0.1446	1.00	0.99	20	
Benzo(a)pyrene	3	0.1352	0.1547	0.1779	0.1865	0.1904	0.1903	0.1666	LINR	26.62297	5.222811		ug/L	0.1717	1.00	0.99	20	
Dibenz(a,h)anthracene	3	0.0070	0.0074	0.0100	0.0119	0.0122	0.0125	0.0110	LINR	96.59951	79.75457		ug/L	0.0103	1.00	0.99	20	
Benzo(g,h,i)perylene	3	0.0242	0.0289	0.0344	0.0373	0.0381	0.0387	0.0346	LINR	70.20282	25.71929		ug/L	0.0337	1.00	0.99	20	
Indeno(1,2,3-cd)pyrene	3	0.1357	0.1475	0.1642	0.1707	0.1735	0.1747	0.1664	LINR	18.92257	5.706828		ug/L	0.1618	1.00	0.99	20	
1-Methylnaphthalene (F)	3	0.0033	0.0038	0.0043	0.0044	0.0044	0.0043	0.0044	LINR	-174.991	231.7080		ug/L	0.0041	1.00	0.99	20	

Curves: LINR: Linear regression
Instrument amount = a0 + response * a1 + response^2 * a2

Calibration Table

UPDATED RETENTION TIMES FROM CCU FILE 09500032.

HPLC02 METHOD 8310

Calib. Data Modified	4/8/02 9:44:39 AM
Calculate	External Standard
Based on	Peak Area
Rel. Reference Window	1.500 %
Abs. Reference Window	0.150 min
Rel. Non-ref. Window	1.500 %
Abs. Non-ref. Window	0.150 min
Uncalibrated Peaks	not reported
Partial Calibration	Yes, identified peaks are recalibrated
Correct All Ret. Times	No, only for identified peaks
Curve Type	Linear
Origin	Ignored
Weight	Equal

Recalibration Settings:
Average Response : Average all calibrations
Average Retention Time: Floating Average New 75%

Calibration Report Options :
Printout of recalibrations within a sequence:
Calibration Table after Recalibration
Normal Report after Recalibration
If the sequence is done with bracketing:
Results of first cycle (ending previous bracket)

Signal 1: DAD1 A, Sig=254,4 Ref=550,100
Signal 2: DAD1 B, Sig=305,4 Ref=480,80
Signal 3: FLD1 A, Ex=zero, Em=zero, TT

RetTime [min]	Sig	Lvl	Amount [ug/l]	Area	Amt/Area	Ref	Grp	Name
4.490	1	1	500.00000	5.81496	85.98514			Naphthalene
		2	1000.00000	11.15537	89.64289			
		3	2500.00000	30.81410	81.13169			
		4	5000.00000	60.06146	83.24806			
		5	1.00000e4	121.45738	82.33341			
		6	2.50000e4	291.53003	85.75446			
		7	5.00000e4	580.76697	86.09305			
4.627	3	1	500.00000	2.24458	222.75929			Naphthalene
		2	1000.00000	4.96401	201.45014			
		3	2500.00000	16.08661	155.40880			
		4	5000.00000	33.90583	147.46728			
		5	1.00000e4	68.12975	146.77875			
		6	2.50000e4	155.96237	160.29507			
5.469	1	1	1000.00000	9.68568	103.24522			Acenaphthylene
		2	2000.00000	16.13348	123.96581			
		3	5000.00000	42.45404	117.77441			
		4	1.00000e4	82.55051	121.13796			
		5	2.00000e4	169.49904	117.99477			

Method G:\HPLC2\METHODS\8310-098.M

RetTime [min]	Sig	Lvl	Amount [ug/l]	Area	Amt/Area	Ref	Grp	Name
		6	5.00000e4	413.49744	120.91973			
		7	1.00000e5	806.09155	124.05539			
5.470	2	1	1000.00000	28.24971	35.39859			Acenaphthylene
		2	2000.00000	50.63280	39.50009			
		3	5000.00000	128.34305	38.95809			
		4	1.00000e4	253.02425	39.52190			
		5	2.00000e4	499.77979	40.01762			
		6	5.00000e4	1255.60107	39.82157			
		7	1.00000e5	2478.97583	40.33924			
6.253	1	1	2000.00000	16.78672	119.14181			1-Methylnaphthalene (U
		2	4000.00000	31.26913	127.92167			
		3	1.00000e4	78.79143	126.91736			
		4	2.00000e4	152.52199	131.12863			
		5	4.00000e4	309.70889	129.15354			
		6	1.00000e5	753.03607	132.79576			
		7	2.00000e5	1482.20496	134.93411			
6.254	2	1	2000.00000	6.58138	303.88762			1-Methylnaphthalene (U
		2	4000.00000	11.89913	336.15906			
		3	1.00000e4	30.05269	332.74893			
		4	2.00000e4	59.42996	336.53061			
		5	4.00000e4	114.57818	349.10661			
		6	1.00000e5	285.16077	350.67938			
		7	2.00000e5	569.15497	351.39814			
6.390	3	1	2000.00000	6.64161	301.13191			1-Methylnaphthalene (F
		2	4000.00000	15.00988	266.49109			
		3	1.00000e4	43.27524	231.07903			
		4	2.00000e4	87.48588	228.60832			
		5	4.00000e4	177.20776	225.72374			
		6	1.00000e5	438.01511	228.30263			
		7	2.00000e5	860.38324	232.45455			
7.101	1	1	500.00000	2.34662	213.07222			Acenaphthene
		2	1000.00000	4.57092	218.77436			
		3	2500.00000	9.58642	260.78562			
		4	5000.00000	21.21798	235.64918			
		5	1.00000e4	45.14816	221.49297			
		6	2.50000e4	107.72695	232.06820			
		7	5.00000e4	205.69499	243.07835			
7.238	3	1	500.00000	1.51953	329.04923			Acenaphthene
		2	1000.00000	3.20760	311.75933			
		3	2500.00000	11.10445	225.13487			
		4	5000.00000	24.52133	203.90408			
		5	1.00000e4	51.60268	193.78837			
		6	2.50000e4	133.62625	187.08899			
		7	5.00000e4	265.19336	188.54167			
7.473	1	1	100.00000	6.26267	15.96764			Fluorene
		2	200.00000	11.85309	16.87324			
		3	500.00000	28.23050	17.71134			
		4	1000.00000	56.35906	17.74338			
		5	2000.00000	114.78731	17.42353			
		6	5000.00000	284.03067	17.60373			
		7	1.00000e4	549.50763	18.19811			
7.593	3	1	100.00000	3.41744e-1	292.61702			Fluorene
		2	200.00000	7.79631e-1	256.53173			
		3	500.00000	2.32323	215.21805			
		4	1000.00000	5.62665	177.72550			
		5	2000.00000	13.28447	150.55177			

Method G:\HPLC2\METHODS\8310-098.M

RetTime [min]	Sig	Lvl	Amount [ug/l]	Area	Amt/Area	Ref	Grp	Name
		6	5000.00000	36.39042	137.39880			
		7	1.00000e4	75.14142	133.08240			
8.578	1	1	50.00000	8.55725	5.84300			Phenanthrene
		2	100.00000	17.06607	5.85958			
		3	250.00000	41.85678	5.97275			
		4	500.00000	80.16271	6.23731			
		5	1000.00000	161.52065	6.19116			
		6	2500.00000	407.70486	6.13189			
		7	5000.00000	803.12048	6.22572			
8.718	3	1	50.00000	3.85914	12.95624			Phenanthrene
		2	100.00000	8.74836	11.43071			
		3	250.00000	25.46634	9.81688			
		4	500.00000	51.80303	9.65194			
		5	1000.00000	105.55307	9.47391			
		6	2500.00000	267.78134	9.33598			
		7	5000.00000	525.33917	9.51766			
9.639	1	1	50.00000	22.63796	2.20868			Anthracene
		2	100.00000	41.35420	2.41813			
		3	250.00000	106.89616	2.33872			
		4	500.00000	204.46507	2.44541			
		5	1000.00000	416.03317	2.40365			
		6	2500.00000	1034.81384	2.41589			
		7	5000.00000	2002.42932	2.49697			
9.775	3	1	50.00000	1.37163	36.45301			Anthracene
		2	100.00000	2.56678	38.95934			
		3	250.00000	7.97318	31.35512			
		4	500.00000	17.84741	28.01528			
		5	1000.00000	38.39795	26.04306			
		6	2500.00000	100.84531	24.79044			
		7	5000.00000	199.78859	25.02645			
10.859	1	1	100.00000	5.26722	18.98533			Fluoranthene
		2	200.00000	7.02103	28.48585			
		3	500.00000	20.00473	24.99409			
		4	1000.00000	36.29506	27.55196			
		5	2000.00000	75.61501	26.44977			
		6	5000.00000	189.91570	26.32747			
		7	1.00000e4	357.79974	27.94859			
10.995	3	1	100.00000	8.62801	11.59016			Fluoranthene
		2	200.00000	18.61896	10.74174			
		3	500.00000	51.56308	9.69686			
		4	1000.00000	103.85860	9.62848			
		5	2000.00000	209.55421	9.54407			
		6	5000.00000	524.15991	9.53907			
		7	1.00000e4	993.91248	10.06125			
11.739	1	1	50.00000	3.96408	12.61328			Pyrene
		2	100.00000	2.56875	38.92947			
		3	250.00000	8.80986	28.37729			
		4	500.00000	13.42423	37.24608			
		5	1000.00000	29.15291	34.30189			
		6	2500.00000	74.72364	33.45661			
		7	5000.00000	145.81490	34.29005			
11.875	3	1	50.00000	2.07399	24.10815			Pyrene
		2	100.00000	4.20820	23.76310			
		3	250.00000	12.74641	19.61336			
		4	500.00000	28.54236	17.51782			
		5	1000.00000	58.55271	17.07863			

ethod G:\HPLC2\METHODS\8310-098.M

RetTime [min]	Sig	Lvl	Amount [ug/l]	Area	Amt/Area	Ref	Grp	Name
		6	2500.00000	150.53755	16.60715			
		7	5000.00000	300.84906	16.61963			
14.720	1	1	50.00000	4.65248	10.74695			Benzo(a)anthracene
		2	100.00000	7.59859	13.16034			
		3	250.00000	20.89830	11.96270			
		4	500.00000	38.87888	12.86045			
		5	1000.00000	80.54541	12.41536			
		6	2500.00000	205.36430	12.17349			
		7	5000.00000	411.90405	12.13875			
14.855	3	1	50.00000	3.84194	13.01425			Benzo(a)anthracene
		2	100.00000	8.67524	11.52706			
		3	250.00000	25.44476	9.82521			
		4	500.00000	53.87277	9.28113			
		5	1000.00000	110.23448	9.07157			
		6	2500.00000	281.43732	8.88297			
		7	5000.00000	557.96649	8.96111			
15.277	1	1	50.00000	6.45820	7.74209			Chrysene
		2	100.00000	11.46757	8.72024			
		3	250.00000	28.70954	8.70791			
		4	500.00000	53.76999	9.29887			
		5	1000.00000	111.57547	8.96254			
		6	2500.00000	286.00717	8.74104			
		7	5000.00000	563.74042	8.86933			
15.411	3	1	50.00000	1.85522	26.95098			Chrysene
		2	100.00000	3.57817	27.94722			
		3	250.00000	10.61654	23.54816			
		4	500.00000	24.13453	20.71721			
		5	1000.00000	50.59559	19.76457			
		6	2500.00000	130.68379	19.13015			
		7	5000.00000	254.75424	19.62676			
17.685	1	1	100.00000	9.20677	10.86157			Benzo(b)fluoranthene
		2	200.00000	17.52222	11.41408			
		3	500.00000	47.87814	10.44318			
		4	1000.00000	91.09879	10.97709			
		5	2000.00000	185.92961	10.75676			
		6	5000.00000	470.57944	10.62520			
		7	1.00000e4	932.05292	10.72900			
17.821	3	1	100.00000	5.10996	19.56961			Benzo(b)fluoranthene
		2	200.00000	11.89456	16.81441			
		3	500.00000	34.84288	14.35013			
		4	1000.00000	72.54183	13.78515			
		5	2000.00000	149.30313	13.39557			
		6	5000.00000	379.21188	13.18524			
		7	1.00000e4	744.58691	13.43027			
18.707	1	1	50.00000	4.29836	11.63233			Benzo(k)fluoranthene
		2	100.00000	8.29380	12.05720			
		3	250.00000	17.90337	13.96385			
		4	500.00000	36.53136	13.68687			
		5	1000.00000	76.01928	13.15456			
		6	2500.00000	192.57388	12.98203			
		7	5000.00000	380.15613	13.15249			
18.841	3	1	50.00000	5.53759	9.02919			Benzo(k)fluoranthene
		2	100.00000	12.74119	7.84856			
		3	250.00000	36.79209	6.79494			
		4	500.00000	76.47243	6.53830			
		5	1000.00000	157.08076	6.36615			

RetTime [min]	Sig	Lvl	Amount [ug/l]	Area	Amt/Area	Ref	Grp	Name
		6	2500.00000	396.20221	6.30991			
		7	5000.00000	792.28119	6.31089			
19.735	1	1	50.00000	2.95024	16.94779			Benzo(a)pyrene
		2	100.00000	10.10260	9.89844			
		3	250.00000	22.56287	11.08015			
		4	500.00000	35.05683	14.26256			
		5	1000.00000	80.30081	12.45317			
		6	2500.00000	205.47511	12.16692			
		7	5000.00000	407.41675	12.27245			
19.871	3	1	50.00000	6.76148	7.39483			Benzo(a)pyrene
		2	100.00000	15.47260	6.46304			
		3	250.00000	44.46884	5.62191			
		4	500.00000	83.29372	6.00285			
		5	1000.00000	186.45053	5.36335			
		6	2500.00000	476.11694	5.25081			
		7	5000.00000	951.55096	5.25458			
21.342	1	1	100.00000	2.56970	38.91501			Dibenz(a,h)anthracene
		2	200.00000	3.81835	52.37859			
		3	500.00000	9.42461	53.05258			
		4	1000.00000	18.80688	53.17203			
		5	2000.00000	38.36448	52.13156			
		6	5000.00000	95.97983	52.09428			
		7	1.00000e4	193.46349	51.68934			
21.478	3	1	100.00000	6.97947e-1	143.27740			Dibenz(a,h)anthracene
		2	200.00000	1.47176	135.89185			
		3	500.00000	4.98366	100.32786			
		4	1000.00000	11.01286	90.80292			
		5	2000.00000	23.70896	84.35630			
		6	5000.00000	60.79809	82.23942			
		7	1.00000e4	124.57142	80.27524			
22.225	1	1	100.00000	3.28230	30.46647			Benzo(g,h,i)perylene
		2	200.00000	6.83334	29.26825			
		3	500.00000	15.82444	31.59669			
		4	1000.00000	32.23289	31.02421			
		5	2000.00000	65.41636	30.57339			
		6	5000.00000	166.60503	30.01110			
		7	1.00000e4	335.35870	29.81882			
22.361	3	1	100.00000	2.42075	41.30951			Benzo(g,h,i)perylene
		2	200.00000	5.78399	34.57820			
		3	500.00000	17.19831	29.07262			
		4	1000.00000	34.62270	28.88279			
		5	2000.00000	74.57369	26.81911			
		6	5000.00000	190.29427	26.27510			
		7	1.00000e4	386.96802	25.84193			
22.728	1	1	50.00000	4.09638	12.20589			Indeno(1,2,3-cd)pyrene
		2	100.00000	10.47004	9.55106			
		3	250.00000	24.13121	10.36003			
		4	500.00000	47.70234	10.48167			
		5	1000.00000	96.54209	10.35818			
		6	2500.00000	245.39700	10.18757			
		7	5000.00000	491.83881	10.16593			
22.864	3	1	50.00000	6.78727	7.36673			Indeno(1,2,3-cd)pyrene
		2	100.00000	14.75336	6.77812			
		3	250.00000	41.05386	6.08956			
		4	500.00000	83.18491	6.01071			
		5	1000.00000	170.73875	5.85690			

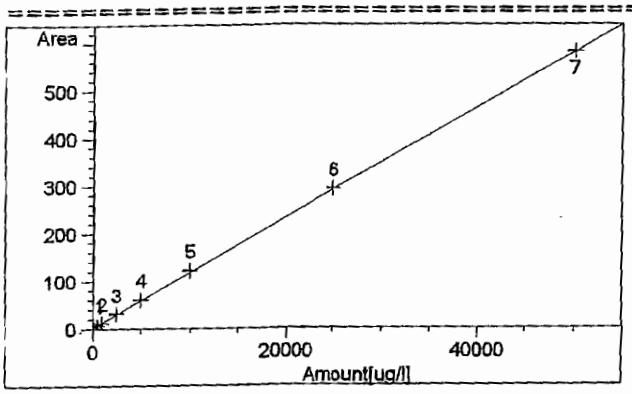
Method G:\HPLC2\METHODS\8310-098.M

RetTime [min]	Sig	Lvl	Amount [ug/l]	Area	Amt/Area	Ref	Grp	Name
		6	2500.00000	433.84348	5.76245			
		7	5000.00000	873.57770	5.72359			

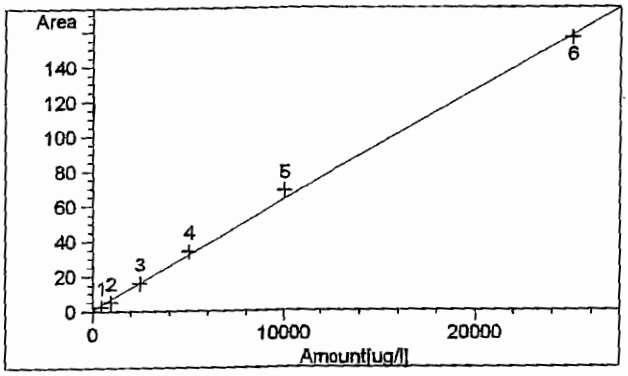
Peak Sum Table

No Entries in table

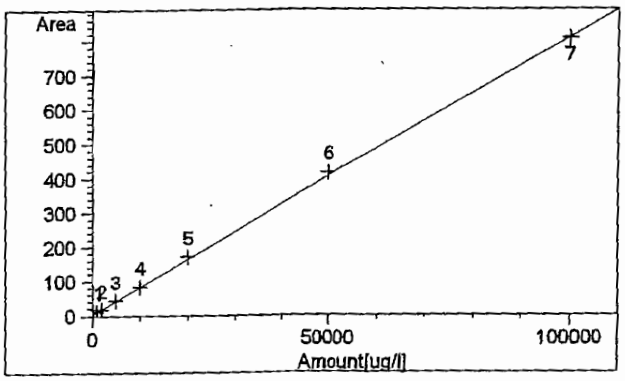
Calibration Curves



Naphthalene at exp. RT: 4.490
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99996
Residual Std. Dev.: 2.12218
Formula: y = mx + b
m: 1.15976e-2
b: 1.63252
x: Amount [ug/l]
y: Area

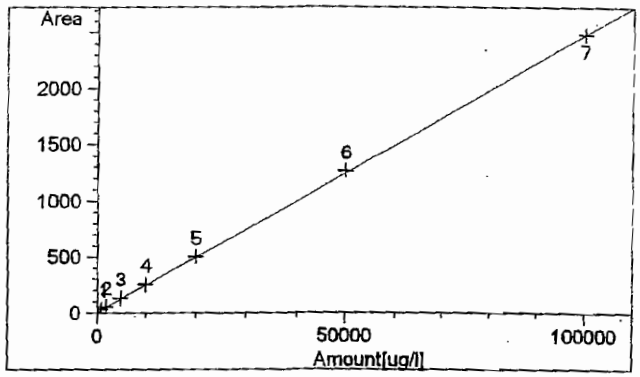


Naphthalene at exp. RT: 4.627
FLD1 A, Ex=zero, Em=zero, TT
Correlation: 0.99900
Residual Std. Dev.: 2.92863
Formula: y = mx + b
m: 6.28602e-3
b: 7.84687e-1
x: Amount [ug/l]
y: Area

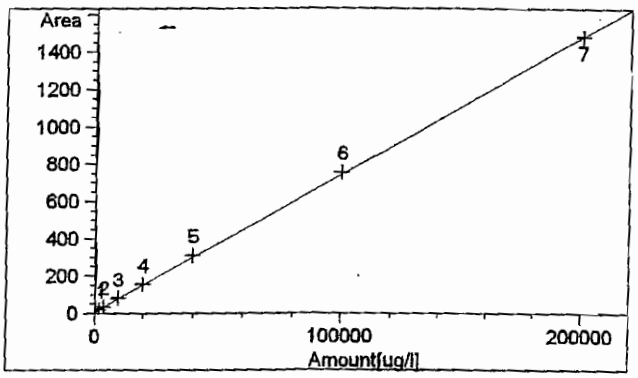


Acenaphthylene at exp. RT: 5.469
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99990
Residual Std. Dev.: 4.53587
Formula: y = mx + b
m: 8.06882e-3
b: 3.28192
x: Amount [ug/l]
y: Area

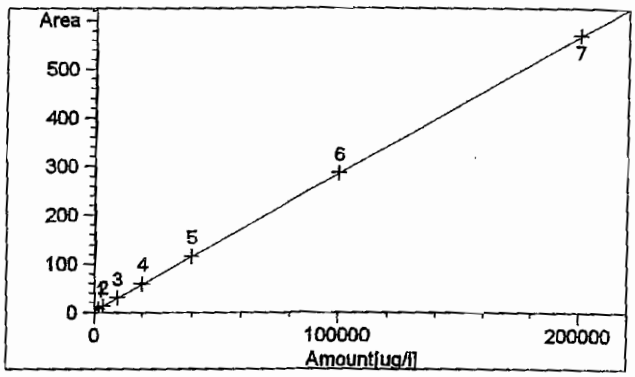
Method G:\HPLC2\METHODS\8310-098.M



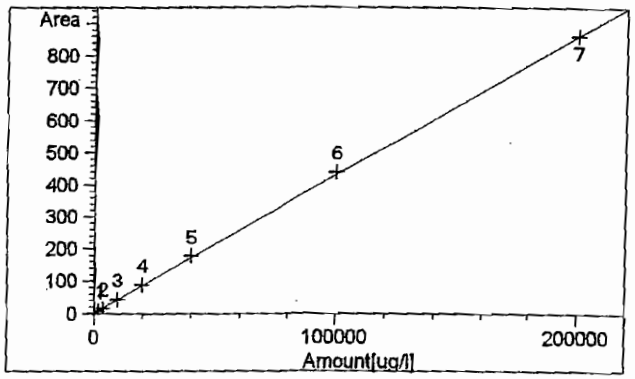
Acenaphthylene at exp. RT: 5.470
DAD1 B, Sig=305,4 Ref=480,80
Correlation: 0.99998
Residual Std. Dev.: 5.78748
Formula: y = mx + b
m: 2.47957e-2
b: 4.71625
x: Amount[ug/l]
y: Area



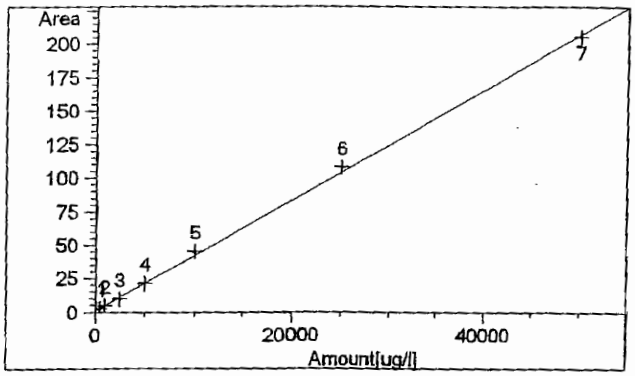
1-Methylnaphthalene (UV) at exp. RT: 6.25
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99995
Residual Std. Dev.: 5.66936
Formula: y = mx + b
m: 7.40596e-3
b: 5.66826
x: Amount[ug/l]
y: Area



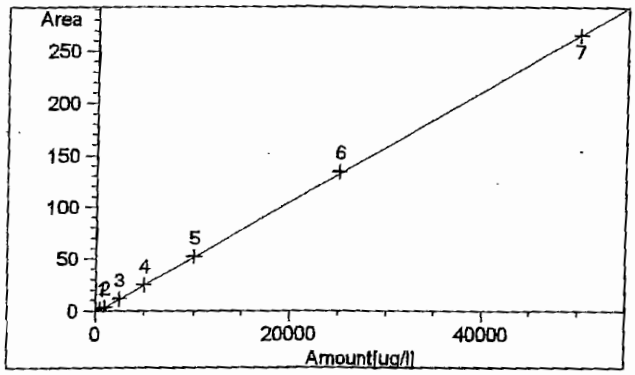
1-Methylnaphthalene (UV) at exp. RT: 6.25
DAD1 B, Sig=305,4 Ref=480,80
Correlation: 0.99999
Residual Std. Dev.: 0.74220
Formula: y = mx + b
m: 2.83921e-3
b: -1.33032
x: Amount[ug/l]
y: Area



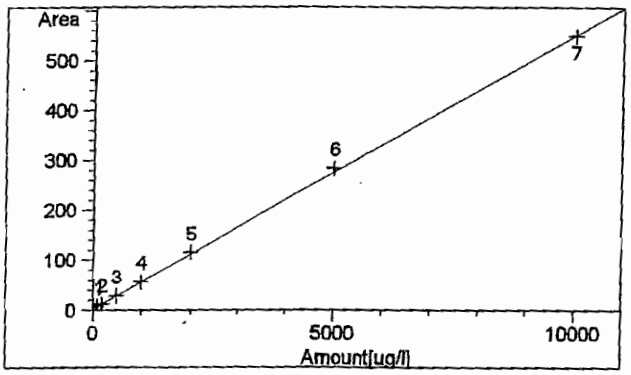
1-Methylnaphthalene (F) at exp. RT: 6.390
FLD1 A, Ex=zero, Em=zero, TT
Correlation: 0.99994
Residual Std. Dev.: 3.91150
Formula: y = mx + b
m: 4.31578e-3
b: 7.55223e-1
x: Amount[ug/l]
y: Area



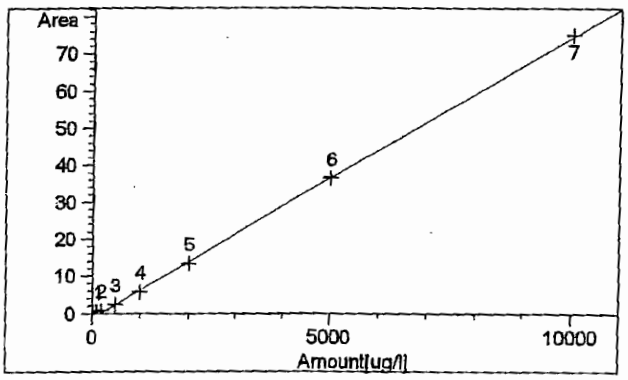
Acenaphthene at exp. RT: 7.101
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99960
Residual Std. Dev.: 2.33784
Formula: y = mx + b
m: 4.13167e-3
b: 1.13071
x: Amount[ug/l]
y: Area



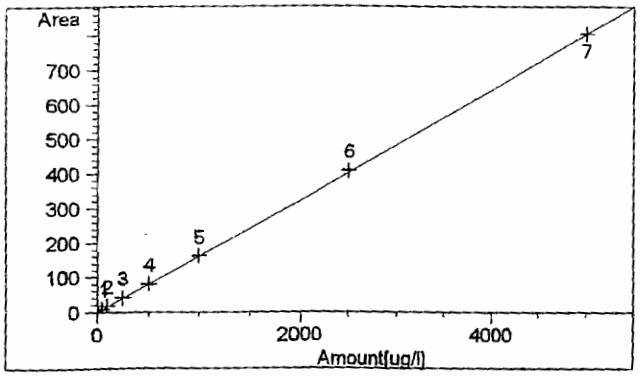
Acenaphthene at exp. RT: 7.238
FLD1 A, Ex=zero, Em=zero, TT
Correlation: 0.99997
Residual Std. Dev.: 0.89042
Formula: y = mx + b
m: 5.35295e-3
b: -1.77169
x: Amount[ug/l]
y: Area



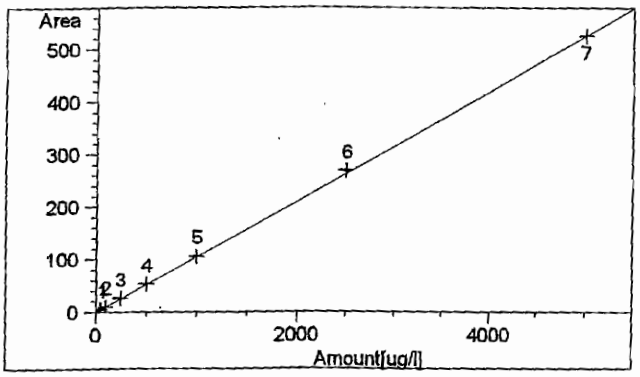
Fluorene at exp. RT: 7.473
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99986
Residual Std. Dev.: 3.64723
Formula: y = mx + b
m: 5.50756e-2
b: 2.22989
x: Amount[ug/l]
y: Area



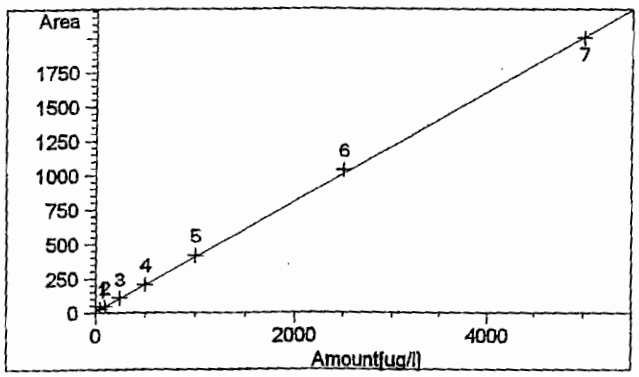
Fluorene at exp. RT: 7.593
FLD1 A, Ex=zero, Em=zero, TT
Correlation: 0.99976
Residual Std. Dev.: 0.66866
Formula: y = mx + b
m: 7.60983e-3
b: -1.31104
x: Amount[ug/l]
y: Area



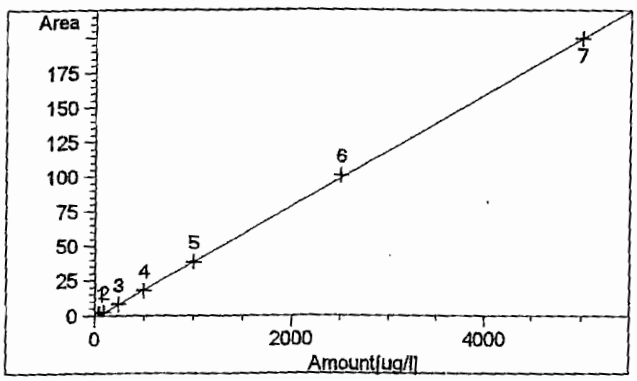
Phenanthrene at exp. RT: 8.578
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99997
Residual Std. Dev.: 2.35061
Formula: y = mx + b
m: 1.60782e-1
b: 1.23454
x: Amount[ug/l]
y: Area



Phenanthrene at exp. RT: 8.718
FLD1 A, Ex=zero, Em=zero, TT
Correlation: 0.99994
Residual Std. Dev.: 2.28646
Formula: y = mx + b
m: 1.05631e-1
b: -6.25265e-1
x: Amount[ug/l]
y: Area

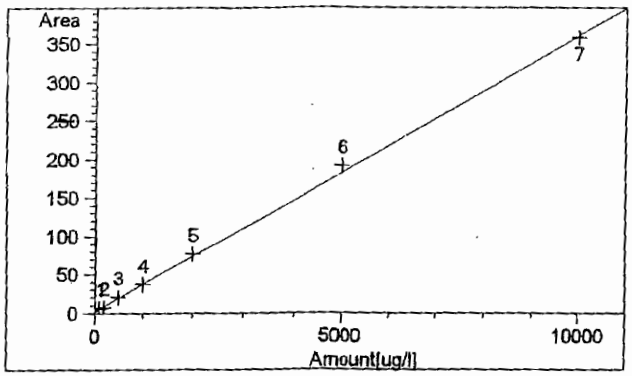


Anthracene at exp. RT: 9.639
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99987
Residual Std. Dev.: 12.96994
Formula: y = mx + b
m: 4.01367e-1
b: 7.96831
x: Amount[ug/l]
y: Area

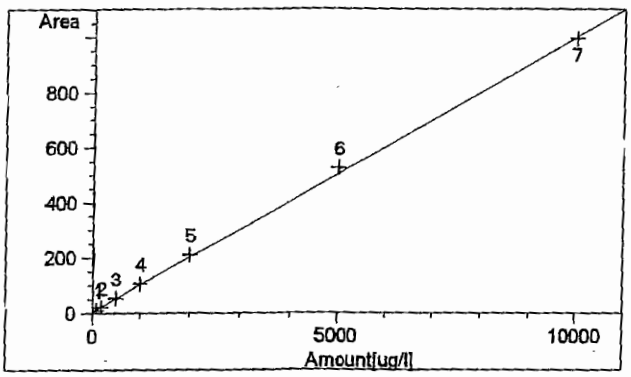


Anthracene at exp. RT: 9.775
FLD1 A, Ex=zero, Em=zero, TT
Correlation: 0.99993
Residual Std. Dev.: 0.93425
Formula: y = mx + b
m: 4.03697e-2
b: -1.52640
x: Amount[ug/l]
y: Area

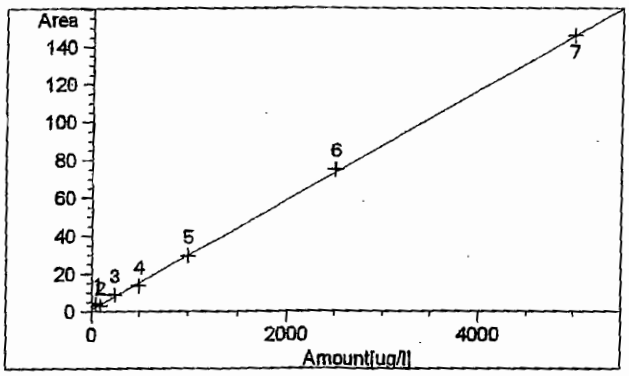
Method G:\HPLC2\METHODS\8310-098.M



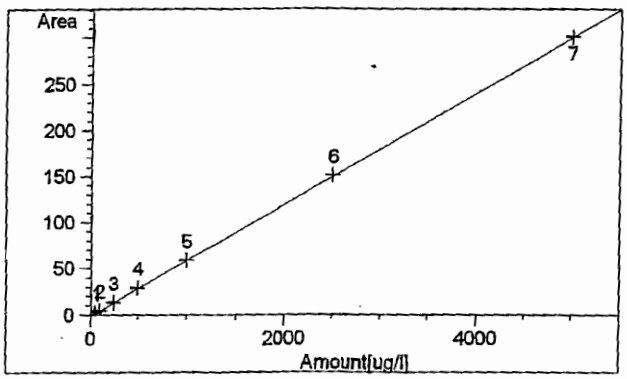
Fluoranthene at exp. RT: 10.859
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99956
Residual Std. Dev.: 4.24867
Formula: y = mx + b
m: 3.59452e-2
b: 2.30683
x: Amount[ug/l]
y: Area



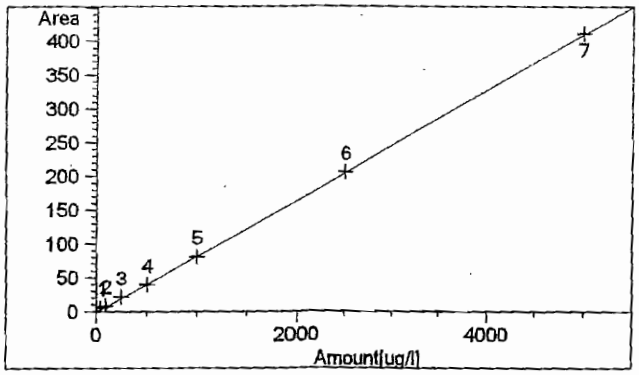
Fluoranthene at exp. RT: 10.995
FLD1 A, Ex=zero, Em=zero, TT
Correlation: 0.99962
Residual Std. Dev.: 10.97273
Formula: y = mx + b
m: 1.00024e-1
b: 4.26412
x: Amount[ug/l]
y: Area



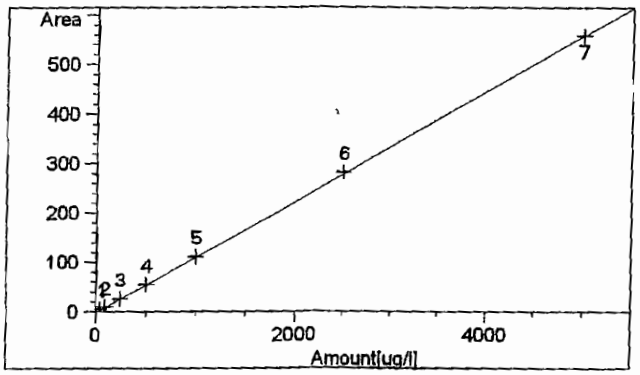
Pyrene at exp. RT: 11.739
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99969
Residual Std. Dev.: 1.45435
Formula: y = mx + b
m: 2.90934e-2
b: 7.11440e-1
x: Amount[ug/l]
y: Area



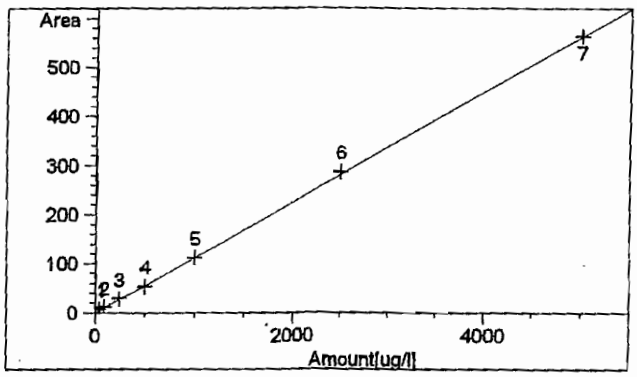
Pyrene at exp. RT: 11.875
FLD1 A, Ex=zero, Em=zero, TT
Correlation: 0.99999
Residual Std. Dev.: 0.61892
Formula: y = mx + b
m: 6.05683e-2
b: -1.69026
x: Amount[ug/l]
y: Area



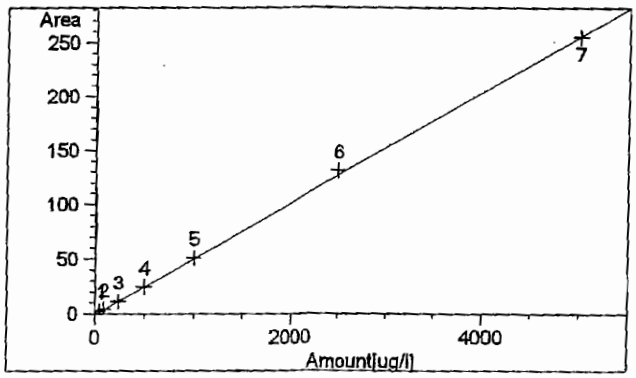
Benzo(a)anthracene at exp. RT: 14.720
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99998
Residual Std. Dev.: 1.16286
Formula: y = mx + b
m: 8.24646e-2
b: -7.60718e-1
x: Amount[ug/l]
y: Area



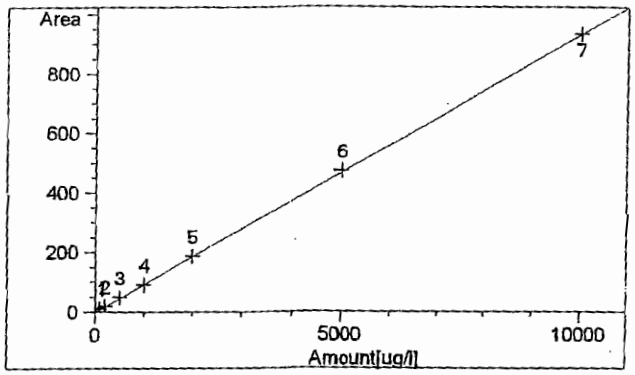
Benzo(a)anthracene at exp. RT: 14.855
FLD1 A, Ex=zero, Em=zero, TT
Correlation: 0.99998
Residual Std. Dev.: 1.43810
Formula: y = mx + b
m: 1.12242e-1
b: -1.94308
x: Amount[ug/l]
y: Area



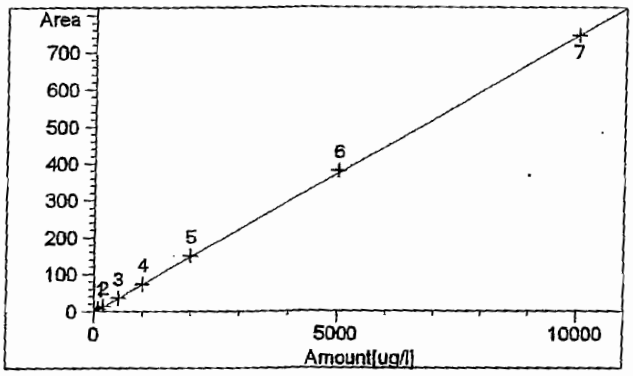
Chrysene at exp. RT: 15.277
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99995
Residual Std. Dev.: 2.20081
Formula: y = mx + b
m: 1.13024e-1
b: -1.00076e-1
x: Amount[ug/l]
y: Area



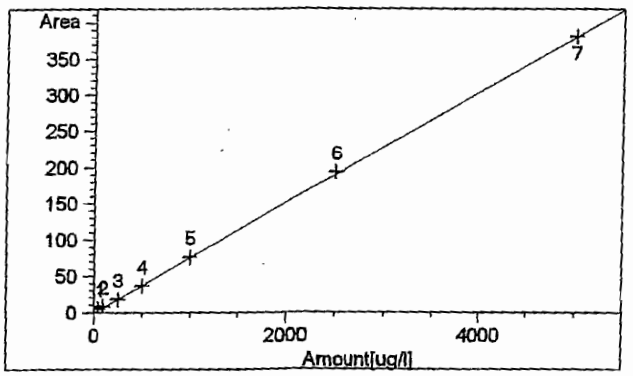
Chrysene at exp. RT: 15.411
FLD1 A, Ex=zero, Em=zero, TT
Correlation: 0.99987
Residual Std. Dev.: 1.66676
Formula: y = mx + b
m: 5.14609e-2
b: -1.07349
x: Amount[ug/l]
y: Area



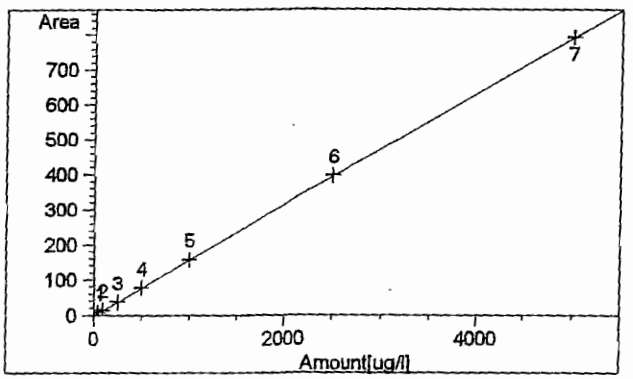
Benzo(b)fluoranthene at exp. RT: 17.685
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99998
Residual Std. Dev.: 2.23626
Formula: y = mx + b
m: 9.33895e-2
b: -2.07940e-1
x: Amount[ug/l]
y: Area



Benzo(b)fluoranthene at exp. RT: 17.821
FLD1 A, Ex=zero, Em=zero, TT
Correlation: 0.99994
Residual Std. Dev.: 3.26348
Formula: y = mx + b
m: 7.49309e-2
b: -1.60132
x: Amount[ug/l]
y: Area

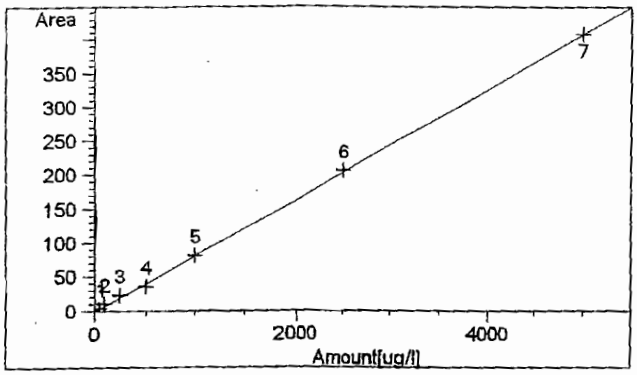


Benzo(k)fluoranthene at exp. RT: 18.707
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99996
Residual Std. Dev.: 1.37592
Formula: y = mx + b
m: 7.62242e-2
b: -1.04416e-1
x: Amount[ug/l]
y: Area

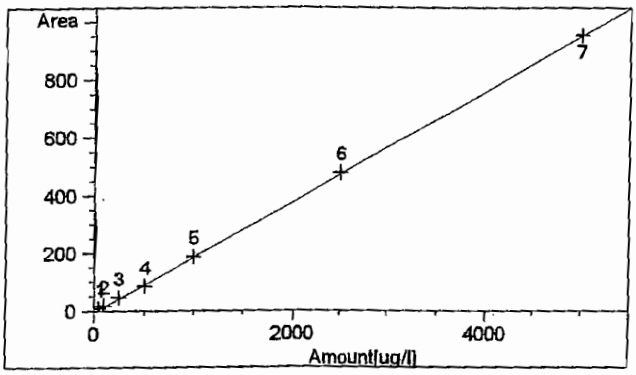


Benzo(k)fluoranthene at exp. RT: 18.841
FLD1 A, Ex=zero, Em=zero, TT
Correlation: 1.00000
Residual Std. Dev.: 0.71430
Formula: y = mx + b
m: 1.59102e-1
b: -2.63640
x: Amount[ug/l]
y: Area

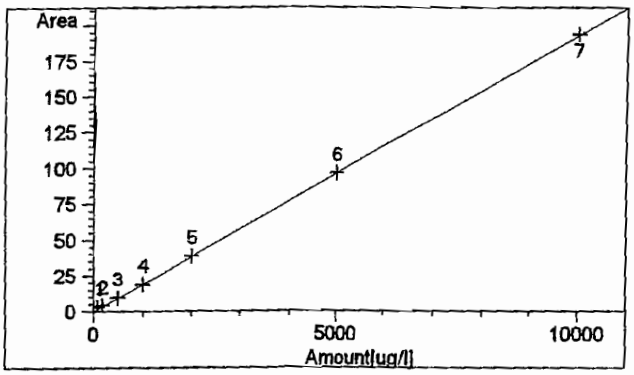
Method G:\HPLC2\METHODS\8310-098.M



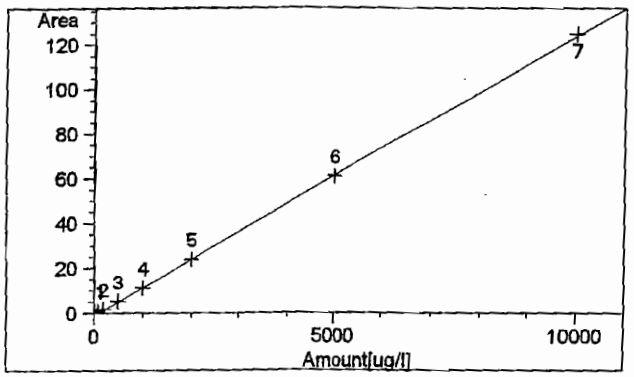
Benzo(a)pyrene at exp. RT: 19.735
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99983
Residual Std. Dev.: 3.01188
Formula: y = mx + b
m: 8.16773e-2
b: -5.57360e-1
x: Amount[ug/l]
y: Area



Benzo(a)pyrene at exp. RT: 19.871
FLD1 A, Ex=zero, Em=zero, TT
Correlation: 0.99995
Residual Std. Dev.: 3.76862
Formula: y = mx + b
m: 1.91468e-1
b: -5.09744
x: Amount[ug/l]
y: Area

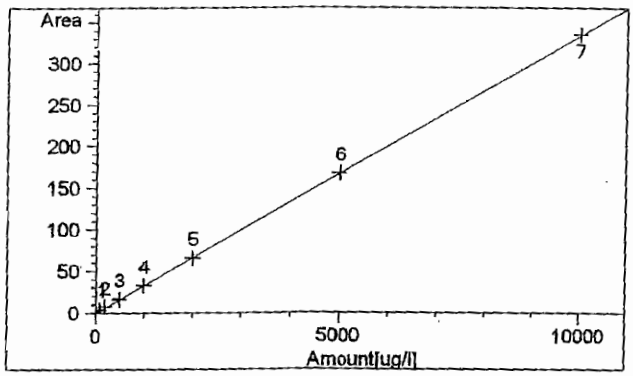


Dibenz(a,h)anthracene at exp. RT: 21.342
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99998
Residual Std. Dev.: 0.48272
Formula: y = mx + b
m: 1.93266e-2
b: -1.30330e-1
x: Amount[ug/l]
y: Area

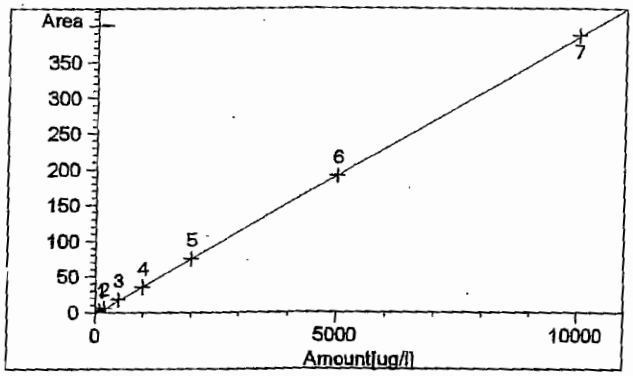


Dibenz(a,h)anthracene at exp. RT: 21.478
FLD1 A, Ex=zero, Em=zero, TT
Correlation: 0.99995
Residual Std. Dev.: 0.49275
Formula: y = mx + b
m: 1.25385e-2
b: -1.21121
x: Amount[ug/l]
y: Area

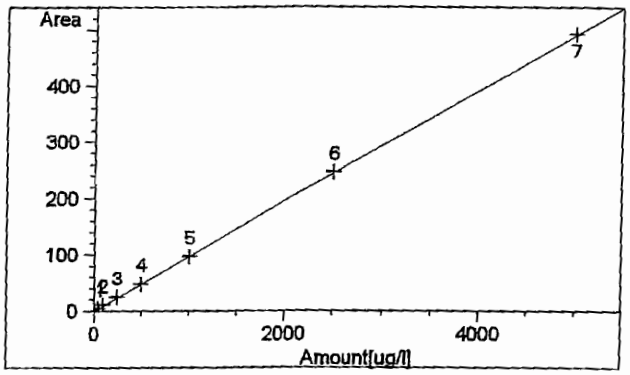
Method G:\HPLC2\METHODS\8310-098.M



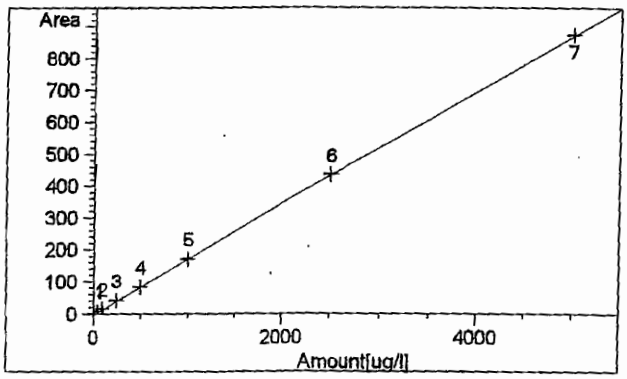
Benzo(g,h,i)perylene at exp. RT: 22.225
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99998
Residual Std. Dev.: 0.76770
Formula: y = mx + b
m: 3.35707e-2
b: -7.96535e-1
x: Amount[ug/l]
y: Area



Benzo(g,h,i)perylene at exp. RT: 22.361
FLD1 A, Ex=zero, Em=zero, TT
Correlation: 0.99997
Residual Std. Dev.: 1.23429
Formula: y = mx + b
m: 3.88813e-2
b: -2.72958
x: Amount[ug/l]
y: Area



Indeno(1,2,3-cd)pyrene at exp. RT: 22.728
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99999
Residual Std. Dev.: 0.89593
Formula: y = mx + b
m: 9.84705e-2
b: -7.77800e-1
x: Amount[ug/l]
y: Area



Indeno(1,2,3-cd)pyrene at exp. RT: 22.86
FLD1 A, Ex=zero, Em=zero, TT
Correlation: 0.99999
Residual Std. Dev.: 1.13391
Formula: y = mx + b
m: 1.75229e-1
b: -3.31578
x: Amount[ug/l]
y: Area

==========

CONTINUING CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instid : HPLC02 Run Name : L
Seqnum : 272142018004 Filename : 09800004 Injected : 08-APR-2002 16:36
Calnum : 272091727001 Caldate : 04-MAR-2002 Caltype :
Standards: 02WS0471

Analyte	Ch	Avg RF/CF	RF/CF	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Naphthalene	1	0.0118	0.0123	2500.000	2510.361	ug/L	0	15	
Acenaphthylene	1	0.0085	0.0087	5000.000	4956.322	ug/L	-1	15	
Acenaphthene	1	0.0043	0.0049	2500.000	2712.097	ug/L	8	15	
Fluorene	1	0.0577	0.0605	500.0000	508.5295	ug/L	2	15	
Phenanthrene	1	0.1650	0.1676	250.0000	252.9419	ug/L	1	15	
Anthracene	1	0.4190	0.4307	250.0000	248.4087	ug/L	-1	15	
Fluoranthene	1	0.0394	0.0383	500.0000	468.4137	ug/L	-6	15	
Pyrene	1	0.0365	0.0348	250.0000	274.3498	ug/L	10	15	
Benzo(a)anthracene	1	0.0822	0.0845	250.0000	265.3998	ug/L	6	15	
Chrysene	1	0.1150	0.1195	250.0000	265.1025	ug/L	6	15	
Benzo(b)fluoranthene	1	0.0924	0.0938	500.0000	504.4446	ug/L	1	15	
Benzo(k)fluoranthene	1	0.0775	0.0752	250.0000	247.9745	ug/L	-1	15	
Benzo(a)pyrene	1	0.0806	0.0810	250.0000	254.8173	ug/L	2	15	
Dibenz(a,h)anthracene	1	0.0200	0.0186	500.0000	489.1301	ug/L	-2	15	
Benzo(g,h,i)perylene	1	0.0329	0.0320	500.0000	499.6552	ug/L	0	15	
Indeno(1,2,3-cd)pyrene	1	0.0959	0.0985	250.0000	257.9419	ug/L	3	15	
1-Methylnaphthalene (UV)	1	0.0078	0.0076	50000.00	50667.68	ug/L	1	15	
Acenaphthylene	2	0.0256	0.0261	5000.000	5068.220	ug/L	1	15	
1-Methylnaphthalene (UV)	2	0.0030	0.0029	50000.00	49899.58	ug/L	0	15	
Naphthalene	3	0.0060	0.0065	2500.000	2441.913	ug/L	-2	15	
Acenaphthene	3	0.0045	0.0050	2500.000	2667.698	ug/L	7	15	
Fluorene	3	0.0056	0.0052	500.0000	512.0587	ug/L	2	15	
Phenanthrene	3	0.0983	0.1051	250.0000	254.5837	ug/L	2	15	
Anthracene	3	0.0342	0.0326	250.0000	239.7951	ug/L	-4	15	
Fluoranthene	3	0.0993	0.1044	500.0000	479.3295	ug/L	-4	15	
Pyrene	3	0.0529	0.0546	250.0000	253.1657	ug/L	1	15	
Benzo(a)anthracene	3	0.1011	0.1074	250.0000	256.5068	ug/L	3	15	
Chrysene	3	0.0453	0.0473	250.0000	250.7335	ug/L	0	15	
Benzo(b)fluoranthene	3	0.0683	0.0732	500.0000	509.7072	ug/L	2	15	
Benzo(k)fluoranthene	3	0.1446	0.1547	250.0000	259.7144	ug/L	4	15	
Benzo(a)pyrene	3	0.1717	0.1789	250.0000	260.2267	ug/L	4	15	
Dibenz(a,h)anthracene	3	0.0103	0.0122	500.0000	584.4877	ug/L	17	15	1 *** *
Benzo(g,h,i)perylene	3	0.0337	0.0388	500.0000	569.5478	ug/L	14	15	
Indeno(1,2,3-cd)pyrene	3	0.1618	0.1773	250.0000	271.8580	ug/L	9	15	
1-Methylnaphthalene (F)	3	0.0041	0.0044	50000.00	51290.07	ug/L	3	15	

CJm 09 APR 2002

* HIGH. SCREEN THIS ANALYTE WITH UVD CH#1 AND CONFIRM WITH FLD CH#3. CJm

L=CCV drift out
Page 1 of 1

CONTINUING CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instid : HPLC02 Run Name : M
Seqnum : 272142018020 Filename : 09800020 Injected : 09-APR-2002 01:19
Calnum : 272091727001 Caldate : 04-MAR-2002 Caltype :
Standards: 01WS2336

Analyte	Ch	Avg RF/CF	RF/CF	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Naphthalene	1	0.0118	0.0120	5000.000	5020.462	ug/L	0	15	
Acenaphthylene	1	0.0085	0.0083	10000.00	9930.593	ug/L	-1	15	
Acenaphthene	1	0.0043	0.0047	5000.000	5435.145	ug/L	9	15	
Fluorene	1	0.0577	0.0575	1000.000	1004.256	ug/L	0	15	
Phenanthrene	1	0.1650	0.1634	500.0000	500.3644	ug/L	0	15	
Anthracene	1	0.4190	0.4205	500.0000	504.0259	ug/L	1	15	
Fluoranthene	1	0.0394	0.0369	1000.000	963.0669	ug/L	-4	15	
Pyrene	1	0.0365	0.0293	500.0000	478.2962	ug/L	-4	15	
Benzo(a)anthracene	1	0.0822	0.0836	500.0000	516.1011	ug/L	3	15	
Chrysene	1	0.1150	0.1127	500.0000	499.3185	ug/L	0	15	
Benzo(b)fluoranthene	1	0.0924	0.0969	1000.000	1039.842	ug/L	4	15	
Benzo(k)fluoranthene	1	0.0775	0.0822	500.0000	540.3991	ug/L	8	15	
Benzo(a)pyrene	1	0.0806	0.0776	500.0000	482.0467	ug/L	-4	15	
Dibenz(a,h)anthracene	1	0.0200	0.0191	1000.000	997.1642	ug/L	0	15	
Benzo(g,h,i)perylene	1	0.0329	0.0322	1000.000	983.9852	ug/L	-2	15	
Indeno(1,2,3-cd)pyrene	1	0.0959	0.0937	500.0000	483.4584	ug/L	-3	15	
1-Methylnaphthalene (UV)	1	0.0078	0.0077	50000.00	51152.73	ug/L	2	15	
Acenaphthylene	2	0.0256	0.0251	10000.00	9917.901	ug/L	-1	15	
1-Methylnaphthalene (UV)	2	0.0030	0.0029	50000.00	50113.64	ug/L	0	15	
Naphthalene	3	0.0060	0.0067	5000.000	5203.823	ug/L	4	15	
Acenaphthene	3	0.0045	0.0052	5000.000	5208.742	ug/L	4	15	
Fluorene	3	0.0056	0.0060	1000.000	956.8595	ug/L	-4	15	
Phenanthrene	3	0.0983	0.1069	500.0000	511.9894	ug/L	2	15	
Anthracene	3	0.0342	0.0363	500.0000	487.9282	ug/L	-2	15	
Fluoranthene	3	0.0993	0.1051	1000.000	1007.961	ug/L	1	15	
Pyrene	3	0.0529	0.0587	500.0000	512.8426	ug/L	3	15	
Benzo(a)anthracene	3	0.1011	0.1153	500.0000	531.0045	ug/L	6	15	
Chrysene	3	0.0453	0.0552	500.0000	557.0316	ug/L	11	15	
Benzo(b)fluoranthene	3	0.0683	0.0779	1000.000	1060.390	ug/L	6	15	
Benzo(k)fluoranthene	3	0.1446	0.1641	500.0000	532.3727	ug/L	6	15	
Benzo(a)pyrene	3	0.1717	0.1905	500.0000	524.1788	ug/L	5	15	
Dibenz(a,h)anthracene	3	0.0103	0.0121	1000.000	1061.893	ug/L	6	15	
Benzo(g,h,i)perylene	3	0.0337	0.0386	1000.000	1061.912	ug/L	6	15	
Indeno(1,2,3-cd)pyrene	3	0.1618	0.1754	500.0000	519.4832	ug/L	4	15	
1-Methylnaphthalene (F)	3	0.0041	0.0045	50000.00	52172.36	ug/L	4	15	

09APR2002

CONTINUING CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instid : HPLC02 Run Name : H
Seqnum : 272142018036 Filename : 09800036 Injected : 09-APR-2002 10:07
Calnum : 272091727001 Caldate : 04-MAR-2002 Caltype :
Standards: 01WS2223

Analyte	Ch	Avg RF/CF	RF/CF	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Naphthalene	1	0.0118	0.0124	25000.00	26680.35	ug/L	7	15	
Acenaphthylene	1	0.0085	0.0087	50000.00	53534.35	ug/L	7	15	
Acenaphthene	1	0.0043	0.0044	25000.00	26138.92	ug/L	5	15	
Fluorene	1	0.0577	0.0603	5000.000	5432.087	ug/L	9	15	
Phenanthrene	1	0.1650	0.1703	2500.000	2640.588	ug/L	6	15	
Anthracene	1	0.4190	0.4394	2500.000	2717.158	ug/L	9	15	
Fluoranthene	1	0.0394	0.0390	5000.000	5361.682	ug/L	7	15	
Pyrene	1	0.0365	0.0322	2500.000	2739.534	ug/L	10	15	
Benzo(a)anthracene	1	0.0822	0.0880	2500.000	2678.487	ug/L	7	15	
Chrysene	1	0.1150	0.1224	2500.000	2707.197	ug/L	8	15	
Benzo(b)fluoranthene	1	0.0924	0.1001	5000.000	5360.230	ug/L	7	15	
Benzo(k)fluoranthene	1	0.0775	0.0820	2500.000	2691.675	ug/L	8	15	
Benzo(a)pyrene	1	0.0806	0.0815	2500.000	2502.637	ug/L	0	15	
Dibenz(a,h)anthracene	1	0.0200	0.0209	5000.000	5423.899	ug/L	8	15	
Benzo(g,h,i)perylene	1	0.0329	0.0351	5000.000	5250.203	ug/L	5	15	
Indeno(1,2,3-cd)pyrene	1	0.0959	0.1080	2500.000	2750.220	ug/L	10	15	
1-Methylnaphthalene (UV)	1	0.0078	0.0078	50000.00	51987.93	ug/L	4	15	
Acenaphthylene	2	0.0256	0.0263	50000.00	52853.21	ug/L	6	15	
1-Methylnaphthalene (UV)	2	0.0030	0.0031	50000.00	54457.55	ug/L	9	15	
Naphthalene	3	0.0060	0.0066	25000.00	26043.39	ug/L	4	15	
Acenaphthene	3	0.0045	0.0056	25000.00	26525.28	ug/L	6	15	
Fluorene	3	0.0056	0.0077	5000.000	5214.775	ug/L	4	15	
Phenanthrene	3	0.0983	0.1087	2500.000	2578.630	ug/L	3	15	
Anthracene	3	0.0342	0.0420	2500.000	2641.606	ug/L	6	15	
Fluoranthene	3	0.0993	0.1105	5000.000	5481.160	ug/L	10	15	
Pyrene	3	0.0529	0.0652	2500.000	2717.140	ug/L	9	15	
Benzo(a)anthracene	3	0.1011	0.1190	2500.000	2667.743	ug/L	7	15	
Chrysene	3	0.0453	0.0569	2500.000	2784.930	ug/L	11	15	
Benzo(b)fluoranthene	3	0.0683	0.0799	5000.000	5351.359	ug/L	7	15	
Benzo(k)fluoranthene	3	0.1446	0.1694	2500.000	2678.688	ug/L	7	15	
Benzo(a)pyrene	3	0.1717	0.1913	2500.000	2524.521	ug/L	1	15	
Dibenz(a,h)anthracene	3	0.0103	0.0138	5000.000	5618.938	ug/L	12	15	
Benzo(g,h,i)perylene	3	0.0337	0.0405	5000.000	5278.922	ug/L	6	15	
Indeno(1,2,3-cd)pyrene	3	0.1618	0.1919	2500.000	2756.283	ug/L	10	15	
1-Methylnaphthalene (F)	3	0.0041	0.0045	50000.00	52316.24	ug/L	5	15	

10APR2002

CONTINUING CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instid : HPLC02 Run Name : L
Seqnum : 272144633003 Filename : 10000003 Injected : 10-APR-2002 11:38
Calnum : 272091727001 Caldate : 04-MAR-2002 Caltype :
Standards: 02WS0471

Analyte	Ch	Avg RF/CF	RF/CF	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Naphthalene	1	0.0118	0.0116	2500.000	2354.513	ug/L	-6	15	
Acenaphthylene	1	0.0085	0.0080	5000.000	4539.895	ug/L	-9	15	
Acenaphthene	1	0.0043	0.0052	2500.000	2883.514	ug/L	15	15	
Fluorene	1	0.0577	0.0571	500.0000	478.3116	ug/L	-4	15	
Phenanthrene	1	0.1650	0.1620	250.0000	244.2021	ug/L	-2	15	
Anthracene	1	0.4190	0.4283	250.0000	246.9093	ug/L	-1	15	
Fluoranthene	1	0.0394	0.0366	500.0000	445.0504	ug/L	-11	15	
Pyrene	1	0.0365	0.0320	250.0000	250.4317	ug/L	0	15	
Benzo(a)anthracene	1	0.0822	0.0766	250.0000	241.3893	ug/L	-3	15	
Chrysene	1	0.1150	0.1109	250.0000	246.1151	ug/L	-2	15	
Benzo(b)fluoranthene	1	0.0924	0.0962	500.0000	517.5347	ug/L	4	15	
Benzo(k)fluoranthene	1	0.0775	0.0800	250.0000	263.7187	ug/L	5	15	
Benzo(a)pyrene	1	0.0806	0.0710	250.0000	224.0304	ug/L	-10	15	
Dibenz(a,h)anthracene	1	0.0200	0.0187	500.0000	490.2214	ug/L	-2	15	
Benzo(g,h,i)perylene	1	0.0329	0.0290	500.0000	455.9718	ug/L	-9	15	
Indeno(1,2,3-cd)pyrene	1	0.0959	0.0925	250.0000	242.6498	ug/L	-3	15	
1-Methylnaphthalene (UV)	1	0.0078	0.0076	50000.00	50432.43	ug/L	1	15	
Acenaphthylene	2	0.0256	0.0258	5000.000	5002.373	ug/L	0	15	
1-Methylnaphthalene (UV)	2	0.0030	0.0028	50000.00	49663.70	ug/L	-1	15	
Naphthalene	3	0.0060	0.0064	2500.000	2429.932	ug/L	-3	15	
Acenaphthene	3	0.0045	0.0052	2500.000	2769.571	ug/L	11	15	
Fluorene	3	0.0056	0.0049	500.0000	491.3184	ug/L	-2	15	
Phenanthrene	3	0.0983	0.1057	250.0000	256.0631	ug/L	2	15	
Anthracene	3	0.0342	0.0353	250.0000	256.5188	ug/L	3	15	
Fluoranthene	3	0.0993	0.1046	500.0000	480.0892	ug/L	-4	15	
Pyrene	3	0.0529	0.0558	250.0000	258.1236	ug/L	3	15	
Benzo(a)anthracene	3	0.1011	0.1070	250.0000	255.5530	ug/L	2	15	
Chrysene	3	0.0453	0.0480	250.0000	254.1588	ug/L	2	15	
Benzo(b)fluoranthene	3	0.0683	0.0722	500.0000	503.1055	ug/L	1	15	
Benzo(k)fluoranthene	3	0.1446	0.1537	250.0000	258.0277	ug/L	3	15	
Benzo(a)pyrene	3	0.1717	0.1726	250.0000	251.9818	ug/L	1	15	
Dibenz(a,h)anthracene	3	0.0103	0.0126	500.0000	600.4945	ug/L	20	15	1 *** *
Benzo(g,h,i)perylene	3	0.0337	0.0379	500.0000	557.2714	ug/L	11	15	
Indeno(1,2,3-cd)pyrene	3	0.1618	0.1801	250.0000	275.8451	ug/L	10	15	
1-Methylnaphthalene (F)	3	0.0041	0.0045	50000.00	51424.15	ug/L	3	15	

John 11APR2002

*HIGH. SCREEN THIS ANALYTE WITH UVD CH #1 AND CONFIRM WITH FLD CH #3. John

NOTE: ALL CLIENT SAMPLES BETWEEN THIS CCV AND FOLLOWING BRACKETING CCV ND FOR THIS ANALYTE. John 12APR2002

1=CCV drift out

CONTINUING CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instid : HPLC02 Run Name : H
Seqnum : 272144633019 Filename : 10000019 Injected : 10-APR-2002 20:20
Calnum : 272091727001 Caldate : 04-MAR-2002 Caltype :
Standards: 01WS2223

Analyte	Ch	RF/CF	Avg RF/CF	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Naphthalene	1	0.0118	0.0125	25000.00	26911.05	ug/L	8	15	
Acenaphthylene	1	0.0085	0.0087	50000.00	53512.80	ug/L	7	15	
Acenaphthene	1	0.0043	0.0041	25000.00	24276.12	ug/L	-3	15	
Fluorene	1	0.0577	0.0625	5000.000	5634.684	ug/L	13	15	
Phenanthrene	1	0.1650	0.1708	2500.000	2647.572	ug/L	6	15	
Anthracene	1	0.4190	0.4388	2500.000	2713.434	ug/L	9	15	
Fluoranthene	1	0.0394	0.0386	5000.000	5305.635	ug/L	6	15	
Pyrene	1	0.0365	0.0310	2500.000	2640.673	ug/L	6	15	
Benzo(a)anthracene	1	0.0822	0.0855	2500.000	2601.749	ug/L	4	15	
Chrysene	1	0.1150	0.1215	2500.000	2688.694	ug/L	8	15	
Benzo(b)fluoranthene	1	0.0924	0.0997	5000.000	5337.418	ug/L	7	15	
Benzo(k)fluoranthene	1	0.0775	0.0808	2500.000	2651.187	ug/L	6	15	
Benzo(a)pyrene	1	0.0806	0.0828	2500.000	2540.329	ug/L	2	15	
Dibenz(a,h)anthracene	1	0.0200	0.0216	5000.000	5602.936	ug/L	12	15	
Benzo(g,h,i)perylene	1	0.0329	0.0350	5000.000	5234.738	ug/L	5	15	
Indeno(1,2,3-cd)pyrene	1	0.0959	0.1094	2500.000	2786.051	ug/L	11	15	
1-Methylnaphthalene (UV)	1	0.0078	0.0078	50000.00	52049.51	ug/L	4	15	
Acenaphthylene	2	0.0256	0.0260	50000.00	52244.74	ug/L	4	15	
1-Methylnaphthalene (UV)	2	0.0030	0.0031	50000.00	53948.90	ug/L	8	15	
Naphthalene	3	0.0060	0.0067	25000.00	26374.95	ug/L	5	15	
Acenaphthene	3	0.0045	0.0058	25000.00	27273.23	ug/L	9	15	
Fluorene	3	0.0056	0.0066	5000.000	4496.471	ug/L	-10	15	
Phenanthrene	3	0.0983	0.1054	2500.000	2500.029	ug/L	0	15	
Anthracene	3	0.0342	0.0414	2500.000	2604.636	ug/L	4	15	
Fluoranthene	3	0.0993	0.1099	5000.000	5450.544	ug/L	9	15	
Pyrene	3	0.0529	0.0647	2500.000	2697.860	ug/L	8	15	
Benzo(a)anthracene	3	0.1011	0.1174	2500.000	2631.748	ug/L	5	15	
Chrysene	3	0.0453	0.0580	2500.000	2836.423	ug/L	13	15	
Benzo(b)fluoranthene	3	0.0683	0.0791	5000.000	5299.700	ug/L	6	15	
Benzo(k)fluoranthene	3	0.1446	0.1680	2500.000	2656.931	ug/L	6	15	
Benzo(a)pyrene	3	0.1717	0.1946	2500.000	2567.455	ug/L	3	15	
Dibenz(a,h)anthracene	3	0.0103	0.0132	5000.000	5347.983	ug/L	7	15	
Benzo(g,h,i)perylene	3	0.0337	0.0399	5000.000	5200.444	ug/L	4	15	
Indeno(1,2,3-cd)pyrene	3	0.1618	0.1903	2500.000	2734.261	ug/L	9	15	
1-Methylnaphthalene (F)	3	0.0041	0.0045	50000.00	51840.13	ug/L	4	15	

jm 11APR2002

CONTINUING CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instid : HPLC02 Run Name : M
Seqnum : 272144633035 Filename : 10000035 Injected : 11-APR-2002 05:03
Calnum : 272091727001 Caldate : 04-MAR-2002 Caltype :
Standards: 01WS2336

Analyte	Ch	Avg RF/CF	RF/CF	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Naphthalene	1	0.0118	0.0115	5000.000	4827.973	ug/L	-3	15	
Acenaphthylene	1	0.0085	0.0080	10000.00	9497.917	ug/L	-5	15	
Acenaphthene	1	0.0043	0.0041	5000.000	4638.128	ug/L	-7	15	
Fluorene	1	0.0577	0.0568	1000.000	990.2355	ug/L	-1	15	
Phenanthrene	1	0.1650	0.1580	500.0000	483.6699	ug/L	-3	15	
Anthracene	1	0.4190	0.4173	500.0000	500.0400	ug/L	0	15	
Fluoranthene	1	0.0394	0.0383	1000.000	1001.430	ug/L	0	15	
Pyrene	1	0.0365	0.0312	500.0000	512.3386	ug/L	2	15	
Benzo(a)anthracene	1	0.0822	0.0803	500.0000	496.0206	ug/L	-1	15	
Chrysene	1	0.1150	0.1163	500.0000	515.2978	ug/L	3	15	
Benzo(b)fluoranthene	1	0.0924	0.0965	1000.000	1035.817	ug/L	4	15	
Benzo(k)fluoranthene	1	0.0775	0.0814	500.0000	535.3936	ug/L	7	15	
Benzo(a)pyrene	1	0.0806	0.0959	500.0000	593.7178	ug/L	19	15	1 *** *
Dibenz(a,h)anthracene	1	0.0200	0.0205	1000.000	1065.758	ug/L	7	15	
Benzo(g,h,i)perylene	1	0.0329	0.0352	1000.000	1071.024	ug/L	7	15	
Indeno(1,2,3-cd)pyrene	1	0.0959	0.1043	500.0000	537.2459	ug/L	7	15	
1-Methylnaphthalene (UV)	1	0.0078	0.0076	50000.00	50209.67	ug/L	0	15	
Acenaphthylene	2	0.0256	0.0245	10000.00	9709.412	ug/L	-3	15	
1-Methylnaphthalene (UV)	2	0.0030	0.0028	50000.00	49218.84	ug/L	-2	15	
Naphthalene	3	0.0060	0.0066	5000.000	5123.554	ug/L	2	15	
Acenaphthene	3	0.0045	0.0051	5000.000	5135.896	ug/L	3	15	
Fluorene	3	0.0056	0.0055	1000.000	889.8252	ug/L	-11	15	
Phenanthrene	3	0.0983	0.1054	500.0000	504.6129	ug/L	1	15	
Anthracene	3	0.0342	0.0413	500.0000	549.5679	ug/L	10	15	
Fluoranthene	3	0.0993	0.1051	1000.000	1008.256	ug/L	1	15	
Pyrene	3	0.0529	0.0591	500.0000	515.4920	ug/L	3	15	
Benzo(a)anthracene	3	0.1011	0.1089	500.0000	502.4212	ug/L	0	15	
Chrysene	3	0.0453	0.0518	500.0000	524.1080	ug/L	5	15	
Benzo(b)fluoranthene	3	0.0683	0.0735	1000.000	1002.378	ug/L	0	15	
Benzo(k)fluoranthene	3	0.1446	0.1559	500.0000	506.4418	ug/L	1	15	
Benzo(a)pyrene	3	0.1717	0.1902	500.0000	523.4097	ug/L	5	15	
Dibenz(a,h)anthracene	3	0.0103	0.0131	1000.000	1140.293	ug/L	14	15	
Benzo(g,h,i)perylene	3	0.0337	0.0372	1000.000	1027.320	ug/L	3	15	
Indeno(1,2,3-cd)pyrene	3	0.1618	0.1767	500.0000	523.0859	ug/L	5	15	
1-Methylnaphthalene (F)	3	0.0041	0.0045	50000.00	51533.66	ug/L	3	15	

11 APR 2002

* UUD CH#1 THIS ANALYTE FOR CONFIRMATION. HIGH. NO NET EFFECT.

1=CCV drift out
Page 1 of 1

CONTINUING CALIBRATION REPORT
Curtis & Tompkins Laboratories

nstid : HPLC02 Run Name : M
eqnum : 272144633047 Filename : 10000047 Injected : 11-APR-2002 11:35
alnum : 272091727001 Caldate : 04-MAR-2002 Caltype :
tandards: 01WS2336

Analyte	Ch	Avg RF/CF	RF/CF	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Naphthalene	1	0.0118	0.0118	5000.000	4941.620	ug/L	-1	15	
Acenaphthylene	1	0.0085	0.0081	10000.00	9633.131	ug/L	-4	15	
Acenaphthene	1	0.0043	0.0039	5000.000	4407.033	ug/L	-12	15	
Fluorene	1	0.0577	0.0568	1000.000	990.6108	ug/L	-1	15	
Phenanthrene	1	0.1650	0.1582	500.0000	484.1567	ug/L	-3	15	
Anthracene	1	0.4190	0.4270	500.0000	512.0322	ug/L	2	15	
Fluoranthene	1	0.0394	0.0395	1000.000	1033.888	ug/L	3	15	
Pyrene	1	0.0365	0.0274	500.0000	446.9372	ug/L	-11	15	
Benzo(a)anthracene	1	0.0822	0.0832	500.0000	513.7685	ug/L	3	15	
Chrysene	1	0.1150	0.1179	500.0000	522.5445	ug/L	5	15	
Benzo(b)fluoranthene	1	0.0924	0.0942	1000.000	1011.349	ug/L	1	15	
Benzo(k)fluoranthene	1	0.0775	0.0771	500.0000	507.2088	ug/L	1	15	
Benzo(a)pyrene	1	0.0806	0.0886	500.0000	549.0512	ug/L	10	15	
Dibenz(a,h)anthracene	1	0.0200	0.0183	1000.000	954.8396	ug/L	-5	15	
Benzo(g,h,i)perylene	1	0.0329	0.0321	1000.000	979.2242	ug/L	-2	15	
Indeno(1,2,3-cd)pyrene	1	0.0959	0.0974	500.0000	502.4313	ug/L	0	15	
1-Methylnaphthalene (UV)	1	0.0078	0.0076	50000.00	50543.00	ug/L	1	15	
Acenaphthylene	2	0.0256	0.0251	10000.00	9929.573	ug/L	-1	15	
1-Methylnaphthalene (UV)	2	0.0030	0.0029	50000.00	50438.27	ug/L	1	15	
Naphthalene	3	0.0060	0.0067	5000.000	5169.898	ug/L	3	15	
Acenaphthene	3	0.0045	0.0053	5000.000	5302.927	ug/L	6	15	
Fluorene	3	0.0056	0.0055	1000.000	897.6887	ug/L	-10	15	
Phenanthrene	3	0.0983	0.0995	500.0000	476.9351	ug/L	-5	15	
Anthracene	3	0.0342	0.0359	500.0000	482.0069	ug/L	-4	15	
Fluoranthene	3	0.0993	0.1039	1000.000	996.0222	ug/L	0	15	
Pyrene	3	0.0529	0.0566	500.0000	495.0605	ug/L	-1	15	
Benzo(a)anthracene	3	0.1011	0.1116	500.0000	514.4246	ug/L	3	15	
Chrysene	3	0.0453	0.0534	500.0000	539.8862	ug/L	8	15	
Benzo(b)fluoranthene	3	0.0683	0.0758	1000.000	1033.207	ug/L	3	15	
Benzo(k)fluoranthene	3	0.1446	0.1600	500.0000	519.3829	ug/L	4	15	
Benzo(a)pyrene	3	0.1717	0.1999	500.0000	548.7264	ug/L	10	15	
Dibenz(a,h)anthracene	3	0.0103	0.0129	1000.000	1126.934	ug/L	13	15	
Benzo(g,h,i)perylene	3	0.0337	0.0377	1000.000	1039.227	ug/L	4	15	
Indeno(1,2,3-cd)pyrene	3	0.1618	0.1777	500.0000	526.0848	ug/L	5	15	
1-Methylnaphthalene (F)	3	0.0041	0.0045	50000.00	51839.77	ug/L	4	15	

11 APR 2002

CONTINUING CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instid : HPLC02 Run Name : L
Seqnum : 272147700002 Filename : 10200002 Injected : 12-APR-2002 14:13
Calnum : 272091727001 Caldate : 04-MAR-2002 Caltype :
Standards: 02WS0471

Analyte	Ch	Avg RF/CF	RF/CF	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Naphthalene	1	0.0118	0.0117	2500.000	2372.305	ug/L	-5	15	
Acenaphthylene	1	0.0085	0.0084	5000.000	4807.310	ug/L	-4	15	
Acenaphthene	1	0.0043	0.0049	2500.000	2669.250	ug/L	7	15	
Fluorene	1	0.0577	0.0603	500.0000	506.5729	ug/L	1	15	
Phenanthrene	1	0.1650	0.1702	250.0000	256.9828	ug/L	3	15	
Anthracene	1	0.4190	0.4257	250.0000	245.3195	ug/L	-2	15	
Fluoranthene	1	0.0394	0.0376	500.0000	458.7974	ug/L	-8	15	
Pyrene	1	0.0365	0.0287	250.0000	222.2628	ug/L	-11	15	
Benzo(a)anthracene	1	0.0822	0.0860	250.0000	270.0341	ug/L	8	15	
Chrysene	1	0.1150	0.1183	250.0000	262.6123	ug/L	5	15	
Benzo(b)fluoranthene	1	0.0924	0.0994	500.0000	534.5165	ug/L	7	15	
Benzo(k)fluoranthene	1	0.0775	0.0799	250.0000	263.5893	ug/L	5	15	
Benzo(a)pyrene	1	0.0806	0.0815	250.0000	256.2467	ug/L	2	15	
Dibenz(a,h)anthracene	1	0.0200	0.0192	500.0000	502.2090	ug/L	0	15	
Benzo(g,h,i)perylene	1	0.0329	0.0320	500.0000	500.9447	ug/L	0	15	
Indeno(1,2,3-cd)pyrene	1	0.0959	0.1038	250.0000	271.5429	ug/L	9	15	
1-Methylnaphthalene (UV)	1	0.0078	0.0076	50000.00	50666.64	ug/L	1	15	
Acenaphthylene	2	0.0256	0.0259	5000.000	5024.725	ug/L	0	15	
1-Methylnaphthalene (UV)	2	0.0030	0.0028	50000.00	49527.71	ug/L	-1	15	
Naphthalene	3	0.0060	0.0065	2500.000	2449.668	ug/L	-2	15	
Acenaphthene	3	0.0045	0.0051	2500.000	2724.402	ug/L	9	15	
Fluorene	3	0.0056	0.0049	500.0000	496.3304	ug/L	-1	15	
Phenanthrene	3	0.0983	0.1021	250.0000	247.5646	ug/L	-1	15	
Anthracene	3	0.0342	0.0342	250.0000	249.4174	ug/L	0	15	
Fluoranthene	3	0.0993	0.1051	500.0000	482.5472	ug/L	-3	15	
Pyrene	3	0.0529	0.0545	250.0000	252.7189	ug/L	1	15	
Benzo(a)anthracene	3	0.1011	0.1058	250.0000	252.8537	ug/L	1	15	
Chrysene	3	0.0453	0.0467	250.0000	247.5476	ug/L	-1	15	
Benzo(b)fluoranthene	3	0.0683	0.0728	500.0000	507.2225	ug/L	1	15	
Benzo(k)fluoranthene	3	0.1446	0.1541	250.0000	258.7693	ug/L	4	15	
Benzo(a)pyrene	3	0.1717	0.1680	250.0000	245.9213	ug/L	-2	15	
Dibenz(a,h)anthracene	3	0.0103	0.0121	500.0000	577.4438	ug/L	15	15	
Benzo(g,h,i)perylene	3	0.0337	0.0381	500.0000	560.3531	ug/L	12	15	
Indeno(1,2,3-cd)pyrene	3	0.1618	0.1846	250.0000	282.2554	ug/L	13	15	
1-Methylnaphthalene (F)	3	0.0041	0.0045	50000.00	51657.80	ug/L	3	15	

15APR2002

CONTINUING CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instid : HPLC02 Run Name : M
Seqnum : 272147700011 Filename : 10200011 Injected : 12-APR-2002 19:06
Calnum : 272091727001 Caldate : 04-MAR-2002 Caltype :
Standards: 01WS2336

Analyte	Ch	Avg RF/CF	RF/CF	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Naphthalene	1	0.0118	0.0121	5000.000	5059.360	ug/L	1	15	
Acenaphthylene	1	0.0085	0.0082	10000.00	9722.839	ug/L	-3	15	
Acenaphthene	1	0.0043	0.0045	5000.000	5140.272	ug/L	3	15	
Fluorene	1	0.0577	0.0587	1000.000	1025.520	ug/L	3	15	
Phenanthrene	1	0.1650	0.1615	500.0000	494.6701	ug/L	-1	15	
Anthracene	1	0.4190	0.4174	500.0000	500.0953	ug/L	0	15	
Fluoranthene	1	0.0394	0.0372	1000.000	972.0653	ug/L	-3	15	
Pyrene	1	0.0365	0.0273	500.0000	445.3180	ug/L	-11	15	
Benzo(a)anthracene	1	0.0822	0.0817	500.0000	504.6916	ug/L	1	15	
Chrysene	1	0.1150	0.1185	500.0000	524.9416	ug/L	5	15	
Benzo(b)fluoranthene	1	0.0924	0.0961	1000.000	1031.128	ug/L	3	15	
Benzo(k)fluoranthene	1	0.0775	0.0789	500.0000	518.7015	ug/L	4	15	
Benzo(a)pyrene	1	0.0806	0.0821	500.0000	509.2461	ug/L	2	15	
Dibenz(a,h)anthracene	1	0.0200	0.0203	1000.000	1056.597	ug/L	6	15	
Benzo(g,h,i)perylene	1	0.0329	0.0323	1000.000	986.4636	ug/L	-1	15	
Indeno(1,2,3-cd)pyrene	1	0.0959	0.1030	500.0000	530.6546	ug/L	6	15	
1-Methylnaphthalene (UV)	1	0.0078	0.0076	50000.00	50828.94	ug/L	2	15	
Acenaphthylene	2	0.0256	0.0248	10000.00	9806.996	ug/L	-2	15	
1-Methylnaphthalene (UV)	2	0.0030	0.0029	50000.00	50269.44	ug/L	1	15	
Naphthalene	3	0.0060	0.0066	5000.000	5158.651	ug/L	3	15	
Acenaphthene	3	0.0045	0.0052	5000.000	5179.317	ug/L	4	15	
Fluorene	3	0.0056	0.0057	1000.000	922.0795	ug/L	-8	15	
Phenanthrene	3	0.0983	0.0994	500.0000	476.3003	ug/L	-5	15	
Anthracene	3	0.0342	0.0346	500.0000	466.0524	ug/L	-7	15	
Fluoranthene	3	0.0993	0.1031	1000.000	988.4798	ug/L	-1	15	
Pyrene	3	0.0529	0.0570	500.0000	498.4579	ug/L	0	15	
Benzo(a)anthracene	3	0.1011	0.1071	500.0000	494.5924	ug/L	-1	15	
Chrysene	3	0.0453	0.0498	500.0000	504.9162	ug/L	1	15	
Benzo(b)fluoranthene	3	0.0683	0.0731	1000.000	996.5990	ug/L	0	15	
Benzo(k)fluoranthene	3	0.1446	0.1544	500.0000	501.7743	ug/L	0	15	
Benzo(a)pyrene	3	0.1717	0.1804	500.0000	497.6959	ug/L	0	15	
Dibenz(a,h)anthracene	3	0.0103	0.0127	1000.000	1109.858	ug/L	11	15	
Benzo(g,h,i)perylene	3	0.0337	0.0378	1000.000	1042.845	ug/L	4	15	
Indeno(1,2,3-cd)pyrene	3	0.1618	0.1794	500.0000	530.9220	ug/L	6	15	
1-Methylnaphthalene (F)	3	0.0041	0.0045	50000.00	51596.72	ug/L	3	15	

15APR2002

CONTINUING CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instid : HPLC02 Run Name : H
Seqnum : 272147700024 Filename : 10200024 Injected : 13-APR-2002 01:39
Calnum : 272091727001 Caldate : 04-MAR-2002 Caltype :
Standards: 01WS2223

Analyte	Ch	Avg RF/CF	RF/CF	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Naphthalene	1	0.0118	0.0125	25000.00	26768.26	ug/L	7	15	
Acenaphthylene	1	0.0085	0.0087	50000.00	53597.07	ug/L	7	15	
Acenaphthene	1	0.0043	0.0040	25000.00	23925.40	ug/L	-4	15	
Fluorene	1	0.0577	0.0631	5000.000	5686.997	ug/L	14	15	
Phenanthrene	1	0.1650	0.1738	2500.000	2694.409	ug/L	8	15	
Anthracene	1	0.4190	0.4432	2500.000	2740.817	ug/L	10	15	
Fluoranthene	1	0.0394	0.0394	5000.000	5411.463	ug/L	8	15	
Pyrene	1	0.0365	0.0323	2500.000	2748.661	ug/L	10	15	
Benzo(a)anthracene	1	0.0822	0.0866	2500.000	2635.067	ug/L	5	15	
Chrysene	1	0.1150	0.1252	2500.000	2769.544	ug/L	11	15	
Benzo(b)fluoranthene	1	0.0924	0.1006	5000.000	5387.629	ug/L	8	15	
Benzo(k)fluoranthene	1	0.0775	0.0824	2500.000	2705.133	ug/L	8	15	
Benzo(a)pyrene	1	0.0806	0.0874	2500.000	2682.984	ug/L	7	15	
Dibenz(a,h)anthracene	1	0.0200	0.0207	5000.000	5372.628	ug/L	7	15	
Benzo(g,h,i)perylene	1	0.0329	0.0347	5000.000	5188.146	ug/L	4	15	
Indeno(1,2,3-cd)pyrene	1	0.0959	0.1105	2500.000	2814.009	ug/L	13	15	
1-Methylnaphthalene (UV)	1	0.0078	0.0078	50000.00	52172.96	ug/L	4	15	
Acenaphthylene	2	0.0256	0.0265	50000.00	53231.66	ug/L	6	15	
1-Methylnaphthalene (UV)	2	0.0030	0.0032	50000.00	56660.22	ug/L	13	15	
Naphthalene	3	0.0060	0.0067	25000.00	26649.50	ug/L	7	15	
Acenaphthene	3	0.0045	0.0057	25000.00	26987.40	ug/L	8	15	
Fluorene	3	0.0056	0.0073	5000.000	4957.431	ug/L	-1	15	
Phenanthrene	3	0.0983	0.1040	2500.000	2467.180	ug/L	-1	15	
Anthracene	3	0.0342	0.0418	2500.000	2628.349	ug/L	5	15	
Fluoranthene	3	0.0993	0.1116	5000.000	5533.735	ug/L	11	15	
Pyrene	3	0.0529	0.0659	2500.000	2747.117	ug/L	10	15	
Benzo(a)anthracene	3	0.1011	0.1180	2500.000	2645.190	ug/L	6	15	
Chrysene	3	0.0453	0.0585	2500.000	2861.563	ug/L	14	15	
Benzo(b)fluoranthene	3	0.0683	0.0801	5000.000	5363.229	ug/L	7	15	
Benzo(k)fluoranthene	3	0.1446	0.1707	2500.000	2698.332	ug/L	8	15	
Benzo(a)pyrene	3	0.1717	0.2020	2500.000	2664.187	ug/L	7	15	
Dibenz(a,h)anthracene	3	0.0103	0.0138	5000.000	5581.675	ug/L	12	15	
Benzo(g,h,i)perylene	3	0.0337	0.0402	5000.000	5239.098	ug/L	5	15	
Indeno(1,2,3-cd)pyrene	3	0.1618	0.1945	2500.000	2793.550	ug/L	12	15	
1-Methylnaphthalene (F)	3	0.0041	0.0045	50000.00	52498.37	ug/L	5	15	

15APR2002

equence: G:\HPLC2\SEQUENCE\040802.S

Sequence Parameters:

Operator:	HPL
Data File Naming:	Prefix/Counter
Signal 1 Prefix:	098
Counter:	00001
Data Directory:	G:\HPLC2\DATA\
Data Subdirectory:	
Part of Methods to run:	According to Runtime Checklist
Wait Time after loading Method:	0 min
Barcode Reader:	not used
Sequence Timeout:	0 min
Shutdown Cmd/Macro:	macro "SHUTDOWN.MAC",go
Sequence Comment:	

Sequence Table:

Quantification Part:

Line	Vial	SampleName	SampleAmount	ISTDAmt	Multiplier	Dilution
1	0	IB - 098				
2	1	IB				
3	2	IB				
4	3	X,CCV,L,02WS0471				
5	4	CCV,L,02WS0471				
6	5	IB				
7	6	157881-060,71405			.002	
8	7	QC175102,71405			.002	
9	8	QC175103,71405			.002	
10	9	QC175101,71405			.002	
11	10	QC175083,71401			.066533	
12	11	IB				
13	12	157881-014,71401			.066733	
14	13	QC175084,71401			.066666	
15	14	QC175085,71401			.067226	
16	15	QC175082,71401			.065876	
17	16	157901-015,71367			.066312	
18	17	IB				
19	18	IB				
20	19	X,CCV,M,01WS2336				
21	20	CCV,M,01WS2336				
22	21	IB				
23	22	157881-006,71401			.067091	
24	23	157881-010,71401			.065789	
25	24	157881-022,71401			.067317	
26	25	157881-031,71401			.066379	

equence: G:\HPLC2\SEQUENCE\040802.S

Line	Vial	SampleName	SampleAmount	ISTDAmt	Multiplier	Dilution
27	26	157881-035,71401			.067340	
28	27	IB				
29	28	157881-043,71401			.066533	
30	29	157881-045,71401			.066934	
31	30	157881-046,71401			.067001	
32	31	157881-049,71401			.067819	
33	32	157881,050,71401			.067750	
34	33	IB				
35	34	X,CCV,H,01WS2223				
36	35	CCV,H,01WS2223				
37	36	IB				
38	37					
39	38					
40	39					
41	40					
42	41					
43	42					
44	43					
45	44					
46	45					
47	46					
48	47					
49	48					
50	49					
51	50					
52	51					
53	52					
54	53					
55	54					
56	55					
57	56					
58	57					

SEQUENCE SUMMARY
Curtis & Tompkins Laboratories

equence: 272142018 Instrument: HPLC02 High Pressure Liquid Chromatograph #2 Begun: 08-APR-2002

#	Filename	Type	Samplenum	Batch	Matrix	Analyzed	IDF	PDF	IQC	SPK	uL	Stds Used	>LR
001	09800001	X	IB - 098			08-APR-2002 14:58	1.0						
002	09800002	X	IB			08-APR-2002 15:31	1.0						
003	09800003	X	IB			08-APR-2002 16:04	1.0						
004	09800004	CCV	L			08-APR-2002 16:36	1.0	1.0		1	10	1	
005	09800005	X	L			08-APR-2002 17:09	1.0	1.0			10	1	
006	09800006	X	IB			08-APR-2002 17:42	1.0						
007	09800007	SAMPLE	157881-060	71405	Water	08-APR-2002 18:14	1.0	0.0020			10		
008	09800008	BS	QC175102	71405	Water	08-APR-2002 18:47	1.0	0.0020		1	10		
009	09800009	BSD	QC175103	71405	Water	08-APR-2002 19:20	1.0	0.0020		1	10		
010	09800010	BLANK	QC175101	71405	Water	08-APR-2002 19:53	1.0	0.0020			10		
011	09800011	LCS	QC175083	71401	Soil	08-APR-2002 20:25	1.0	0.066534		1	10		
012	09800012	X	IB			08-APR-2002 20:58	1.0						
013	09800013	MSS	157881-014	71401	Soil	08-APR-2002 21:30	1.0	0.066733			10		
014	09800014	MS	QC175084	71401	Soil	08-APR-2002 22:03	1.0	0.066667		1	10		
015	09800015	MSD	QC175085	71401	Soil	08-APR-2002 22:36	1.0	0.067227		1	10		
016	09800016	BLANK	QC175082	71401	Soil	08-APR-2002 23:08	1.0	0.065876			10		
017	09800017	SAMPLE	157901-015	71367	Soil	08-APR-2002 23:41	1.0	0.066313		1	10		
018	09800018	X	IB			09-APR-2002 00:14	1.0						
019	09800019	X	IB			09-APR-2002 00:46	1.0						
020	09800020	CCV	M			09-APR-2002 01:19	1.0	1.0			10	2	
022	09800022	X	IB			09-APR-2002 01:53	1.0						
023	09800023	SAMPLE	157881-006	71401	Soil	09-APR-2002 02:25	1.0	0.067092			10		
024	09800024	SAMPLE	157881-010	71401	Soil	09-APR-2002 02:58	1.0	0.065789			10		
025	09800025	SAMPLE	157881-022	71401	Soil	09-APR-2002 03:31	1.0	0.067317			10		
026	09800026	SAMPLE	157881-031	71401	Soil	09-APR-2002 04:03	1.0	0.066379			10		
027	09800027	SAMPLE	157881-035	71401	Soil	09-APR-2002 04:36	1.0	0.067340			10		
028	09800028	X	IB			09-APR-2002 05:09	1.0						
029	09800029	SAMPLE	157881-043	71401	Soil	09-APR-2002 05:42	1.0	0.066534			10		
030	09800030	SAMPLE	157881-045	71401	Soil	09-APR-2002 06:14	1.0	0.066934			10		
031	09800031	SAMPLE	157881-046	71401	Soil	09-APR-2002 06:47	1.0	0.067002			10		
032	09800032	SAMPLE	157881-049	71401	Soil	09-APR-2002 07:19	1.0	0.067820			10		
033	09800033	SAMPLE	157881-050	71401	Soil	09-APR-2002 07:52	1.0	0.067751		3	10		

Stds used: 1=02WS0471 2=01WS2336 3=01WS2223

Analyst: _____ Date: 11 APR 2002

SEQUENCE SUMMARY
Curtis & Tompkins Laboratories

equence: 272142018 Instrument: HPLC02 High Pressure Liquid Chromatograph #2 Begun: 08-APR-2002

#	Filename	Type	Samplenum	Batch	Matrix	Analyzed	IDF	PDF	IQC SPK uL	Stds Used	>LR
034	09800034	X	IB			09-APR-2002 08:56	1.0				
035	09800035	X	H			09-APR-2002 09:29	1.0			3	
036	09800036	CCV	H			09-APR-2002 10:07	1.0	1.0	10	3	1:NAPH=26043.4
037	09800037	X	IB			09-APR-2002 10:40	1.0				

158

Stds used: 1=02WS0471 2=01WS2336 3=01WS2223

Analyst: _____ Date: 11APR2002

equence: G:\HPLC2\SEQUENCE\041002.S

Sequence Parameters:

Operator:	HPL
Data File Naming:	Prefix/Counter
Signal 1 Prefix:	100
Counter:	00001
Data Directory:	G:\HPLC2\DATA\
Data Subdirectory:	
Part of Methods to run:	According to Runtime Checklist
Wait Time after loading Method:	0 min
Barcode Reader:	not used
Sequence Timeout:	0 min
Shutdown Cmd/Macro:	macro "SHUTDOWN.MAC",go
Sequence Comment:	

Sequence Table:

Quantification Part:

Line	Vial	SampleName	SampleAmount	ISTDAmt	Multiplier	Dilution
1	0	IB - 100				
2	1	X,CCV,L,02WS0471				
3	2	CCV,L,02WS0471				
4	3	IB				
5	4	QC175262,71447			.067613	
6	5	QC175261,71447			.066844	
7	6	157881-053,71447			.066511	
8	7	QC175263,71447			.067567	
9	8	QC175264,71447			.066622	
10	9	IB				
11	10	157881-057,71447			.067181	
12	11	157881-054,71447			.067226	
13	12	157881-055,71447			.067704	
14	13	157881-059-71447			.067091	
15	14	157881-056,71447			.066312	
16	15	IB				
17	16	IB				
18	17	X,CCV,H,01WS2223				
19	18	CCV,H,01WS2223				
20	19	IB				
21	20	157881-050,71401			.067750	
22	21	157881-051,71401			.066006	
23	22	157881-052,71401			.067181	
24	23	157881-027,71401			.066072	
25	24	157881-026,71401			.066666	
26	25	IB				

Sequence: G:\HPLC2\SEQUENCE\041002.S

Line	Vial	SampleName	SampleAmount	ISTDAmt	Multiplier	Dilution
27	26	157881-018,71401			.066666	
28	27	157881-044,71401			.065789	
29	28	157881-047,71401			.065919	
30	29	157881-048,71401			.066137	
31	30	157881-039,71401			.066889	
32	31	IB				
33	32	IB				
34	33	X,CCV,M,01WS2336				
35	34	CCV,M,01WS2336				
36	35	IB				
37	36	157881-058,71447			.067204	5
38	37	IB				
39	38	157842-001,71447			.066688	10
40	39	IB				
41	40	IB				
42	41	157881-039,71401			.066889	5
43	42	IB				
44	43	157881-058,71447			.067204	
45	44	IB				
46	45	IB				
47	46	X,CCV,M,01WS2336				
48	47	CCV,M,01WS2336				
49	48	IB				
50	49	IB				

SEQUENCE SUMMARY
Curtis & Tompkins Laboratories

Sequence: 272144633 Instrument: HPLC02 High Pressure Liquid Chromatograph #2 Begun: 10-APR-2002

#	Filename	Type	Samplenum	Batch	Matrix	Analyzed	IDF	PDF	IQC	SPK	uL	Stds Used	>LR
001	10000001	X	IB - 100			10-APR-2002 10:33	1.0						
002	10000002	X	L			10-APR-2002 11:05	1.0	1.0			10	1	
003	10000003	CCV	L			10-APR-2002 11:38	1.0	1.0	1		10	1	
004	10000004	X	IB			10-APR-2002 12:10	1.0						
005	10000005	LCS	QC175262	71447	Soil	10-APR-2002 12:43	1.0	0.067613	1		10		
006	10000006	BLANK	QC175261	71447	Soil	10-APR-2002 13:16	1.0	0.066845			10		
007	10000007	MSS	157881-053	71447	Soil	10-APR-2002 13:48	1.0	0.066511			10		
008	10000008	MS	QC175263	71447	Soil	10-APR-2002 14:21	1.0	0.067568	1		10		
009	10000009	MSD	QC175264	71447	Soil	10-APR-2002 14:54	1.0	0.066622	1		10		
010	10000010	X	IB			10-APR-2002 15:26	1.0						
011	10000011	SAMPLE	157881-057	71447	Soil	10-APR-2002 15:59	1.0	0.067182			10		
012	10000012	SAMPLE	157881-054	71447	Soil	10-APR-2002 16:32	1.0	0.067227			10		
013	10000013	SAMPLE	157881-055	71447	Soil	10-APR-2002 17:04	1.0	0.067705			10		
014	10000014	SAMPLE	157881-059	71447	Soil	10-APR-2002 17:37	1.0	0.067092			10		
015	10000015	SAMPLE	157881-056	71447	Soil	10-APR-2002 18:10	1.0	0.066313			10		
016	10000016	X	IB			10-APR-2002 18:42	1.0						
017	10000017	X	IB			10-APR-2002 19:15	1.0						
018	10000018	X	H			10-APR-2002 19:48	1.0					2	
019	10000019	CCV	H			10-APR-2002 20:20	1.0	1.0			10	2	1:NAPH=26374.9
020	10000020	X	IB			10-APR-2002 20:53	1.0						
021	10000021	SAMPLE	157881-050	71401	Soil	10-APR-2002 21:26	1.0	0.067751	1	3	10		
022	10000022	SAMPLE	157881-051	71401	Soil	10-APR-2002 21:58	1.0	0.066007			10		
023	10000023	SAMPLE	157881-052	71401	Soil	10-APR-2002 22:31	1.0	0.067182			10		
024	10000024	SAMPLE	157881-027	71401	Soil	10-APR-2002 23:04	1.0	0.066072			10		
025	10000025	SAMPLE	157881-026	71401	Soil	10-APR-2002 23:36	1.0	0.066667			10		
026	10000026	X	IB			11-APR-2002 00:09	1.0						
027	10000027	SAMPLE	157881-018	71401	Soil	11-APR-2002 00:42	1.0	0.066667	1		10		
028	10000028	SAMPLE	157881-044	71401	Soil	11-APR-2002 01:14	1.0	0.065789	1		10		
029	10000029	SAMPLE	157881-047	71401	Soil	11-APR-2002 01:47	1.0	0.065920			10		
030	10000030	SAMPLE	157881-048	71401	Soil	11-APR-2002 02:20	1.0	0.066138			10		
031	10000031	SAMPLE	157881-039	71401	Soil	11-APR-2002 02:52	1.0	0.066890	6		10		5:FLA=15298.4
032	10000032	X	IB			11-APR-2002 03:25	1.0						

Stds used: 1=02WS0471 2=01WS2223 3=01WS2336

Analyst: _____ Date: 12APR2002

SEQUENCE SUMMARY
Curtis & Tompkins Laboratories

Sequence: 272144633 Instrument: HPLC02 High Pressure Liquid Chromatograph #2 Begun: 10-APR-2002

#	Filename	Type	Samplenum	Batch	Matrix	Analyzed	IDF	PDF	IQC	SPK uL	Stds Used	>LR
033	10000033	X	IB			11-APR-2002 03:57	1.0					
034	10000034	X	M			11-APR-2002 04:30	1.0				3	
035	10000035	CCV	M			11-APR-2002 05:03	1.0	1.0	1	10	3	
036	10000036	X	IB			11-APR-2002 05:35	1.0					
037	10000037	SAMPLE	157881-058	71447	Soil	11-APR-2002 06:08	5.0	0.067204	1	10		
038	10000038	X	IB			11-APR-2002 06:41	1.0					
039	10000039	SAMPLE	157842-001	71447	Soil	11-APR-2002 07:13	10.0	0.066689	3	10		2:FLA=28495.0
040	10000040	X	IB			11-APR-2002 07:46	1.0					
041	10000041	X	IB			11-APR-2002 08:19	1.0					
042	10000042	SAMPLE	157881-039	71401	Soil	11-APR-2002 08:51	5.0	0.066890	1	10		
043	10000043	X	IB			11-APR-2002 09:24	1.0					
044	10000044	SAMPLE	157881-058	71447	Soil	11-APR-2002 09:57	1.0	0.067204	1	10		
045	10000045	X	IB			11-APR-2002 10:29	1.0					
046	10000046	X	IB			11-APR-2002 11:02	1.0					
047	10000047	CCV	M			11-APR-2002 11:35	1.0	1.0		10	3	
048	10000048	X	M			11-APR-2002 12:07	1.0	1.0		10	3	
049	10000049	X	IB			11-APR-2002 12:40	1.0					
050	10000050	X	IB			11-APR-2002 13:13	1.0					

Stds used: 1=02WS0471 2=01WS2223 3=01WS2336

Analyst: _____ Date: 12 APR 2002

equence: G:\HPLC2\SEQUENCE\041202.S

Sequence Parameters:

Operator:	HPL
Data File Naming:	Prefix/Counter
Signal 1 Prefix:	102
Counter:	00001
Data Directory:	G:\HPLC2\DATA\
Data Subdirectory:	
Part of Methods to run:	According to Runtime Checklist
Wait Time after loading Method:	0 min
Barcode Reader:	not used
Sequence Timeout:	0 min
Shutdown Cmd/Macro:	macro "SHUTDOWN.MAC",go
Sequence Comment:	

Sequence Table:

Quantification Part:

Line	Vial	SampleName	SampleAmount	ISTDAmt	Multiplier	Dilution
1	0	IB - 102				
2	1	CCV,L,02WS0471				
3	2	CCV,L,02WS0471				
4	3	IB				
5	4	QC175728,71573			.066467	
6	5	QC175727,71573			.066666	
7	6	157881-050,71573			.066889	
8	7	QC175729,71573			.066555	
9	8	QC175730,71573			.066777	
10	9	IB				
11	10	X,CCV,M,01WS2336				
12	11	CCV,M,01WS2336				
13	12	IB				
14	13	QC175591,71535			.002	
15	14	QC175592,71535			.002	
16	15	QC175590,71535			.002	
17	16	157998-001,71535			.001886	
18	17	157998-002,71535			.001886	
19	18	157998-003,71535			.001886	
20	19	157998-004,71535			.001886	
21	20	157998-005,71535			.001904	
22	21	IB				
23	22	X,CCV,M,01WS2336				
24	23	CCV,H,01WS2223				
25	24	IB				

SEQUENCE SUMMARY
Curtis & Tompkins Laboratories

:quence: 272147700 Instrument: HPLC02 High Pressure Liquid Chromatograph #2 Begun: 12-APR-2002

#	Filename	Type	Samplenum	Batch	Matrix	Analyzed	IDF	PDF	IQC	SPK uL	Stds Used	>LR
01	10200001	X	IB - 102			12-APR-2002 13:40	1.0					
02	10200002	CCV	L			12-APR-2002 14:13	1.0	1.0		10	1	
03	10200003	X	L			12-APR-2002 14:45	1.0	1.0		10	1	
04	10200004	X	IB			12-APR-2002 15:18	1.0					
05	10200005	LCS	QC175728	71573	Soil	12-APR-2002 15:51	1.0	0.066467	2	10		
06	10200006	BLANK	QC175727	71573	Soil	12-APR-2002 16:23	1.0	0.066667		10		
07	10200007	MSS	157881-050	71573	Soil	12-APR-2002 16:56	1.0	0.066890		10		
08	10200008	MS	QC175729	71573	Soil	12-APR-2002 17:29	1.0	0.066556		10		
09	10200009	MSD	QC175730	71573	Soil	12-APR-2002 18:01	1.0	0.066778		10		
10	10200010	X	IB			12-APR-2002 18:34	1.0					
11	10200011	CCV	M			12-APR-2002 19:06	1.0	1.0		10	2	
13	10200013	X	IB			12-APR-2002 19:40	1.0					
14	10200014	BS	QC175591	71535	Water	12-APR-2002 20:13	1.0	0.0020		10		
15	10200015	BSD	QC175592	71535	Water	12-APR-2002 20:45	1.0	0.0020		10		
16	10200016	BLANK	QC175590	71535	Water	12-APR-2002 21:18	1.0	0.0020		10		
17	10200017	SAMPLE	157998-001	71535	Water	12-APR-2002 21:51	1.0					
18	10200018	SAMPLE	157998-002	71535	Water	12-APR-2002 22:23	1.0					
19	10200019	SAMPLE	157998-003	71535	Water	13-APR-2002 22:56	1.0					
20	10200020	SAMPLE	157998-004	71535	Water	13-APR-2002 23:29	1.0					
21	10200021	SAMPLE	157998-005	71535	Water	13-APR-2002 00:01	1.0					
22	10200022	X	IB			13-APR-2002 00:34	1.0					
23	10200023	X	M			13-APR-2002 01:07	1.0				2	
24	10200024	CCV	H			13-APR-2002 01:39	1.0	1.0		10	3	1:NAPH=26649.5
25	10200025	X	IB			13-APR-2002 02:12	1.0					

Stds used: 1=02WS0471 2=01WS2336 3=01WS2223

Analyst: _____ Date: 15APR2002

SAMPLE PREPARATION SUMMARY

04/05/02 16:03:57

Batch Number : 71401
Date Extracted : 05-APR-02
Extracted By : Donnell Ward
Prep Method : 3550

Analysis: 8310
Bgroup : N/A
Units : g
Clean-up:

Spike #1 ID : 02SS79 F/P/Q
Spike #2 ID : 02WS0084 A/B
Spike #3 ID :

Sample No.	Type	Client	Matrx	Init W/V	U	Final Vol	Prep D.F.	Clean pH D.F.	Spike #1 Vol	Spike #2 Vol	Spike #3 Vol	Analysis	Comments
157881-006		IT Corporation	Soil	29.81	g	2	.067091	1	.1	0		8310	
157881-010		IT Corporation	Soil	30.4	g	2	.065789	1	.1	0		8310	
157881-014		IT Corporation	Soil	29.97	g	2	.066733	1	.1	0		8310	
157881-018		IT Corporation	Soil	30	g	2	.066666	1	.1	0		8310	
157881-022		IT Corporation	Soil	29.71	g	2	.067317	1	.1	0		8310	
157881-026		IT Corporation	Soil	30	g	2	.066666	1	.1	0		8310	
157881-027		IT Corporation	Soil	30.27	g	2	.066072	1	.1	0		8310	
157881-031		IT Corporation	Soil	30.13	g	2	.066379	1	.1	0		8310	
157881-035		IT Corporation	Soil	29.7	g	2	.067340	1	.1	0		8310	
157881-039		IT Corporation	Soil	29.9	g	2	.066889	1	.1	0		8310	
157881-043		IT Corporation	Soil	30.06	g	2	.066533	1	.1	0		8310	
157881-044		IT Corporation	Soil	30.4	g	2	.065789	1	.1	0		8310	
157881-045		IT Corporation	Soil	29.88	g	2	.066934	1	.1	0		8310	
157881-046		IT Corporation	Soil	29.85	g	2	.067001	1	.1	0		8310	
157881-047		IT Corporation	Soil	30.34	g	2	.065919	1	.1	0		8310	
157881-048		IT Corporation	Soil	30.24	g	2	.066137	1	.1	0		8310	
157881-049		IT Corporation	Soil	29.49	g	2	.067819	1	.1	0		8310	
157881-050		IT Corporation	Soil	29.52	g	2	.067750	1	.1	0		8310	
157881-051		IT Corporation	Soil	30.3	g	2	.066006	1	.1	0		8310	
157881-052		IT Corporation	Soil	29.77	g	2	.067181	1	.1	0		8310	
QC175082	BLANK		Soil	30.36	g	2	.065876	1	.1	0		8310	
QC175083	LCS		Soil	30.06	g	2	.066533	1	.1	1		8310	
QC175084	MS of 157881-014		Soil	30	g	2	.066666	1	.1	1		8310	
QC175085	MSD of 157881-014		Soil	29.75	g	2	.067226	1	.1	1		8310	

Prep Chemist: Donnell Ward Reviewed By: Ken Riley Date: 4-5-02

Relinquished By: Donnell Ward Received By: [signature] Date: 08APR2002

Curtis and Tompkins, Ltd **PAH'S BY HPLC SOIL PREP LOG** **BK1365**

LIMS Batch No: 71401
LIMS Analysis 8310
Extracted by: DW
Date Extracted: 4.05.02

Extraction Method:
- ☑ EPA 3550 sonication
- ☐ EPA 3540 soxhlet
- ☐ _____

Cleanup Method: (if necessary)
- ☐ EPA 3640 GPC
- ☐ EPA 3630 silica gel
- ☐ _____

	Sample ID	Weight of Sample (g)	Final Volume (mL)	Comments
	157881-006 A	29.81	2	
	-010	30.40		
	-014	29.97		
	-018	30.00		
5	-022	29.71		
	-026	30.00		
	-027	30.27		
	-031	30.13		
	-035	29.70		
10	-039	29.90		
	-043	30.06		
	-044	30.40		
	-045	29.88		
	-046	29.85		
15	-047	30.34		
	-048	30.24		
	-049	29.49		
	-050	29.52		
	-051	30.30		
20	-052	29.77		
	MB QC 175082	30.36		
	LCS 83	30.06		
	MS 84	30.00		
	MSD 85	29.75		

Samples were dried with ~~baked~~, CH_2Cl_2-rinsed ~~granular~~ Na_2SO_4

1 mL of ~~surrogate solution was added to all samples~~ mix

1.0 mL of matrix spiking solution was added to all spikes

≥ 75 mL of 1+1 (CH_2Cl_2+Acetone) was added to all CH_2Cl_2

Acetone

Samples were: ☑ sonicated 3 times ☐ soxhlet extractors on at:

soxhlets off at:

Extracts filtered through baked, CH_2Cl_2-rinsed powdered Na_2SO_4

Concentrated: ☑ to volumes as noted above ☐ to clean-up volume

Clean-up (if necessary): ☐ GPC (see GPC run log) ☐ Silica Gel

Conc'd / solvent exchanged twice with Acetonitrile to above volumes

Extracts filtered with 0.45 um PTFE syringe filter

Mfg & Lot # / ~~LIMS~~ # / Time	Date/Initials
EM 41186148 / 41053148	DW 4/5/02
025579 F/B/Q	
02WS0084 A/B	
EM 42015	
EM 41281	
✓	
N/A	
EM 41053148	
✓	
N/A	
✓ EM 41319	
Whatman 01881	

Donnell Ward 4/5/02
Date

166
Continued from Page ___
Continued on Page ___

Kim Riley 4.5.02
Reviewed by Date

PROJECT Soil Aliquoting

Notebook No. BK 1436

Continued From Pa:

Sample ID		Weight (g)	Analysis		Comments
157881	-006 A		29.81	8310	
	-010	~~30.48~~ 4.4.2	30.40		
	-014	~~30.12~~	29.97		MSS
	-018	~~30.40~~	~~29.67~~ 30.00 new 4/5		
	-022	~~30.31~~	29.71		
	-026	~~30.21~~	30.00		
	-027	30.27			
	-031	30.13			
	-035	29.70			
	-039	29.90			
	-043	30.06			
	-044	30.40			
	-045	29.88			
	-046	81 ~~30.09~~	29.85 DBJ 4/5		
	-047	30.34			
	-048	30.24			
	-049	~~30.09~~	29.49 DBJ 4/5		
	-050	29.52			
	-051	30.30			
	-052	29.77			
MB QC		30.36			
LCS QC		30.06			
MS QC		30.00			
MSD QC		29.75			
Sand 128628-123534					

Continued on Page

Read and Understood By

Josie M. Jones 4/4/02

SAMPLE PREPARATION SUMMARY

04/08/02 12:13:53

Batch Number	: 71447	Analysis:	8310	Spike #1 ID	: 02SS79 F
Date Extracted	: 08-APR-02	Bgroup :	N/A	Spike #2 ID	: 02WS0084 C
Extracted By	: Erin Balderas	Units :	g	Spike #3 ID	:
Prep Method	: 3550	Clean-up:			

Sample No.	Type		Client	Matrx	Init W/V	U	Final Vol	Prep D.F.	Clean pH D.F.	Spike #1 Vol	Spike #2 Vol	Spike #3 Vol	Analysis	Comments
157842-001			ERM-West	Soil	29.99	g	2	.066688	1	.1	0		8310	
157881-053			IT Corporation	Soil	30.07	g	2	.066511	1	.1	0		8310	MSS
157881-054			IT Corporation	Soil	29.75	g	2	.067226	1	.1	0		8310	
157881-055			IT Corporation	Soil	29.54	g	2	.067704	1	.1	0		8310	
157881-056			IT Corporation	Soil	30.16	g	2	.066312	1	.1	0		8310	
157881-057			IT Corporation	Soil	29.77	g	2	.067181	1	.1	0		8310	
157881-058			IT Corporation	Soil	29.76	g	2	.067204	1	.1	0		8310	
157881-059			IT Corporation	Soil	29.81	g	2	.067091	1	.1	0		8310	
QC175261	BLANK			Soil	29.92	g	2	.066844	1	.1	0		8310	
QC175262	LCS			Soil	29.58	g	2	.067613	1	.1	1		8310	
QC175263	MS	of 157881-053		Soil	29.6	g	2	.067567	1	.1	1		8310	
QC175264	MSD	of 157881-053		Soil	30.02	g	2	.066622	1	.1	1		8310	

168

Prep Chemist: E. Balderas Reviewed By: Lucienne Custred Date: 4-8-2

Relinquished By: E. Balderas Received By: [illegible] Date: 10APR2002

LIMS Batch No: 71447
LIMS Analysis: ~~TEH~~ 8310 EB
Extracted by: EB
Date Extracted: 4-8-02

Extraction Method:
- ☒ EPA 3550 sonication
- ☐ EPA 3540 soxhlet
- ☐ ______

Cleanup Method: (if necessary)
- ☐ EPA 3640 GPC
- ☐ EPA 3630 silica gel
- ☐ ______

Sample ID	Weight of Sample (g)	Final Volume (mL)	Comments
157842-001	29.99	2.0	
157881-~~001~~ 053	30.07	↓	MSS
-054	29.75		
-055	29.54		
-056	30.16		
-057	29.77		
-058	29.76		
-059	29.81		
MB-QC 175261	29.92		
LCS 62	29.58		
MS 63	29.60		
MSD 64	30.02	↓	

	Mfg & Lot # / LIMS # / Time	Date/Initials
Samples were dried with baked, CH_2Cl_2-rinsed ~~granular~~ MIX Na_2SO_4	EM 41186143 / 41053148	EB 4-8-02
.1 mL of surrogate solution was added to all samples	025579-F	↓
1.0 mL of matrix spiking solution was added to all spikes	02WS0084-C	
≥ 75 mL of 1+1 (CH_2Cl_2+Acetone) was added to all CH_2Cl_2	EM 42015	
Acetone	EM 41281	
Samples were: ☒ sonicated 3 times ☐ soxhlet extractors on at:	✓	
soxhlets off at:	N/A	
Extracts filtered through baked, CH_2Cl_2 rinsed powdered Na_2SO_4	EM 41053148	
Concentrated: ☒ to volumes as noted above ☐ to clean-up volume	✓	
Clean-up (if necessary): ☐ GPC (see GPC run log) ☐ Silica Gel	N/A	
Conc'd / solvent exchanged twice with Acetonitrile to above volumes	EM 41319	
Extracts filtered with 0.45 um PTFE syringe filter	WHATMAN 01881	↓

Extraction Chemist: [signature] Date: 4-8-02

Continued from Page ___/___
Continued on Page ___/___

Reviewed by: [signature] Date: 4-8-2

PROJECT Soil Aliqouting

NOTEBOOK NO.

Continued From Page

Sample ID	Weight(g)	Analysis	Comments
157943-001A,B,C,D,E.	29.87	PCB	mss;
2A,B,C,D,E.	29.92		
MB	29.96		
LCS	29.65		
MS	29.84		
MSD	29.59		
Sand: 128028-123534			
157881-053A	30.07	8310	mss;
54	29.75		
55	29.54		
56	30.16		
57	29.77		
58	29.76		
59	29.81		
MB	29.92		
LCS	29.58		
MS	29.60		
MSD	30.02		
Sand: 128028-123534			

Continued on Page

Read and Understood By

Josie M. James — Signed — 4/5/02 Date

Signed — Date

Corrective Action Report

CAR#: 02 HPLC 6

Analysis: 8310 **Matrix:** Soil **Client:** IT

Job#: 157881 **Batch#:** 71401

Problem/ Nonconformance:

__ Holding Time	Describe: Sample 157881-050 fails	Initiated by/ Date:
X QC Limits	surr. rec. low. Run twice for	Analyst _____
__ Contamination	confirmation.	GL RLt 4/11/02
__ Preservation		PM RMP 4/15/02
__ Other		QA _____

Impact:

X Data Quality	Discuss: Possible low bias.	Notified/ Date:
__ TAT		GL _____
__# of redo's		PM RMP 4/15/02
__ Other		QA _____

Immediate Solution:

__ Reanalyze	Proposed Steps: Re-extract sample	Agreed/ Date:
X Re-extract:	157881-050 Hold = 4/15	Analyst _____
new login:		GL RLt 4/15/02
_____	re-extract passes all QC	PM RMP 4/15/02
new batch#:		QA Tkm 4/15/02
_____		Completion Verified
__ Narrate	Target Completion Date:	by (Initial/Date):
__ Educate Client	Did proposed solution correct the problem ? (If no, explain) (Yes)	Tkm 4/15/02

Long Term Resolution:

__ Single Incident	Comments:	Acknowledged by:
__ Training Req'd		Analyst_____
__ None Required		GL _____
__ Revise SOP		PM _____
(attach revision)		QA _____
__ QAD to Verify		Resolution Verified:
Compliance		QA _____
		OpM _____

Note: Provide a photocopy of the CAR to the QA Director as soon as the form is initiated.

SAMPLE PREPARATION SUMMARY

04/15/02 10:46:46

Batch Number : 71573
Date Extracted : 12-APR-02
Extracted By : Erin Balderas
Prep Method : 3550

Analysis: 8310
Bgroup : N/A
Units : g
Clean-up:

Spike #1 ID : 02SS79 E,N
Spike #2 ID : 01WS2026 B
Spike #3 ID :

Sample No.	Type		Client	Matrx	Init W/V	U	Final Vol	Prep D.F.	Clean pH D.F.	Spike #1 Vol	Spike #2 Vol	Spike #3 Vol	Analysis	Comments
157881-050			IT Corporation	Soil	29.9	g	2	.066889	1	.1	0		8310	
QC175727	BLANK			Soil	30	g	2	.066666	1	.1	0		8310	
QC175728	LCS			Soil	30.09	g	2	.066467	1	.1	1		8310	
QC175729	MS	of 157881-050		Soil	30.05	g	2	.066555	1	.1	1		8310	
QC175730	MSD	of 157881-050		Soil	29.95	g	2	.066777	1	.2	1		8310	

Prep Chemist:_____ Reviewed By:_____ Date: _____

Relinquished By:_____ Received By: _____ Date: 15APR2002

SAMPLE PREPARATION SUMMARY

04/12/02 12:28:07

tch Number : 71573
te Extracted : 12-APR-02
tracted By : Erin Balderas
rep Method : 3550

Analysis: 8310
Bgroup : N/A
Units : g
Clean-up:

Spike #1 ID : 02SS79 E,N
Spike #2 ID : 01WS2026 B
Spike #3 ID :

mple No.	Type	Client	Matrx	Init W/V	U	Final Vol	Prep D.F.	Clean pH D.F.	Spike #1 Vol	Spike #2 Vol	Spike #3 Vol	Analysis	Comments
57881-050		IT Corporation	Soil	29.9	g	2	.066889	1	.1	1		8310	
C175727	BLANK		Soil	30	g	2	.066666	1	.1	1		8310	
C175728	LCS		Soil	30.09	g	2	.066467	1	.1	1		8310	
C175729	MS of 157881-050		Soil	30.05	g	2	.066555	1	.1	1		8310	
C175730	MSD of 157881-050		Soil	29.95	g	2	.066777	1	.1	1		8310	

wordrong,

173

Prep Chemist: Erin Balderas Reviewed By: [illegible] Date: 4/12/02

Relinquished By: Erin Balderas Received By: [illegible] Date: 12 APR 2002

LIMS Batch No: 71573
LIMS Analysis 8310
Extracted by: EB
Date Extracted: 4-12-02

Extraction Method:
☒ EPA 3550 sonication
☐ EPA 3540 soxhlet
☐ _____

Cleanup Method: (if necessary)
☐ EPA 3640 GPC
☐ EPA 3630 silica gel
☐ _____

Sample ID	Weight of Sample (g)	Final Volume (mL)	Comments
MB-QC175727	30.00	2.0	
LCS 28	30.09		
MS 29	30.05		
MSD ↓ 30	29.95		* MAY HAVE DOUBLE SURROGATE !
157881-050	29.90	↓	

Samples were dried with baked, CH_2Cl_2-rinsed ~~granular~~ MIX Na_2SO_4
.1 mL of surrogate solution was added to all samples
1.0 mL of matrix spiking solution was added to all spikes
≥ 75 mL of 1+1 (CH_2Cl_2+Acetone) was added to all CH_2Cl_2
Acetone
Samples were: ☒ sonicated 3 times ☐ soxhlet extractors on at:
soxhlets off at:
Extracts filtered through baked, CH_2Cl_2-rinsed powdered Na_2SO_4
Concentrated: ☒ to volumes as noted above ☐ to clean-up volume
Clean-up (if necessary): ☐ GPC (see GPC run log) ☐ Silica Gel
Conc'd / solvent exchanged twice with Acetonitrile to above volumes
Extracts filtered with 0.45 um PTFE syringe filter

Mfg & Lot # / LIMS # / Time	Date/Initials
EM 41053148/41186148	4-12-02 EB
025579 E/N	
01WS2026 B	
42015	
41281	
✓	
N/A	
EM 41053148	
✓	
N/A	
↓	↓

Extraction Chemist 4-12-02 Date

Continued from Page 1
174
Continued on Page 1

Reviewed by 4/12/02 Date

SAMPLE ID	Weight(g)	Analysis	Comments
157909-006 A	30.00	8100	
7	29.60		
8	29.59		
9	29.70		
10	29.77		
11	30.33		
12	29.98		
13	29.91		
14	30.07		
15	30.18		
16	30.29		
17	30.25		MSS
18	29.87		
19	29.56		
20	30.01		
21	29.64		
22	29.94		
MB	29.89		
LCS	29.72		
MS	29.89		
MSD	30.25		
Sand: 128028-123534			
157881-050	29.90	8310	
B	30		
S	30.09		
S	30.05		
D	29.95		

Continued on Page

Read and Understood By
175

4 M. Jones 4/11/02

INITIAL CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instrument: HPLC02 High Pressure Liquid Chromatograph #2 Reviewed By:
Calnum: 272091727001 Name: Type: (normal) Date: 04-MAR-2002 19:31 Inj Vol (uL): 10

Calibration levels:

#	Filename	Seqnum	Samplenum	Analyzed	Standards
1	06300006	272091727006		04-MAR-2002 19:31	01WS2197
2	06300007	272091727007		04-MAR-2002 20:03	01WS2198
3	06300008	272091727008		04-MAR-2002 20:36	01WS2199
4	06300010	272091727010		04-MAR-2002 21:41	01WS2201
5	06300011	272091727011		04-MAR-2002 22:14	01WS2202
6	06300012	272091727012		04-MAR-2002 22:47	01WS2203
7	06300099	272091727099		06-MAR-2002 16:49	01WS2200

Analyte	Ch	L1	L2	L3	L4	L5	L6	L7	Type	a0	a1	a2	units	avg	r^2 %RSD	MnR^2	MxRSD	Flags
Naphthalene	1	0.0116	0.0112	0.0123	0.0121	0.0117	0.0116	0.0120	LINR	-140.763	86.22487		ug/L	0.0118	1.00	0.99	20	
Acenaphthylene	1	0.0097	0.0081	0.0085	0.0085	0.0083	0.0081	0.0083	LINR	-406.741	123.9338		ug/L	0.0085	1.00	0.99	20	
Acenaphthene	1	0.0047	0.0046	0.0038	0.0045	0.0043	0.0041	0.0042	LINR	-273.669	242.0328		ug/L	0.0043	1.00	0.99	20	
Fluorene	1	0.0626	0.0593	0.0565	0.0574	0.0568	0.0550	0.0564	LINR	-40.4878	18.15685		ug/L	0.0577	1.00	0.99	20	
Phenanthrene	1	0.1711	0.1707	0.1674	0.1615	0.1631	0.1606	0.1603	LINR	-7.67837	6.219617		ug/L	0.1650	1.00	0.99	20	
Anthracene	1	0.4528	0.4135	0.4276	0.4160	0.4139	0.4005	0.4089	LINR	-19.8529	2.491484		ug/L	0.4190	1.00	0.99	20	
Fluoranthene	1	0.0527	0.0351	0.0400	0.0378	0.0380	0.0358	0.0363	LINR	-64.1763	27.82009		ug/L	0.0394	1.00	0.99	20	
Pyrene	1	0.0793	0.0257	0.0352	0.0292	0.0299	0.0292	0.0268	LINR	-24.4537	34.37202		ug/L	0.0365	1.00	0.99	20	
Benzo(a)anthracene	1	0.0930	0.0760	0.0836	0.0805	0.0821	0.0824	0.0778	LINR	9.224800	12.12642		ug/L	0.0822	1.00	0.99	20	
Chrysene	1	0.1292	0.1147	0.1148	0.1116	0.1144	0.1127	0.1075	LINR	0.885466	8.847651		ug/L	0.1150	1.00	0.99	20	
Benzo(b)fluoranthene	1	0.0921	0.0876	0.0958	0.0930	0.0941	0.0932	0.0911	LINR	2.226585	10.70784		ug/L	0.0924	1.00	0.99	20	
Benzo(k)fluoranthene	1	0.0860	0.0829	0.0716	0.0760	0.0770	0.0760	0.0731	LINR	1.369846	13.11920		ug/L	0.0775	1.00	0.99	20	
Benzo(a)pyrene	1	0.0590	0.1010	0.0903	0.0803	0.0822	0.0815	0.0701	LINR	6.823923	12.24330		ug/L	0.0806	1.00	0.99	20	
Dibenz(a,h)anthracene	1	0.0257	0.0191	0.0188	0.0192	0.0192	0.0193	0.0188	LINR	6.743632	51.74222		ug/L	0.0200	1.00	0.99	20	
Benzo(g,h,i)perylene	1	0.0328	0.0342	0.0316	0.0327	0.0333	0.0335	0.0322	LINR	23.72709	29.78790		ug/L	0.0329	1.00	0.99	20	
Indeno(1,2,3-cd)pyrene	1	0.0819	0.1047	0.0965	0.0965	0.0982	0.0984	0.0954	LINR	7.898825	10.15533		ug/L	0.0959	1.00	0.99	20	
1-Methylnaphthalene (UV)	1	0.0084	0.0078	0.0079	0.0077	0.0075	0.0074	0.0076	LINR	-765.364	135.0264		ug/L	0.0078	1.00	0.99	20	
Acenaphthylene	2	0.0282	0.0253	0.0257	0.0250	0.0251	0.0248	0.0253	LINR	-190.204	40.32956		ug/L	0.0256	1.00	0.99	20	
1-Methylnaphthalene (UV)	2	0.0033	0.0030	0.0030	0.0029	0.0029	0.0028	0.0030	LINR	-468.554	352.2100		ug/L	0.0030	1.00	0.99	20	

Curves: LINR: Linear regression
Instrument amount = a0 + response * a1 + response^2 * a2

INITIAL CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instrument: HPLC02 High Pressure Liquid Chromatograph #2 Reviewed By:
Calnum: 272091727001 Name: Type: (normal) Date: 04-MAR-2002 19:31 Inj Vol (uL): 10

Analyte	Ch	L1	L2	L3	L4	L5	L6	L7	Type	a0	a1	a2	units	avg	r^2 %RSD	MnR^2	MxRSD	Flags
Naphthalene	3	0.0045	0.0050	0.0064	0.0068	0.0062		0.0068	LINR	-124.831	159.0831		ug/L	0.0060	1.00	0.99	20	
Acenaphthene	3	0.0030	0.0032	0.0044	0.0052	0.0053	0.0053	0.0049	LINR	330.9744	186.8130		ug/L	0.0045	1.00	0.99	20	
Fluorene	3	0.0034	0.0039	0.0046	0.0066	0.0073	0.0075	0.0056	LINR	172.2825	131.4089		ug/L	0.0056	1.00	0.99	20	
Phenanthrene	3	0.0772	0.0875	0.1019	0.1056	0.1071	0.1051	0.1036	LINR	5.919369	9.466957		ug/L	0.0983	1.00	0.99	20	
Anthracene	3	0.0274	0.0257	0.0319	0.0384	0.0403	0.0400	0.0357	LINR	37.81047	24.77102		ug/L	0.0342	1.00	0.99	20	
Fluoranthene	3	0.0863	0.0931	0.1031	0.1048	0.1048	0.0994	0.1039	LINR	-42.6311	9.997626		ug/L	0.0993	1.00	0.99	20	
Pyrene	3	0.0415	0.0421	0.0510	0.0586	0.0602	0.0602	0.0571	LINR	27.90665	16.51028		ug/L	0.0529	1.00	0.99	20	
Benzo(a)anthracene	3	0.0768	0.0868	0.1018	0.1102	0.1126	0.1116	0.1077	LINR	17.31156	8.909323		ug/L	0.1011	1.00	0.99	20	
Chrysene	3	0.0371	0.0358	0.0425	0.0506	0.0523	0.0510	0.0483	LINR	20.86038	19.43223		ug/L	0.0453	1.00	0.99	20	
Benzo(b)fluoranthene	3	0.0511	0.0595	0.0697	0.0747	0.0758	0.0745	0.0725	LINR	21.37070	13.34563		ug/L	0.0683	1.00	0.99	20	
Benzo(k)fluoranthene	3	0.1108	0.1274	0.1472	0.1571	0.1585	0.1585	0.1529	LINR	16.57046	6.285262		ug/L	0.1446	1.00	0.99	20	
Benzo(a)pyrene	3	0.1352	0.1547	0.1779	0.1865	0.1904	0.1903	0.1666	LINR	26.62297	5.222811		ug/L	0.1717	1.00	0.99	20	
Dibenz(a,h)anthracene	3	0.0070	0.0074	0.0100	0.0119	0.0122	0.0125	0.0110	LINR	96.59951	79.75457		ug/L	0.0103	1.00	0.99	20	
Benzo(g,h,i)perylene	3	0.0242	0.0289	0.0344	0.0373	0.0381	0.0387	0.0346	LINR	70.20282	25.71929		ug/L	0.0337	1.00	0.99	20	
Indeno(1,2,3-cd)pyrene	3	0.1357	0.1475	0.1642	0.1707	0.1735	0.1747	0.1664	LINR	18.92257	5.706828		ug/L	0.1618	1.00	0.99	20	
1-Methylnaphthalene (F)	3	0.0033	0.0038	0.0043	0.0044	0.0044	0.0043	0.0044	LINR	-174.991	231.7080		ug/L	0.0041	1.00	0.99	20	

Curves: LINR: Linear regression
Instrument amount = a0 + response * a1 + response^2 * a2

Method G:\HPLC2\METHODS\8310-098.M

Calibration Table

UPDATED RETENTION TIMES FROM CCU FILE 09500032.

HPLC02 METHOD 8310

Calib. Data Modified : 4/8/02 9:44:39 AM

Calculate : External Standard
Based on : Peak Area

Rel. Reference Window : 1.500 %
Abs. Reference Window : 0.150 min
Rel. Non-ref. Window : 1.500 %
Abs. Non-ref. Window : 0.150 min
Uncalibrated Peaks : not reported
Partial Calibration : Yes, identified peaks are recalibrated
Correct All Ret. Times: No, only for identified peaks

Curve Type : Linear
Origin : Ignored
Weight : Equal

Recalibration Settings:
Average Response : Average all calibrations
Average Retention Time: Floating Average New 75%

Calibration Report Options :
Printout of recalibrations within a sequence:
Calibration Table after Recalibration
Normal Report after Recalibration
If the sequence is done with bracketing:
Results of first cycle (ending previous bracket)

Signal 1: DAD1 A, Sig=254,4 Ref=550,100
Signal 2: DAD1 B, Sig=305,4 Ref=480,80
Signal 3: FLD1 A, Ex=zero, Em=zero, TT

RetTime [min]	Sig	Lvl	Amount [ug/l]	Area	Amt/Area	Ref	Grp	Name
4.490	1	1	500.00000	5.81496	85.98514			Naphthalene
		2	1000.00000	11.15537	89.64289			
		3	2500.00000	30.81410	81.13169			
		4	5000.00000	60.06146	83.24806			
		5	1.00000e4	121.45738	82.33341			
		6	2.50000e4	291.53003	85.75446			
		7	5.00000e4	580.76697	86.09305			
4.627	3	1	500.00000	2.24458	222.75929			Naphthalene
		2	1000.00000	4.96401	201.45014			
		3	2500.00000	16.08661	155.40880			
		4	5000.00000	33.90583	147.46728			
		5	1.00000e4	68.12975	146.77875			
		6	2.50000e4	155.96237	160.29507			
5.469	1	1	1000.00000	9.68568	103.24522			Acenaphthylene
		2	2000.00000	16.13348	123.96581			
		3	5000.00000	42.45404	117.77441			
		4	1.00000e4	82.55051	121.13796			
		5	2.00000e4	169.49904	117.99477			

Method G:\HPLC2\METHODS\8310-098.M

RetTime [min]	Sig	Lvl	Amount [ug/l]	Area	Amt/Area	Ref	Grp	Name
		6	5.00000e4	413.49744	120.91973			
		7	1.00000e5	806.09155	124.05539			
5.470	2	1	1000.00000	28.24971	35.39859			Acenaphthylene
		2	2000.00000	50.63280	39.50009			
		3	5000.00000	128.34305	38.95809			
		4	1.00000e4	253.02425	39.52190			
		5	2.00000e4	499.77979	40.01762			
		6	5.00000e4	1255.60107	39.82157			
		7	1.00000e5	2478.97583	40.33924			
6.253	1	1	2000.00000	16.78672	119.14181			1-Methylnaphthalene (U
		2	4000.00000	31.26913	127.92167			
	-	3	1.00000e4	78.79143	126.91736			
		4	2.00000e4	152.52199	131.12863			
		5	4.00000e4	309.70889	129.15354			
		6	1.00000e5	753.03607	132.79576			
		7	2.00000e5	1482.20496	134.93411			
6.254	2	1	2000.00000	6.58138	303.88762			1-Methylnaphthalene (U
		2	4000.00000	11.89913	336.15906			
		3	1.00000e4	30.05269	332.74893			
		4	2.00000e4	59.42996	336.53061			
		5	4.00000e4	114.57818	349.10661			
		6	1.00000e5	285.16077	350.67938			
		7	2.00000e5	569.15497	351.39814			
6.390	3	1	2000.00000	6.64161	301.13191			1-Methylnaphthalene (F
		2	4000.00000	15.00988	266.49109			
		3	1.00000e4	43.27524	231.07903			
		4	2.00000e4	87.48588	228.60832			
		5	4.00000e4	177.20776	225.72374			
		6	1.00000e5	438.01511	228.30263			
		7	2.00000e5	860.38324	232.45455			
7.101	1	1	500.00000	2.34662	213.07222			Acenaphthene
		2	1000.00000	4.57092	218.77436			
		3	2500.00000	9.58642	260.78562			
		4	5000.00000	21.21798	235.64918			
		5	1.00000e4	45.14816	221.49297			
		6	2.50000e4	107.72695	232.06820			
		7	5.00000e4	205.69499	243.07835			
7.238	3	1	500.00000	1.51953	329.04923			Acenaphthene
		2	1000.00000	3.20760	311.75933			
		3	2500.00000	11.10445	225.13487			
		4	5000.00000	24.52133	203.90408			
		5	1.00000e4	51.60268	193.78837			
		6	2.50000e4	133.62625	187.08899			
		7	5.00000e4	265.19336	188.54167			
7.473	1	1	100.00000	6.26267	15.96764			Fluorene
		2	200.00000	11.85309	16.87324			
		3	500.00000	28.23050	17.71134			
		4	1000.00000	56.35906	17.74338			
		5	2000.00000	114.78731	17.42353			
		6	5000.00000	284.03067	17.60373			
		7	1.00000e4	549.50763	18.19811			
7.593	3	1	100.00000	3.41744e-1	292.61702			Fluorene
		2	200.00000	7.79631e-1	256.53173			
		3	500.00000	2.32323	215.21805			
		4	1000.00000	5.62665	177.72550			
		5	2000.00000	13.28447	150.55177			

Method G:\HPLC2\METHODS\8310-098.M

RetTime [min]	Sig	Lvl	Amount [ug/l]	Area	Amt/Area	Ref	Grp	Name
		6	5000.00000	36.39042	137.39880			
		7	1.00000e4	75.14142	133.08240			
8.578	1	1	50.00000	8.55725	5.84300			Phenanthrene
		2	100.00000	17.06607	5.85958			
		3	250.00000	41.85678	5.97275			
		4	500.00000	80.16271	6.23731			
		5	1000.00000	161.52065	6.19116			
		6	2500.00000	407.70486	6.13189			
		7	5000.00000	803.12048	6.22572			
8.718	3	1	50.00000	3.85914	12.95624			Phenanthrene
		2	100.00000	8.74836	11.43071			
		3	250.00000	25.46634	9.81688			
		4	500.00000	51.80303	9.65194			
		5	1000.00000	105.55307	9.47391			
		6	2500.00000	267.78134	9.33598			
		7	5000.00000	525.33917	9.51766			
9.639	1	1	50.00000	22.63796	2.20868			Anthracene
		2	100.00000	41.35420	2.41813			
		3	250.00000	106.89616	2.33872			
		4	500.00000	204.46507	2.44541			
		5	1000.00000	416.03317	2.40365			
		6	2500.00000	1034.81384	2.41589			
		7	5000.00000	2002.42932	2.49697			
9.775	3	1	50.00000	1.37163	36.45301			Anthracene
		2	100.00000	2.56678	38.95934			
		3	250.00000	7.97318	31.35512			
		4	500.00000	17.84741	28.01528			
		5	1000.00000	38.39795	26.04306			
		6	2500.00000	100.84531	24.79044			
		7	5000.00000	199.78859	25.02645			
10.859	1	1	100.00000	5.26722	18.98533			Fluoranthene
		2	200.00000	7.02103	28.48585			
		3	500.00000	20.00473	24.99409			
		4	1000.00000	36.29506	27.55196			
		5	2000.00000	75.61501	26.44977			
		6	5000.00000	189.91570	26.32747			
		7	1.00000e4	357.79974	27.94859			
10.995	3	1	100.00000	8.62801	11.59016			Fluoranthene
		2	200.00000	18.61896	10.74174			
		3	500.00000	51.56308	9.69686			
		4	1000.00000	103.85860	9.62848			
		5	2000.00000	209.55421	9.54407			
		6	5000.00000	524.15991	9.53907			
		7	1.00000e4	993.91248	10.06125			
11.739	1	1	50.00000	3.96408	12.61328			Pyrene
		2	100.00000	2.56875	38.92947			
		3	250.00000	8.80986	28.37729			
		4	500.00000	13.42423	37.24608			
		5	1000.00000	29.15291	34.30189			
		6	2500.00000	74.72364	33.45661			
		7	5000.00000	145.81490	34.29005			
11.875	3	1	50.00000	2.07399	24.10815			Pyrene
		2	100.00000	4.20820	23.76310			
		3	250.00000	12.74641	19.61336			
		4	500.00000	28.54236	17.51782			
		5	1000.00000	58.55271	17.07863			

Method G:\HPLC2\METHODS\8310-098.M

RetTime [min]	Sig	Lvl	Amount [ug/l]	Area	Amt/Area	Ref	Grp	Name
		6	2500.00000	150.53755	16.60715			
		7	5000.00000	300.84906	16.61963			
14.720	1	1	50.00000	4.65248	10.74695			Benzo(a)anthracene
		2	100.00000	7.59859	13.16034			
		3	250.00000	20.89830	11.96270			
		4	500.00000	38.87888	12.86045			
		5	1000.00000	80.54541	12.41536			
		6	2500.00000	205.36430	12.17349			
		7	5000.00000	411.90405	12.13875			
14.855	3	1	50.00000	3.84194	13.01425			Benzo(a)anthracene
		2	100.00000	8.67524	11.52706			
		3	250.00000	25.44476	9.82521			
		4	500.00000	53.87277	9.28113			
		5	1000.00000	110.23448	9.07157			
		6	2500.00000	281.43732	8.88297			
		7	5000.00000	557.96649	8.96111			
15.277	1	1	50.00000	6.45820	7.74209			Chrysene
		2	100.00000	11.46757	8.72024			
		3	250.00000	28.70954	8.70791			
		4	500.00000	53.76999	9.29887			
		5	1000.00000	111.57547	8.96254			
		6	2500.00000	286.00717	8.74104			
		7	5000.00000	563.74042	8.86933			
15.411	3	1	50.00000	1.85522	26.95098			Chrysene
		2	100.00000	3.57817	27.94722			
		3	250.00000	10.61654	23.54816			
		4	500.00000	24.13453	20.71721			
		5	1000.00000	50.59559	19.76457			
		6	2500.00000	130.68379	19.13015			
		7	5000.00000	254.75424	19.62676			
17.685	1	1	100.00000	9.20677	10.86157			Benzo(b)fluoranthene
		2	200.00000	17.52222	11.41408			
		3	500.00000	47.87814	10.44318			
		4	1000.00000	91.09879	10.97709			
		5	2000.00000	185.92961	10.75676			
		6	5000.00000	470.57944	10.62520			
		7	1.00000e4	932.05292	10.72900			
17.821	3	1	100.00000	5.10996	19.56961			Benzo(b)fluoranthene
		2	200.00000	11.89456	16.81441			
		3	500.00000	34.84288	14.35013			
		4	1000.00000	72.54183	13.78515			
		5	2000.00000	149.30313	13.39557			
		6	5000.00000	379.21188	13.18524			
		7	1.00000e4	744.58691	13.43027			
18.707	1	1	50.00000	4.29836	11.63233			Benzo(k)fluoranthene
		2	100.00000	8.29380	12.05720			
		3	250.00000	17.90337	13.96385			
		4	500.00000	36.53136	13.68687			
		5	1000.00000	76.01928	13.15456			
		6	2500.00000	192.57388	12.98203			
		7	5000.00000	380.15613	13.15249			
18.841	3	1	50.00000	5.53759	9.02919			Benzo(k)fluoranthene
		2	100.00000	12.74119	7.84856			
		3	250.00000	36.79209	6.79494			
		4	500.00000	76.47243	6.53830			
		5	1000.00000	157.08076	6.36615			

Method G:\HPLC2\METHODS\8310-098.M

RetTime [min]	Sig	Lvl	Amount [ug/l]	Area	Amt/Area	Ref	Grp	Name
		6	2500.00000	396.20221	6.30991			
		7	5000.00000	792.28119	6.31089			
19.735	1	1	50.00000	2.95024	16.94779			Benzo(a)pyrene
		2	100.00000	10.10260	9.89844			
		3	250.00000	22.56287	11.08015			
		4	500.00000	35.05683	14.26256			
		5	1000.00000	80.30081	12.45317			
		6	2500.00000	205.47511	12.16692			
		7	5000.00000	407.41675	12.27245			
19.871	3	1	50.00000	6.76148	7.39483			Benzo(a)pyrene
		2	100.00000	15.47260	6.46304			
		3	250.00000	44.46884	5.62191			
		4	500.00000	83.29372	6.00285			
		5	1000.00000	186.45053	5.36335			
		6	2500.00000	476.11694	5.25081			
		7	5000.00000	951.55096	5.25458			
21.342	1	1	100.00000	2.56970	38.91501			Dibenz(a,h)anthracene
		2	200.00000	3.81835	52.37859			
		3	500.00000	9.42461	53.05258			
		4	1000.00000	18.80688	53.17203			
		5	2000.00000	38.36448	52.13156			
		6	5000.00000	95.97983	52.09428			
		7	1.00000e4	193.46349	51.68934			
21.478	3	1	100.00000	6.97947e-1	143.27740			Dibenz(a,h)anthracene
		2	200.00000	1.47176	135.89185			
		3	500.00000	4.98366	100.32786			
		4	1000.00000	11.01286	90.80292			
		5	2000.00000	23.70896	84.35630			
		6	5000.00000	60.79809	82.23942			
		7	1.00000e4	124.57142	80.27524			
22.225	1	1	100.00000	3.28230	30.46647			Benzo(g,h,i)perylene
		2	200.00000	6.83334	29.26825			
		3	500.00000	15.82444	31.59669			
		4	1000.00000	32.23289	31.02421			
		5	2000.00000	65.41636	30.57339			
		6	5000.00000	166.60503	30.01110			
		7	1.00000e4	335.35870	29.81882			
22.361	3	1	100.00000	2.42075	41.30951			Benzo(g,h,i)perylene
		2	200.00000	5.78399	34.57820			
		3	500.00000	17.19831	29.07262			
		4	1000.00000	34.62270	28.88279			
		5	2000.00000	74.57369	26.81911			
		6	5000.00000	190.29427	26.27510			
		7	1.00000e4	386.96802	25.84193			
22.728	1	1	50.00000	4.09638	12.20589			Indeno(1,2,3-cd)pyrene
		2	100.00000	10.47004	9.55106			
		3	250.00000	24.13121	10.36003			
		4	500.00000	47.70234	10.48167			
		5	1000.00000	96.54209	10.35818			
		6	2500.00000	245.39700	10.18757			
		7	5000.00000	491.83881	10.16593			
22.864	3	1	50.00000	6.78727	7.36673			Indeno(1,2,3-cd)pyrene
		2	100.00000	14.75336	6.77812			
		3	250.00000	41.05386	6.08956			
		4	500.00000	83.18491	6.01071			
		5	1000.00000	170.73875	5.85690			

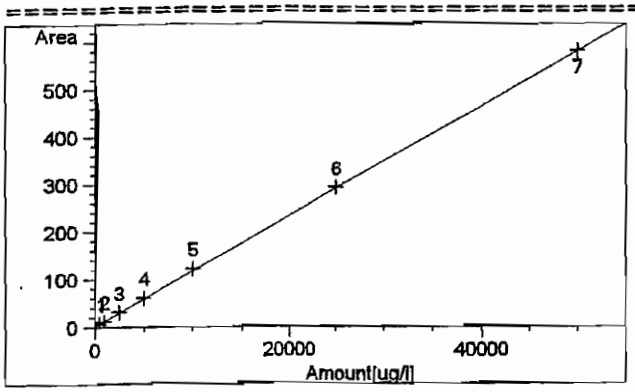
Method G:\HPLC2\METHODS\8310-098.M

RetTime [min]	Sig	Lvl	Amount [ug/l]	Area	Amt/Area	Ref	Grp	Name
		6	2500.00000	433.84348	5.76245			
		7	5000.00000	873.57770	5.72359			

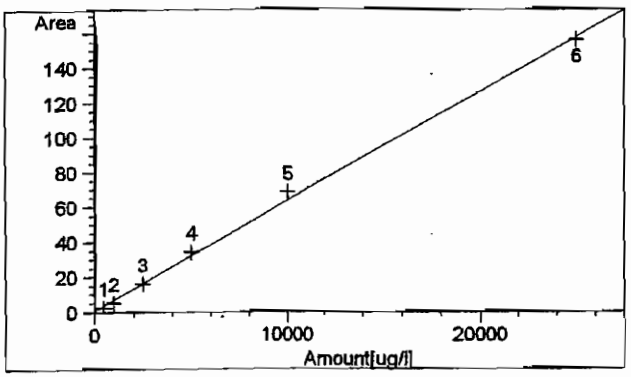
Peak Sum Table

No Entries in table

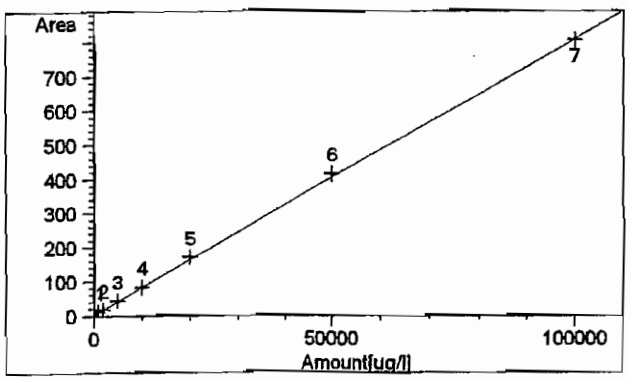
Calibration Curves



Naphthalene at exp. RT: 4.490
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99996
Residual Std. Dev.: 2.12218
Formula: y = mx + b
m: 1.15976e-2
b: 1.63252
x: Amount[ug/l]
y: Area

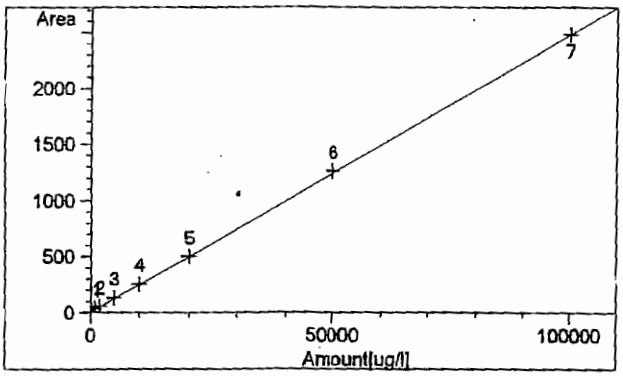


Naphthalene at exp. RT: 4.627
FLD1 A, Ex=zero, Em=zero, TT
Correlation: 0.99900
Residual Std. Dev.: 2.92863
Formula: y = mx + b
m: 6.28602e-3
b: 7.84687e-1
x: Amount[ug/l]
y: Area

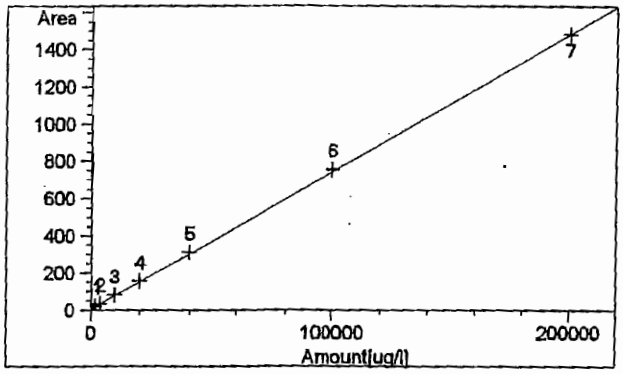


Acenaphthylene at exp. RT: 5.469
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99990
Residual Std. Dev.: 4.53587
Formula: y = mx + b
m: 8.06882e-3
b: 3.28192
x: Amount[ug/l]
y: Area

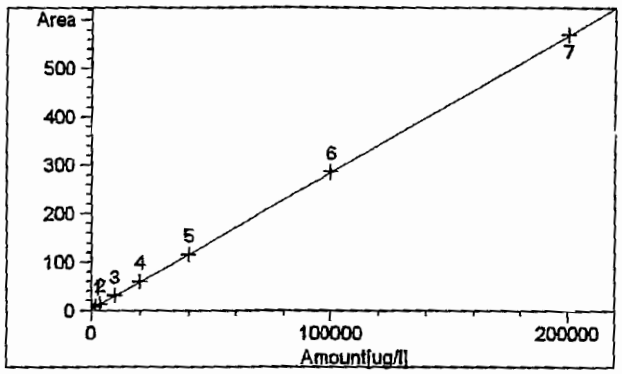
Method G:\HPLC2\METHODS\8310-098.M



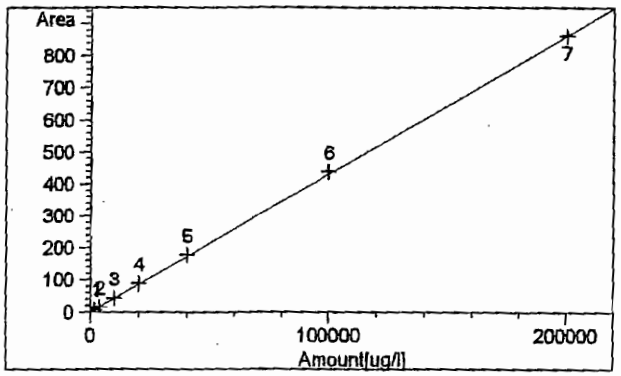
Acenaphthylene at exp. RT: 5.470
DAD1 B, Sig=305,4 Ref=480,80
Correlation: 0.99998
Residual Std. Dev.: 5.78748
Formula: y = mx + b
m: 2.47957e-2
b: 4.71625
x: Amount[ug/l]
y: Area



1-Methylnaphthalene (UV) at exp. RT: 6.2
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99995
Residual Std. Dev.: 5.66936
Formula: y = mx + b
m: 7.40596e-3
b: 5.66826
x: Amount[ug/l]
y: Area

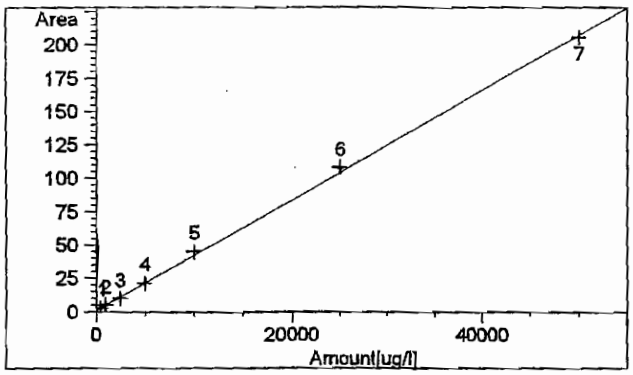


1-Methylnaphthalene (UV) at exp. RT: 6.2
DAD1 B, Sig=305,4 Ref=480,80
Correlation: 0.99999
Residual Std. Dev.: 0.74220
Formula: y = mx + b
m: 2.83921e-3
b: 1.33032
x: Amount[ug/l]
y: Area

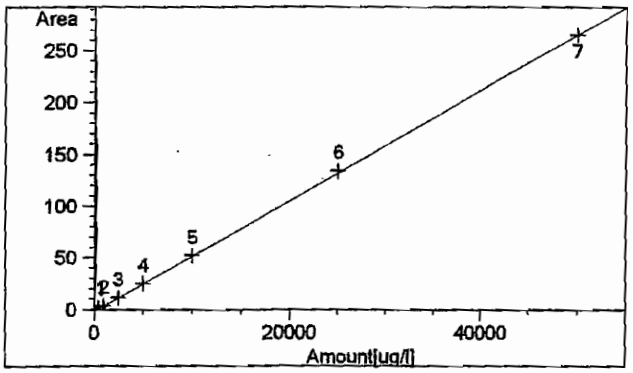


1-Methylnaphthalene (F) at exp. RT: 6.3
FLD1 A, Ex=zero, Em=zero, TT
Correlation: 0.99994
Residual Std. Dev.: 3.91150
Formula: y = mx + b
m: 4.31578e-3
b: 7.55223e-1
x: Amount[ug/l]
y: Area

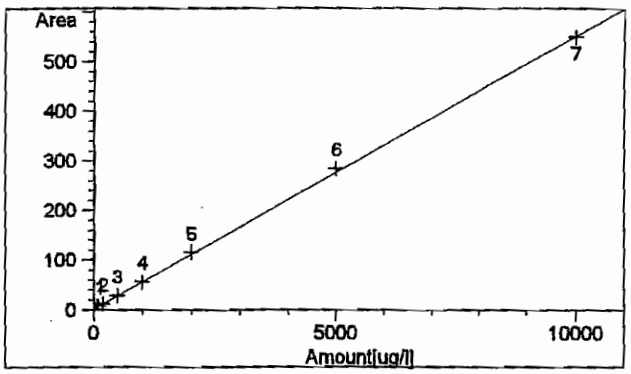
Method G:\HPLC2\METHODS\8310-098.M



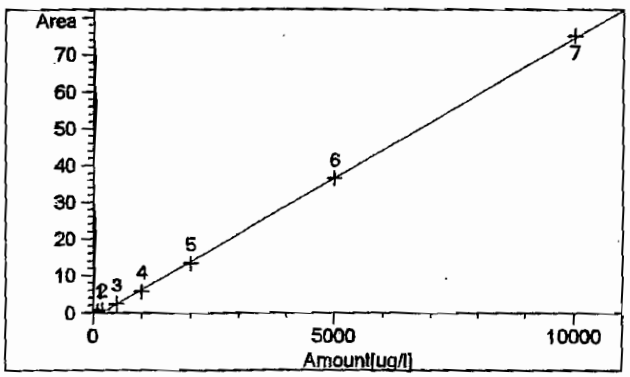
Acenaphthene at exp. RT: 7.101
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99960
Residual Std. Dev.: 2.33784
Formula: y = mx + b
m: 4.13167e-3
b: 1.13071
x: Amount[ug/l]
y: Area



Acenaphthene at exp. RT: 7.238
FLD1 A, Ex=zero, Em=zero, TT
Correlation: 0.99997
Residual Std. Dev.: 0.89042
Formula: y = mx + b
m: 5.35295e-3
b: -1.77169
x: Amount[ug/l]
y: Area

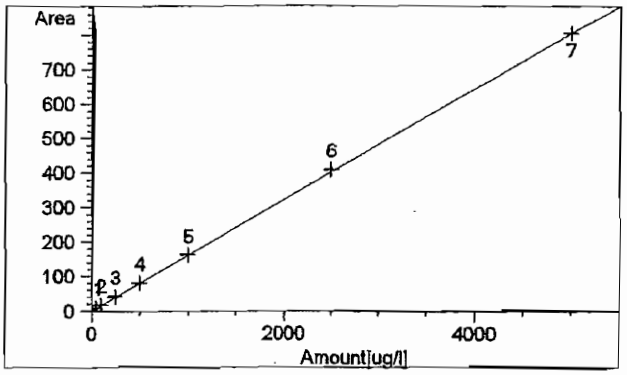


Fluorene at exp. RT: 7.473
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99986
Residual Std. Dev.: 3.64723
Formula: y = mx + b
m: 5.50756e-2
b: 2.22989
x: Amount[ug/l]
y: Area

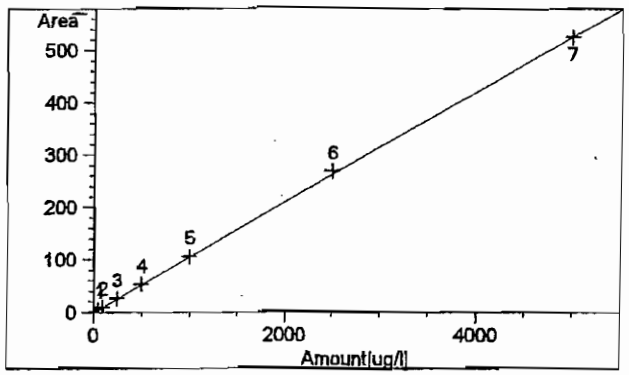


Fluorene at exp. RT: 7.593
FLD1 A, Ex=zero, Em=zero, TT
Correlation: 0.99976
Residual Std. Dev.: 0.66866
Formula: y = mx + b
m: 7.60983e-3
b: -1.31104
x: Amount[ug/l]
y: Area

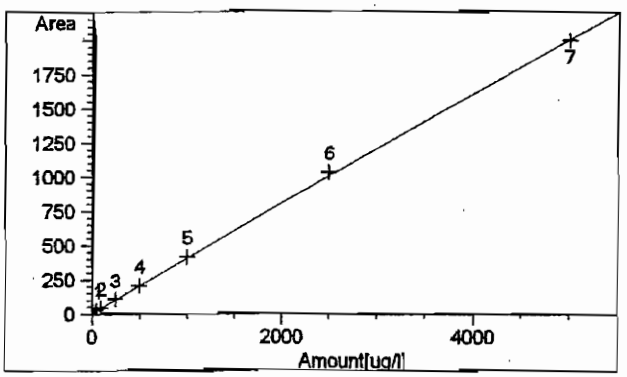
Method G:\HPLC2\METHODS\8310-098.M



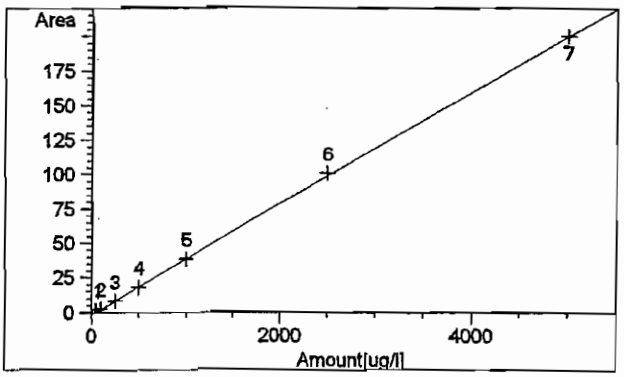
Phenanthrene at exp. RT: 8.578
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99997
Residual Std. Dev.: 2.35061
Formula: y = mx + b
m: 1.60782e-1
b: 1.23454
x: Amount[ug/l]
y: Area



Phenanthrene at exp. RT: 8.718
FLD1 A, Ex=zero, Em=zero, TT
Correlation: 0.99994
Residual Std. Dev.: 2.28646
Formula: y = mx + b
m: 1.05631e-1
b: -6.25265e-1
x: Amount[ug/l]
y: Area

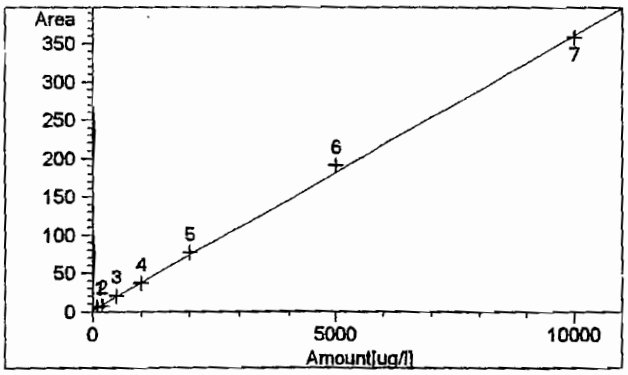


Anthracene at exp. RT: 9.639
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99987
Residual Std. Dev.: 12.96994
Formula: y = mx + b
m: 4.01367e-1
b: 7.96831
x: Amount[ug/l]
y: Area

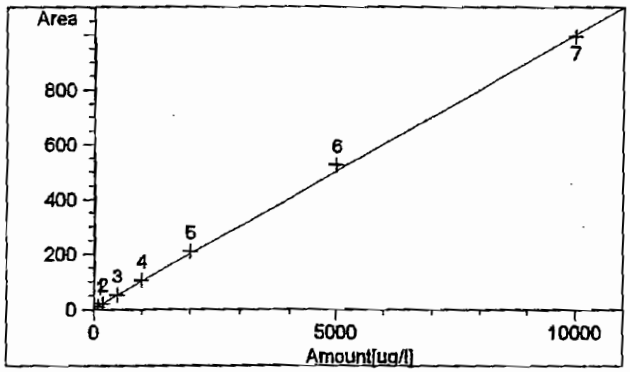


Anthracene at exp. RT: 9.775
FLD1 A, Ex=zero, Em=zero, TT
Correlation: 0.99993
Residual Std. Dev.: 0.93425
Formula: y = mx + b
m: 4.03697e-2
b: -1.52640
x: Amount[ug/l]
y: Area

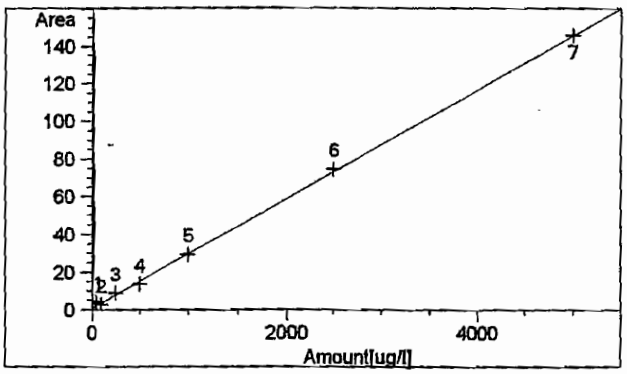
Method G:\HPLC2\METHODS\8310-098.M



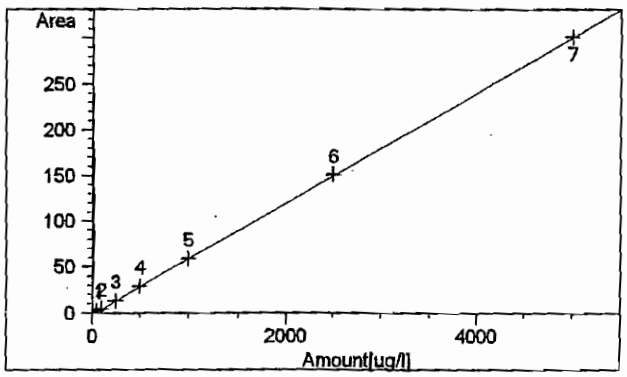
Fluoranthene at exp. RT: 10.859
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99956
Residual Std. Dev.: 4.24867
Formula: y = mx + b
m: 3.59452e-2
b: 2.30683
x: Amount[ug/l]
y: Area



Fluoranthene at exp. RT: 10.995
FLD1 A, Ex=zero, Em=zero, TT
Correlation: 0.99962
Residual Std. Dev.: 10.97273
Formula: y = mx + b
m: 1.00024e-1
b: 4.26412
x: Amount[ug/l]
y: Area

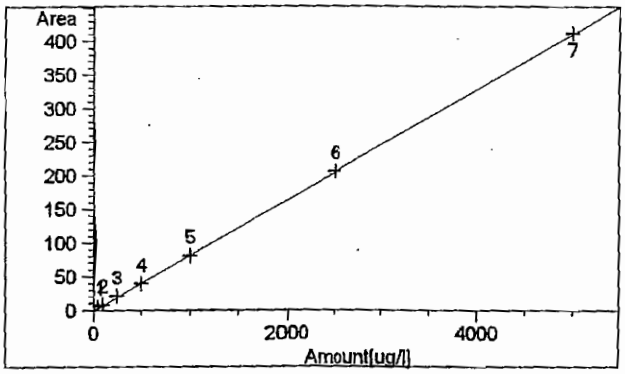


Pyrene at exp. RT: 11.739
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99969
Residual Std. Dev.: 1.45435
Formula: y = mx + b
m: 2.90934e-2
b: 7.11440e-1
x: Amount[ug/l]
y: Area

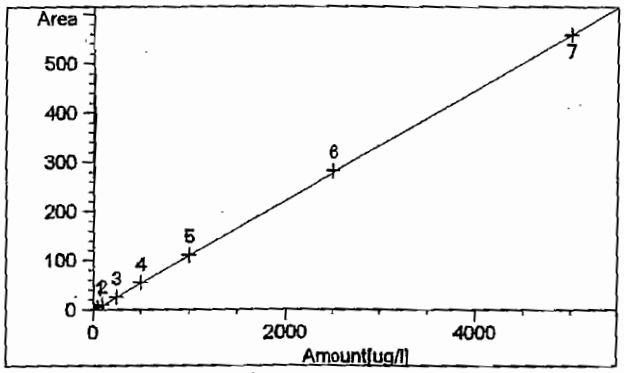


Pyrene at exp. RT: 11.875
FLD1 A, Ex=zero, Em=zero, TT
Correlation: 0.99999
Residual Std. Dev.: 0.61892
Formula: y = mx + b
m: 6.05683e-2
b: -1.69026
x: Amount[ug/l]
y: Area

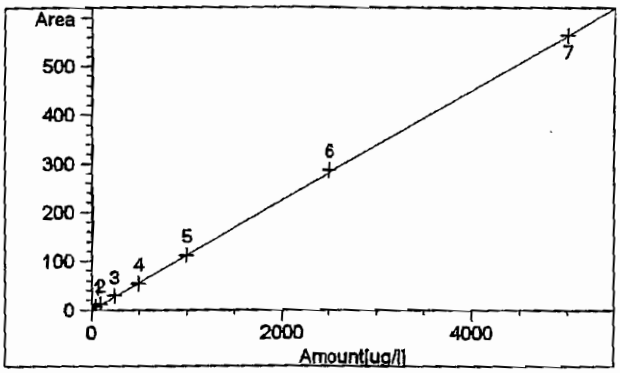
Method G:\HPLC2\METHODS\8310-098.M



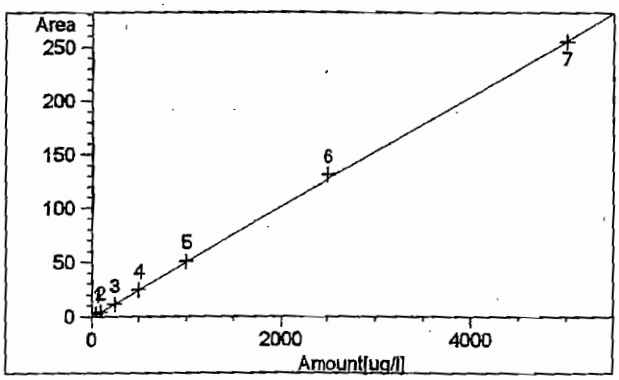
Benzo(a)anthracene at exp. RT: 14.720
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99998
Residual Std. Dev.: 1.16286
Formula: y = mx + b
m: 8.24646e-2
b: -7.60718e-1
x: Amount[ug/l]
y: Area



Benzo(a)anthracene at exp. RT: 14.855
FLD1 A, Ex=zero, Em=zero, TT
Correlation: 0.99998
Residual Std. Dev.: 1.43810
Formula: y = mx + b
m: 1.12242e-1
b: -1.94308
x: Amount[ug/l]
y: Area

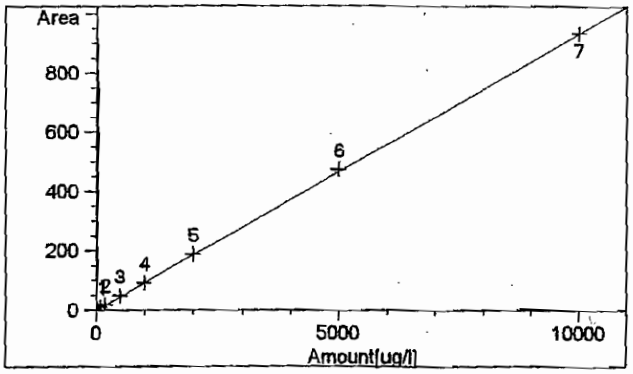


Chrysene at exp. RT: 15.277
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99995
Residual Std. Dev.: 2.20081
Formula: y = mx + b
m: 1.13024e-1
b: -1.00076e-1
x: Amount[ug/l]
y: Area

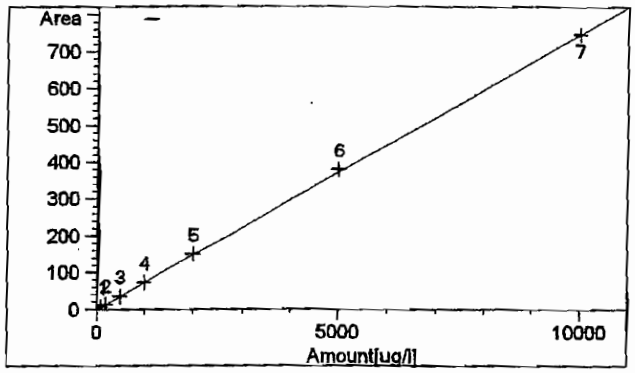


Chrysene at exp. RT: 15.411
FLD1 A, Ex=zero, Em=zero, TT
Correlation: 0.99987
Residual Std. Dev.: 1.66676
Formula: y = mx + b
m: 5.14609e-2
b: -1.07349
x: Amount[ug/l]
y: Area

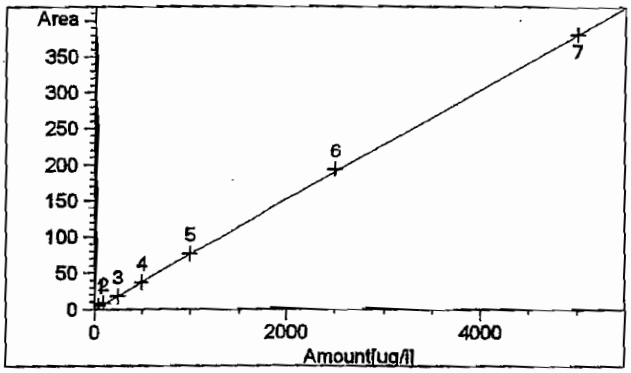
Method G:\HPLC2\METHODS\8310-098.M



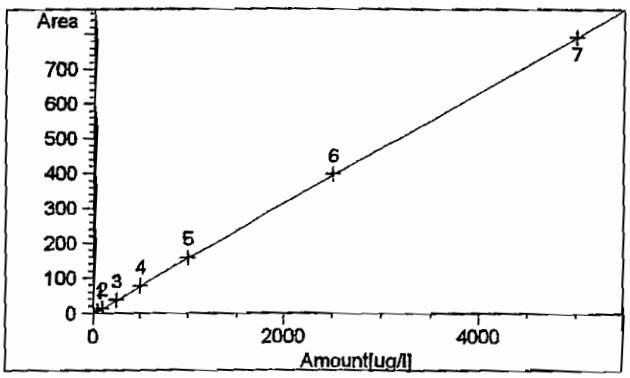
Benzo(b)fluoranthene at exp. RT: 17.685
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99998
Residual Std. Dev.: 2.23626
Formula: y = mx + b
m: 9.33895e-2
b: -2.07940e-1
x: Amount[ug/l]
y: Area



Benzo(b)fluoranthene at exp. RT: 17.821
FLD1 A, Ex=zero, Em=zero, TT
Correlation: 0.99994
Residual Std. Dev.: 3.26348
Formula: y = mx + b
m: 7.49309e-2
b: -1.60132
x: Amount[ug/l]
y: Area

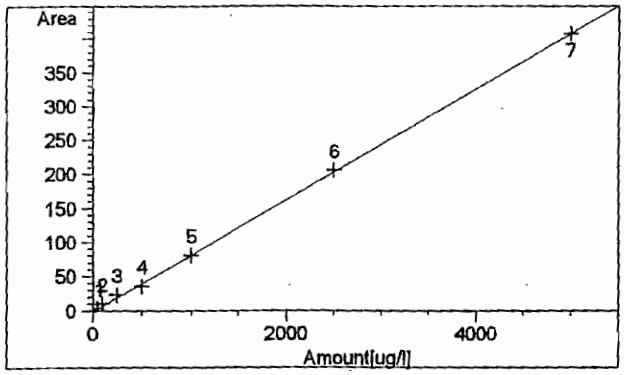


Benzo(k)fluoranthene at exp. RT: 18.707
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99996
Residual Std. Dev.: 1.37592
Formula: y = mx + b
m: 7.62242e-2
b: -1.04416e-1
x: Amount[ug/l]
y: Area

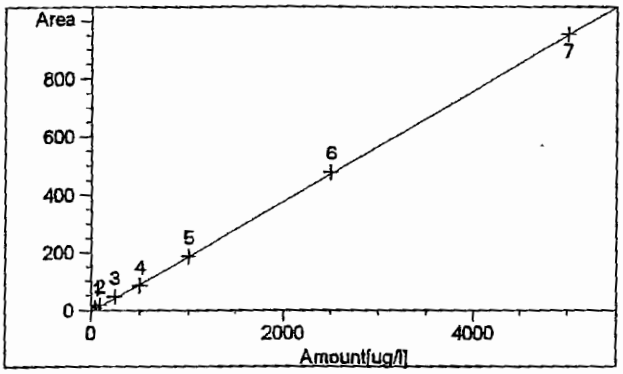


Benzo(k)fluoranthene at exp. RT: 18.841
FLD1 A, Ex=zero, Em=zero, TT
Correlation: 1.00000
Residual Std. Dev.: 0.71430
Formula: y = mx + b
m: 1.59102e-1
b: -2.63640
x: Amount[ug/l]
y: Area

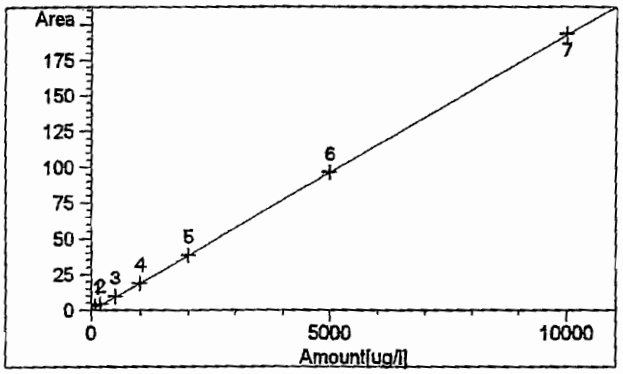
Method G:\HPLC2\METHODS\8310-098.M



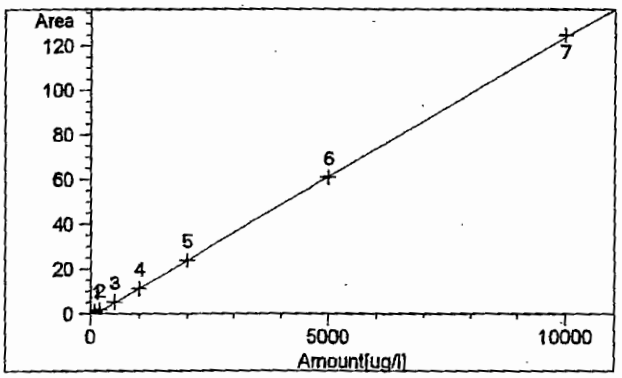
Benzo(a)pyrene at exp. RT: 19.735
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99983
Residual Std. Dev.: 3.01188
Formula: y = mx + b
m: 8.16773e-2
b: -5.57360e-1
x: Amount[ug/l]
y: Area



Benzo(a)pyrene at exp. RT: 19.871
FLD1 A, Ex=zero, Em=zero, TT
Correlation: 0.99995
Residual Std. Dev.: 3.76862
Formula: y = mx + b
m: 1.91468e-1
b: -5.09744
x: Amount[ug/l]
y: Area

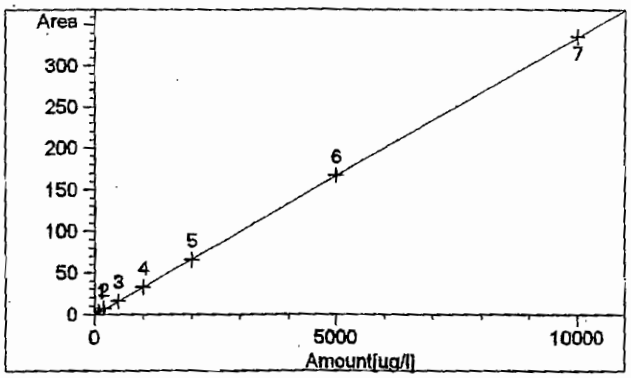


Dibenz(a,h)anthracene at exp. RT: 21.342
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99998
Residual Std. Dev.: 0.48272
Formula: y = mx + b
m: 1.93266e-2
b: -1.30330e-1
x: Amount[ug/l]
y: Area

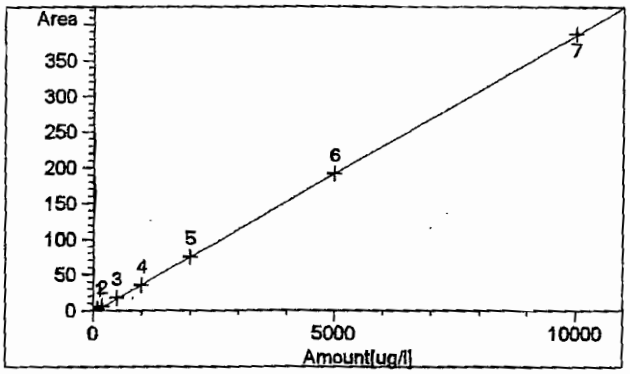


Dibenz(a,h)anthracene at exp. RT: 21.478
FLD1 A, Ex=zero, Em=zero, TT
Correlation: 0.99995
Residual Std. Dev.: 0.49275
Formula: y = mx + b
m: 1.25385e-2
b: -1.21121
x: Amount[ug/l]
y: Area

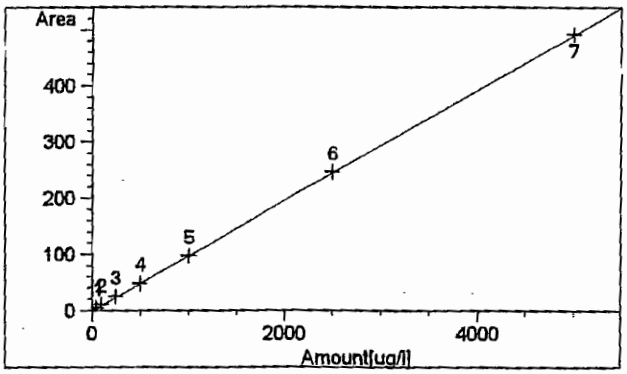
Method G:\HPLC2\METHODS\8310-098.M



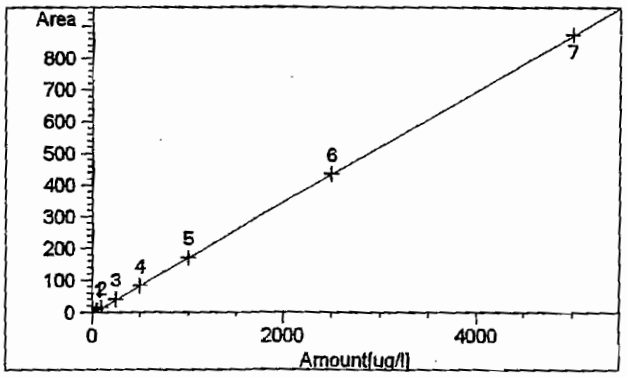
Benzo(g,h,i)perylene at exp. RT: 22.225
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99998
Residual Std. Dev.: 0.76770
Formula: y = mx + b
m: 3.35707e-2
b: -7.96535e-1
x: Amount[ug/l]
y: Area



Benzo(g,h,i)perylene at exp. RT: 22.361
FLD1 A, Ex=zero, Em=zero, TT
Correlation: 0.99997
Residual Std. Dev.: 1.23429
Formula: y = mx + b
m: 3.88813e-2
b: -2.72958
x: Amount[ug/l]
y: Area



Indeno(1,2,3-cd)pyrene at exp. RT: 22.728
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99999
Residual Std. Dev.: 0.89593
Formula: y = mx + b
m: 9.84705e-2
b: -7.77800e-1
x: Amount[ug/l]
y: Area



Indeno(1,2,3-cd)pyrene at exp. RT: 22.864
FLD1 A, Ex=zero, Em=zero, TT
Correlation: 0.99999
Residual Std. Dev.: 1.13391
Formula: y = mx + b
m: 1.75229e-1
b: -3.31578
x: Amount[ug/l]
y: Area

==========

CONTINUING CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instid : HPLC02 Run Name : L
Seqnum : 272155016003 Filename : 10700003 Injected : 17-APR-2002 16:42
Calnum : 272091727001 Caldate : 04-MAR-2002 Caltype :
Standards: 02WS0471

Analyte	Ch	Avg RF/CF	RF/CF	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Naphthalene	1	0.0118	0.0121	2500.000	2474.939	ug/L	-1	15	
Acenaphthylene	1	0.0085	0.0083	5000.000	4727.598	ug/L	-5	15	
Acenaphthene	1	0.0043	0.0048	2500.000	2620.289	ug/L	5	15	
Fluorene	1	0.0577	0.0624	500.0000	526.4519	ug/L	5	15	
Phenanthrene	1	0.1650	0.1701	250.0000	256.8731	ug/L	3	15	
Anthracene	1	0.4190	0.4193	250.0000	241.3378	ug/L	-3	15	
Fluoranthene	1	0.0394	0.0376	500.0000	458.2485	ug/L	-8	15	
Pyrene	1	0.0365	0.0328	250.0000	257.7719	ug/L	3	15	
Benzo(a)anthracene	1	0.0822	0.0800	250.0000	251.6332	ug/L	1	15	
Chrysene	1	0.1150	0.1133	250.0000	251.5061	ug/L	1	15	
Benzo(b)fluoranthene	1	0.0924	0.0965	500.0000	518.7817	ug/L	4	15	
Benzo(k)fluoranthene	1	0.0775	0.0818	250.0000	269.6212	ug/L	8	15	
Benzo(a)pyrene	1	0.0806	0.0718	250.0000	226.6359	ug/L	-9	15	
Dibenz(a,h)anthracene	1	0.0200	0.0186	500.0000	487.3486	ug/L	-3	15	
Benzo(g,h,i)perylene	1	0.0329	0.0295	500.0000	462.5037	ug/L	-7	15	
Indeno(1,2,3-cd)pyrene	1	0.0959	0.0972	250.0000	254.5568	ug/L	2	15	
1-Methylnaphthalene (UV)	1	0.0078	0.0076	50000.00	50522.04	ug/L	1	15	
Acenaphthylene	2	0.0256	0.0260	5000.000	5059.310	ug/L	1	15	
1-Methylnaphthalene (UV)	2	0.0030	0.0029	50000.00	49913.51	ug/L	0	15	
Naphthalene	3	0.0060	0.0065	2500.000	2456.116	ug/L	-2	15	
Acenaphthene	3	0.0045	0.0052	2500.000	2739.848	ug/L	10	15	
Fluorene	3	0.0056	0.0053	500.0000	518.8184	ug/L	4	15	
Phenanthrene	3	0.0983	0.1016	250.0000	246.4287	ug/L	-1	15	
Anthracene	3	0.0342	0.0330	250.0000	242.4459	ug/L	-3	15	
Fluoranthene	3	0.0993	0.1046	500.0000	480.2183	ug/L	-4	15	
Pyrene	3	0.0529	0.0539	250.0000	250.5728	ug/L	0	15	
Benzo(a)anthracene	3	0.1011	0.1050	250.0000	251.0713	ug/L	0	15	
Chrysene	3	0.0453	0.0464	250.0000	246.0766	ug/L	-2	15	
Benzo(b)fluoranthene	3	0.0683	0.0717	500.0000	499.8277	ug/L	0	15	
Benzo(k)fluoranthene	3	0.1446	0.1523	250.0000	255.8111	ug/L	2	15	
Benzo(a)pyrene	3	0.1717	0.1530	250.0000	226.3428	ug/L	-9	15	
Dibenz(a,h)anthracene	3	0.0103	0.0112	500.0000	543.1286	ug/L	9	15	
Benzo(g,h,i)perylene	3	0.0337	0.0353	500.0000	523.9817	ug/L	5	15	
Indeno(1,2,3-cd)pyrene	3	0.1618	0.1799	250.0000	275.6220	ug/L	10	15	
1-Methylnaphthalene (F)	3	0.0041	0.0045	50000.00	51622.65	ug/L	3	15	

18APR2002

CONTINUING CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instid : HPLC02 Run Name : M
Seqnum : 272155016013 Filename : 10700013 Injected : 17-APR-2002 22:08
Calnum : 272091727001 Caldate : 04-MAR-2002 Caltype :
Standards: 01WS2336

Analyte	Ch	Avg RF/CF	RF/CF	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Naphthalene	1	0.0118	0.0118	5000.000	4934.558	ug/L	-1	15	
Acenaphthylene	1	0.0085	0.0081	10000.00	9692.524	ug/L	-3	15	
Acenaphthene	1	0.0043	0.0044	5000.000	5076.498	ug/L	2	15	
Fluorene	1	0.0577	0.0599	1000.000	1046.720	ug/L	5	15	
Phenanthrene	1	0.1650	0.1637	500.0000	501.5504	ug/L	0	15	
Anthracene	1	0.4190	0.4212	500.0000	504.8845	ug/L	1	15	
Fluoranthene	1	0.0394	0.0371	1000.000	968.3096	ug/L	-3	15	
Pyrene	1	0.0365	0.0276	500.0000	450.4593	ug/L	-10	15	
Benzo(a)anthracene	1	0.0822	0.0848	500.0000	523.6640	ug/L	5	15	
Chrysene	1	0.1150	0.1180	500.0000	522.9494	ug/L	5	15	
Benzo(b)fluoranthene	1	0.0924	0.0968	1000.000	1038.932	ug/L	4	15	
Benzo(k)fluoranthene	1	0.0775	0.0805	500.0000	529.2290	ug/L	6	15	
Benzo(a)pyrene	1	0.0806	0.0771	500.0000	478.8655	ug/L	-4	15	
Dibenz(a,h)anthracene	1	0.0200	0.0198	1000.000	1033.622	ug/L	3	15	
Benzo(g,h,i)perylene	1	0.0329	0.0309	1000.000	944.1794	ug/L	-6	15	
Indeno(1,2,3-cd)pyrene	1	0.0959	0.1023	500.0000	527.5192	ug/L	6	15	
1-Methylnaphthalene (UV)	1	0.0078	0.0076	50000.00	50667.29	ug/L	1	15	
Acenaphthylene	2	0.0256	0.0248	10000.00	9804.655	ug/L	-2	15	
1-Methylnaphthalene (UV)	2	0.0030	0.0029	50000.00	50009.63	ug/L	0	15	
Naphthalene	3	0.0060	0.0066	5000.000	5102.111	ug/L	2	15	
Acenaphthene	3	0.0045	0.0052	5000.000	5168.883	ug/L	3	15	
Fluorene	3	0.0056	0.0057	1000.000	918.7904	ug/L	-8	15	
Phenanthrene	3	0.0983	0.0986	500.0000	472.6377	ug/L	-5	15	
Anthracene	3	0.0342	0.0344	500.0000	463.5726	ug/L	-7	15	
Fluoranthene	3	0.0993	0.1020	1000.000	976.7291	ug/L	-2	15	
Pyrene	3	0.0529	0.0531	500.0000	466.3029	ug/L	-7	15	
Benzo(a)anthracene	3	0.1011	0.1067	500.0000	492.5118	ug/L	-1	15	
Chrysene	3	0.0453	0.0502	500.0000	509.0894	ug/L	2	15	
Benzo(b)fluoranthene	3	0.0683	0.0734	1000.000	1000.367	ug/L	0	15	
Benzo(k)fluoranthene	3	0.1446	0.1574	500.0000	511.0842	ug/L	2	15	
Benzo(a)pyrene	3	0.1717	0.1737	500.0000	480.1389	ug/L	-4	15	
Dibenz(a,h)anthracene	3	0.0103	0.0127	1000.000	1109.992	ug/L	11	15	
Benzo(g,h,i)perylene	3	0.0337	0.0365	1000.000	1009.495	ug/L	1	15	
Indeno(1,2,3-cd)pyrene	3	0.1618	0.1788	500.0000	529.0080	ug/L	6	15	
1-Methylnaphthalene (F)	3	0.0041	0.0044	50000.00	51257.28	ug/L	3	15	

18APR2002

SEQUENCE SUMMARY
Curtis & Tompkins Laboratories

Sequence: 272155016 Instrument: HPLC02 High Pressure Liquid Chromatograph #2 Begun: 17-APR-2002

#	Filename	Type	Samplenum	Batch	Matrix	Analyzed	IDF	PDF	IQC	SPK	uL	Stds Used	>LR
001	10700001	X	IB - 107			17-APR-2002 15:36	1.0						
002	10700002	X	L			17-APR-2002 16:09	1.0					1	
003	10700003	CCV	L			17-APR-2002 16:42	1.0	1.0			10	1	
004	10700004	X	IB			17-APR-2002 17:14	1.0						
005	10700005	LCS	QC175890	71619	Soil	17-APR-2002 17:47	1.0	0.065833			10		
006	10700006	BLANK	QC175889	71619	Soil	17-APR-2002 18:20	1.0	0.066445			10		
007	10700007	SAMPLE	157881-040	71619	Soil	17-APR-2002 18:52	1.0	0.067114			10		
008	10700008	SAMPLE	157881-041	71619	Soil	17-APR-2002 19:25	1.0	0.067182			10		
009	10700009	MSS	157881-042	71619	Soil	17-APR-2002 19:58	1.0	0.066445			10		
010	10700010	MS	QC175891	71619	Soil	17-APR-2002 20:30	1.0	0.066733		2	10		
011	10700011	MSD	QC175892	71619	Soil	17-APR-2002 21:03	1.0	0.066912		2	10		
012	10700012	X	IB			17-APR-2002 21:36	1.0						
013	10700013	CCV	M			17-APR-2002 22:08	1.0	1.0			10	2	

194

Stds used: 1=02WS0471, 2=01WS2336

Analyst: _____ Date: 18APR2002

SAMPLE PREPARATION SUMMARY

04/15/02 12:59:00

Batch Number : 71619
Date Extracted : 15-APR-02
Extracted By : Donnell Ward
Prep Method : 3550

Analysis: 8310
Bgroup : N/A
Units : g
Clean-up:

Spike #1 ID : 02SS79 D
Spike #2 ID : 02WS0618 A
Spike #3 ID :

Sample No.	Type	Client	Matrx	Init W/V	U	Final Vol	Prep D.F.	Clean pH D.F.	Spike #1 Vol	Spike #2 Vol	Spike #3 Vol	Analysis	Comments
157881-040		IT Corporation	Soil	29.8	g	2	.067114	1	.1	0		8310	
157881-041		IT Corporation	Soil	29.77	g	2	.067181	1	.1	0		8310	
157881-042		IT Corporation	Soil	30.1	g	2	.066445	1	.1	0		8310	
QC175889	BLANK		Soil	30.1	g	2	.066445	1	.1	0		8310	
QC175890	LCS		Soil	30.38	g	2	.065832	1	.1	1		8310	
QC175891	MS of 157881-042		Soil	29.97	g	2	.066733	1	.1	1		8310	
QC175892	MSD of 157881-042		Soil	29.89	g	2	.066912	1	.1	1		8310	

Prep Chemist: Donnell Ward Reviewed By: [signature] Date: 4/15/02

Relinquished By: Donnell Ward Received By: [signature] Date: 17APR2002

Curtis and Tompkins, Ltd

PAH'S BY HPLC SOIL PREP LOG

BK1365

LIMS Batch No: 71619
LIMS Analysis 8310
Extracted by: DW
Date Extracted: 4-15-02

Extraction Method:
☑ EPA 3550 sonication
☐ EPA 3540 soxhlet
☐ ____________

Cleanup Method: (if necessary)
☐ EPA 3640 GPC
☐ EPA 3630 silica gel
☐ ____________

Sample ID	Weight of Sample (g)	Final Volume (mL)	Comments
157881-040 A	29.80	2.0	biphasic when cooled
-041	29.77	↓	↓
-042	30.10	↓	mss ↓
MB QC175889	30.10	↓	
LCS 90	30.38	↓	881-42 (initialed 4/15/02)
MS 91	29.97	↓	of ~~881-42~~ A
MSD 92	29.89	↓	↓

	Mfg & Lot # / LIMS # / Time	Date/Initials
Samples were dried with baked, CH_2Cl_2-rinsed ~~granular~~ mix (initialed 4/15/02) Na_2SO_4	EM 4186148 / 41053148	(initials) 4/15/02
0.1 mL of surrogate solution was added to all samples	025579D	
1.0 mL of matrix spiking solution was added to all spikes	02WS0618A	
≥ 75 mL of 1+1 (CH_2Cl_2+Acetone) was added to all CH_2Cl_2	EM 42015	
Acetone	EM 41281	
Samples were: ☑ sonicated 3 times ☐ soxhlet extractors on at:	✓	
soxhlets off at:	N/A	
Extracts filtered through baked, CH_2Cl_2-rinsed powdered Na_2SO_4	EM 41053148	
Concentrated: ☑ to volumes as noted above ☐ to clean-up volume	✓	
Clean-up (if necessary): ☐ GPC (see GPC run log) ☐ Silica Gel	N/A	
Conc'd / solvent exchanged twice with Acetonitrile to above volumes	EM 41319	
Extracts filtered with 0.45 um PTFE syringe filter	Whatman ~~01755~~ (initialed 4/15) 01881	↓

Donnell Ward 4/15/02
Extraction Chemist **Date**

Continued from Page 106 /
Continued on Page /

(signature) 4/16/02
Reviewed by **Date**

48
PROJECT Soil Aliquots

Notebook No. BE 1491

Continued From Page

Sample ID	Weight (g)	Analysis	Comments
MB	50.06	TEH	IDOC
LCS #1	49.74	↓	↓
LCS #2	49.86		
LCS #3	50.11		
LCS #4	50.07		
Sand 128028-123534			
157881-040:A	29.80	8310	
41	29.77	↓	
42	30.10		MSS;
↓			
MB	30.10		
LCS	30.38		
MS	29.97		
MSD	29.89		
Sand: 41256144			
157961-15:F	10.02	TEH	
16:A	10.01	↓	
↓			
158070-001:A	29.64	PCB	
2	30.26	↓	
3	29.70		
4	29.76		
5	29.86		
6	29.96		
↓ 7	~~29.96~~ 29.96		MSS;
MB	30.10		
LCS	29.93		
MS	30.02		
MSD	29.96		
SAND; 41256144			

Continued on Page

Read and Understood By

Meagan Fe
Signed

4/12/02
Date

Joni M. Jones
Signed

4/15/02
Date

INITIAL CALIBRATION REPORT
Curtis & Tompkins Laboratories

nstrument: HPLC02 High Pressure Liquid Chromatograph #2 Reviewed By:
alnum: 272091727001 Name: Type: (normal) Date: 04-MAR-2002 19:31 Inj Vol (uL): 10

alibration levels:

#	Filename	Seqnum	Samplenum	Analyzed	Standards
1	06300006	272091727006		04-MAR-2002 19:31	01WS2197
2	06300007	272091727007		04-MAR-2002 20:03	01WS2198
3	06300008	272091727008		04-MAR-2002 20:36	01WS2199
4	06300010	272091727010		04-MAR-2002 21:41	01WS2201
5	06300011	272091727011		04-MAR-2002 22:14	01WS2202
6	06300012	272091727012		04-MAR-2002 22:47	01WS2203
7	06300099	272091727099		06-MAR-2002 16:49	01WS2200

Analyte	Ch	L1	L2	L3	L4	L5	L6	L7	Type	a0	a1	a2	units	avg	r^2 %RSD	MnR^2	MxRSD	flags
Naphthalene	1	0.0116	0.0112	0.0123	0.0121	0.0117	0.0116	0.0120	LINR	-140.763	86.22487		ug/L	0.0118	1.00	0.99	20	
Acenaphthylene	1	0.0097	0.0081	0.0085	0.0085	0.0083	0.0081	0.0083	LINR	-406.741	123.9338		ug/L	0.0085	1.00	0.99	20	
Acenaphthene	1	0.0047	0.0046	0.0038	0.0045	0.0043	0.0041	0.0042	LINR	-273.669	242.0328		ug/L	0.0043	1.00	0.99	20	
Fluorene	1	0.0626	0.0593	0.0565	0.0574	0.0568	0.0550	0.0564	LINR	-40.4878	18.15685		ug/L	0.0577	1.00	0.99	20	
Phenanthrene	1	0.1711	0.1707	0.1674	0.1615	0.1631	0.1606	0.1603	LINR	-7.67837	6.219617		ug/L	0.1650	1.00	0.99	20	
Anthracene	1	0.4528	0.4135	0.4276	0.4160	0.4139	0.4005	0.4089	LINR	-19.8529	2.491484		ug/L	0.4190	1.00	0.99	20	
Fluoranthene	1	0.0527	0.0351	0.0400	0.0378	0.0380	0.0358	0.0363	LINR	-64.1763	27.82009		ug/L	0.0394	1.00	0.99	20	
Pyrene	1	0.0793	0.0257	0.0352	0.0292	0.0299	0.0292	0.0268	LINR	-24.4537	34.37202		ug/L	0.0365	1.00	0.99	20	
Benzo(a)anthracene	1	0.0930	0.0760	0.0836	0.0805	0.0821	0.0824	0.0778	LINR	9.224800	12.12642		ug/L	0.0822	1.00	0.99	20	
Chrysene	1	0.1292	0.1147	0.1148	0.1116	0.1144	0.1127	0.1075	LINR	0.885466	8.847651		ug/L	0.1150	1.00	0.99	20	
Benzo(b)fluoranthene	1	0.0921	0.0876	0.0958	0.0930	0.0941	0.0932	0.0911	LINR	2.226585	10.70784		ug/L	0.0924	1.00	0.99	20	
Benzo(k)fluoranthene	1	0.0860	0.0829	0.0716	0.0760	0.0770	0.0760	0.0731	LINR	1.369846	13.11920		ug/L	0.0775	1.00	0.99	20	
Benzo(a)pyrene	1	0.0590	0.1010	0.0903	0.0803	0.0822	0.0815	0.0701	LINR	6.823923	12.24330		ug/L	0.0806	1.00	0.99	20	
Dibenz(a,h)anthracene	1	0.0257	0.0191	0.0188	0.0192	0.0192	0.0193	0.0188	LINR	6.743632	51.74222		ug/L	0.0200	1.00	0.99	20	
Benzo(g,h,i)perylene	1	0.0328	0.0342	0.0316	0.0327	0.0333	0.0335	0.0322	LINR	23.72709	29.78790		ug/L	0.0329	1.00	0.99	20	
Indeno(1,2,3-cd)pyrene	1	0.0819	0.1047	0.0965	0.0965	0.0982	0.0984	0.0954	LINR	7.898825	10.15533		ug/L	0.0959	1.00	0.99	20	
1-Methylnaphthalene (UV)	1	0.0084	0.0078	0.0079	0.0077	0.0075	0.0074	0.0076	LINR	-765.364	135.0264		ug/L	0.0078	1.00	0.99	20	
Acenaphthylene	2	0.0282	0.0253	0.0257	0.0250	0.0251	0.0248	0.0253	LINR	-190.204	40.32956		ug/L	0.0256	1.00	0.99	20	
1-Methylnaphthalene (UV)	2	0.0033	0.0030	0.0030	0.0029	0.0029	0.0028	0.0030	LINR	-468.554	352.2100		ug/L	0.0030	1.00	0.99	20	

Curves: LINR: Linear regression
Instrument amount = a0 + response * a1 + response^2 * a2

INITIAL CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instrument: HPLC02 High Pressure Liquid Chromatograph #2 Reviewed By:
Calnum: 272091727001 Name: Type: (normal) Date: 04-MAR-2002 19:31 Inj Vol (uL): 10

Analyte	Ch	L1	L2	L3	L4	L5	L6	L7	Type	a0	a1	a2	units	avg	r^2 %RSD	MnR^2	MxRSD	Flags
Naphthalene	3	0.0045	0.0050	0.0064	0.0068	0.0062		0.0068	LINR	-124.831	159.0831		ug/L	0.0060	1.00	0.99	20	
Acenaphthene	3	0.0030	0.0032	0.0044	0.0052	0.0053	0.0053	0.0049	LINR	330.9744	186.8130		ug/L	0.0045	1.00	0.99	20	
Fluorene	3	0.0034	0.0039	0.0046	0.0066	0.0073	0.0075	0.0056	LINR	172.2825	131.4089		ug/L	0.0056	1.00	0.99	20	
Phenanthrene	3	0.0772	0.0875	0.1019	0.1056	0.1071	0.1051	0.1036	LINR	5.919369	9.466957		ug/L	0.0983	1.00	0.99	20	
Anthracene	3	0.0274	0.0257	0.0319	0.0384	0.0403	0.0400	0.0357	LINR	37.81047	24.77102		ug/L	0.0342	1.00	0.99	20	
Fluoranthene	3	0.0863	0.0931	0.1031	0.1048	0.1048	0.0994	0.1039	LINR	-42.6311	9.997626		ug/L	0.0993	1.00	0.99	20	
Pyrene	3	0.0415	0.0421	0.0510	0.0586	0.0602	0.0602	0.0571	LINR	27.90665	16.51028		ug/L	0.0529	1.00	0.99	20	
Benzo(a)anthracene	3	0.0768	0.0868	0.1018	0.1102	0.1126	0.1116	0.1077	LINR	17.31156	8.909323		ug/L	0.1011	1.00	0.99	20	
Chrysene	3	0.0371	0.0358	0.0425	0.0506	0.0523	0.0510	0.0483	LINR	20.86038	19.43223		ug/L	0.0453	1.00	0.99	20	
Benzo(b)fluoranthene	3	0.0511	0.0595	0.0697	0.0747	0.0758	0.0745	0.0725	LINR	21.37070	13.34563		ug/L	0.0683	1.00	0.99	20	
Benzo(k)fluoranthene	3	0.1108	0.1274	0.1472	0.1571	0.1585	0.1585	0.1529	LINR	16.57046	6.285262		ug/L	0.1446	1.00	0.99	20	
Benzo(a)pyrene	3	0.1352	0.1547	0.1779	0.1865	0.1904	0.1903	0.1666	LINR	26.62297	5.222811		ug/L	0.1717	1.00	0.99	20	
Dibenz(a,h)anthracene	3	0.0070	0.0074	0.0100	0.0119	0.0122	0.0125	0.0110	LINR	96.59951	79.75457		ug/L	0.0103	1.00	0.99	20	
Benzo(g,h,i)perylene	3	0.0242	0.0289	0.0344	0.0373	0.0381	0.0387	0.0346	LINR	70.20282	25.71929		ug/L	0.0337	1.00	0.99	20	
Indeno(1,2,3-cd)pyrene	3	0.1357	0.1475	0.1642	0.1707	0.1735	0.1747	0.1664	LINR	18.92257	5.706828		ug/L	0.1618	1.00	0.99	20	
1-Methylnaphthalene (F)	3	0.0033	0.0038	0.0043	0.0044	0.0044	0.0043	0.0044	LINR	-174.991	231.7080		ug/L	0.0041	1.00	0.99	20	

Curves: LINR: Linear regression
Instrument amount = a0 + response * a1 + response^2 * a2

Calibration Table

UPDATED RETENTION TIMES FROM CCU FILE 09500032.

HPLC02 METHOD 8310

Calib. Data Modified : 4/8/02 9:44:39 AM

Calculate : External Standard
Based on : Peak Area

Rel. Reference Window : 1.500 %
Abs. Reference Window : 0.150 min
Rel. Non-ref. Window : 1.500 %
Abs. Non-ref. Window : 0.150 min
Uncalibrated Peaks : not reported
Partial Calibration : Yes, identified peaks are recalibrated
Correct All Ret. Times: No, only for identified peaks

Curve Type : Linear
Origin : Ignored
Weight : Equal

Recalibration Settings:
Average Response : Average all calibrations
Average Retention Time: Floating Average New 75%

Calibration Report Options :
Printout of recalibrations within a sequence:
Calibration Table after Recalibration
Normal Report after Recalibration
If the sequence is done with bracketing:
Results of first cycle (ending previous bracket)

Signal 1: DAD1 A, Sig=254,4 Ref=550,100
Signal 2: DAD1 B, Sig=305,4 Ref=480,80
Signal 3: FLD1 A, Ex=zero, Em=zero, TT

RetTime [min]	Sig	Lvl	Amount [ug/l]	Area	Amt/Area	Ref	Grp	Name
4.490	1	1	500.00000	5.81496	85.98514			Naphthalene
		2	1000.00000	11.15537	89.64289			
		3	2500.00000	30.81410	81.13169			
		4	5000.00000	60.06146	83.24806			
		5	1.00000e4	121.45738	82.33341			
		6	2.50000e4	291.53003	85.75446			
		7	5.00000e4	580.76697	86.09305			
4.627	3	1	500.00000	2.24458	222.75929			Naphthalene
		2	1000.00000	4.96401	201.45014			
		3	2500.00000	16.08661	155.40880			
		4	5000.00000	33.90583	147.46728			
		5	1.00000e4	68.12975	146.77875			
		6	2.50000e4	155.96237	160.29507			
5.469	1	1	1000.00000	9.68568	103.24522			Acenaphthylene
		2	2000.00000	16.13348	123.96581			
		3	5000.00000	42.45404	117.77441			
		4	1.00000e4	82.55051	121.13796			
		5	2.00000e4	169.49904	117.99477			

Method G:\HPLC2\METHODS\8310-098.M

RetTime [min]	Sig	Lvl	Amount [ug/l]	Area	Amt/Area	Ref	Grp	Name
		6	5.00000e4	413.49744	120.91973			
		7	1.00000e5	806.09155	124.05539			
5.470	2	1	1000.00000	28.24971	35.39859			Acenaphthylene
		2	2000.00000	50.63280	39.50009			
		3	5000.00000	128.34305	38.95809			
		4	1.00000e4	253.02425	39.52190			
		5	2.00000e4	499.77979	40.01762			
		6	5.00000e4	1255.60107	39.82157			
		7	1.00000e5	2478.97583	40.33924			
6.253	1	1	2000.00000	16.78672	119.14181			1-Methylnaphthalene (U
		2	4000.00000	31.26913	127.92167			
		3	1.00000e4	78.79143	126.91736			
		4	2.00000e4	152.52199	131.12863			
		5	4.00000e4	309.70889	129.15354			
		6	1.00000e5	753.03607	132.79576			
		7	2.00000e5	1482.20496	134.93411			
6.254	2	1	2000.00000	6.58138	303.88762			1-Methylnaphthalene (U
		2	4000.00000	11.89913	336.15906			
		3	1.00000e4	30.05269	332.74893			
		4	2.00000e4	59.42996	336.53061			
		5	4.00000e4	114.57818	349.10661			
		6	1.00000e5	285.16077	350.67938			
		7	2.00000e5	569.15497	351.39814			
6.390	3	1	2000.00000	6.64161	301.13191			1-Methylnaphthalene (F
		2	4000.00000	15.00988	266.49109			
		3	1.00000e4	43.27524	231.07903			
		4	2.00000e4	87.48588	228.60832			
		5	4.00000e4	177.20776	225.72374			
		6	1.00000e5	438.01511	228.30263			
		7	2.00000e5	860.38324	232.45455			
7.101	1	1	500.00000	2.34662	213.07222			Acenaphthene
		2	1000.00000	4.57092	218.77436			
		3	2500.00000	9.58642	260.78562			
		4	5000.00000	21.21798	235.64918			
		5	1.00000e4	45.14816	221.49297			
		6	2.50000e4	107.72695	232.06820			
		7	5.00000e4	205.69499	243.07835			
7.238	3	1	500.00000	1.51953	329.04923			Acenaphthene
		2	1000.00000	3.20760	311.75933			
		3	2500.00000	11.10445	225.13487			
		4	5000.00000	24.52133	203.90408			
		5	1.00000e4	51.60268	193.78837			
		6	2.50000e4	133.62625	187.08899			
		7	5.00000e4	265.19336	188.54167			
7.473	1	1	100.00000	6.26267	15.96764			Fluorene
		2	200.00000	11.85309	16.87324			
		3	500.00000	28.23050	17.71134			
		4	1000.00000	56.35906	17.74338			
		5	2000.00000	114.78731	17.42353			
		6	5000.00000	284.03067	17.60373			
		7	1.00000e4	549.50763	18.19811			
7.593	3	1	100.00000	3.41744e-1	292.61702			Fluorene
		2	200.00000	7.79631e-1	256.53173			
		3	500.00000	2.32323	215.21805			
		4	1000.00000	5.62665	177.72550			
		5	2000.00000	13.28447	150.55177			

Method G:\HPLC2\METHODS\8310-098.M

RetTime [min]	Sig	Lvl	Amount [ug/l]	Area	Amt/Area	Ref	Grp	Name
		6	5000.00000	36.39042	137.39880			
		7	1.00000e4	75.14142	133.08240			
8.578	1	1	50.00000	8.55725	5.84300			Phenanthrene
		2	100.00000	17.06607	5.85958			
		3	250.00000	41.85678	5.97275			
		4	500.00000	80.16271	6.23731			
		5	1000.00000	161.52065	6.19116			
		6	2500.00000	407.70486	6.13189			
		7	5000.00000	803.12048	6.22572			
8.718	3	1	50.00000	3.85914	12.95624			Phenanthrene
		2	100.00000	8.74836	11.43071			
		3	250.00000	25.46634	9.81688			
		4	500.00000	51.80303	9.65194			
		5	1000.00000	105.55307	9.47391			
		6	2500.00000	267.78134	9.33598			
		7	5000.00000	525.33917	9.51766			
9.639	1	1	50.00000	22.63796	2.20868			Anthracene
		2	100.00000	41.35420	2.41813			
		3	250.00000	106.89616	2.33872			
		4	500.00000	204.46507	2.44541			
		5	1000.00000	416.03317	2.40365			
		6	2500.00000	1034.81384	2.41589			
		7	5000.00000	2002.42932	2.49697			
9.775	3	1	50.00000	1.37163	36.45301			Anthracene
		2	100.00000	2.56678	38.95934			
		3	250.00000	7.97318	31.35512			
		4	500.00000	17.84741	28.01528			
		5	1000.00000	38.39795	26.04306			
		6	2500.00000	100.84531	24.79044			
		7	5000.00000	199.78859	25.02645			
10.859	1	1	100.00000	5.26722	18.98533			Fluoranthene
		2	200.00000	7.02103	28.48585			
		3	500.00000	20.00473	24.99409			
		4	1000.00000	36.29506	27.55196			
		5	2000.00000	75.61501	26.44977			
		6	5000.00000	189.91570	26.32747			
		7	1.00000e4	357.79974	27.94859			
10.995	3	1	100.00000	8.62801	11.59016			Fluoranthene
		2	200.00000	18.61896	10.74174			
		3	500.00000	51.56308	9.69686			
		4	1000.00000	103.85860	9.62848			
		5	2000.00000	209.55421	9.54407			
		6	5000.00000	524.15991	9.53907			
		7	1.00000e4	993.91248	10.06125			
11.739	1	1	50.00000	3.96408	12.61328			Pyrene
		2	100.00000	2.56875	38.92947			
		3	250.00000	8.80986	28.37729			
		4	500.00000	13.42423	37.24608			
		5	1000.00000	29.15291	34.30189			
		6	2500.00000	74.72364	33.45661			
		7	5000.00000	145.81490	34.29005			
11.875	3	1	50.00000	2.07399	24.10815			Pyrene
		2	100.00000	4.20820	23.76310			
		3	250.00000	12.74641	19.61336			
		4	500.00000	28.54236	17.51782			
		5	1000.00000	58.55271	17.07863			

Method G:\HPLC2\METHODS\8310-098.M

RetTime [min]	Sig	Lvl	Amount [ug/l]	Area	Amt/Area	Ref	Grp	Name
		6	2500.00000	150.53755	16.60715			
		7	5000.00000	300.84906	16.61963			
14.720	1	1	50.00000	4.65248	10.74695			Benzo(a)anthracene
		2	100.00000	7.59859	13.16034			
		3	250.00000	20.89830	11.96270			
		4	500.00000	38.87888	12.86045			
		5	1000.00000	80.54541	12.41536			
		6	2500.00000	205.36430	12.17349			
		7	5000.00000	411.90405	12.13875			
14.855	3	1	50.00000	3.84194	13.01425			Benzo(a)anthracene
		2	100.00000	8.67524	11.52706			
		3	250.00000	25.44476	9.82521			
		4	500.00000	53.87277	9.28113			
		5	1000.00000	110.23448	9.07157			
		6	2500.00000	281.43732	8.88297			
		7	5000.00000	557.96649	8.96111			
15.277	1	1	50.00000	6.45820	7.74209			Chrysene
		2	100.00000	11.46757	8.72024			
		3	250.00000	28.70954	8.70791			
		4	500.00000	53.76999	9.29887			
		5	1000.00000	111.57547	8.96254			
		6	2500.00000	286.00717	8.74104			
		7	5000.00000	563.74042	8.86933			
15.411	3	1	50.00000	1.85522	26.95098			Chrysene
		2	100.00000	3.57817	27.94722			
		3	250.00000	10.61654	23.54816			
		4	500.00000	24.13453	20.71721			
		5	1000.00000	50.59559	19.76457			
		6	2500.00000	130.68379	19.13015			
		7	5000.00000	254.75424	19.62676			
17.685	1	1	100.00000	9.20677	10.86157			Benzo(b)fluoranthene
		2	200.00000	17.52222	11.41408			
		3	500.00000	47.87814	10.44318			
		4	1000.00000	91.09879	10.97709			
		5	2000.00000	185.92961	10.75676			
		6	5000.00000	470.57944	10.62520			
		7	1.00000e4	932.05292	10.72900			
17.821	3	1	100.00000	5.10996	19.56961			Benzo(b)fluoranthene
		2	200.00000	11.89456	16.81441			
		3	500.00000	34.84288	14.35013			
		4	1000.00000	72.54183	13.78515			
		5	2000.00000	149.30313	13.39557			
		6	5000.00000	379.21188	13.18524			
		7	1.00000e4	744.58691	13.43027			
18.707	1	1	50.00000	4.29836	11.63233			Benzo(k)fluoranthene
		2	100.00000	8.29380	12.05720			
		3	250.00000	17.90337	13.96385			
		4	500.00000	36.53136	13.68687			
		5	1000.00000	76.01928	13.15456			
		6	2500.00000	192.57388	12.98203			
		7	5000.00000	380.15613	13.15249			
18.841	3	1	50.00000	5.53759	9.02919			Benzo(k)fluoranthene
		2	100.00000	12.74119	7.84856			
		3	250.00000	36.79209	6.79494			
		4	500.00000	76.47243	6.53830			
		5	1000.00000	157.08076	6.36615			

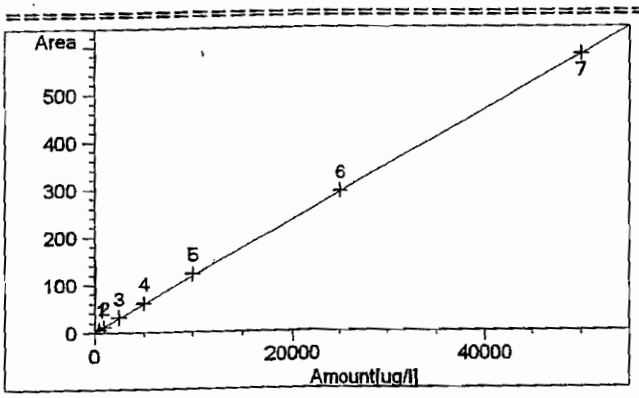
RetTime [min]	Sig	Lvl	Amount [ug/l]	Area	Amt/Area	Ref	Grp	Name
		6	2500.00000	396.20221	6.30991			
		7	5000.00000	792.28119	6.31089			
19.735	1	1	50.00000	2.95024	16.94779			Benzo(a)pyrene
		2	100.00000	10.10260	9.89844			
		3	250.00000	22.56287	11.08015			
		4	500.00000	35.05683	14.26256			
		5	1000.00000	80.30081	12.45317			
		6	2500.00000	205.47511	12.16692			
		7	5000.00000	407.41675	12.27245			
19.871	3	1	50.00000	6.76148	7.39483			Benzo(a)pyrene
		2	100.00000	15.47260	6.46304			
		3	250.00000	44.46884	5.62191			
		4	500.00000	83.29372	6.00285			
		5	1000.00000	186.45053	5.36335			
		6	2500.00000	476.11694	5.25081			
		7	5000.00000	951.55096	5.25458			
21.342	1	1	100.00000	2.56970	38.91501			Dibenz(a,h)anthracene
		2	200.00000	3.81835	52.37859			
		3	500.00000	9.42461	53.05258			
		4	1000.00000	18.80688	53.17203			
		5	2000.00000	38.36448	52.13156			
		6	5000.00000	95.97983	52.09428			
		7	1.00000e4	193.46349	51.68934			
21.478	3	1	100.00000	6.97947e-1	143.27740			Dibenz(a,h)anthracene
		2	200.00000	1.47176	135.89185			
		3	500.00000	4.98366	100.32786			
		4	1000.00000	11.01286	90.80292			
		5	2000.00000	23.70896	84.35630			
		6	5000.00000	60.79809	82.23942			
		7	1.00000e4	124.57142	80.27524			
22.225	1	1	100.00000	3.28230	30.46647			Benzo(g,h,i)perylene
		2	200.00000	6.83334	29.26825			
		3	500.00000	15.82444	31.59669			
		4	1000.00000	32.23289	31.02421			
		5	2000.00000	65.41636	30.57339			
		6	5000.00000	166.60503	30.01110			
		7	1.00000e4	335.35870	29.81882			
22.361	3	1	100.00000	2.42075	41.30951			Benzo(g,h,i)perylene
		2	200.00000	5.78399	34.57820			
		3	500.00000	17.19831	29.07262			
		4	1000.00000	34.62270	28.88279			
		5	2000.00000	74.57369	26.81911			
		6	5000.00000	190.29427	26.27510			
		7	1.00000e4	386.96802	25.84193			
22.728	1	1	50.00000	4.09638	12.20589			Indeno(1,2,3-cd)pyrene
		2	100.00000	10.47004	9.55106			
		3	250.00000	24.13121	10.36003			
		4	500.00000	47.70234	10.48167			
		5	1000.00000	96.54209	10.35818			
		6	2500.00000	245.39700	10.18757			
		7	5000.00000	491.83881	10.16593			
22.864	3	1	50.00000	6.78727	7.36673			Indeno(1,2,3-cd)pyrene
		2	100.00000	14.75336	6.77812			
		3	250.00000	41.05386	6.08956			
		4	500.00000	83.18491	6.01071			
		5	1000.00000	170.73875	5.85690			

RetTime [min]	Sig	Lvl	Amount [ug/l]	Area	Amt/Area	Ref	Grp	Name
		6	2500.00000	433.84348	5.76245			
		7	5000.00000	873.57770	5.72359			

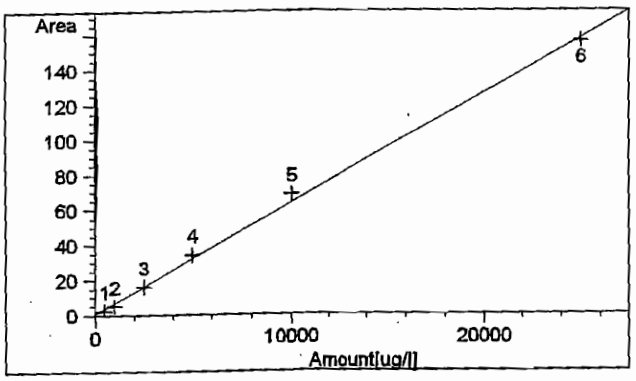
Peak Sum Table

No Entries in table

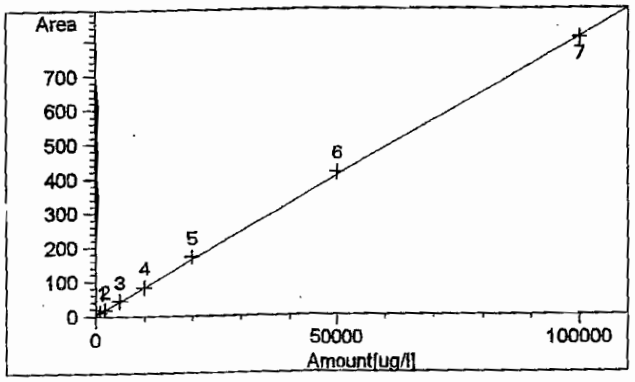
Calibration Curves



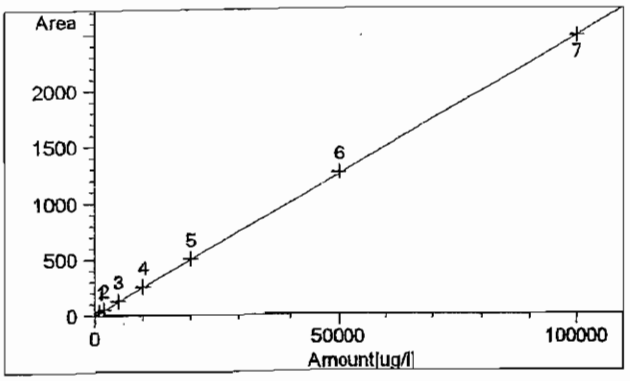
Naphthalene at exp. RT: 4.490
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99996
Residual Std. Dev.: 2.12218
Formula: y = mx + b
m: 1.15976e-2
b: 1.63252
x: Amount [ug/l]
y: Area



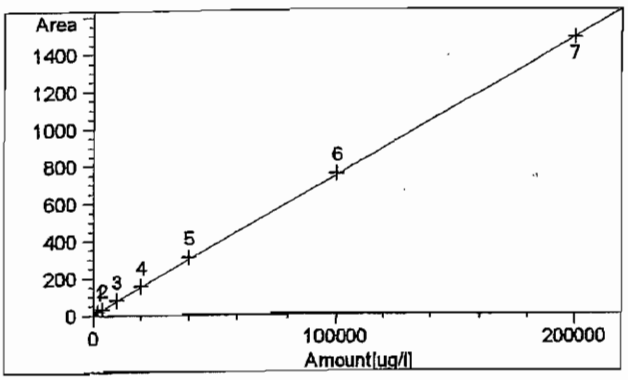
Naphthalene at exp. RT: 4.627
FLD1 A, Ex=zero, Em=zero, TT
Correlation: 0.99900
Residual Std. Dev.: 2.92863
Formula: y = mx + b
m: 6.28602e-3
b: 7.84687e-1
x: Amount [ug/l]
y: Area



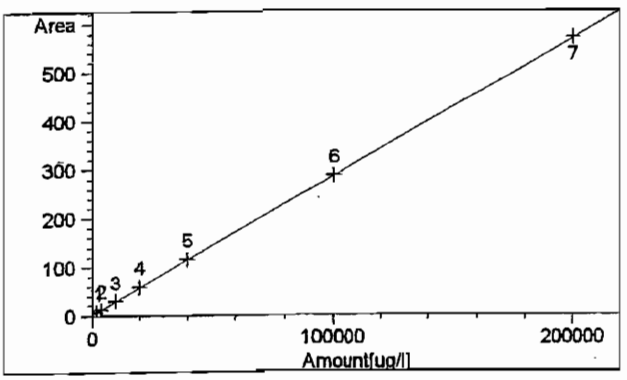
Acenaphthylene at exp. RT: 5.469
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99990
Residual Std. Dev.: 4.53587
Formula: y = mx + b
m: 8.06882e-3
b: 3.28192
x: Amount [ug/l]
y: Area



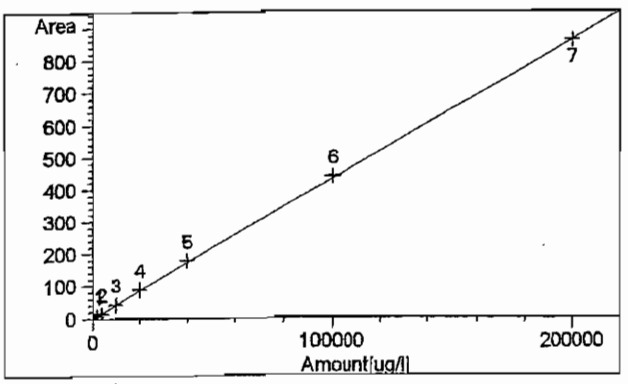
Acenaphthylene at exp. RT: 5.470
DAD1 B, Sig=305,4 Ref=480,80
Correlation: 0.99998
Residual Std. Dev.: 5.78748
Formula: y = mx + b
m: 2.47957e-2
b: 4.71625
x: Amount[ug/l]
y: Area



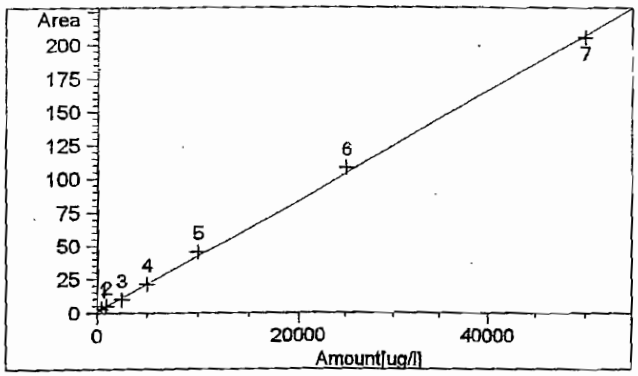
1-Methylnaphthalene (UV) at exp. RT: 6.25
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99995
Residual Std. Dev.: 5.66936
Formula: y = mx + b
m: 7.40596e-3
b: 5.66826
x: Amount[ug/l]
y: Area



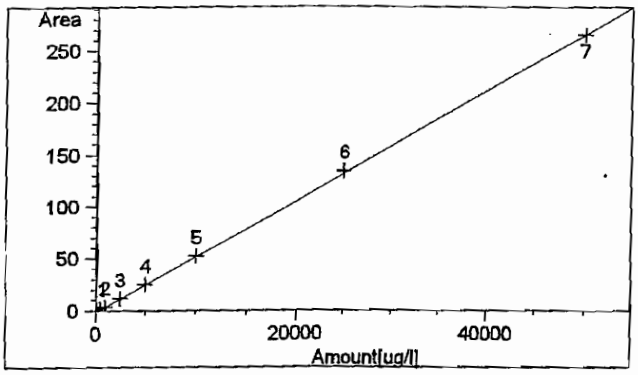
1-Methylnaphthalene (UV) at exp. RT: 6.25
DAD1 B, Sig=305,4 Ref=480,80
Correlation: 0.99999
Residual Std. Dev.: 0.74220
Formula: y = mx + b
m: 2.83921e-3
b: 1.33032
x: Amount[ug/l]
y: Area



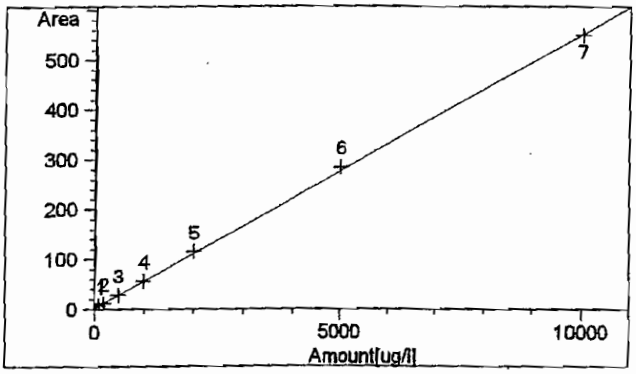
1-Methylnaphthalene (F) at exp. RT: 6.390
FLD1 A, Ex=zero, Em=zero, TT
Correlation: 0.99994
Residual Std. Dev.: 3.91150
Formula: y = mx + b
m: 4.31578e-3
b: 7.55223e-1
x: Amount[ug/l]
y: Area



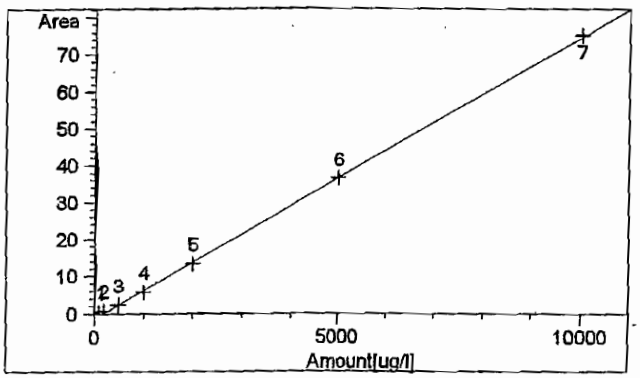
Acenaphthene at exp. RT: 7.101
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99960
Residual Std. Dev.: 2.33784
Formula: y = mx + b
m: 4.13167e-3
b: 1.13071
x: Amount[ug/l]
y: Area



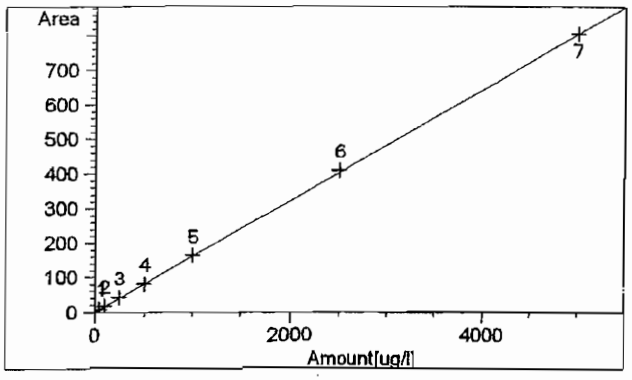
Acenaphthene at exp. RT: 7.238
FLD1 A, Ex=zero, Em=zero, TT
Correlation: 0.99997
Residual Std. Dev.: 0.89042
Formula: y = mx + b
m: 5.35295e-3
b: -1.77169
x: Amount[ug/l]
y: Area



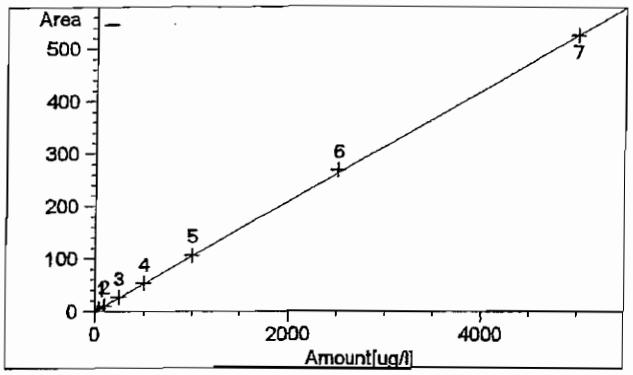
Fluorene at exp. RT: 7.473
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99986
Residual Std. Dev.: 3.64723
Formula: y = mx + b
m: 5.50756e-2
b: 2.22989
x: Amount[ug/l]
y: Area



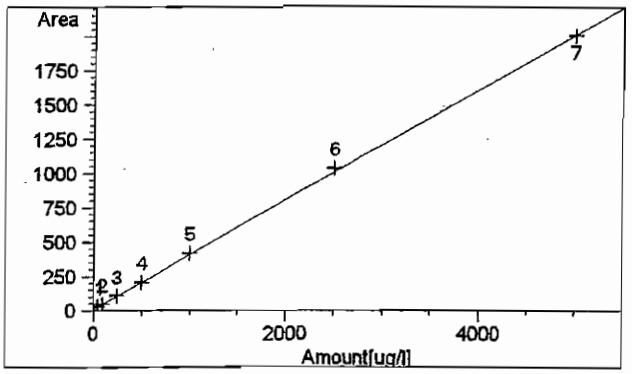
Fluorene at exp. RT: 7.593
FLD1 A, Ex=zero, Em=zero, TT
Correlation: 0.99976
Residual Std. Dev.: 0.66866
Formula: y = mx + b
m: 7.60983e-3
b: -1.31104
x: Amount[ug/l]
y: Area



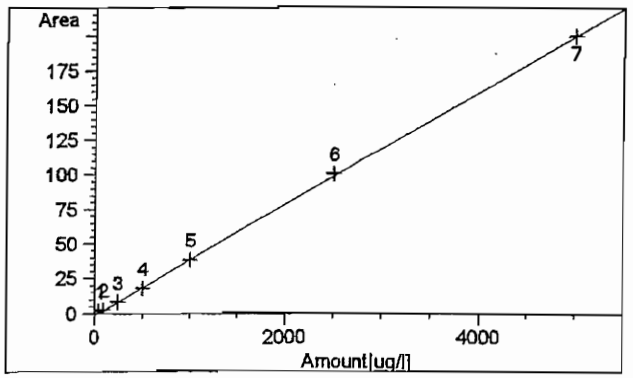
Phenanthrene at exp. RT: 8.578
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99997
Residual Std. Dev.: 2.35061
Formula: y = mx + b
m: 1.60782e-1
b: 1.23454
x: Amount[ug/l]
y: Area



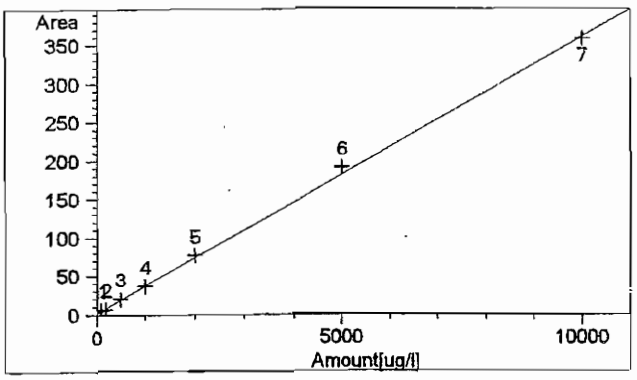
Phenanthrene at exp. RT: 8.718
FLD1 A, Ex=zero, Em=zero, TT
Correlation: 0.99994
Residual Std. Dev.: 2.28646
Formula: y = mx + b
m: 1.05631e-1
b: -6.25265e-1
x: Amount[ug/l]
y: Area



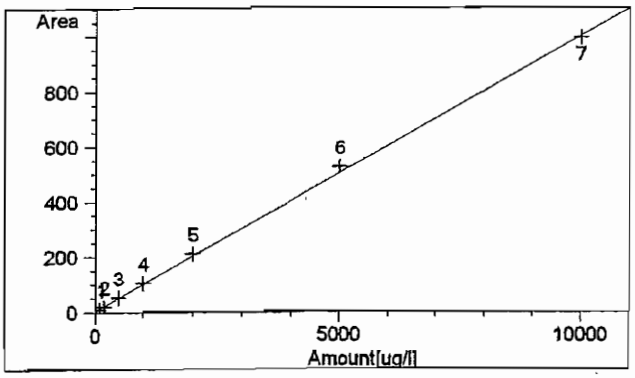
Anthracene at exp. RT: 9.639
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99987
Residual Std. Dev.: 12.96994
Formula: y = mx + b
m: 4.01367e-1
b: 7.96831
x: Amount[ug/l]
y: Area



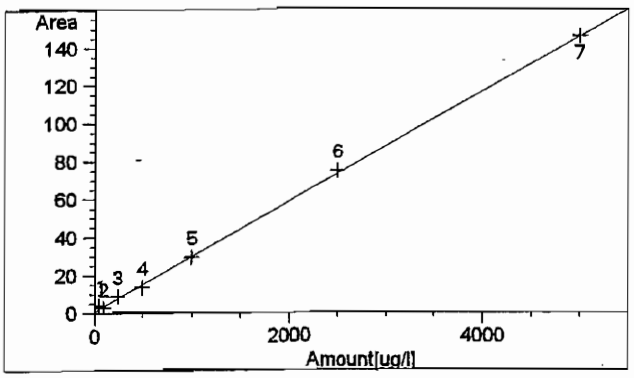
Anthracene at exp. RT: 9.775
FLD1 A, Ex=zero, Em=zero, TT
Correlation: 0.99993
Residual Std. Dev.: 0.93425
Formula: y = mx + b
m: 4.03697e-2
b: -1.52640
x: Amount[ug/l]
y: Area



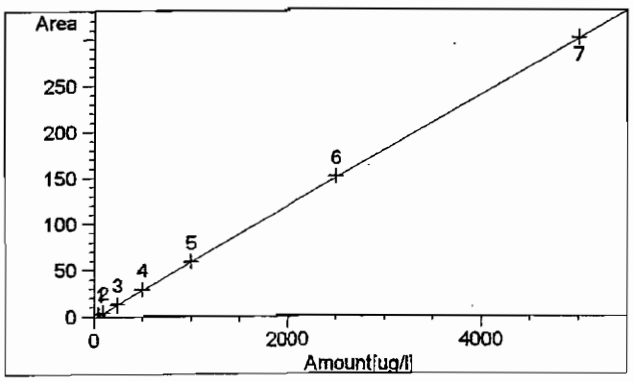
Fluoranthene at exp. RT: 10.859
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99956
Residual Std. Dev.: 4.24867
Formula: y = mx + b
m: 3.59452e-2
b: 2.30683
x: Amount[ug/l]
y: Area



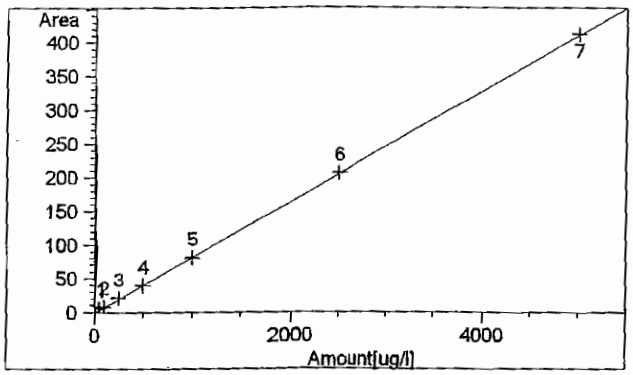
Fluoranthene at exp. RT: 10.995
FLD1 A, Ex=zero, Em=zero, TT
Correlation: 0.99962
Residual Std. Dev.: 10.97273
Formula: y = mx + b
m: 1.00024e-1
b: 4.26412
x: Amount[ug/l]
y: Area



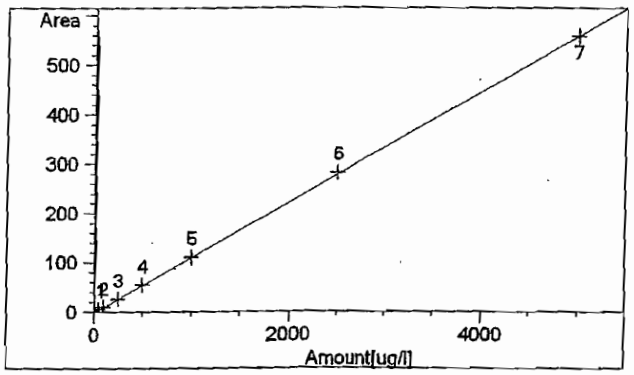
Pyrene at exp. RT: 11.739
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99969
Residual Std. Dev.: 1.45435
Formula: y = mx + b
m: 2.90934e-2
b: 7.11440e-1
x: Amount[ug/l]
y: Area



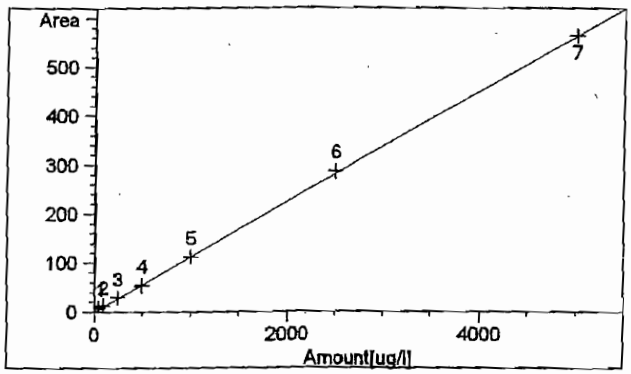
Pyrene at exp. RT: 11.875
FLD1 A, Ex=zero, Em=zero, TT
Correlation: 0.99999
Residual Std. Dev.: 0.61892
Formula: y = mx + b
m: 6.05683e-2
b: -1.69026
x: Amount[ug/l]
y: Area



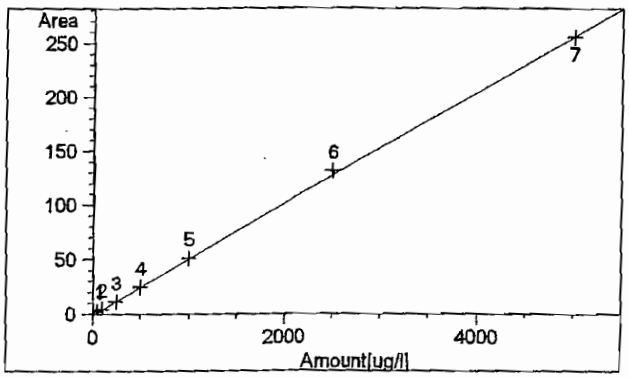
Benzo(a)anthracene at exp. RT: 14.720
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99998
Residual Std. Dev.: 1.16286
Formula: y = mx + b
m: 8.24646e-2
b: -7.60718e-1
x: Amount[ug/l]
y: Area



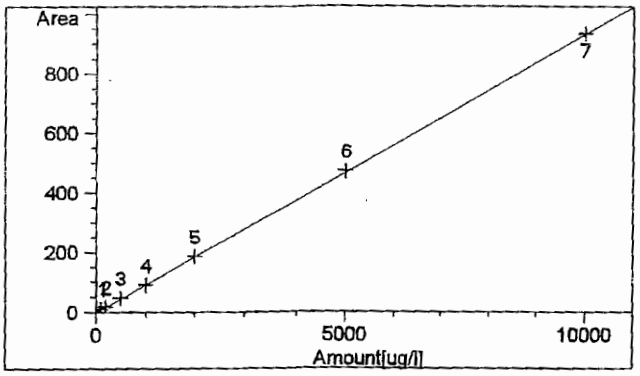
Benzo(a)anthracene at exp. RT: 14.855
FLD1 A, Ex=zero, Em=zero, TT
Correlation: 0.99998
Residual Std. Dev.: 1.43810
Formula: y = mx + b
m: 1.12242e-1
b: -1.94308
x: Amount[ug/l]
y: Area



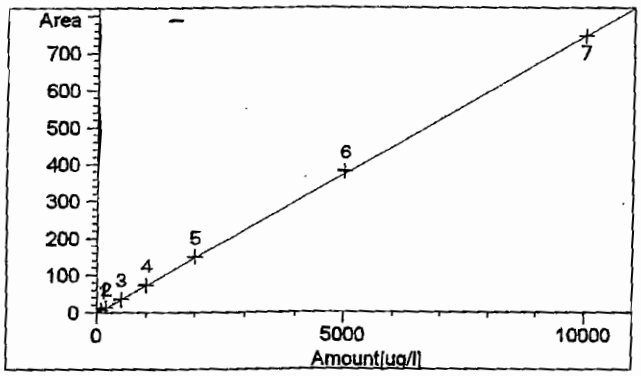
Chrysene at exp. RT: 15.277
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99995
Residual Std. Dev.: 2.20081
Formula: y = mx + b
m: 1.13024e-1
b: -1.00076e-1
x: Amount[ug/l]
y: Area



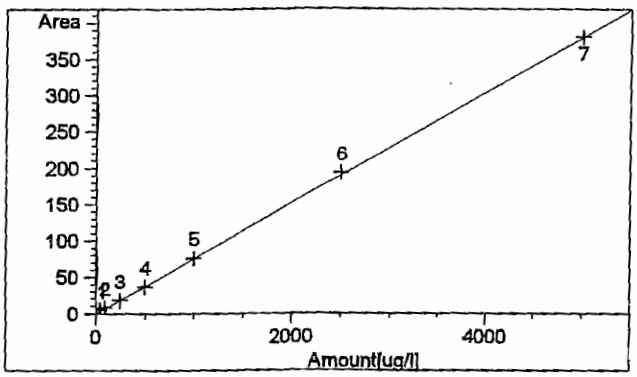
Chrysene at exp. RT: 15.411
FLD1 A, Ex=zero, Em=zero, TT
Correlation: 0.99987
Residual Std. Dev.: 1.66676
Formula: y = mx + b
m: 5.14609e-2
b: -1.07349
x: Amount[ug/l]
y: Area



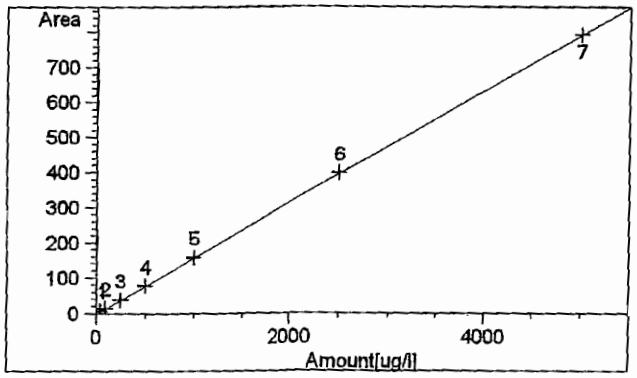
Benzo(b)fluoranthene at exp. RT: 17.685
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99998
Residual Std. Dev.: 2.23626
Formula: y = mx + b
m: 9.33895e-2
b: -2.07940e-1
x: Amount [ug/l]
y: Area



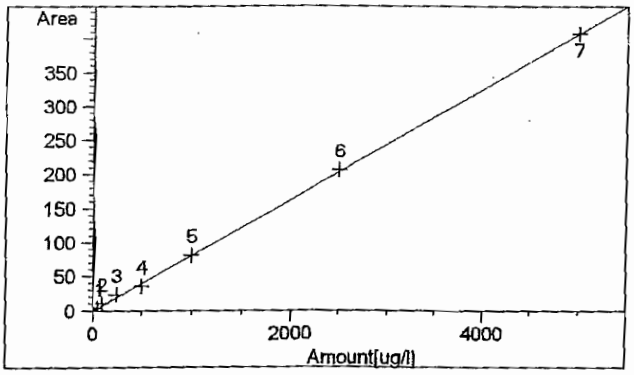
Benzo(b)fluoranthene at exp. RT: 17.821
FLD1 A, Ex=zero, Em=zero, TT
Correlation: 0.99994
Residual Std. Dev.: 3.26348
Formula: y = mx + b
m: 7.49309e-2
b: -1.60132
x: Amount [ug/l]
y: Area



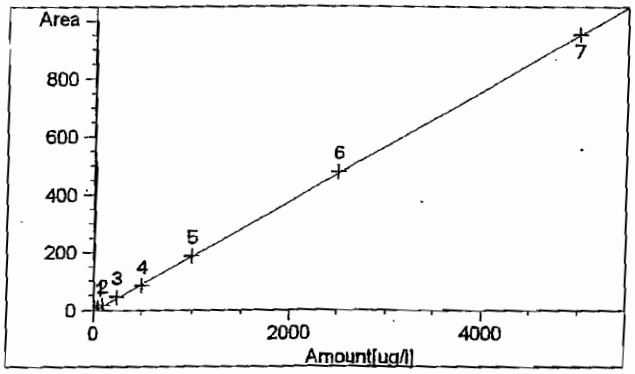
Benzo(k)fluoranthene at exp. RT: 18.707
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99996
Residual Std. Dev.: 1.37592
Formula: y = mx + b
m: 7.62242e-2
b: -1.04416e-1
x: Amount [ug/l]
y: Area



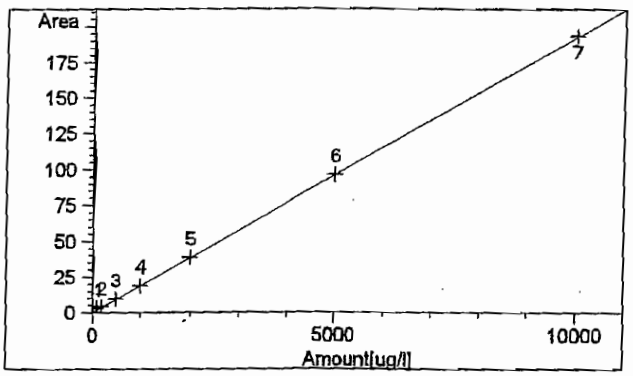
Benzo(k)fluoranthene at exp. RT: 18.841
FLD1 A, Ex=zero, Em=zero, TT
Correlation: 1.00000
Residual Std. Dev.: 0.71430
Formula: y = mx + b
m: 1.59102e-1
b: -2.63640
x: Amount [ug/l]
y: Area



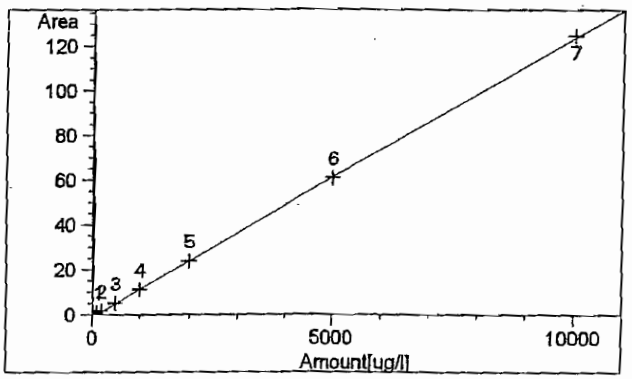
Benzo(a)pyrene at exp. RT: 19.735
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99983
Residual Std. Dev.: 3.01188
Formula: y = mx + b
m: 8.16773e-2
b: -5.57360e-1
x: Amount[ug/l]
y: Area



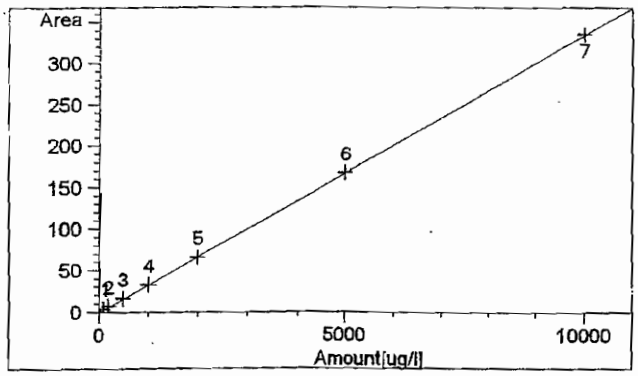
Benzo(a)pyrene at exp. RT: 19.871
FLD1 A, Ex=zero, Em=zero, TT
Correlation: 0.99995
Residual Std. Dev.: 3.76862
Formula: y = mx + b
m: 1.91468e-1
b: -5.09744
x: Amount[ug/l]
y: Area



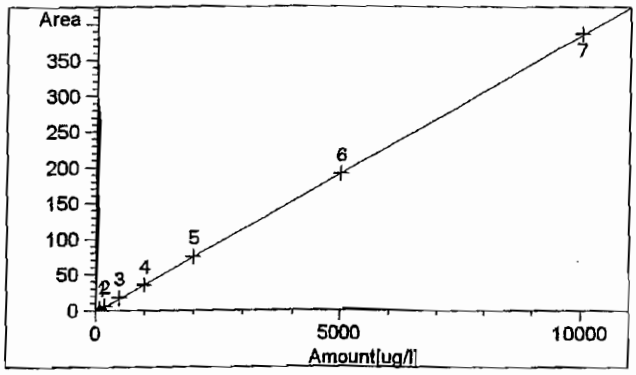
Dibenz(a,h)anthracene at exp. RT: 21.342
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99998
Residual Std. Dev.: 0.48272
Formula: y = mx + b
m: 1.93266e-2
b: -1.30330e-1
x: Amount[ug/l]
y: Area



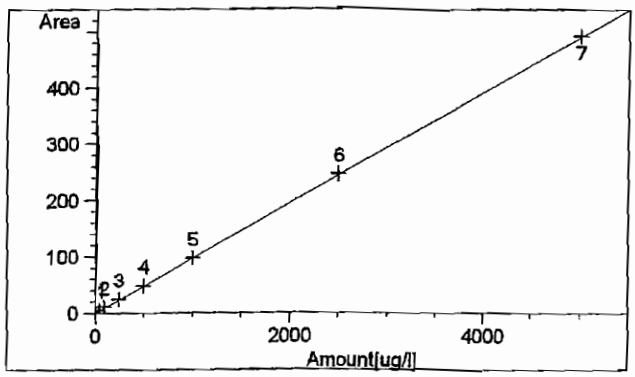
Dibenz(a,h)anthracene at exp. RT: 21.478
FLD1 A, Ex=zero, Em=zero, TT
Correlation: 0.99995
Residual Std. Dev.: 0.49275
Formula: y = mx + b
m: 1.25385e-2
b: -1.21121
x: Amount[ug/l]
y: Area



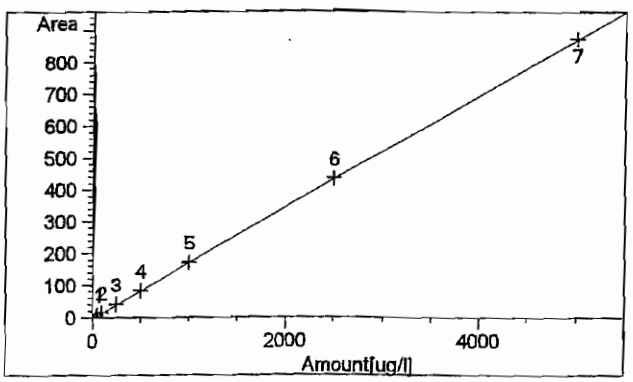
Benzo(g,h,i)perylene at exp. RT: 22.225
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99998
Residual Std. Dev.: 0.76770
Formula: y = mx + b
m: 3.35707e-2
b: -7.96535e-1
x: Amount[ug/l]
y: Area



Benzo(g,h,i)perylene at exp. RT: 22.361
FLD1 A, Ex=zero, Em=zero, TT
Correlation: 0.99997
Residual Std. Dev.: 1.23429
Formula: y = mx + b
m: 3.88813e-2
b: -2.72958
x: Amount[ug/l]
y: Area



Indeno(1,2,3-cd)pyrene at exp. RT: 22.728
DAD1 A, Sig=254,4 Ref=550,100
Correlation: 0.99999
Residual Std. Dev.: 0.89593
Formula: y = mx + b
m: 9.84705e-2
b: -7.77800e-1
x: Amount[ug/l]
y: Area



Indeno(1,2,3-cd)pyrene at exp. RT: 22.864
FLD1 A, Ex=zero, Em=zero, TT
Correlation: 0.99999
Residual Std. Dev.: 1.13391
Formula: y = mx + b
m: 1.75229e-1
b: -3.31578
x: Amount[ug/l]
y: Area

==========

CONTINUING CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instid : HPLC02 Run Name : L
Seqnum : 272142018004 Filename : 09800004 Injected : 08-APR-2002 16:36
Calnum : 272091727001 Caldate : 04-MAR-2002 Caltype :
Standards: 02WS0471

Analyte	Ch	Avg RF/CF	RF/CF	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Naphthalene	1	0.0118	0.0123	2500.000	2510.361	ug/L	0	15	
Acenaphthylene	1	0.0085	0.0087	5000.000	4956.322	ug/L	-1	15	
Acenaphthene	1	0.0043	0.0049	2500.000	2712.097	ug/L	8	15	
Fluorene	1	0.0577	0.0605	500.0000	508.5295	ug/L	2	15	
Phenanthrene	1	0.1650	0.1676	250.0000	252.9419	ug/L	1	15	
Anthracene	1	0.4190	0.4307	250.0000	248.4087	ug/L	-1	15	
Fluoranthene	1	0.0394	0.0383	500.0000	468.4137	ug/L	-6	15	
Pyrene	1	0.0365	0.0348	250.0000	274.3498	ug/L	10	15	
Benzo(a)anthracene	1	0.0822	0.0845	250.0000	265.3998	ug/L	6	15	
Chrysene	1	0.1150	0.1195	250.0000	265.1025	ug/L	6	15	
Benzo(b)fluoranthene	1	0.0924	0.0938	500.0000	504.4446	ug/L	1	15	
Benzo(k)fluoranthene	1	0.0775	0.0752	250.0000	247.9745	ug/L	-1	15	
Benzo(a)pyrene	1	0.0806	0.0810	250.0000	254.8173	ug/L	2	15	
Dibenz(a,h)anthracene	1	0.0200	0.0186	500.0000	489.1301	ug/L	-2	15	
Benzo(g,h,i)perylene	1	0.0329	0.0320	500.0000	499.6552	ug/L	0	15	
Indeno(1,2,3-cd)pyrene	1	0.0959	0.0985	250.0000	257.9419	ug/L	3	15	
1-Methylnaphthalene (UV)	1	0.0078	0.0076	50000.00	50667.68	ug/L	1	15	
Acenaphthylene	2	0.0256	0.0261	5000.000	5068.220	ug/L	1	15	
1-Methylnaphthalene (UV)	2	0.0030	0.0029	50000.00	49899.58	ug/L	0	15	
Naphthalene	3	0.0060	0.0065	2500.000	2441.913	ug/L	-2	15	
Acenaphthene	3	0.0045	0.0050	2500.000	2667.698	ug/L	7	15	
Fluorene	3	0.0056	0.0052	500.0000	512.0587	ug/L	2	15	
Phenanthrene	3	0.0983	0.1051	250.0000	254.5837	ug/L	2	15	
Anthracene	3	0.0342	0.0326	250.0000	239.7951	ug/L	-4	15	
Fluoranthene	3	0.0993	0.1044	500.0000	479.3295	ug/L	-4	15	
Pyrene	3	0.0529	0.0546	250.0000	253.1657	ug/L	1	15	
Benzo(a)anthracene	3	0.1011	0.1074	250.0000	256.5068	ug/L	3	15	
Chrysene	3	0.0453	0.0473	250.0000	250.7335	ug/L	0	15	
Benzo(b)fluoranthene	3	0.0683	0.0732	500.0000	509.7072	ug/L	2	15	
Benzo(k)fluoranthene	3	0.1446	0.1547	250.0000	259.7144	ug/L	4	15	
Benzo(a)pyrene	3	0.1717	0.1789	250.0000	260.2267	ug/L	4	15	
Dibenz(a,h)anthracene	3	0.0103	0.0122	500.0000	584.4877	ug/L	17	15	1 *** *
Benzo(g,h,i)perylene	3	0.0337	0.0388	500.0000	569.5478	ug/L	14	15	
Indeno(1,2,3-cd)pyrene	3	0.1618	0.1773	250.0000	271.8580	ug/L	9	15	
1-Methylnaphthalene (F)	3	0.0041	0.0044	50000.00	51290.07	ug/L	3	15	

09 APR 2002

* HIGH. SCREEN THIS ANALYTE WITH UVD CH#1 AND CONFIRM WITH FLD CH#3.

1=CCV drift out
Page 1 of 1

CONTINUING CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instid : HPLC02 Run Name : M
Seqnum : 272142018020 Filename : 09800020 Injected : 09-APR-2002 01:19
Calnum : 272091727001 Caldate : 04-MAR-2002 Caltype :
Standards: 01WS2336

Analyte	Ch	Avg RF/CF	RF/CF	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Naphthalene	1	0.0118	0.0120	5000.000	5020.462	ug/L	0	15	
Acenaphthylene	1	0.0085	0.0083	10000.00	9930.593	ug/L	-1	15	
Acenaphthene	1	0.0043	0.0047	5000.000	5435.145	ug/L	9	15	
Fluorene	1	0.0577	0.0575	1000.000	1004.256	ug/L	0	15	
Phenanthrene	1	0.1650	0.1634	500.0000	500.3644	ug/L	0	15	
Anthracene	1	0.4190	0.4205	500.0000	504.0259	ug/L	1	15	
Fluoranthene	1	0.0394	0.0369	1000.000	963.0669	ug/L	-4	15	
Pyrene	1	0.0365	0.0293	500.0000	478.2962	ug/L	-4	15	
Benzo(a)anthracene	1	0.0822	0.0836	500.0000	516.1011	ug/L	3	15	
Chrysene	1	0.1150	0.1127	500.0000	499.3185	ug/L	0	15	
Benzo(b)fluoranthene	1	0.0924	0.0969	1000.000	1039.842	ug/L	4	15	
Benzo(k)fluoranthene	1	0.0775	0.0822	500.0000	540.3991	ug/L	8	15	
Benzo(a)pyrene	1	0.0806	0.0776	500.0000	482.0467	ug/L	-4	15	
Dibenz(a,h)anthracene	1	0.0200	0.0191	1000.000	997.1642	ug/L	0	15	
Benzo(g,h,i)perylene	1	0.0329	0.0322	1000.000	983.9852	ug/L	-2	15	
Indeno(1,2,3-cd)pyrene	1	0.0959	0.0937	500.0000	483.4584	ug/L	-3	15	
1-Methylnaphthalene (UV)	1	0.0078	0.0077	50000.00	51152.73	ug/L	2	15	
Acenaphthylene	2	0.0256	0.0251	10000.00	9917.901	ug/L	-1	15	
1-Methylnaphthalene (UV)	2	0.0030	0.0029	50000.00	50113.64	ug/L	0	15	
Naphthalene	3	0.0060	0.0067	5000.000	5203.823	ug/L	4	15	
Acenaphthene	3	0.0045	0.0052	5000.000	5208.742	ug/L	4	15	
Fluorene	3	0.0056	0.0060	1000.000	956.8595	ug/L	-4	15	
Phenanthrene	3	0.0983	0.1069	500.0000	511.9894	ug/L	2	15	
Anthracene	3	0.0342	0.0363	500.0000	487.9282	ug/L	-2	15	
Fluoranthene	3	0.0993	0.1051	1000.000	1007.961	ug/L	1	15	
Pyrene	3	0.0529	0.0587	500.0000	512.8426	ug/L	3	15	
Benzo(a)anthracene	3	0.1011	0.1153	500.0000	531.0045	ug/L	6	15	
Chrysene	3	0.0453	0.0552	500.0000	557.0316	ug/L	11	15	
Benzo(b)fluoranthene	3	0.0683	0.0779	1000.000	1060.390	ug/L	6	15	
Benzo(k)fluoranthene	3	0.1446	0.1641	500.0000	532.3727	ug/L	6	15	
Benzo(a)pyrene	3	0.1717	0.1905	500.0000	524.1788	ug/L	5	15	
Dibenz(a,h)anthracene	3	0.0103	0.0121	1000.000	1061.893	ug/L	6	15	
Benzo(g,h,i)perylene	3	0.0337	0.0386	1000.000	1061.912	ug/L	6	15	
Indeno(1,2,3-cd)pyrene	3	0.1618	0.1754	500.0000	519.4832	ug/L	4	15	
1-Methylnaphthalene (F)	3	0.0041	0.0045	50000.00	52172.36	ug/L	4	15	

09APR2002

SEQUENCE SUMMARY
Curtis & Tompkins Laboratories

Sequence: 272142018 Instrument: HPLC02 High Pressure Liquid Chromatograph #2 Begun: 08-APR-2002

#	Filename	Type	Samplenum	Batch	Matrix	Analyzed	IDF	PDF	IQC	SPK uL	Stds Used	>LR
001	09800001	X	IB - 098			08-APR-2002 14:58	1.0					
002	09800002	X	IB			08-APR-2002 15:31	1.0					
003	09800003	X	IB			08-APR-2002 16:04	1.0					
004	09800004	CCV	L			08-APR-2002 16:36	1.0	1.0	1	10	1	
005	09800005	X	L			08-APR-2002 17:09	1.0	1.0		10	1	
006	09800006	X	IB			08-APR-2002 17:42	1.0					
007	09800007	SAMPLE	157881-060	71405	Water	08-APR-2002 18:14	1.0	0.0020		10		
008	09800008	BS	QC175102	71405	Water	08-APR-2002 18:47	1.0	0.0020	1	10		
009	09800009	BSD	QC175103	71405	Water	08-APR-2002 19:20	1.0	0.0020	1	10		
010	09800010	BLANK	QC175101	71405	Water	08-APR-2002 19:53	1.0	0.0020		10		
011	09800011	LCS	QC175083	71401	Soil	08-APR-2002 20:25	1.0					
012	09800012	X	IB			08-APR-2002 20:58	1.0					
013	09800013	MSS	157881-014	71401	Soil	08-APR-2002 21:30	1.0					
014	09800014	MS	QC175084	71401	Soil	08-APR-2002 22:03	1.0					
015	09800015	MSD	QC175085	71401	Soil	08-APR-2002 22:36	1.0					
016	09800016	BLANK	QC175082	71401	Soil	08-APR-2002 23:08	1.0	0.065876		10		
017	09800017	SAMPLE	157901-015	71367	Soil	08-APR-2002 23:41	1.0	0.066313	1	10		
018	09800018	X	IB			09-APR-2002 00:14	1.0					
019	09800019	X	IB			09-APR-2002 00:46	1.0					
020	09800020	CCV	M			09-APR-2002 01:19	1.0	1.0		10	2	
022	09800022	X	IB			09-APR-2002 01:53	1.0					
023	09800023	SAMPLE	157881-006	71401	Soil	09-APR-2002 02:25	1.0					
024	09800024	SAMPLE	157881-010	71401	Soil	09-APR-2002 02:58	1.0					
025	09800025	SAMPLE	157881-022	71401	Soil	09-APR-2002 03:31	1.0					
026	09800026	SAMPLE	157881-031	71401	Soil	09-APR-2002 04:03	1.0					
027	09800027	SAMPLE	157881-035	71401	Soil	09-APR-2002 04:36	1.0					
028	09800028	X	IB			09-APR-2002 05:09	1.0					
029	09800029	SAMPLE	157881-043	71401	Soil	09-APR-2002 05:42	1.0					
030	09800030	SAMPLE	157881-045	71401	Soil	09-APR-2002 06:14	1.0					
031	09800031	SAMPLE	157881-046	71401	Soil	09-APR-2002 06:47	1.0					
032	09800032	SAMPLE	157881-049	71401	Soil	09-APR-2002 07:19	1.0	0.067820		10		
034	09800034	X	IB			09-APR-2002 08:56	1.0					

Stds used: 1=02WS0471 2=01WS2336 3=01WS2223

Analyst: _____ Date: 10APR2002

SEQUENCE SUMMARY
Curtis & Tompkins Laboratories

Sequence: 272142018 Instrument: HPLC02 High Pressure Liquid Chromatograph #2 Begun: 08-APR-2002

#	Filename	Type	Samplenum	Batch	Matrix	Analyzed	IDF	PDF	IQC SPK uL	Stds Used	>LR
035	09800035	X	H			09-APR-2002 09:29	1.0			3	
036	09800036	CCV	H			09-APR-2002 10:07	1.0	1.0	10	3	1:NAPH=26043.4
037	09800037	X	IB			09-APR-2002 10:40	1.0				

Stds used: 1=02WS0471 2=01WS2336 3=01WS2223

Analyst: _____ Date: 10APR2002

SAMPLE PREPARATION SUMMARY

04/07/02 19:42:04

Batch Number : 71405
Date Extracted : 05-APR-02
Extracted By : Jason Scott
Prep Method : 3520C

Analysis: 8310
Bgroup : N/A
Units : ml
Clean-up:

Spike #1 ID : 02SS79 F
Spike #2 ID : 02WS0084 C
Spike #3 ID :

Sample No.	Type	Client	Matrx	Init W/V	U	Final Vol	Prep D.F.	Clean D.F.	pH	Spike #1 Vol	Spike #2 Vol	Spike #3 Vol	Analysis	Comments
57881-060		IT Corporation	Water	1000	ml	2	.002	1	5	.1	0		8310	
QC175101	MB		Water	1000	ml	2	.002	1		.1	0		8310	
QC175102	BS		Water	1000	ml	2	.002	1		.1	1		8310	
QC175103	BSD		Water	1000	ml	2	.002	1		.1	1		8310	

218

Prep Chemist: J. Sm Reviewed By: Donnell Ward Date: 4/7/02

Relinquished By: Donnell Ward Received By: C Jm Date: 08APR2002

METALS Results & QC Summary

Curtis & Tompkins, Ltd.

Lead

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3050
Project#:	STANDARD	Analysis:	EPA 6010B
Analyte:	Lead	Diln Fac:	1.000
Matrix:	Soil	Sampled:	04/01/02
Units:	mg/Kg	Received:	04/02/02

Field ID	Type	Lab ID	Result	RL	Basis	Moisture	Batch#	Prepared	Analyzed
PB-1-0	SAMPLE	157881-001	2.9	0.15	dry	11%	71411	04/05/02	04/09/02
PB-2A-0	SAMPLE	157881-002	1.4	0.14	dry	7%	71411	04/05/02	04/09/02
PB-2B-0	SAMPLE	157881-003	5.7	0.14	dry	18%	71411	04/05/02	04/09/02
PB-3-0	SAMPLE	157881-004	3.8	0.15	dry	9%	71411	04/05/02	04/09/02
PB-4-0	SAMPLE	157881-005	4.6	0.15	dry	10%	71411	04/05/02	04/09/02
	BLANK	QC175122	ND	0.15	as received		71411	04/05/02	04/09/02
	BLANK	QC175344	ND	0.15	as received		71467	04/08/02	04/16/02
	BLANK	QC175353	ND	0.15	as received		71469	04/08/02	04/12/02

ND= Not Detected
RL= Reporting Limit
Page 1 of 1

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	157881	Project#:	STANDARD
Client:	IT Corporation	Location:	Ark/Monarch School
Field ID:	GR-1-0	Basis:	dry
Lab ID:	157881-006	Diln Fac:	1.000
Matrix:	Soil	Sampled:	04/01/02
Units:	mg/Kg	Received:	04/02/02

Moisture: 16%

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	3.4	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Arsenic	6.2	0.28	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Barium	89	0.57	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Beryllium	0.49	0.11	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Cadmium	1.0	0.28	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Chromium	31	0.57	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Cobalt	3.3	1.1	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Copper	5.6	0.57	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Lead	5.5	0.17	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Mercury	0.077	0.024	71379	04/04/02	04/05/02	METHOD	EPA 7471
Molybdenum	ND	1.1	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Nickel	23	1.1	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Selenium	0.33	0.28	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Silver	ND	0.28	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Thallium	ND	0.28	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Vanadium	31	0.57	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Zinc	14	1.1	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	157881	Project#:	STANDARD
Client:	IT Corporation	Location:	Ark/Monarch School
Field ID:	GR-2-0	Basis:	dry
Lab ID:	157881-010	Diln Fac:	1.000
Matrix:	Soil	Sampled:	04/01/02
Units:	mg/Kg	Received:	04/02/02

Moisture: 16%

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	3.3	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Arsenic	7.8	0.27	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Barium	100	0.55	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Beryllium	0.53	0.11	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Cadmium	1.3	0.27	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Chromium	36	0.55	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Cobalt	3.1	1.1	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Copper	7.8	0.55	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Lead	6.1	0.16	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Mercury	0.079	0.024	71379	04/04/02	04/05/02	METHOD	EPA 7471
Molybdenum	ND	1.1	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Nickel	23	1.1	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Selenium	ND	0.27	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Silver	ND	0.27	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Thallium	ND	0.27	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Vanadium	34	0.55	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Zinc	18	1.1	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	157881	Project#:	STANDARD
Client:	IT Corporation	Location:	Ark/Monarch School
Field ID:	GR-3-0	Basis:	dry
Lab ID:	157881-014	Diln Fac:	1.000
Matrix:	Soil	Sampled:	04/01/02
Units:	mg/Kg	Received:	04/02/02

Moisture: 14%

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	3.2	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Arsenic	6.8	0.27	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Barium	89	0.53	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Beryllium	0.52	0.11	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Cadmium	1.1	0.27	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Chromium	33	0.53	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Cobalt	3.4	1.1	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Copper	7.2	0.53	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Lead	8.8	0.16	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Mercury	0.048	0.023	71379	04/04/02	04/05/02	METHOD	EPA 7471
Molybdenum	ND	1.1	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Nickel	22	1.1	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Selenium	0.30	0.27	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Silver	ND	0.27	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Thallium	ND	0.27	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Vanadium	34	0.53	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Zinc	17	1.1	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	157881	Project#:	STANDARD
Client:	IT Corporation	Location:	Ark/Monarch School
Field ID:	GR-4-0	Basis:	dry
Lab ID:	157881-018	Diln Fac:	1.000
Matrix:	Soil	Sampled:	04/01/02
Units:	mg/Kg	Received:	04/02/02

Moisture: 14%

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	3.2	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Arsenic	5.0	0.26	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Barium	72	0.53	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Beryllium	0.44	0.11	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Cadmium	0.85	0.26	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Chromium	28	0.53	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Cobalt	3.3	1.1	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Copper	4.5	0.53	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Lead	4.7	0.16	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Mercury	0.064	0.023	71379	04/04/02	04/05/02	METHOD	EPA 7471
Molybdenum	ND	1.1	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Nickel	20	1.1	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Selenium	ND	0.26	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Silver	ND	0.26	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Thallium	ND	0.26	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Vanadium	27	0.53	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Zinc	12	1.1	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	157881	Project#:	STANDARD
Client:	IT Corporation	Location:	Ark/Monarch School
Field ID:	GR-5-0A	Basis:	dry
Lab ID:	157881-022	Diln Fac:	1.000
Matrix:	Soil	Sampled:	04/01/02
Units:	mg/Kg	Received:	04/02/02

Moisture: 16%

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	3.1	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Arsenic	7.4	0.26	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Barium	99	0.51	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Beryllium	0.59	0.10	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Cadmium	1.3	0.26	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Chromium	40	0.51	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Cobalt	3.7	1.0	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Copper	7.6	0.51	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Lead	5.9	0.15	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Mercury	0.086	0.021	71379	04/04/02	04/05/02	METHOD	EPA 7471
Molybdenum	ND	1.0	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Nickel	25	1.0	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Selenium	0.35	0.26	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Silver	ND	0.26	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Thallium	ND	0.26	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Vanadium	39	0.51	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Zinc	20	1.0	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	157881	Project#:	STANDARD
Client:	IT Corporation	Location:	Ark/Monarch School
Field ID:	GR-5-0B	Basis:	dry
Lab ID:	157881-026	Diln Fac:	1.000
Matrix:	Soil	Sampled:	04/01/02
Units:	mg/Kg	Received:	04/02/02

Moisture: 17%

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	3.0	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Arsenic	7.4	0.25	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Barium	83	0.51	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Beryllium	0.54	0.10	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Cadmium	1.2	0.25	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Chromium	35	0.51	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Cobalt	3.0	1.0	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Copper	6.9	0.51	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Lead	4.7	0.15	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Mercury	0.063	0.023	71379	04/04/02	04/05/02	METHOD	EPA 7471
Molybdenum	ND	1.0	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Nickel	22	1.0	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Selenium	ND	0.25	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Silver	ND	0.25	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Thallium	ND	0.25	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Vanadium	33	0.51	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Zinc	18	1.0	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	157881	Project#:	STANDARD
Client:	IT Corporation	Location:	Ark/Monarch School
Field ID:	GR-6-0	Basis:	dry
Lab ID:	157881-027	Diln Fac:	1.000
Matrix:	Soil	Sampled:	04/01/02
Units:	mg/Kg	Received:	04/02/02

Moisture: 15%

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	3.3	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Arsenic	6.7	0.27	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Barium	78	0.55	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Beryllium	0.53	0.11	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Cadmium	1.1	0.27	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Chromium	33	0.55	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Cobalt	2.9	1.1	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Copper	7.1	0.55	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Lead	7.5	0.16	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Mercury	0.054	0.021	71379	04/04/02	04/05/02	METHOD	EPA 7471
Molybdenum	ND	1.1	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Nickel	23	1.1	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Selenium	ND	0.27	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Silver	ND	0.27	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Thallium	ND	0.27	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Vanadium	31	0.55	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Zinc	19	1.1	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	157881	Project#:	STANDARD
Client:	IT Corporation	Location:	Ark/Monarch School
Field ID:	GR-7-0	Basis:	dry
Lab ID:	157881-031	Diln Fac:	1.000
Matrix:	Soil	Sampled:	04/01/02
Units:	mg/Kg	Received:	04/02/02

Moisture: 15%

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	3.1	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Arsenic	8.3	0.26	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Barium	86	0.51	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Beryllium	0.60	0.10	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Cadmium	1.4	0.26	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Chromium	41	0.51	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Cobalt	3.3	1.0	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Copper	9.0	0.51	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Lead	7.4	0.15	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Mercury	0.049	0.024	71379	04/04/02	04/05/02	METHOD	EPA 7471
Molybdenum	ND	1.0	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Nickel	26	1.0	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Selenium	ND	0.26	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Silver	ND	0.26	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Thallium	ND	0.26	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Vanadium	38	0.51	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Zinc	21	1.0	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B

ND= Not Detected
RL= Reporting Limit
Page 1 of 1

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	157881	Project#:	STANDARD
Client:	IT Corporation	Location:	Ark/Monarch School
Field ID:	GR-8-0	Basis:	dry
Lab ID:	157881-035	Diln Fac:	1.000
Matrix:	Soil	Sampled:	04/01/02
Units:	mg/Kg	Received:	04/02/02

Moisture: 14%

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	3.3	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Arsenic	8.3	0.27	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Barium	99	0.54	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Beryllium	0.62	0.11	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Cadmium	1.5	0.27	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Chromium	38	0.54	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Cobalt	3.1	1.1	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Copper	8.5	0.54	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Lead	5.4	0.16	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Mercury	0.074	0.023	71379	04/04/02	04/05/02	METHOD	EPA 7471
Molybdenum	ND	1.1	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Nickel	28	1.1	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Selenium	0.32	0.27	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Silver	ND	0.27	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Thallium	ND	0.27	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Vanadium	37	0.54	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Zinc	21	1.1	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	157881	Project#:	STANDARD
Client:	IT Corporation	Location:	Ark/Monarch School
Field ID:	GR-9-0	Basis:	dry
Lab ID:	157881-039	Diln Fac:	1.000
Matrix:	Soil	Sampled:	04/01/02
Units:	mg/Kg	Received:	04/02/02

Moisture: 15%

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	3.2	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Arsenic	7.9	0.26	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Barium	160	0.53	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Beryllium	0.47	0.11	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Cadmium	1.0	0.26	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Chromium	26	0.53	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Cobalt	2.9	1.1	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Copper	5.5	0.53	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Lead	16	0.16	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Mercury	0.087	0.020	71379	04/04/02	04/05/02	METHOD	EPA 7471
Molybdenum	ND	1.1	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Nickel	20	1.1	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Selenium	ND	0.26	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Silver	ND	0.26	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Thallium	ND	0.26	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Vanadium	28	0.53	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Zinc	27	1.1	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	157881	Project#:	STANDARD
Client:	IT Corporation	Location:	Ark/Monarch School
Field ID:	GR-10-0	Basis:	dry
Lab ID:	157881-043	Diln Fac:	1.000
Matrix:	Soil	Sampled:	04/01/02
Units:	mg/Kg	Received:	04/02/02

Moisture: 8%

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	2.8	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Arsenic	2.0	0.23	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Barium	14	0.46	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Beryllium	0.12	0.092	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Cadmium	0.27	0.23	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Chromium	2.6	0.46	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Cobalt	ND	0.92	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Copper	ND	0.46	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Lead	1.2	0.14	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Mercury	ND	0.021	71379	04/04/02	04/05/02	METHOD	EPA 7471
Molybdenum	ND	0.92	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Nickel	2.0	0.92	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Selenium	0.30	0.23	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Silver	ND	0.23	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Thallium	0.54	0.23	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Vanadium	3.2	0.46	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Zinc	5.0	0.92	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	157881	Project#:	STANDARD
Client:	IT Corporation	Location:	Ark/Monarch School
Field ID:	GR-10-0.5	Basis:	dry
Lab ID:	157881-044	Diln Fac:	1.000
Matrix:	Soil	Sampled:	04/01/02
Units:	mg/Kg	Received:	04/02/02

Moisture: 18%

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	3.5	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Arsenic	3.6	0.29	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Barium	63	0.59	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Beryllium	0.31	0.12	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Cadmium	0.70	0.29	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Chromium	12	0.59	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Cobalt	2.2	1.2	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Copper	6.7	0.59	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Lead	3.9	0.18	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Mercury	0.029	0.024	71379	04/04/02	04/05/02	METHOD	EPA 7471
Molybdenum	ND	1.2	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Nickel	8.4	1.2	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Selenium	ND	0.29	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Silver	ND	0.29	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Thallium	ND	0.29	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Vanadium	14	0.59	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Zinc	12	1.2	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	157881	Project#:	STANDARD
Client:	IT Corporation	Location:	Ark/Monarch School
Field ID:	GR-10-5	Basis:	dry
Lab ID:	157881-045	Diln Fac:	1.000
Matrix:	Soil	Sampled:	04/01/02
Units:	mg/Kg	Received:	04/02/02

Moisture: 32%

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	3.8	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Arsenic	1.4	0.32	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Barium	36	0.63	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Beryllium	0.17	0.13	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Cadmium	ND	0.32	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Chromium	9.6	0.63	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Cobalt	2.0	1.3	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Copper	2.9	0.63	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Lead	1.2	0.19	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Mercury	ND	0.029	71379	04/04/02	04/05/02	METHOD	EPA 7471
Molybdenum	ND	1.3	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Nickel	5.3	1.3	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Selenium	ND	0.32	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Silver	ND	0.32	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Thallium	0.47	0.32	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Vanadium	7.3	0.63	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Zinc	5.4	1.3	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	157881	Project#:	STANDARD
Client:	IT Corporation	Location:	Ark/Monarch School
Field ID:	GR-10-5.5	Basis:	dry
Lab ID:	157881-046	Diln Fac:	1.000
Matrix:	Soil	Sampled:	04/01/02
Units:	mg/Kg	Received:	04/02/02

Moisture: 44%

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	4.4	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Arsenic	3.5	0.37	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Barium	70	0.73	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Beryllium	0.32	0.15	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Cadmium	0.58	0.37	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Chromium	20	0.73	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Cobalt	2.0	1.5	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Copper	5.7	0.73	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Lead	1.8	0.22	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Mercury	ND	0.034	71379	04/04/02	04/05/02	METHOD	EPA 7471
Molybdenum	ND	1.5	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Nickel	9.9	1.5	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Selenium	ND	0.37	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Silver	ND	0.37	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Thallium	ND	0.37	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Vanadium	14	0.73	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Zinc	12	1.5	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	157881	Project#:	STANDARD
Client:	IT Corporation	Location:	Ark/Monarch School
Field ID:	GR-11-0	Basis:	dry
Lab ID:	157881-047	Diln Fac:	1.000
Matrix:	Soil	Sampled:	04/01/02
Units:	mg/Kg	Received:	04/02/02

Moisture: 11%

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	2.9	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Arsenic	8.6	0.24	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Barium	68	0.48	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Beryllium	0.36	0.096	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Cadmium	0.84	0.24	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Chromium	23	0.48	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Cobalt	2.7	0.96	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Copper	11	0.48	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Lead	6.5	0.14	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Mercury	0.25	0.022	71379	04/04/02	04/05/02	METHOD	EPA 7471
Molybdenum	ND	0.96	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Nickel	20	0.96	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Selenium	ND	0.24	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Silver	ND	0.24	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Thallium	ND	0.24	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Vanadium	25	0.48	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Zinc	22	0.96	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	157881	Project#:	STANDARD
Client:	IT Corporation	Location:	Ark/Monarch School
Field ID:	GR-11-0.5	Basis:	dry
Lab ID:	157881-048	Diln Fac:	1.000
Matrix:	Soil	Sampled:	04/01/02
Units:	mg/Kg	Received:	04/02/02

Moisture: 22%

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	3.3	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Arsenic	2.8	0.28	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Barium	81	0.55	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Beryllium	0.32	0.11	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Cadmium	0.73	0.28	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Chromium	11	0.55	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Cobalt	1.7	1.1	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Copper	7.3	0.55	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Lead	4.7	0.17	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Mercury	0.073	0.026	71379	04/04/02	04/05/02	METHOD	EPA 7471
Molybdenum	ND	1.1	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Nickel	7.9	1.1	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Selenium	ND	0.28	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Silver	ND	0.28	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Thallium	ND	0.28	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Vanadium	9.5	0.55	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Zinc	14	1.1	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	157881	Project#:	STANDARD
Client:	IT Corporation	Location:	Ark/Monarch School
Field ID:	GR-11-5A	Basis:	dry
Lab ID:	157881-049	Diln Fac:	1.000
Matrix:	Soil	Sampled:	04/01/02
Units:	mg/Kg	Received:	04/02/02

Moisture: 27%

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	3.1	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Arsenic	1.2	0.26	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Barium	52	0.52	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Beryllium	0.19	0.10	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Cadmium	0.30	0.26	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Chromium	10	0.52	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Cobalt	ND	1.0	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Copper	4.6	0.52	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Lead	1.3	0.16	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Mercury	ND	0.027	71379	04/04/02	04/05/02	METHOD	EPA 7471
Molybdenum	ND	1.0	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Nickel	5.7	1.0	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Selenium	ND	0.26	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Silver	ND	0.26	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Thallium	ND	0.26	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Vanadium	6.4	0.52	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Zinc	5.7	1.0	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	157881	Project#:	STANDARD
Client:	IT Corporation	Location:	Ark/Monarch School
Field ID:	GR-11-5B	Basis:	dry
Lab ID:	157881-050	Diln Fac:	1.000
Matrix:	Soil	Sampled:	04/01/02
Units:	mg/Kg	Received:	04/02/02

Moisture: 34%

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	4.5	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Arsenic	1.3	0.37	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Barium	55	0.74	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Beryllium	0.20	0.15	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Cadmium	ND	0.37	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Chromium	12	0.74	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Cobalt	ND	1.5	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Copper	4.6	0.74	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Lead	1.3	0.22	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Mercury	ND	0.027	71379	04/04/02	04/05/02	METHOD	EPA 7471
Molybdenum	ND	1.5	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Nickel	7.1	1.5	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Selenium	ND	0.37	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Silver	ND	0.37	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Thallium	ND	0.37	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Vanadium	7.6	0.74	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Zinc	6.8	1.5	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B

ND= Not Detected
RL= Reporting Limit
Page 1 of 1

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	157881	Project#:	STANDARD
Client:	IT Corporation	Location:	Ark/Monarch School
Field ID:	GR-11-5.5	Basis:	dry
Lab ID:	157881-051	Diln Fac:	1.000
Matrix:	Soil	Sampled:	04/01/02
Units:	mg/Kg	Received:	04/02/02

Moisture: 38%

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	3.5	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Arsenic	2.2	0.29	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Barium	73	0.58	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Beryllium	0.24	0.12	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Cadmium	0.44	0.29	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Chromium	18	0.58	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Cobalt	1.4	1.2	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Copper	5.9	0.58	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Lead	1.5	0.17	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Mercury	ND	0.031	71379	04/04/02	04/05/02	METHOD	EPA 7471
Molybdenum	ND	1.2	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Nickel	9.1	1.2	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Selenium	ND	0.29	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Silver	ND	0.29	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Thallium	ND	0.29	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Vanadium	11	0.58	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Zinc	11	1.2	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	157881	Project#:	STANDARD
Client:	IT Corporation	Location:	Ark/Monarch School
Field ID:	GR-12-0	Basis:	dry
Lab ID:	157881-052	Diln Fac:	1.000
Matrix:	Soil	Sampled:	04/01/02
Units:	mg/Kg	Received:	04/02/02

Moisture: 8%

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	2.9	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Arsenic	3.6	0.24	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Barium	35	0.49	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Beryllium	0.19	0.097	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Cadmium	0.45	0.24	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Chromium	9.2	0.49	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Cobalt	1.2	0.97	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Copper	2.1	0.49	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Lead	2.8	0.15	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Mercury	0.029	0.020	71379	04/04/02	04/05/02	METHOD	EPA 7471
Molybdenum	ND	0.97	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Nickel	7.2	0.97	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Selenium	0.45	0.24	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Silver	ND	0.24	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Thallium	0.88	0.24	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Vanadium	11	0.49	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B
Zinc	7.9	0.97	71467	04/08/02	04/16/02	EPA 3050	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	157881	Project#:	STANDARD
Client:	IT Corporation	Location:	Ark/Monarch School
Field ID:	GR-12-0.5	Basis:	dry
Lab ID:	157881-053	Diln Fac:	1.000
Matrix:	Soil	Sampled:	04/01/02
Units:	mg/Kg	Received:	04/02/02

Moisture: 8%

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	2.5	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Arsenic	5.5	0.21	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Barium	86	0.42	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Beryllium	0.53	0.083	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Cadmium	0.74	0.21	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Chromium	27	0.42	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Cobalt	2.5	0.83	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Copper	5.1	0.42	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Lead	6.0	0.12	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Mercury	0.048	0.019	71422	04/06/02	04/06/02	METHOD	EPA 7471
Molybdenum	ND	0.83	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Nickel	20	0.83	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Selenium	ND	0.21	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Silver	ND	0.21	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Thallium	ND	0.21	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Vanadium	31	0.42	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Zinc	12	0.83	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	157881	Project#:	STANDARD
Client:	IT Corporation	Location:	Ark/Monarch School
Field ID:	GR-12-5	Basis:	dry
Lab ID:	157881-054	Diln Fac:	1.000
Matrix:	Soil	Sampled:	04/01/02
Units:	mg/Kg	Received:	04/02/02

Moisture: 42%

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	3.8	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Arsenic	3.2	0.31	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Barium	89	0.63	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Beryllium	0.33	0.13	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Cadmium	0.43	0.31	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Chromium	18	0.63	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Cobalt	4.7	1.3	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Copper	5.8	0.63	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Lead	3.3	0.19	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Mercury	ND	0.030	71422	04/06/02	04/06/02	METHOD	EPA 7471
Molybdenum	1.6	1.3	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Nickel	8.5	1.3	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Selenium	ND	0.31	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Silver	ND	0.31	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Thallium	0.44	0.31	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Vanadium	16	0.63	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Zinc	14	1.3	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	157881	Project#:	STANDARD
Client:	IT Corporation	Location:	Ark/Monarch School
Field ID:	GR-12-5.5	Basis:	dry
Lab ID:	157881-055	Diln Fac:	1.000
Matrix:	Soil	Sampled:	04/01/02
Units:	mg/Kg	Received:	04/02/02

Moisture: 19%

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	3.1	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Arsenic	7.7	0.26	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Barium	110	0.52	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Beryllium	0.35	0.10	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Cadmium	0.56	0.26	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Chromium	15	0.52	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Cobalt	2.8	1.0	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Copper	4.3	0.52	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Lead	5.8	0.16	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Mercury	ND	0.021	71422	04/06/02	04/06/02	METHOD	EPA 7471
Molybdenum	3.7	1.0	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Nickel	7.6	1.0	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Selenium	1.0	0.26	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Silver	ND	0.26	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Thallium	0.36	0.26	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Vanadium	16	0.52	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Zinc	11	1.0	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	157881	Project#:	STANDARD
Client:	IT Corporation	Location:	Ark/Monarch School
Field ID:	SW-1-0	Basis:	dry
Lab ID:	157881-056	Diln Fac:	1.000
Matrix:	Soil	Sampled:	04/01/02
Units:	mg/Kg	Received:	04/02/02

Moisture: 17%

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	3.1	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Arsenic	3.1	0.26	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Barium	73	0.52	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Beryllium	0.28	0.10	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Cadmium	0.54	0.26	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Chromium	10	0.52	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Cobalt	1.6	1.0	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Copper	7.4	0.52	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Lead	5.1	0.16	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Mercury	0.081	0.024	71422	04/06/02	04/06/02	METHOD	EPA 7471
Molybdenum	1.1	1.0	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Nickel	7.9	1.0	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Selenium	0.36	0.26	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Silver	ND	0.26	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Thallium	ND	0.26	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Vanadium	11	0.52	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Zinc	16	1.0	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	157881	Project#:	STANDARD
Client:	IT Corporation	Location:	Ark/Monarch School
Field ID:	SW-1-2	Basis:	dry
Lab ID:	157881-057	Diln Fac:	1.000
Matrix:	Soil	Sampled:	04/01/02
Units:	mg/Kg	Received:	04/02/02

Moisture: 34%

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	4.3	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Arsenic	1.3	0.36	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Barium	53	0.72	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Beryllium	0.26	0.14	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Cadmium	ND	0.36	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Chromium	12	0.72	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Cobalt	ND	1.4	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Copper	3.1	0.72	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Lead	2.0	0.22	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Mercury	ND	0.030	71422	04/06/02	04/06/02	METHOD	EPA 7471
Molybdenum	ND	1.4	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Nickel	4.0	1.4	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Selenium	ND	0.36	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Silver	ND	0.36	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Thallium	0.42	0.36	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Vanadium	7.6	0.72	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Zinc	5.4	1.4	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	157881	Project#:	STANDARD
Client:	IT Corporation	Location:	Ark/Monarch School
Field ID:	SW-2-0	Basis:	dry
Lab ID:	157881-058	Diln Fac:	1.000
Matrix:	Soil	Sampled:	04/01/02
Units:	mg/Kg	Received:	04/02/02

Moisture: 28%

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	4.0	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Arsenic	3.3	0.33	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Barium	70	0.66	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Beryllium	0.38	0.13	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Cadmium	0.59	0.33	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Chromium	14	0.66	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Cobalt	2.1	1.3	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Copper	12	0.66	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Lead	10	0.20	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Mercury	0.059	0.024	71422	04/06/02	04/06/02	METHOD	EPA 7471
Molybdenum	ND	1.3	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Nickel	10	1.3	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Selenium	0.42	0.33	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Silver	ND	0.33	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Thallium	ND	0.33	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Vanadium	14	0.66	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Zinc	49	1.3	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	157881	Project#:	STANDARD
Client:	IT Corporation	Location:	Ark/Monarch School
Field ID:	SW-2-2	Basis:	dry
Lab ID:	157881-059	Diln Fac:	1.000
Matrix:	Soil	Sampled:	04/01/02
Units:	mg/Kg	Received:	04/02/02

Moisture: 43%

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	4.6	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Arsenic	3.0	0.38	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Barium	64	0.77	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Beryllium	0.39	0.15	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Cadmium	ND	0.38	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Chromium	18	0.77	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Cobalt	ND	1.5	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Copper	6.2	0.77	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Lead	2.5	0.23	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Mercury	ND	0.032	71422	04/06/02	04/06/02	METHOD	EPA 7471
Molybdenum	ND	1.5	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Nickel	7.8	1.5	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Selenium	ND	0.38	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Silver	ND	0.38	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Thallium	ND	0.38	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Vanadium	16	0.77	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B
Zinc	11	1.5	71469	04/08/02	04/12/02	EPA 3050	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3050
Project#:	STANDARD	Analysis:	EPA 6010B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC175344	Batch#:	71467
Matrix:	Soil	Prepared:	04/08/02
Units:	mg/Kg	Analyzed:	04/16/02
Basis:	as received		

Analyte	Result	RL
Antimony	ND	3.0
Arsenic	ND	0.25
Barium	ND	0.50
Beryllium	ND	0.10
Cadmium	ND	0.25
Chromium	ND	0.50
Cobalt	ND	1.0
Copper	ND	0.50
Lead	ND	0.15
Molybdenum	ND	1.0
Nickel	ND	1.0
Selenium	ND	0.25
Silver	ND	0.25
Thallium	ND	0.25
Vanadium	ND	0.50
Zinc	ND	1.0

ND= Not Detected
RL= Reporting Limit
Page 1 of 1

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3050
Project#:	STANDARD	Analysis:	EPA 6010B
Matrix:	Soil	Batch#:	71467
Units:	mg/Kg	Prepared:	04/08/02
Basis:	as received	Analyzed:	04/16/02
Diln Fac:	1.000		

Type: BS Lab ID: QC175345

Analyte	Spiked	Result	%REC	Limits
Antimony	100.0	99.50	100	70-120
Arsenic	50.00	44.80	90	72-120
Barium	100.0	91.00	91	73-120
Beryllium	2.500	2.290	92	73-120
Cadmium	10.00	8.600	86	69-120
Chromium	100.0	88.50	89	72-120
Cobalt	25.00	21.30	85	70-120
Copper	12.50	11.50	92	72-120
Lead	100.0	85.00	85	70-120
Molybdenum	20.00	18.05	90	74-120
Nickel	25.00	21.85	87	72-120
Selenium	50.00	42.25	85	66-120
Silver	10.00	9.050	91	69-120
Thallium	50.00	42.50	85	68-120
Vanadium	25.00	22.45	90	72-120
Zinc	25.00	21.35	85	65-120

Type: BSD Lab ID: QC175346

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	100.0	100.0	100	70-120	1	20
Arsenic	50.00	45.05	90	72-120	1	20
Barium	100.0	92.00	92	73-120	1	20
Beryllium	2.500	2.325	93	73-120	2	20
Cadmium	10.00	8.700	87	69-120	1	20
Chromium	100.0	89.50	90	72-120	1	20
Cobalt	25.00	21.55	86	70-120	1	20
Copper	12.50	11.60	93	72-120	1	20
Lead	100.0	86.50	87	70-120	2	20
Molybdenum	20.00	18.30	92	74-120	1	20
Nickel	25.00	22.10	88	72-120	1	20
Selenium	50.00	42.80	86	66-120	1	20
Silver	10.00	9.150	92	69-120	1	20
Thallium	50.00	42.70	85	68-120	0	20
Vanadium	25.00	22.70	91	72-120	1	20
Zinc	25.00	21.55	86	65-120	1	20

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3050
Project#:	STANDARD	Analysis:	EPA 6010B
Field ID:	GR-1-0	Batch#:	71467
MSS Lab ID:	157881-006	Sampled:	04/01/02
Matrix:	Soil	Received:	04/02/02
Units:	mg/Kg	Prepared:	04/08/02
Basis:	dry	Analyzed:	04/16/02
Diln Fac:	1.000		

Type: MS
Lab ID: QC175347

Moisture: 16%

Analyte	MSS Result	Spiked	Result	%REC	Limits
Antimony	<1.548	115.0	10.18	9 *	50-120
Arsenic	6.152	57.51	50.03	76	48-120
Barium	89.43	115.0	183.5	82	63-142
Beryllium	0.4893	2.876	2.881	83	54-120
Cadmium	1.003	11.50	9.662	75	43-120
Chromium	30.99	115.0	121.3	79	62-145
Cobalt	3.298	28.76	24.90	75	45-129
Copper	5.639	14.38	18.40	89	62-150
Lead	5.519	115.0	92.02	75	46-128
Molybdenum	0.6209	23.00	13.75	57	43-120
Nickel	23.30	28.76	44.86	75	62-141
Selenium	0.3292	57.51	42.16	73	52-120
Silver	<0.08810	11.50	9.662	84	58-120
Thallium	0.2193	57.51	42.90	74	51-120
Vanadium	31.39	28.76	54.00	79	62-150
Zinc	13.84	28.76	35.54	75	55-150

Type: MSD
Lab ID: QC175348

Moisture: 16%

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	99.21	7.440	8 *	50-120	17	47
Arsenic	49.60	43.70	76	48-120	0	32
Barium	99.21	172.1	83	63-142	2	34
Beryllium	2.480	2.584	84	54-120	2	22
Cadmium	9.921	8.532	76	43-120	1	26
Chromium	99.21	110.6	80	62-145	2	33
Cobalt	24.80	22.07	76	45-129	1	32
Copper	12.40	17.01	92	62-150	3	40
Lead	99.21	80.36	75	46-128	1	39
Molybdenum	19.84	11.36	54	43-120	5	25
Nickel	24.80	44.15	84	62-141	6	37
Selenium	49.60	36.11	72	52-120	1	28
Silver	9.921	8.234	83	58-120	1	21
Thallium	49.60	36.86	74	51-120	0	26
Vanadium	24.80	53.08	87	62-150	5	28
Zinc	24.80	34.08	82	55-150	6	38

*= Value outside of QC limits; see narrative
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3050
Project#:	STANDARD	Analysis:	EPA 6010B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC175353	Batch#:	71469
Matrix:	Soil	Prepared:	04/08/02
Units:	mg/Kg	Analyzed:	04/12/02
Basis:	as received		

Analyte	Result	RL
Antimony	ND	3.0
Arsenic	ND	0.25
Barium	ND	0.50
Beryllium	ND	0.10
Cadmium	ND	0.25
Chromium	ND	0.50
Cobalt	ND	1.0
Copper	ND	0.50
Lead	ND	0.15
Molybdenum	ND	1.0
Nickel	ND	1.0
Selenium	ND	0.25
Silver	ND	0.25
Thallium	ND	0.25
Vanadium	ND	0.50
Zinc	ND	1.0

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3050
Project#:	STANDARD	Analysis:	EPA 6010B
Matrix:	Soil	Batch#:	71469
Units:	mg/Kg	Prepared:	04/08/02
Basis:	as received	Analyzed:	04/12/02
Diln Fac:	1.000		

Type: BS Lab ID: QC175354

Analyte	Spiked	Result	%REC	Limits
Antimony	100.0	102.5	103	70-120
Arsenic	50.00	46.80	94	72-120
Barium	100.0	93.50	94	73-120
Beryllium	2.500	2.400	96	73-120
Cadmium	10.00	8.850	89	69-120
Chromium	100.0	91.00	91	72-120
Cobalt	25.00	21.95	88	70-120
Copper	12.50	12.25	98	72-120
Lead	100.0	87.50	88	70-120
Molybdenum	20.00	18.80	94	74-120
Nickel	25.00	22.65	91	72-120
Selenium	50.00	43.90	88	66-120
Silver	10.00	9.750	98	69-120
Thallium	50.00	42.50	85	68-120
Vanadium	25.00	23.30	93	72-120
Zinc	25.00	22.55	90	65-120

Type: BSD Lab ID: QC175355

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	100.0	103.5	104	70-120	1	20
Arsenic	50.00	48.00	96	72-120	3	20
Barium	100.0	96.00	96	73-120	3	20
Beryllium	2.500	2.475	99	73-120	3	20
Cadmium	10.00	9.100	91	69-120	3	20
Chromium	100.0	94.00	94	72-120	3	20
Cobalt	25.00	22.60	90	70-120	3	20
Copper	12.50	12.55	100	72-120	2	20
Lead	100.0	90.50	91	70-120	3	20
Molybdenum	20.00	19.30	97	74-120	3	20
Nickel	25.00	23.30	93	72-120	3	20
Selenium	50.00	45.10	90	66-120	3	20
Silver	10.00	9.850	99	69-120	1	20
Thallium	50.00	44.70	89	68-120	5	20
Vanadium	25.00	24.05	96	72-120	3	20
Zinc	25.00	23.30	93	65-120	3	20

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3050
Project#:	STANDARD	Analysis:	EPA 6010B
Field ID:	SW-1-0	Batch#:	71469
MSS Lab ID:	157881-056	Sampled:	04/01/02
Matrix:	Soil	Received:	04/02/02
Units:	mg/Kg	Prepared:	04/08/02
Basis:	dry	Analyzed:	04/12/02
Diln Fac:	1.000		

Type: MS
Lab ID: QC175356

Moisture: 17%

Analyte	MSS Result	Spiked	Result	%REC	Limits
Antimony	<1.446	99.99	35.14	35 *	50-120
Arsenic	3.139	49.99	47.49	89	48-120
Barium	72.91	99.99	190.0	117	63-142
Beryllium	0.2766	2.500	2.715	98	54-120
Cadmium	0.5429	9.999	9.149	86	43-120
Chromium	10.29	99.99	102.0	92	62-145
Cobalt	1.629	25.00	23.15	86	45-129
Copper	7.394	12.50	21.40	112	62-150
Lead	5.052	99.99	89.49	84	46-128
Molybdenum	1.076	20.00	17.25	81	43-120
Nickel	7.911	25.00	32.35	98	62-141
Selenium	0.3614	49.99	42.19	84	52-120
Silver	<0.07952	9.999	9.299	93	58-120
Thallium	0.2063	49.99	41.94	83	51-120
Vanadium	11.38	25.00	37.69	105	62-150
Zinc	15.51	25.00	41.09	102	55-150

Type: MSD
Lab ID: QC175357

Moisture: 17%

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	108.5	44.18	41 *	50-120	15	47
Arsenic	54.27	51.67	89	48-120	1	32
Barium	108.5	191.6	109	63-142	4	34
Beryllium	2.714	2.898	97	54-120	1	22
Cadmium	10.85	9.823	85	43-120	1	26
Chromium	108.5	109.1	91	62-145	1	33
Cobalt	27.14	24.80	85	45-129	1	32
Copper	13.57	21.93	107	62-150	3	40
Lead	108.5	96.60	84	46-128	0	39
Molybdenum	21.71	19.32	84	43-120	4	25
Nickel	27.14	34.30	97	62-141	0	37
Selenium	54.27	45.70	84	52-120	0	28
Silver	10.85	9.986	92	58-120	1	21
Thallium	54.27	44.99	83	51-120	1	26
Vanadium	27.14	40.27	106	62-150	1	28
Zinc	27.14	42.28	99	55-150	2	38

*= Value outside of QC limits; see narrative
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	METHOD
Project#:	STANDARD	Analysis:	EPA 7471
Analyte:	Mercury	Basis:	as received
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC175001	Batch#:	71379
Matrix:	Soil	Prepared:	04/04/02
Units:	mg/Kg	Analyzed:	04/05/02

Result	RL
ND	0.020

ND= Not Detected
RL= Reporting Limit
Page 1 of 1

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	METHOD
Project#:	STANDARD	Analysis:	EPA 7471
Analyte:	Mercury	Diln Fac:	1.000
Matrix:	Soil	Batch#:	71379
Units:	mg/Kg	Prepared:	04/04/02
Basis:	as received	Analyzed:	04/05/02

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC175002	0.5000	0.5010	100	80-120		
BSD	QC175003	0.5000	0.5050	101	80-120	1	20

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	METHOD
Project#:	STANDARD	Analysis:	EPA 7471
Analyte:	Mercury	Diln Fac:	1.000
Field ID:	GR-1-0	Batch#:	71379
MSS Lab ID:	157881-006	Sampled:	04/01/02
Matrix:	Soil	Received:	04/02/02
Units:	mg/Kg	Prepared:	04/04/02
Basis:	dry	Analyzed:	04/05/02

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	Moisture	RPD	Lim
MS	QC175004	0.07726	0.5511	0.6867	111	40-144	16%		
MSD	QC175005		0.5315	0.6409	106	40-144	16%	4	50

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	METHOD
Project#:	STANDARD	Analysis:	EPA 7471
Analyte:	Mercury	Basis:	as received
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC175147	Batch#:	71422
Matrix:	Soil	Prepared:	04/06/02
Units:	mg/Kg	Analyzed:	04/06/02

Result	RL
ND	0.050

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	METHOD
Project#:	STANDARD	Analysis:	EPA 7471
Analyte:	Mercury	Diln Fac:	1.000
Matrix:	Soil	Batch#:	71422
Units:	mg/Kg	Prepared:	04/06/02
Basis:	as received	Analyzed:	04/06/02

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC175148	1.250	1.245	100	80-120		
BSD	QC175149	1.250	1.238	99	80-120	1	20

RPD= Relative Percent Difference

California Title 26 Metals

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	METHOD
Project#:	STANDARD	Analysis:	EPA 7471
Analyte:	Mercury	Diln Fac:	1.000
Field ID:	60-WS-01	Batch#:	71422
MSS Lab ID:	157858-002	Sampled:	04/02/02
Matrix:	Soil	Received:	04/02/02
Units:	mg/Kg	Prepared:	04/06/02
Basis:	dry	Analyzed:	04/06/02

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	Moisture	RPD	Lim
MS	QC175150	0.02022	1.374	1.508	108	40-144	9%		
MSD	QC175151		1.374	1.511	109	40-144	9%	0	50

260

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3050
Project#:	STANDARD	Analysis:	EPA 6010B
Analyte:	Lead	Basis:	as received
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC175122	Batch#:	71411
Matrix:	Soil	Prepared:	04/05/02
Units:	mg/Kg	Analyzed:	04/09/02

Result	RL
ND	0.15

ND= Not Detected
RL= Reporting Limit
Page 1 of 1

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3050
Project#:	STANDARD	Analysis:	EPA 6010B
Analyte:	Lead	Diln Fac:	1.000
Matrix:	Soil	Batch#:	71411
Units:	mg/Kg	Prepared:	04/05/02
Basis:	as received	Analyzed:	04/09/02

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC175123	100.0	75.50	76	70-120		
BSD	QC175124	100.0	79.00	79	70-120	5	20

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3050
Project#:	STANDARD	Analysis:	EPA 6010B
Analyte:	Lead	Diln Fac:	1.000
Field ID:	ZZZZZZZZZZ	Batch#:	71411
MSS Lab ID:	157943-001	Sampled:	04/04/02
Matrix:	Soil	Received:	04/05/02
Units:	mg/Kg	Prepared:	04/05/02
Basis:	dry	Analyzed:	04/09/02

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	Moisture	RPD	Lim
MS	QC175125	3.805	102.9	77.16	71	46-128	10%		
MSD	QC175126		110.6	80.15	69	46-128	10%	3	39

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	157881	Project#:	STANDARD
Client:	IT Corporation	Location:	Ark/Monarch School
Field ID:	RINSATE	Diln Fac:	1.000
Lab ID:	157881-062	Sampled:	04/01/02
Matrix:	Water	Received:	04/02/02
Units:	ug/L		

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	60	71403	04/05/02	04/08/02	EPA 3010	EPA 6010B
Arsenic	ND	5.0	71403	04/05/02	04/08/02	EPA 3010	EPA 6010B
Barium	ND	10	71403	04/05/02	04/08/02	EPA 3010	EPA 6010B
Beryllium	ND	2.0	71403	04/05/02	04/08/02	EPA 3010	EPA 6010B
Cadmium	ND	5.0	71403	04/05/02	04/08/02	EPA 3010	EPA 6010B
Chromium	ND	10	71403	04/05/02	04/08/02	EPA 3010	EPA 6010B
Cobalt	ND	20	71403	04/05/02	04/08/02	EPA 3010	EPA 6010B
Copper	ND	10	71403	04/05/02	04/08/02	EPA 3010	EPA 6010B
Lead	ND	3.0	71403	04/05/02	04/08/02	EPA 3010	EPA 6010B
Mercury	ND	0.20	71351	04/04/02	04/04/02	METHOD	EPA 7470A
Molybdenum	ND	20	71403	04/05/02	04/08/02	EPA 3010	EPA 6010B
Nickel	ND	20	71403	04/05/02	04/08/02	EPA 3010	EPA 6010B
Selenium	ND	5.0	71403	04/05/02	04/08/02	EPA 3010	EPA 6010B
Silver	ND	5.0	71403	04/05/02	04/08/02	EPA 3010	EPA 6010B
Thallium	ND	5.0	71403	04/05/02	04/08/02	EPA 3010	EPA 6010B
Vanadium	ND	10	71403	04/05/02	04/08/02	EPA 3010	EPA 6010B
Zinc	ND	20	71403	04/05/02	04/08/02	EPA 3010	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3010
Project#:	STANDARD	Analysis:	EPA 6010B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC175090	Batch#:	71403
Matrix:	Water	Prepared:	04/05/02
Units:	ug/L	Analyzed:	04/08/02

Analyte	Result	RL
Antimony	ND	60
Arsenic	ND	5.0
Barium	ND	10
Beryllium	ND	2.0
Cadmium	ND	5.0
Chromium	ND	10
Cobalt	ND	20
Copper	ND	10
Lead	ND	3.0
Molybdenum	ND	20
Nickel	ND	20
Selenium	ND	5.0
Silver	ND	5.0
Thallium	ND	5.0
Vanadium	ND	10
Zinc	ND	20

ND= Not Detected
RL= Reporting Limit
Page 1 of 1

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	METHOD
Project#:	STANDARD	Analysis:	EPA 7470A
Analyte:	Mercury	Diln Fac:	1.000
Type:	BLANK	Batch#:	71351
Lab ID:	QC174900	Prepared:	04/04/02
Matrix:	Water	Analyzed:	04/04/02
Units:	ug/L		

Result	RL
ND	0.20

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3010
Project#:	STANDARD	Analysis:	EPA 6010B
Matrix:	Water	Batch#:	71403
Units:	ug/L	Prepared:	04/05/02
Diln Fac:	1.000	Analyzed:	04/08/02

Type: BS Lab ID: QC175091

Analyte	Spiked	Result	%REC	Limits
Antimony	500.0	513.0	103	75-126
Arsenic	100.0	101.0	101	79-123
Barium	2,000	1,920	96	80-120
Beryllium	50.00	51.50	103	80-120
Cadmium	50.00	49.80	100	80-120
Chromium	200.0	199.0	100	79-120
Cobalt	500.0	485.0	97	80-120
Copper	250.0	244.0	98	80-120
Lead	100.0	102.0	102	78-120
Molybdenum	400.0	393.0	98	80-120
Nickel	500.0	495.0	99	78-120
Selenium	100.0	99.90	100	72-121
Silver	50.00	50.20	100	80-120
Thallium	100.0	96.10	96	70-121
Vanadium	500.0	496.0	99	80-120
Zinc	500.0	483.0	97	78-120

Type: BSD Lab ID: QC175092

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	500.0	528.0	106	75-126	3	20
Arsenic	100.0	107.0	107	79-123	6	20
Barium	2,000	2,020	101	80-120	5	20
Beryllium	50.00	53.20	106	80-120	3	20
Cadmium	50.00	51.70	103	80-120	4	20
Chromium	200.0	205.0	103	79-120	3	20
Cobalt	500.0	502.0	100	80-120	3	20
Copper	250.0	253.0	101	80-120	4	20
Lead	100.0	104.0	104	78-120	2	20
Molybdenum	400.0	412.0	103	80-120	5	20
Nickel	500.0	513.0	103	78-120	4	20
Selenium	100.0	104.0	104	72-121	4	20
Silver	50.00	51.00	102	80-120	2	20
Thallium	100.0	103.0	103	70-121	7	20
Vanadium	500.0	514.0	103	80-120	4	20
Zinc	500.0	504.0	101	78-120	4	20

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	METHOD
Project#:	STANDARD	Analysis:	EPA 7470A
Analyte:	Mercury	Batch#:	71351
Matrix:	Water	Prepared:	04/04/02
Units:	ug/L	Analyzed:	04/04/02
Diln Fac:	1.000		

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC174901	5.000	5.000	100	78-120		
BSD	QC174902	5.000	5.060	101	78-120	1	22

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	EPA 3010
Project#:	STANDARD	Analysis:	EPA 6010B
Field ID:	ZZZZZZZZZZ	Batch#:	71403
MSS Lab ID:	157909-023	Sampled:	04/02/02
Matrix:	Water	Received:	04/03/02
Units:	ug/L	Prepared:	04/05/02
Diln Fac:	1.000	Analyzed:	04/08/02

Type: MS Lab ID: QC175093

Analyte	MSS Result	Spiked	Result	%REC	Limits
Antimony	<6.900	500.0	514.0	103	62-135
Arsenic	<3.600	100.0	105.0	105	66-134
Barium	1.770	2,000	1,960	98	66-123
Beryllium	0.5220	50.00	51.50	102	65-128
Cadmium	<0.4000	50.00	50.00	100	61-124
Chromium	1.950	200.0	200.0	99	64-123
Cobalt	0.9400	500.0	486.0	97	65-120
Copper	<0.6200	250.0	244.0	98	62-130
Lead	1.090	100.0	101.0	100	58-129
Molybdenum	<2.600	400.0	400.0	100	68-122
Nickel	<2.600	500.0	498.0	100	60-126
Selenium	<3.400	100.0	101.0	101	62-131
Silver	1.280	50.00	49.40	96	47-138
Thallium	<4.100	100.0	96.00	96	57-126
Vanadium	0.7630	500.0	497.0	99	59-132
Zinc	10.40	500.0	481.0	94	49-139

Type: MSD Lab ID: QC175094

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	500.0	510.0	102	62-135	1	20
Arsenic	100.0	103.0	103	66-134	2	29
Barium	2,000	1,940	97	66-123	1	20
Beryllium	50.00	51.30	102	65-128	0	20
Cadmium	50.00	49.90	100	61-124	0	20
Chromium	200.0	199.0	99	64-123	1	20
Cobalt	500.0	484.0	97	65-120	0	20
Copper	250.0	240.0	96	62-130	2	20
Lead	100.0	101.0	100	58-129	0	28
Molybdenum	400.0	401.0	100	68-122	0	20
Nickel	500.0	496.0	99	60-126	0	20
Selenium	100.0	97.50	98	62-131	4	23
Silver	50.00	48.90	95	47-138	1	20
Thallium	100.0	100.0	100	57-126	4	29
Vanadium	500.0	493.0	98	59-132	1	20
Zinc	500.0	477.0	93	49-139	1	31

RPD= Relative Percent Difference

California Title 26 Metals

Lab #:	157881	Location:	Ark/Monarch School
Client:	IT Corporation	Prep:	METHOD
Project#:	STANDARD	Analysis:	EPA 7470A
Analyte:	Mercury	Batch#:	71351
Field ID:	ZZZZZZZZZZ	Sampled:	04/01/02
MSS Lab ID:	157830-001	Received:	04/01/02
Matrix:	Water	Prepared:	04/04/02
Units:	ug/L	Analyzed:	04/04/02
Diln Fac:	1.000		

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC174903	<0.04000	5.000	5.350	107	47-143		
MSD	QC174904		5.000	5.080	102	47-143	5	35

270

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

SERIAL DILUTION USER REPORT
Curtis & Tompkins Laboratories
EPA 6010B

Instid : MET07
Seqnum : 72143160076
Filename : tr176473
IDF : 5.0
PDF : 42.91845
Run type : SER
Samplenum: QC175127
Matrix : Soil
Batchnum : 71411
Inj : 09-APR-2002 15:41
Units : mg/Kg

MSS : 157943-001

Analyte	MSS Seqnum	MSS	RL	SER	RL	%D	MAX %D	Flags
Aluminum	72143160069	32200 >LR	4.29	30500	21.5	--	10	u
Antimony	72143160069	ND	2.58	ND	12.9	--	10	u
Arsenic	72143160069	3.68	0.215	3.03	1.07	18	10	fu
Barium	72143160069	189	0.429	171	2.15	9	10	u
Beryllium	72143160069	0.661	0.0858	0.826	0.429	--	10	u
Cadmium	72143160069	1.88	0.215	1.71	1.07	--	10	u
Calcium	72143160069	14500 >LR	21.5	15500	107	--	10	u
Chromium	72143160069	287	0.429	285	2.15	0	10	u
Cobalt	72143160069	31.5	0.858	32.6	4.29	3	10	u
Copper	72143160069	35.2	0.429	30.7	2.15	13	10	fu
Iron	72143160069	31400 >LR	4.29	30600	21.5	--	10	u
Lead	72143160069	3.42	0.129	3.95	0.644	15	10	fu
Magnesium	72143160073	58400	215	58600 >LR	107	--	10	>b*
Manganese	72143160069	781	0.429	734	2.15	6	10	u
Molybdenum	72143160069	ND	0.858	ND	4.29	--	10	u
Nickel	72143160069	498	0.858	521	4.29	5	10	u
Selenium	72143160069	ND	0.215	ND	1.07	--	10	u
Silver	72143160069	ND	0.215	ND	1.07	--	10	u
Thallium	72143160069	1.57	0.215	1.84	1.07	--	10	u
Titanium	72143160073	1140	4.29	1140	2.15	1	10	u
Vanadium	72143160069	60.5	0.429	58.8	2.15	3	10	u
Zinc	72143160069	51.9	0.858	52.4	4.29	1	10	u

>=>LR b=noncompliant f=recovery failure u=use

SEQUENCE SUMMARY
Curtis & Tompkins Laboratories

Sequence: 72143160 Instrument: MET07 TJA Trace ICP Begun: 09-APR-2002

#	Filename	Type	Samplenum	Batch	Matrix	Analyzed	IDF	PDF	IQC	SPK uL	Stds Used	>LR
001	tr176395	CS				09-APR-2002 10:00	1.0	1.0			1	
002	tr176396	ICV				09-APR-2002 10:05	1.0	1.0			2	
003	tr176397	ICB				09-APR-2002 10:12	1.0	1.0				
004	tr176401	CRI				09-APR-2002 10:29	1.0	1.0			3	
005	tr176402	ICSAB				09-APR-2002 10:41	1.0	1.0			4	5:AL=517200
006	tr176403	SAMPLE	157921-001	71404	Soil	09-APR-2002 10:48	1.0	42.91845	1			4:FE=332500
007	tr176404	SAMPLE	157921-002	71404	Soil	09-APR-2002 10:52	1.0	42.37288				4:FE=433100
008	tr176405	SAMPLE	157921-003	71404	Soil	09-APR-2002 10:55	1.0	41.8410	2			4:FE=385400
009	tr176406	SAMPLE	157921-003	71404	Soil	09-APR-2002 10:59	1.0	41.8410				4:FE=378200
010	tr176407	SAMPLE	157921-004	71404	Soil	09-APR-2002 11:03	1.0	38.61004	1			3:FE=445600
011	tr176408	SAMPLE	157921-004	71404	Soil	09-APR-2002 11:07	1.0	38.61004				3:FE=441100
012	tr176409	SAMPLE	157747-002	71404	Soil	09-APR-2002 11:11	10.0	47.84689				1:FE=318400
013	tr176410	SAMPLE	157747-003	71404	Soil	09-APR-2002 11:14	10.0	50.0				1:FE=563000
014	tr176411	CCV				09-APR-2002 11:21	1.0	1.0			5	
015	tr176412	CCB				09-APR-2002 11:25	1.0	1.0				
016	tr176413	BLANK	QC175165	71428	Soil	09-APR-2002 11:30	1.0	50.0				
017	tr176414	BS	QC175166	71428	Soil	09-APR-2002 11:33	1.0	50.0				
018	tr176415	BSD	QC175167	71428	Soil	09-APR-2002 11:36	1.0	50.0				
019	tr176416	MSS	157901-001	71428	Soil	09-APR-2002 11:40	1.0	41.32231				2:FE=340600
020	tr176417	MSS	157901-001	71428	Soil	09-APR-2002 11:43	1.0	41.32231	1			2:FE=338000
021	tr176418	SDUP	QC175168	71428	Soil	09-APR-2002 11:47	1.0	49.26108	3	1		2:FE=335200
022	tr176419	SDUP	QC175168	71428	Soil	09-APR-2002 11:51	1.0	49.26108	3	2		2:FE=332500
023	tr176420	SSPIKE	QC175169	71428	Soil	09-APR-2002 11:55	1.0	49.75124		1		2:FE=307600
024	tr176421	SAMPLE	157901-002	71428	Soil	09-APR-2002 11:58	1.0	46.72897				2:FE=370600
025	tr176422	SAMPLE	157901-003	71428	Soil	09-APR-2002 12:01	1.0	49.26108				2:FE=244200
026	tr176423	CCV				09-APR-2002 12:06	1.0	1.0			6	
027	tr176424	CCB				09-APR-2002 12:10	1.0	1.0				
028	tr176425	SAMPLE	157901-003	71428	Soil	09-APR-2002 12:15	1.0	49.26108	1			2:FE=241800
029	tr176426	SAMPLE	157901-004	71428	Soil	09-APR-2002 12:18	1.0	38.75969	1			2:FE=409600
030	tr176427	SAMPLE	157901-004	71428	Soil	09-APR-2002 12:23	1.0	38.75969				2:FE=408900
031	tr176428	SAMPLE	157901-005	71428	Soil	09-APR-2002 12:27	1.0	49.75124	2			2:FE=340300
032	tr176429	SAMPLE	157901-005	71428	Soil	09-APR-2002 12:31	1.0	49.75124				2:FE=338400

Stds used: 1=02WS0548 2=02WS0158 3=02WS0594 4=02WS0163 5=02WS0160 6=02WS0159 7=02WS0161 8=02WS0598

Analyst: Mei Wu Date: 4/10/02

SEQUENCE SUMMARY
Curtis & Tompkins Laboratories

Sequence: 72143160 Instrument: MET07 TJA Trace ICP Begun: 09-APR-2002

#	Filename	Type	Samplenum	Batch	Matrix	Analyzed	IDF	PDF	IQC	SPK uL	Stds Used	>LR
033	tr176430	SAMPLE	157901-006	71428	Soil	09-APR-2002 12:34	1.0	44.44444				2:FE=324400
034	tr176431	SAMPLE	157901-006	71428	Soil	09-APR-2002 12:39	1.0	44.44444	1			2:FE=331800
035	tr176432	SAMPLE	157901-007	71428	Soil	09-APR-2002 12:42	1.0	38.61004	2			3:FE=308100
036	tr176433	SAMPLE	157901-008	71428	Soil	09-APR-2002 12:46	1.0	44.64286				3:FE=273800
037	tr176434	SAMPLE	157901-009	71428	Soil	09-APR-2002 12:49	1.0	49.26108				2:FE=324900
038	tr176435	CCV				09-APR-2002 12:58	1.0	1.0			7	
039	tr176436	CCB				09-APR-2002 13:02	1.0	1.0				
040	tr176437	SAMPLE	157901-007	71428	Soil	09-APR-2002 13:08	1.0	38.61004				3:FE=300100
041	tr176438	SAMPLE	157901-008	71428	Soil	09-APR-2002 13:12	1.0	44.64286				2:FE=272800
042	tr176439	SAMPLE	157901-010	71428	Soil	09-APR-2002 13:15	1.0	44.44444	1			2:FE=373200
043	tr176440	SAMPLE	157901-011	71428	Soil	09-APR-2002 13:18	1.0	40.81633	1			4:CA=508600
044	tr176441	SAMPLE	157901-012	71428	Soil	09-APR-2002 13:22	1.0	48.30918				2:FE=350500
045	tr176442	SAMPLE	157901-013	71428	Soil	09-APR-2002 13:25	1.0	46.72897	1			2:FE=584700
046	tr176443	SAMPLE	157901-014	71428	Soil	09-APR-2002 13:29	1.0	44.64286	1			2:FE=356200
047	tr176444	SAMPLE	157901-015	71428	Soil	09-APR-2002 13:32	1.0	49.26108	1			2:FE=453900
048	tr176445	SAMPLE	157901-013	71428	Soil	09-APR-2002 13:36	1.0	46.72897				2:FE=586100
049	tr176446	SAMPLE	157901-011	71428	Soil	09-APR-2002 13:39	10.0	40.81633				
050	tr176447	CCV				09-APR-2002 13:46	1.0	1.0			6	
051	tr176448	CCB				09-APR-2002 13:51	1.0	1.0				
052	tr176449	SAMPLE	157901-014	71428	Soil	09-APR-2002 13:55	1.0	44.64286				2:FE=347200
053	tr176450	SAMPLE	157901-010	71428	Soil	09-APR-2002 13:59	1.0	44.44444				2:FE=372500
054	tr176451	SAMPLE	157901-015	71428	Soil	09-APR-2002 14:03	1.0	49.26108				2:FE=447100
055	tr176452	SAMPLE	157901-016	71428	Soil	09-APR-2002 14:06	1.0	47.39336				2:FE=297800
056	tr176453	SAMPLE	157901-017	71428	Soil	09-APR-2002 14:10	1.0	42.73504	1			2:FE=268900
057	tr176454	SAMPLE	157901-018	71428	Soil	09-APR-2002 14:13	1.0	48.30918	1			2:FE=336100
058	tr176455	SAMPLE	157901-019	71428	Soil	09-APR-2002 14:16	1.0	42.91845				2:FE=420100
059	tr176456	SAMPLE	157901-020	71428	Soil	09-APR-2002 14:20	1.0	47.61905	1			2:FE=321900
060	tr176457	SAMPLE	157901-016	71428	Soil	09-APR-2002 14:24	1.0	47.39336				2:FE=292300
061	tr176458	SAMPLE	157901-017	71428	Soil	09-APR-2002 14:27	1.0	42.73504				2:FE=254800
062	tr176459	CCV				09-APR-2002 14:33	1.0	1.0			5	
063	tr176460	CCB				09-APR-2002 14:42	1.0	1.0				
064	tr176461	SAMPLE	157901-018	71428	Soil	09-APR-2002 14:47	1.0	48.30918				2:FE=328100

Stds used: 1=02WS0548 2=02WS0158 3=02WS0594 4=02WS0163 5=02WS0160 6=02WS0159 7=02WS0161 8=02WS0598

Analyst: Mei Wu Date: 4/10/02

SEQUENCE SUMMARY
Curtis & Tompkins Laboratories

Sequence: 72143160 Instrument: MET07 TJA Trace ICP Begun: 09-APR-2002

#	Filename	Type	Samplenum	Batch	Matrix	Analyzed	IDF	PDF	IQC	SPK uL	Stds Used	>LR
065	tr176462	SAMPLE	157901-020	71428	Soil	09-APR-2002 14:50	1.0	47.61905				2:FE=321100
066	tr176463	BLANK	QC175122	71411	Soil	09-APR-2002 14:53	1.0	50.0	2			
067	tr176464	BS	QC175123	71411	Soil	09-APR-2002 14:57	1.0	50.0				
068	tr176465	BSD	QC175124	71411	Soil	09-APR-2002 15:00	1.0	50.0				
069	tr176466	MSS	157943-001	71411	Soil	09-APR-2002 15:04	1.0	42.91845	2			5:MG=1429000
070	tr176467	MS	QC175125	71411	Soil	09-APR-2002 15:07	1.0	46.29630	1	2		6:MG=1562000
071	tr176468	MSD	QC175126	71411	Soil	09-APR-2002 15:11	1.0	49.75124	1	1		6:MG=1332000
072	tr176469	MSS	157943-001	71411	Soil	09-APR-2002 15:16	1.0	42.91845	2			5:MG=1437000
073	tr176470	MSS	157943-001	71411	Soil	09-APR-2002 15:22	10.0	42.91845				
074	tr176471	CCV				09-APR-2002 15:33	1.0	1.0			7	
075	tr176472	CCB				09-APR-2002 15:37	1.0	1.0				
076	tr176473	SER	QC175127	71411	Soil	09-APR-2002 15:41	5.0	42.91845	1	3		1:MG=272900
077	tr176474	SAMPLE	157881-001	71411	Soil	09-APR-2002 15:51	1.0	44.64286	1			3:AL=417200
078	tr176475	SAMPLE	157881-002	71411	Soil	09-APR-2002 15:55	1.0	44.24779				3:AL=377500
079	tr176476	SAMPLE	157881-003	71411	Soil	09-APR-2002 15:58	1.0	38.02281				3:AL=411500
080	tr176477	SAMPLE	157881-004	71411	Soil	09-APR-2002 16:02	1.0	46.94836				1:FE=187200
081	tr176478	SAMPLE	157881-005	71411	Soil	09-APR-2002 16:05	1.0	45.45455				1:FE=167900
082	tr176479	SAMPLE	157943-002	71411	Soil	09-APR-2002 16:08	1.0	49.26108	1			4:MG=939600
083	tr176480	SAMPLE	157946-001	71411	Miscel	09-APR-2002 16:12	1.0	47.84689				
084	tr176481	SAMPLE	157946-002	71411	Miscel	09-APR-2002 16:15	1.0	48.54369				
085	tr176482	SAMPLE	157943-002	71411	Soil	09-APR-2002 16:19	10.0	49.26108				
086	tr176483	CCV				09-APR-2002 16:26	1.0	1.0			6	
087	tr176484	CCB				09-APR-2002 16:31	1.0	1.0				
088	tr176485	SAMPLE	157881-001	71411	Soil	09-APR-2002 16:37	1.0	44.64286				3:AL=403300
089	tr176486	SAMPLE	157870-001	71411	Soil	09-APR-2002 16:40	1.0	42.55319	1			2:FE=493000
090	tr176487	SAMPLE	157870-002	71411	Soil	09-APR-2002 16:44	1.0	44.05286				2:FE=456300
091	tr176488	SAMPLE	157870-003	71411	Soil	09-APR-2002 16:47	1.0	49.75124	1			4:FE=779600
092	tr176489	ICSAB				09-APR-2002 16:52	1.0	1.0			4	4:AL=522400
093	tr176490	CCV				09-APR-2002 17:00	1.0	1.0			5	
094	tr176491	CCB				09-APR-2002 17:09	1.0	1.0				
095	tr176492	BLANK	QC174949	71364	Water	09-APR-2002 17:18	1.0	1.0	2			
096	tr176493	BS	QC174950	71364	Water	09-APR-2002 17:23	1.0	1.0	2			

Stds used: 1=02WS0548 2=02WS0158 3=02WS0594 4=02WS0163 5=02WS0160 6=02WS0159 7=02WS0161 8=02WS0598

Analyst: Mei Wu Date: 4/10/02

SEQUENCE SUMMARY
Curtis & Tompkins Laboratories

Sequence: 72143160 Instrument: MET07 TJA Trace ICP Begun: 09-APR-2002

#	Filename	Type	Samplenum	Batch	Matrix	Analyzed	IDF	PDF	IQC	SPK uL	Stds Used	>LR
097	tr176494	BSD	QC174951	71364	Water	09-APR-2002 17:28	1.0	1.0	2			
098	tr176495	MSS	157906-001	71364	Water	09-APR-2002 17:39	1.0	1.0	3			1:MG=199300
099	tr176496	SDUP	QC174952	71364	Water	09-APR-2002 17:44	1.0	1.0				1:MG=196500
100	tr176497	SSPIKE	QC174953	71364	Water	09-APR-2002 17:49	1.0	1.0		2		1:MG=209700
101	tr176498	SAMPLE	157906-002	71364	Water	09-APR-2002 17:59	1.0	1.0				
102	tr176499	SAMPLE	157906-003	71364	Water	09-APR-2002 18:04	1.0	1.0				
103	tr176500	SAMPLE	157906-004	71364	Water	09-APR-2002 18:09	1.0	1.0				
104	tr176501	SAMPLE	157906-005	71364	Water	09-APR-2002 18:14	1.0	1.0				
105	tr176502	CCV				09-APR-2002 18:28	1.0	1.0	1		6	
106	tr176503	CCB				09-APR-2002 18:42	1.0	1.0	1			
107	tr176504	SAMPLE	157906-006	71364	Water	09-APR-2002 18:47	1.0	1.0				
108	tr176505	SAMPLE	157906-007	71364	Water	09-APR-2002 18:52	1.0	1.0				
109	tr176506	SAMPLE	157906-008	71364	Water	09-APR-2002 18:57	1.0	1.0	1			
110	tr176507	SAMPLE	157906-009	71364	Water	09-APR-2002 19:02	1.0	1.0				
111	tr176508	SAMPLE	157906-010	71364	Water	09-APR-2002 19:07	1.0	1.0				
112	tr176509	SAMPLE	157906-011	71364	Water	09-APR-2002 19:12	1.0	1.0				
113	tr176510	SAMPLE	157906-012	71364	Water	09-APR-2002 19:17	1.0	1.0				
114	tr176511	SAMPLE	157906-013	71364	Water	09-APR-2002 19:22	1.0	1.0				
115	tr176512	SAMPLE	157906-014	71364	Water	09-APR-2002 19:27	1.0	1.0				
116	tr176513	SAMPLE	157906-015	71364	Water	09-APR-2002 19:32	1.0	1.0				
117	tr176514	CCV				09-APR-2002 19:44	1.0	1.0	1		6	
118	tr176515	CCB				09-APR-2002 19:55	1.0	1.0				
119	tr176516	SAMPLE	157906-016	71364	Water	09-APR-2002 20:00	1.0	1.0				
120	tr176517	SAMPLE	157906-017	71364	Water	09-APR-2002 20:05	1.0	1.0				
121	tr176518	SAMPLE	157906-018	71364	Water	09-APR-2002 20:10	1.0	1.0				
122	tr176519	SAMPLE	157906-019	71364	Water	09-APR-2002 20:15	1.0	1.0				
123	tr176520	SAMPLE	157906-020	71364	Water	09-APR-2002 20:20	1.0	1.0				
124	tr176521	CCV				09-APR-2002 20:34	1.0	1.0	1		6	
125	tr176522	CCB				09-APR-2002 20:48	1.0	1.0				
126	tr176523	BLANK	QC175462	71505	Filtra	09-APR-2002 20:53	1.0	1.0	1			
127	tr176524	BS	QC175463	71505	Filtra	09-APR-2002 20:58	1.0	1.0	1			
128	tr176525	BSD	QC175464	71505	Filtra	09-APR-2002 21:03	1.0	1.0	1			

Stds used: 1=02WS0548 2=02WS0158 3=02WS0594 4=02WS0163 5=02WS0160 6=02WS0159 7=02WS0161 8=02WS0598

Analyst: _____ Date: 4/10/12

SEQUENCE SUMMARY
Curtis & Tompkins Laboratories

Sequence: 72143160 Instrument: MET07 TJA Trace ICP Begun: 09-APR-2002

#	Filename	Type	Samplenum	Batch	Matrix	Analyzed	IDF	PDF	IQC SPK uL	Stds Used	>LR
129	tr176526	MSS	157980-001	71505	Filtra	09-APR-2002 21:14	1.0	1.0	1		
130	tr176527	SDUP	QC175465	71505	Filtra	09-APR-2002 21:19	1.0	1.0			
131	tr176528	SSPIKE	QC175466	71505	Filtra	09-APR-2002 21:24	1.0	1.0			
132	tr176529	SAMPLE	157980-002	71505	Filtra	09-APR-2002 21:33	1.0	1.0			2:CA=215400
133	tr176530	SAMPLE	157980-003	71505	Filtra	09-APR-2002 21:38	1.0	1.0			1:CA=214800
134	tr176531	SAMPLE	157980-004	71505	Filtra	09-APR-2002 21:43	1.0	1.0			
135	tr176532	SAMPLE	157980-005	71505	Filtra	09-APR-2002 21:48	1.0	1.0			
136	tr176533	CCV				09-APR-2002 22:08	1.0	1.0	1	6	
137	tr176534	CCB				09-APR-2002 22:25	1.0	1.0			
138	tr176535	SAMPLE	157980-006	71505	Filtra	09-APR-2002 22:31	1.0	1.0			
139	tr176536	SAMPLE	157980-007	71505	Filtra	09-APR-2002 22:36	1.0	1.0			2:CA=184800
140	tr176537	SAMPLE	157980-008	71505	Filtra	09-APR-2002 22:41	1.0	1.0			
141	tr176538	SAMPLE	157980-009	71505	Filtra	09-APR-2002 22:46	1.0	1.0			
142	tr176539	SAMPLE	157980-010	71505	Filtra	09-APR-2002 22:51	1.0	1.0			
143	tr176540	SAMPLE	157980-011	71505	Filtra	09-APR-2002 22:57	1.0	1.0			
144	tr176541	SAMPLE	157980-012	71505	Filtra	09-APR-2002 23:02	1.0	1.0			
145	tr176542	SAMPLE	157980-013	71505	Filtra	09-APR-2002 23:07	1.0	1.0			
146	tr176543	SAMPLE	157980-014	71505	Filtra	09-APR-2002 23:12	1.0	1.0			
147	tr176544	SAMPLE	157980-015	71505	Filtra	09-APR-2002 23:17	1.0	1.0			
148	tr176545	ICSAB				09-APR-2002 23:26	1.0	1.0		4	5:AL=543300
149	tr176546	CCV				09-APR-2002 23:39	1.0	1.0	2	6	
150	tr176547	CCB				09-APR-2002 23:58	1.0	1.0	1		
151	tr176550	X				10-APR-2002 07:40	1.0	1.0		8	

Stds used: 1=02WS0548 2=02WS0158 3=02WS0594 4=02WS0163 5=02WS0160 6=02WS0159 7=02WS0161 8=02WS0598

Analyst: _____ Date: _____

Method: 6010B Standard: blank
Run Time: 04/09/02 09:45:27

Elem	Sb2068	Sb206A	As1890	Ba4934	Be3130	Cd2265	Cr2677
Avge	-.004	.004	-.007	.005	-.199	.010	.003
SDev	.000	.003	.003	.005	.001	.005	.001
%RSD	3.45	83.9	49.4	103.	.380	48.1	31.9
#1	-.004	.006	-.004	.008	-.199	.013	.004
#2	-.004	.002	-.009	.001	-.198	.006	.002

Elem	Co2286	Cu3247	Pb2203	Pb220A	Mo2020	Ni2316	Se1960
Avge	-.001	-.021	.026	-.001	.002	.007	-.013
SDev	.000	.002	.002	.008	.002	.001	.007
%RSD	.000	7.70	7.65	724.	73.7	10.8	56.9
#1	-.001	-.022	.027	.005	.004	.007	-.008
#2	-.001	-.020	.024	-.007	.001	.006	-.018

Elem	Se196A	Ag3280	Tl1908	V_2924	Zn2138	Al3082	Ca3179
Avge	.007	.003	-.007	.002	.141	.2421	.0006
SDev	.002	.007	.001	.004	.000	.0016	.0005
%RSD	30.0	268.	14.0	218.	.134	.6815	91.51
#1	.005	.008	-.007	.004	.141	.2409	.0002
#2	.008	-.002	-.008	-.001	.141	.2433	.0009

Elem	Fe2714	Mg2790	Mn2576	Ti3349
Avge	-.0080	.0006	.003	1.17
SDev	.0058	.0018	.004	.00
%RSD	72.18	290.3	131.	.157
#1	-.0121	-.0007	.000	1.17
#2	-.0039	.0019	.005	1.17

Method: 6010B Standard: cst hi
Run Time: 04/09/02 09:53:34

Elem	Sb2068	Sb206A	As1890	Ba4934	Be3130	Cd2265	Cr2677
Avge	4.85	3.25	1.47	59.2	15.7	7.17	1.04
SDev	.13	.04	.00	.0	.0	.00	.00
%RSD	2.67	1.27	.109	.080	.051	.031	.050
#1	4.76	3.22	1.47	59.2	15.7	7.17	1.04
#2	4.95	3.28	1.46	59.2	15.7	7.17	1.04

Elem	Co2286	Cu3247	Pb2203	Pb220A	Mo2020	Ni2316	Se1960
Avge	3.59	1.68	4.34	4.86	7.11	10.3	1.34
SDev	.00	.00	.02	.02	.03	.0	.01
%RSD	.072	.031	.373	.351	.375	.033	.417
#1	3.59	1.68	4.35	4.87	7.10	10.3	1.35
#2	3.59	1.68	4.33	4.85	7.13	10.3	1.34

Elem	Se196A	Ag3280	Tl1908	V_2924	Zn2138	Al3082	Ca3179
Avge	1.91	1.08	.884	3.51	1.05	.5513	1.239
SDev	.00	.01	.001	.00	.00	.0020	.001
%RSD	.138	.797	.139	.011	.031	.3592	.0571
#1	1.90	1.07	.885	3.51	1.05	.5527	1.238
#2	1.91	1.08	.883	3.51	1.05	.5499	1.239

Elem	Fe2714	Mg2790	Mn2576	Ti3349
Avge	.5260	.9994	4.04	30.1
SDev	.0053	.0002	.00	.0
%RSD	1.013	.0236	.014	.075
#1	.5298	.9995	4.04	30.1
#2	.5223	.9992	4.04	30.1

Standardization Report 04/09/02 09:57:46 AM page 1

Method: 6010B Slope = Conc(SIR)/IR

Element	Wavelen	High std	Low std	Slope	Y-intercept	Date Standardized
Sb2068	206.831	Multiple	Standards	206.652	-7.70810	04/09/02 09:53:34
Sb206A	206.832	Multiple	Standards	305.081	-9.71175	04/09/02 09:53:34
As1890	189.042	Multiple	Standards	342.482	-1.46126	04/09/02 09:53:34
Ba4934	493.409	Multiple	Standards	16.9055	-.539850	04/09/02 09:53:34
Be3130	313.042	Multiple	Standards	6.04298	1.94403	04/09/02 09:53:34
Cd2265	226.502	Multiple	Standards	13.9525	-.161384	04/09/02 09:53:34
Cr2677	267.716	Multiple	Standards	192.409	-.647778	04/09/02 09:53:34
Co2286	228.616	Multiple	Standards	139.296	.181085	04/09/02 09:53:34
Cu3247	324.754	Multiple	Standards	119.080	.351949	04/09/02 09:53:34
Pb2203	220.351	Multiple	Standards	115.530	-1.75606	04/09/02 09:53:34
Pb220A	220.352	Multiple	Standards	102.223	-.552003	04/09/02 09:53:34
Mo2020	202.030	Multiple	Standards	141.064	-3.66765	04/09/02 09:53:34
Ni2316	231.604	Multiple	Standards	48.3027	-.198041	04/09/02 09:53:34
Se1960	196.021	Multiple	Standards	370.062	2.54109	04/09/02 09:53:34
Se196A	196.022	Multiple	Standards	263.072	-1.91166	04/09/02 09:53:34
Ag3280	328.068	Multiple	Standards	93.0896	-.158252	04/09/02 09:53:34
Tl1908	190.864	Multiple	Standards	568.417	.435786	04/09/02 09:53:34
V_2924	292.402	Multiple	Standards	142.619	-.637031	04/09/02 09:53:34
Zn2138	213.856	Multiple	Standards	113.230	-15.0634	04/09/02 09:53:34
Al3082	308.215	Multiple	Standards	3226.11	-765.555	04/09/02 09:53:34
Ca3179	317.933	Multiple	Standards	1624.10	-11.8559	04/09/02 09:53:34
Fe2714	271.441	Multiple	Standards	1977.29	2.70229	04/09/02 09:53:34
Mg2790	279.079	Multiple	Standards	2010.31	-9.58248	04/09/02 09:53:34
Mn2576	257.610	Multiple	Standards	24.8094	-.339062	04/09/02 09:53:34
Pb sum	220.353	NONE	NONE	1.00000	.000000	*04/09/02 09:53:34
Sb sum	206.838	NONE	NONE	1.00000	.000000	*04/09/02 09:53:34
Se sum	196.026	NONE	NONE	1.00000	.000000	*04/09/02 09:53:34
Ti3349	334.941	Multiple	Standards	34.4934	-37.8830	04/09/02 09:53:34

INITIAL CALIBRATION CHECK STANDARD
Curtis & Tompkins Laboratories

Instid : MET07 Run Name :
Seqnum : 72143160001 Filename : tr176395 Injected : 09-APR-2002 10:00
Caltype :

Standards: 02WS0548

Analyte	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum	1000.000	1001.000	ug/L	0	5	
Antimony	1000.000	982.0000	ug/L	-2	5	
Arsenic	500.0000	492.0000	ug/L	-2	5	
Barium	1000.000	993.0000	ug/L	-1	5	
Beryllium	100.0000	98.50000	ug/L	-2	5	
Cadmium	100.0000	97.80000	ug/L	-2	5	
Calcium	2000.000	1993.000	ug/L	0	5	
Chromium	200.0000	197.0000	ug/L	-2	5	
Cobalt	500.0000	490.0000	ug/L	-2	5	
Copper	200.0000	199.0000	ug/L	-1	5	
Iron	1000.000	991.7000	ug/L	-1	5	
Lead	500.0000	487.0000	ug/L	-3	5	
Magnesium	2000.000	1956.000	ug/L	-2	5	
Manganese	100.0000	98.90000	ug/L	-1	5	
Molybdenum	1000.000	982.0000	ug/L	-2	5	
Nickel	500.0000	490.0000	ug/L	-2	5	
Selenium	500.0000	488.0000	ug/L	-2	5	
Silver	100.0000	99.40000	ug/L	-1	5	
Thallium	500.0000	490.0000	ug/L	-2	5	
Titanium	1000.000	989.0000	ug/L	-1	5	
Vanadium	500.0000	494.0000	ug/L	-1	5	
Zinc	100.0000	99.70000	ug/L	0	5	

SECOND SOURCE CALIBRATION VERIFICATION
Curtis & Tompkins Laboratories

Instid : MET07 Run Name :
Seqnum : 72143160002 Filename : tr176396 Injected : 09-APR-2002 10:05
Caltype :

Standards: 02WS0158

Analyte	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum	500.0000	501.6000	ug/L	0	10	
Antimony	500.0000	476.0000	ug/L	-5	10	
Arsenic	250.0000	256.0000	ug/L	2	10	
Barium	500.0000	500.0000	ug/L	0	10	
Beryllium	50.00000	50.00000	ug/L	0	10	
Cadmium	50.00000	48.90000	ug/L	-2	10	
Calcium	1000.000	984.4000	ug/L	-2	10	
Chromium	100.0000	99.10000	ug/L	-1	10	
Cobalt	250.0000	245.0000	ug/L	-2	10	
Copper	100.0000	99.90000	ug/L	0	10	
Iron	500.0000	489.8000	ug/L	-2	10	
Lead	250.0000	247.0000	ug/L	-1	10	
Magnesium	1000.000	986.9000	ug/L	-1	10	
Manganese	50.00000	49.00000	ug/L	-2	10	
Molybdenum	500.0000	488.0000	ug/L	-2	10	
Nickel	250.0000	251.0000	ug/L	0	10	
Selenium	250.0000	246.0000	ug/L	-2	10	
Silver	50.00000	49.90000	ug/L	0	10	
Thallium	250.0000	243.0000	ug/L	-3	10	
Titanium	500.0000	514.0000	ug/L	3	10	
Vanadium	250.0000	249.0000	ug/L	0	10	
Zinc	50.00000	48.50000	ug/L	-3	10	

INSTRUMENT BLANK REPORT
Curtis & Tompkins Laboratories

Instrument: MET07 TJA Trace ICP
Seqnum: 72143160003 Run Name: Injected: 09-APR-2002 10:12
Filename: tr176397 Blank Type: ICB

Analyte	QuantAmt	RL	Units	Req Flags
Aluminum	[11.840]	100.0000	ug/L	<RL
Antimony	[15.600]	60.00000	ug/L	<RL
Arsenic	ND	5.000000	ug/L	<RL
Barium	ND	10.00000	ug/L	<RL
Beryllium	[0.5170]	2.000000	ug/L	<RL
Cadmium	ND	5.000000	ug/L	<RL
Calcium	ND	500.0000	ug/L	<RL
Chromium	ND	10.00000	ug/L	<RL
Cobalt	ND	20.00000	ug/L	<RL
Copper	ND	10.00000	ug/L	<RL
Iron	ND	100.0000	ug/L	<RL
Lead	ND	3.000000	ug/L	<RL
Magnesium	ND	500.0000	ug/L	<RL
Manganese	ND	10.00000	ug/L	<RL
Molybdenum	ND	20.00000	ug/L	<RL
Nickel	ND	20.00000	ug/L	<RL
Selenium	ND	5.000000	ug/L	<RL
Silver	ND	5.000000	ug/L	<RL
Thallium	ND	5.000000	ug/L	<RL
Titanium	[1.8800]	10.00000	ug/L	<RL
Vanadium	ND	10.00000	ug/L	<RL
Zinc	[0.5370]	20.00000	ug/L	<RL

LOW-LEVEL PERFORMANCE VERIFICATION STANDARD
Curtis & Tompkins Laboratories

Instid : MET07 Run Name :
Seqnum : 72143160004 Filename : tr176401 Injected : 09-APR-2002 10:29
Caltype :

Standards: 02WS0594

Analyte	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum	100.0000	147.1000	ug/L	47	50	
Antimony	60.00000	52.80000	ug/L	-12	50	
Arsenic	5.000000	3.100000	ug/L	-38	50	
Barium	10.00000	9.720000	ug/L	-3	50	
Beryllium	2.000000	2.470000	ug/L	24	50	
Cadmium	5.000000	4.830000	ug/L	-3	50	
Chromium	10.00000	10.10000	ug/L	1	50	
Cobalt	20.00000	19.50000	ug/L	-3	50	
Copper	10.00000	8.490000	ug/L	-15	50	
Iron	100.0000	118.0000	ug/L	18	50	
Lead	3.000000	2.860000	ug/L	-5	50	
Manganese	10.00000	9.720000	ug/L	-3	50	
Molybdenum	20.00000	16.70000	ug/L	-16	50	
Nickel	20.00000	20.60000	ug/L	3	50	
Selenium	5.000000	4.330000	ug/L	-13	50	
Silver	5.000000	5.840000	ug/L	17	50	
Thallium	5.000000	5.780000	ug/L	16	50	
Vanadium	10.00000	9.630000	ug/L	-4	50	
Zinc	20.00000	20.40000	ug/L	2	50	

INTERFERENCE CHECK STANDARD AB
Curtis & Tompkins Laboratories

Instid : MET07 Run Name :
Seqnum : 72143160005 Filename : tr176402 Injected : 09-APR-2002 10:41
Caltype :

Standards: 02WS0163

Analyte	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum	500000.0	517200.0	ug/L	3		
Antimony	500.0000	517.0000	ug/L	3	20	
Arsenic	500.0000	482.0000	ug/L	-4	20	
Barium	500.0000	510.0000	ug/L	2	20	
Beryllium	500.0000	458.0000	ug/L	-8	20	
Cadmium	1000.000	857.0000	ug/L	-14	20	
Calcium	500000.0	407500.0	ug/L	-19		
Chromium	500.0000	451.0000	ug/L	-10	20	
Cobalt	500.0000	457.0000	ug/L	-9	20	
Copper	500.0000	536.0000	ug/L	7	20	
Iron	200000.0	183600.0	ug/L	-8		
Lead	1000.000	851.0000	ug/L	-15	20	
Magnesium	500000.0	489300.0	ug/L	-2		
Manganese	500.0000	458.0000	ug/L	-8	20	
Molybdenum	500.0000	455.0000	ug/L	-9	20	
Nickel	1000.000	950.0000	ug/L	-5	20	
Selenium	500.0000	479.0000	ug/L	-4	20	
Silver	1000.000	1080.000	ug/L	8	20	
Thallium	500.0000	445.0000	ug/L	-11	20	
Titanium	20000.00	21600.00	ug/L	8		
Vanadium	500.0000	496.0000	ug/L	-1	20	
Zinc	1000.000	908.0000	ug/L	-9	20	

CONTINUING CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instid : MET07 Run Name :
Seqnum : 72143160014 Filename : tr176411 Injected : 09-APR-2002 11:21
Caltype :

Standards: 02WS0160

Analyte	RF/CF	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum		750.0000	722.2000	ug/L	-4	10	
Antimony		750.0000	717.0000	ug/L	-4	10	
Arsenic		375.0000	391.0000	ug/L	4	10	
Barium		750.0000	758.0000	ug/L	1	10	
Beryllium		75.00000	75.50000	ug/L	1	10	
Cadmium		75.00000	74.50000	ug/L	-1	10	
Calcium		1500.000	1480.000	ug/L	-1	10	
Chromium		150.0000	149.0000	ug/L	-1	10	
Cobalt		375.0000	369.0000	ug/L	-2	10	
Copper		150.0000	149.0000	ug/L	-1	10	
Iron		750.0000	768.0000	ug/L	2	10	
Lead		375.0000	377.0000	ug/L	1	10	
Magnesium		1500.000	1486.000	ug/L	-1	10	
Manganese		75.00000	75.50000	ug/L	1	10	
Molybdenum		750.0000	745.0000	ug/L	-1	10	
Nickel		375.0000	381.0000	ug/L	2	10	
Selenium		375.0000	382.0000	ug/L	2	10	
Silver		75.00000	75.70000	ug/L	1	10	
Thallium		375.0000	365.0000	ug/L	-3	10	
Titanium		750.0000	770.0000	ug/L	3	10	
Vanadium		375.0000	373.0000	ug/L	-1	10	
Zinc		75.00000	73.40000	ug/L	-2	10	

INSTRUMENT BLANK REPORT
Curtis & Tompkins Laboratories

Instrument: MET07 TJA Trace ICP
Seqnum: 72143160015 Run Name: Injected: 09-APR-2002 11:25
Filename: tr176412 Blank Type: CCB

Analyte	QuantAmt	RL	Units	Req Flags
Aluminum	[13.750]	100.0000	ug/L	<RL
Antimony	[39.900]	60.00000	ug/L	<RL
Arsenic	ND	5.000000	ug/L	<RL
Barium	ND	10.00000	ug/L	<RL
Beryllium	[0.7360]	2.000000	ug/L	<RL
Cadmium	[0.0500]	5.000000	ug/L	<RL
Calcium	ND	500.0000	ug/L	<RL
Chromium	[0.0380]	10.00000	ug/L	<RL
Cobalt	[0.3160]	20.00000	ug/L	<RL
Copper	ND	10.00000	ug/L	<RL
Iron	[24.750]	100.0000	ug/L	<RL
Lead	ND	3.000000	ug/L	<RL
Magnesium	ND	500.0000	ug/L	<RL
Manganese	[0.5600]	10.00000	ug/L	<RL
Molybdenum	[3.9000]	20.00000	ug/L	<RL
Nickel	ND	20.00000	ug/L	<RL
Selenium	[0.2500]	5.000000	ug/L	<RL
Silver	[0.4190]	5.000000	ug/L	<RL
Thallium	[2.7700]	5.000000	ug/L	<RL
Titanium	[4.2500]	10.00000	ug/L	<RL
Vanadium	ND	10.00000	ug/L	<RL
Zinc	[0.9500]	20.00000	ug/L	<RL

CONTINUING CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instid : MET07 Run Name :
Seqnum : 72143160026 Filename : tr176423 Injected : 09-APR-2002 12:06
Caltype :

Standards: 02WS0159

Analyte	RF/CF	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum		500.0000	517.2000	ug/L	3	10	
Antimony		500.0000	461.0000	ug/L	-8	10	
Arsenic		250.0000	259.0000	ug/L	4	10	
Barium		500.0000	506.0000	ug/L	1	10	
Beryllium		50.00000	50.30000	ug/L	1	10	
Cadmium		50.00000	49.70000	ug/L	-1	10	
Calcium		1000.000	994.3000	ug/L	-1	10	
Chromium		100.0000	99.40000	ug/L	-1	10	
Cobalt		250.0000	247.0000	ug/L	-1	10	
Copper		100.0000	100.0000	ug/L	0	10	
Iron		500.0000	548.4000	ug/L	10	10	
Lead		250.0000	253.0000	ug/L	1	10	
Magnesium		1000.000	1015.000	ug/L	2	10	
Manganese		50.00000	49.60000	ug/L	-1	10	
Molybdenum		500.0000	495.0000	ug/L	-1	10	
Nickel		250.0000	256.0000	ug/L	2	10	
Selenium		250.0000	248.0000	ug/L	-1	10	
Silver		50.00000	50.10000	ug/L	0	10	
Thallium		250.0000	246.0000	ug/L	-2	10	
Titanium		500.0000	517.0000	ug/L	3	10	
Vanadium		250.0000	249.0000	ug/L	0	10	
Zinc		50.00000	49.70000	ug/L	-1	10	

INSTRUMENT BLANK REPORT
Curtis & Tompkins Laboratories

Instrument: MET07 TJA Trace ICP
Seqnum: 72143160027 Run Name: Injected: 09-APR-2002 12:10
Filename: tr176424 Blank Type: CCB

Analyte	QuantAmt	RL	Units	Req Flags
Aluminum	[15.280]	100.0000	ug/L	<RL
Antimony	[22.500]	60.00000	ug/L	<RL
Arsenic	ND	5.000000	ug/L	<RL
Barium	ND	10.00000	ug/L	<RL
Beryllium	[0.8540]	2.000000	ug/L	<RL
Cadmium	ND	5.000000	ug/L	<RL
Calcium	ND	500.0000	ug/L	<RL
Chromium	ND	10.00000	ug/L	<RL
Cobalt	[0.1160]	20.00000	ug/L	<RL
Copper	ND	10.00000	ug/L	<RL
Iron	[8.6960]	100.0000	ug/L	<RL
Lead	ND	3.000000	ug/L	<RL
Magnesium	ND	500.0000	ug/L	<RL
Manganese	[0.0970]	10.00000	ug/L	<RL
Molybdenum	[0.0380]	20.00000	ug/L	<RL
Nickel	ND	20.00000	ug/L	<RL
Selenium	ND	5.000000	ug/L	<RL
Silver	ND	5.000000	ug/L	<RL
Thallium	[0.9040]	5.000000	ug/L	<RL
Titanium	[3.4100]	10.00000	ug/L	<RL
Vanadium	ND	10.00000	ug/L	<RL
Zinc	[1.0200]	20.00000	ug/L	<RL

CONTINUING CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instid : MET07 Run Name :
Seqnum : 72143160038 Filename : tr176435 Injected : 09-APR-2002 12:58
Caltype :

Standards: 02WS0161

Analyte	RF/CF	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum		250.0000	254.5000	ug/L	2	10	
Antimony		250.0000	233.0000	ug/L	-7	10	
Arsenic		125.0000	129.0000	ug/L	3	10	
Barium		250.0000	255.0000	ug/L	2	10	
Beryllium		25.00000	25.80000	ug/L	3	10	
Cadmium		25.00000	25.10000	ug/L	0	10	
Calcium		500.0000	477.4000	ug/L	-5	10	
Chromium		50.00000	48.50000	ug/L	-3	10	
Cobalt		125.0000	123.0000	ug/L	-2	10	
Copper		50.00000	46.90000	ug/L	-6	10	
Iron		250.0000	250.9000	ug/L	0	10	
Lead		125.0000	126.0000	ug/L	1	10	
Magnesium		500.0000	493.8000	ug/L	-1	10	
Manganese		25.00000	24.40000	ug/L	-2	10	
Molybdenum		250.0000	246.0000	ug/L	-2	10	
Nickel		125.0000	128.0000	ug/L	2	10	
Selenium		125.0000	129.0000	ug/L	3	10	
Silver		25.00000	23.50000	ug/L	-6	10	
Thallium		125.0000	124.0000	ug/L	-1	10	
Titanium		250.0000	255.0000	ug/L	2	10	
Vanadium		125.0000	123.0000	ug/L	-2	10	
Zinc		25.00000	24.90000	ug/L	0	10	

INSTRUMENT BLANK REPORT
Curtis & Tompkins Laboratories

Instrument: MET07 TJA Trace ICP
Seqnum: 72143160039 Run Name: Injected: 09-APR-2002 13:02
Filename: tr176436 Blank Type: CCB

Analyte	QuantAmt	RL	Units	Req Flags
Aluminum	[4.1900]	100.0000	ug/L	<RL
Antimony	[29.700]	60.00000	ug/L	<RL
Arsenic	ND	5.000000	ug/L	<RL
Barium	ND	10.00000	ug/L	<RL
Beryllium	[0.0050]	2.000000	ug/L	<RL
Cadmium	[0.0040]	5.000000	ug/L	<RL
Calcium	ND	500.0000	ug/L	<RL
Chromium	ND	10.00000	ug/L	<RL
Cobalt	[0.0560]	20.00000	ug/L	<RL
Copper	ND	10.00000	ug/L	<RL
Iron	[4.8040]	100.0000	ug/L	<RL
Lead	ND	3.000000	ug/L	<RL
Magnesium	ND	500.0000	ug/L	<RL
Manganese	[0.0660]	10.00000	ug/L	<RL
Molybdenum	[2.1200]	20.00000	ug/L	<RL
Nickel	ND	20.00000	ug/L	<RL
Selenium	ND	5.000000	ug/L	<RL
Silver	[0.2020]	5.000000	ug/L	<RL
Thallium	[1.2400]	5.000000	ug/L	<RL
Titanium	[2.6500]	10.00000	ug/L	<RL
Vanadium	ND	10.00000	ug/L	<RL
Zinc	[0.6930]	20.00000	ug/L	<RL

CONTINUING CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instid : MET07 Run Name :
Seqnum : 72143160050 Filename : tr176447 Injected : 09-APR-2002 13:46
Caltype :

Standards: 02WS0159

Analyte	RF/CF	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum		500.0000	471.9000	ug/L	-6	10	
Antimony		500.0000	493.0000	ug/L	-1	10	
Arsenic		250.0000	259.0000	ug/L	4	10	
Barium		500.0000	500.0000	ug/L	0	10	
Beryllium		50.00000	49.00000	ug/L	-2	10	
Cadmium		50.00000	50.40000	ug/L	1	10	
Calcium		1000.000	975.9000	ug/L	-2	10	
Chromium		100.0000	97.00000	ug/L	-3	10	
Cobalt		250.0000	244.0000	ug/L	-2	10	
Copper		100.0000	94.90000	ug/L	-5	10	
Iron		500.0000	491.3000	ug/L	-2	10	
Lead		250.0000	252.0000	ug/L	1	10	
Magnesium		1000.000	989.0000	ug/L	-1	10	
Manganese		50.00000	47.40000	ug/L	-5	10	
Molybdenum		500.0000	496.0000	ug/L	-1	10	
Nickel		250.0000	255.0000	ug/L	2	10	
Selenium		250.0000	248.0000	ug/L	-1	10	
Silver		50.00000	47.80000	ug/L	-4	10	
Thallium		250.0000	241.0000	ug/L	-4	10	
Titanium		500.0000	504.0000	ug/L	1	10	
Vanadium		250.0000	242.0000	ug/L	-3	10	
Zinc		50.00000	49.50000	ug/L	-1	10	

INSTRUMENT BLANK REPORT
Curtis & Tompkins Laboratories

Instrument: MET07 TJA Trace ICP
Seqnum: 72143160051 Run Name: Injected: 09-APR-2002 13:51
Filename: tr176448 Blank Type: CCB

Analyte	QuantAmt	RL	Units	Req Flags
Aluminum	[14.970]	100.0000	ug/L	<RL
Antimony	[5.4500]	60.00000	ug/L	<RL
Arsenic	ND	5.000000	ug/L	<RL
Barium	ND	10.00000	ug/L	<RL
Beryllium	[0.3500]	2.000000	ug/L	<RL
Cadmium	ND	5.000000	ug/L	<RL
Calcium	[1.4650]	500.0000	ug/L	<RL
Chromium	ND	10.00000	ug/L	<RL
Cobalt	ND	20.00000	ug/L	<RL
Copper	ND	10.00000	ug/L	<RL
Iron	[6.6960]	100.0000	ug/L	<RL
Lead	ND	3.000000	ug/L	<RL
Magnesium	[0.1347]	500.0000	ug/L	<RL
Manganese	[0.2130]	10.00000	ug/L	<RL
Molybdenum	ND	20.00000	ug/L	<RL
Nickel	ND	20.00000	ug/L	<RL
Selenium	ND	5.000000	ug/L	<RL
Silver	ND	5.000000	ug/L	<RL
Thallium	[0.1330]	5.000000	ug/L	<RL
Titanium	[2.8600]	10.00000	ug/L	<RL
Vanadium	ND	10.00000	ug/L	<RL
Zinc	[1.0400]	20.00000	ug/L	<RL

CONTINUING CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instid : MET07 Run Name :
Seqnum : 72143160062 Filename : tr176459 Injected : 09-APR-2002 14:33
Caltype :

Standards: 02WS0160

Analyte	RF/CF	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum		750.0000	772.4000	ug/L	3	10	
Antimony		750.0000	717.0000	ug/L	-4	10	
Arsenic		375.0000	395.0000	ug/L	5	10	
Barium		750.0000	749.0000	ug/L	0	10	
Beryllium		75.00000	72.00000	ug/L	-4	10	
Cadmium		75.00000	75.30000	ug/L	0	10	
Calcium		1500.000	1492.000	ug/L	-1	10	
Chromium		150.0000	143.0000	ug/L	-5	10	
Cobalt		375.0000	362.0000	ug/L	-3	10	
Copper		150.0000	152.0000	ug/L	1	10	
Iron		750.0000	743.7000	ug/L	-1	10	
Lead		375.0000	374.0000	ug/L	0	10	
Magnesium		1500.000	1446.000	ug/L	-4	10	
Manganese		75.00000	75.80000	ug/L	1	10	
Molybdenum		750.0000	732.0000	ug/L	-2	10	
Nickel		375.0000	379.0000	ug/L	1	10	
Selenium		375.0000	379.0000	ug/L	1	10	
Silver		75.00000	77.00000	ug/L	3	10	
Thallium		375.0000	362.0000	ug/L	-3	10	
Titanium		750.0000	736.0000	ug/L	-2	10	
Vanadium		375.0000	356.0000	ug/L	-5	10	
Zinc		75.00000	73.80000	ug/L	-2	10	

INSTRUMENT BLANK REPORT
Curtis & Tompkins Laboratories

Instrument: MET07 TJA Trace ICP
Seqnum: 72143160063 Run Name: Injected: 09-APR-2002 14:42
Filename: tr176460 Blank Type: CCB

Analyte	QuantAmt	RL	Units	Req Flags
Aluminum	[23.730]	100.0000	ug/L	<RL
Antimony	[19.400]	60.00000	ug/L	<RL
Arsenic	ND	5.000000	ug/L	<RL
Barium	ND	10.00000	ug/L	<RL
Beryllium	[0.7410]	2.000000	ug/L	<RL
Cadmium	ND	5.000000	ug/L	<RL
Calcium	ND	500.0000	ug/L	<RL
Chromium	[0.3910]	10.00000	ug/L	<RL
Cobalt	[0.1530]	20.00000	ug/L	<RL
Copper	ND	10.00000	ug/L	<RL
Iron	[8.2960]	100.0000	ug/L	<RL
Lead	ND	3.000000	ug/L	<RL
Magnesium	ND	500.0000	ug/L	<RL
Manganese	[0.0820]	10.00000	ug/L	<RL
Molybdenum	ND	20.00000	ug/L	<RL
Nickel	ND	20.00000	ug/L	<RL
Selenium	[1.4500]	5.000000	ug/L	<RL
Silver	[0.3330]	5.000000	ug/L	<RL
Thallium	[2.9900]	5.000000	ug/L	<RL
Titanium	[2.4900]	10.00000	ug/L	<RL
Vanadium	ND	10.00000	ug/L	<RL
Zinc	[0.6780]	20.00000	ug/L	<RL

CONTINUING CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instid : MET07
Seqnum : 72143160074
Run Name :
Filename : tr176471
Injected : 09-APR-2002 15:33
Caltype :

Standards: 02WS0161

Analyte	RF/CF	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum		250.0000	262.5000	ug/L	5	10	
Antimony		250.0000	242.0000	ug/L	-3	10	
Arsenic		125.0000	132.0000	ug/L	6	10	
Barium		250.0000	248.0000	ug/L	-1	10	
Beryllium		25.00000	24.50000	ug/L	-2	10	
Cadmium		25.00000	25.30000	ug/L	1	10	
Calcium		500.0000	480.5000	ug/L	-4	10	
Chromium		50.00000	47.10000	ug/L	-6	10	
Cobalt		125.0000	121.0000	ug/L	-3	10	
Copper		50.00000	47.00000	ug/L	-6	10	
Iron		250.0000	241.5000	ug/L	-3	10	
Lead		125.0000	125.0000	ug/L	0	10	
Magnesium		500.0000	494.5000	ug/L	-1	10	
Manganese		25.00000	24.90000	ug/L	0	10	
Molybdenum		250.0000	241.0000	ug/L	-4	10	
Nickel		125.0000	127.0000	ug/L	2	10	
Selenium		125.0000	129.0000	ug/L	3	10	
Silver		25.00000	24.60000	ug/L	-2	10	
Thallium		125.0000	125.0000	ug/L	0	10	
Titanium		250.0000	243.0000	ug/L	-3	10	
Vanadium		125.0000	117.0000	ug/L	-6	10	
Zinc		25.00000	25.20000	ug/L	1	10	

INSTRUMENT BLANK REPORT
Curtis & Tompkins Laboratories

Instrument: MET07 TJA Trace ICP
Seqnum: 72143160075 Run Name: Injected: 09-APR-2002 15:37
Filename: tr176472 Blank Type: CCB

Analyte	QuantAmt	RL	Units	Req Flags
Aluminum	[13.680]	100.0000	ug/L	<RL
Antimony	[15.800]	60.00000	ug/L	<RL
Arsenic	ND	5.000000	ug/L	<RL
Barium	ND	10.00000	ug/L	<RL
Beryllium	[0.9640]	2.000000	ug/L	<RL
Cadmium	[0.0100]	5.000000	ug/L	<RL
Calcium	ND	500.0000	ug/L	<RL
Chromium	[0.3400]	10.00000	ug/L	<RL
Cobalt	[0.4090]	20.00000	ug/L	<RL
Copper	ND	10.00000	ug/L	<RL
Iron	ND	100.0000	ug/L	<RL
Lead	ND	3.000000	ug/L	<RL
Magnesium	[10.120]	500.0000	ug/L	<RL
Manganese	ND	10.00000	ug/L	<RL
Molybdenum	ND	20.00000	ug/L	<RL
Nickel	[0.1850]	20.00000	ug/L	<RL
Selenium	ND	5.000000	ug/L	<RL
Silver	[0.5690]	5.000000	ug/L	<RL
Thallium	ND	5.000000	ug/L	<RL
Titanium	[1.9500]	10.00000	ug/L	<RL
Vanadium	[0.0040]	10.00000	ug/L	<RL
Zinc	[0.5440]	20.00000	ug/L	<RL

CONTINUING CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instid : MET07 Run Name :
Seqnum : 72143160086 Filename : tr176483 Injected : 09-APR-2002 16:26
Caltype :

Standards: 02WS0159

Analyte	RF/CF	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum		500.0000	483.2000	ug/L	-3	10	
Antimony		500.0000	494.0000	ug/L	-1	10	
Arsenic		250.0000	257.0000	ug/L	3	10	
Barium		500.0000	491.0000	ug/L	-2	10	
Beryllium		50.00000	47.10000	ug/L	-6	10	
Cadmium		50.00000	49.80000	ug/L	0	10	
Calcium		1000.000	933.5000	ug/L	-7	10	
Chromium		100.0000	92.50000	ug/L	-8	10	
Cobalt		250.0000	237.0000	ug/L	-5	10	
Copper		100.0000	102.0000	ug/L	2	10	
Iron		500.0000	457.2000	ug/L	-9	10	
Lead		250.0000	246.0000	ug/L	-2	10	
Magnesium		1000.000	947.5000	ug/L	-5	10	
Manganese		50.00000	48.40000	ug/L	-3	10	
Molybdenum		500.0000	483.0000	ug/L	-3	10	
Nickel		250.0000	249.0000	ug/L	0	10	
Selenium		250.0000	246.0000	ug/L	-2	10	
Silver		50.00000	48.70000	ug/L	-3	10	
Thallium		250.0000	241.0000	ug/L	-4	10	
Titanium		500.0000	479.0000	ug/L	-4	10	
Vanadium		250.0000	232.0000	ug/L	-7	10	
Zinc		50.00000	48.50000	ug/L	-3	10	

INSTRUMENT BLANK REPORT
Curtis & Tompkins Laboratories

Instrument: MET07 TJA Trace ICP
Seqnum: 72143160087 Run Name: Injected: 09-APR-2002 16:31
Filename: tr176484 Blank Type: CCB

Analyte	QuantAmt	RL	Units	Req Flags
Aluminum	[25.190]	100.0000	ug/L	<RL
Antimony	[19.300]	60.00000	ug/L	<RL
Arsenic	ND	5.000000	ug/L	<RL
Barium	ND	10.00000	ug/L	<RL
Beryllium	[1.0300]	2.000000	ug/L	<RL
Cadmium	ND	5.000000	ug/L	<RL
Calcium	ND	500.0000	ug/L	<RL
Chromium	ND	10.00000	ug/L	<RL
Cobalt	[0.0650]	20.00000	ug/L	<RL
Copper	ND	10.00000	ug/L	<RL
Iron	[3.0330]	100.0000	ug/L	<RL
Lead	[0.3140]	3.000000	ug/L	<RL
Magnesium	[8.5780]	500.0000	ug/L	<RL
Manganese	[0.0220]	10.00000	ug/L	<RL
Molybdenum	ND	20.00000	ug/L	<RL
Nickel	[0.0190]	20.00000	ug/L	<RL
Selenium	[1.3300]	5.000000	ug/L	<RL
Silver	[0.0200]	5.000000	ug/L	<RL
Thallium	[0.5640]	5.000000	ug/L	<RL
Titanium	[2.5000]	10.00000	ug/L	<RL
Vanadium	ND	10.00000	ug/L	<RL
Zinc	[1.3200]	20.00000	ug/L	<RL

INTERFERENCE CHECK STANDARD AB
Curtis & Tompkins Laboratories

Instid : MET07 Run Name :
Seqnum : 72143160092 Filename : tr176489 Injected : 09-APR-2002 16:52
Caltype :

Standards: 02WS0163

Analyte	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum	500000.0	522400.0	ug/L	4		
Antimony	500.0000	402.0000	ug/L	-20	20	
Arsenic	500.0000	471.0000	ug/L	-6	20	
Barium	500.0000	511.0000	ug/L	2	20	
Beryllium	500.0000	435.0000	ug/L	-13	20	
Cadmium	1000.000	884.0000	ug/L	-12	20	
Calcium	500000.0	404100.0	ug/L	-19		
Chromium	500.0000	429.0000	ug/L	-14	20	
Cobalt	500.0000	421.0000	ug/L	-16	20	
Copper	500.0000	557.0000	ug/L	11	20	
Iron	200000.0	173600.0	ug/L	-13		
Lead	1000.000	876.0000	ug/L	-12	20	
Magnesium	500000.0	479600.0	ug/L	-4		
Manganese	500.0000	464.0000	ug/L	-7	20	
Molybdenum	500.0000	425.0000	ug/L	-15	20	
Nickel	1000.000	950.0000	ug/L	-5	20	
Selenium	500.0000	445.0000	ug/L	-11	20	
Silver	1000.000	1060.000	ug/L	6	20	
Thallium	500.0000	413.0000	ug/L	-17	20	
Titanium	20000.00	1850.000	ug/L	-91		
Vanadium	500.0000	456.0000	ug/L	-9	20	
Zinc	1000.000	924.0000	ug/L	-8	20	

CONTINUING CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instid : MET07 Run Name :
Seqnum : 72143160093 Filename : tr176490 Injected : 09-APR-2002 17:00
Caltype :

Standards: 02WS0160

Analyte	RF/CF	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum		750.0000	776.3000	ug/L	4	10	
Antimony		750.0000	735.0000	ug/L	-2	10	
Arsenic		375.0000	401.0000	ug/L	7	10	
Barium		750.0000	768.0000	ug/L	2	10	
Beryllium		75.00000	77.30000	ug/L	3	10	
Cadmium		75.00000	76.90000	ug/L	3	10	
Calcium		1500.000	1521.000	ug/L	1	10	
Chromium		150.0000	154.0000	ug/L	3	10	
Cobalt		375.0000	382.0000	ug/L	2	10	
Copper		150.0000	152.0000	ug/L	1	10	
Iron		750.0000	775.2000	ug/L	3	10	
Lead		375.0000	389.0000	ug/L	4	10	
Magnesium		1500.000	1561.000	ug/L	4	10	
Manganese		75.00000	76.30000	ug/L	2	10	
Molybdenum		750.0000	761.0000	ug/L	1	10	
Nickel		375.0000	392.0000	ug/L	5	10	
Selenium		375.0000	392.0000	ug/L	5	10	
Silver		75.00000	77.90000	ug/L	4	10	
Thallium		375.0000	373.0000	ug/L	-1	10	
Titanium		750.0000	791.0000	ug/L	5	10	
Vanadium		375.0000	384.0000	ug/L	2	10	
Zinc		75.00000	74.90000	ug/L	0	10	

INSTRUMENT BLANK REPORT
Curtis & Tompkins Laboratories

Instrument: MET07 TJA Trace ICP
Seqnum: 72143160094 Run Name: Injected: 09-APR-2002 17:09
Filename: tr176491 Blank Type: CCB

Analyte	QuantAmt	RL	Units	Req Flags
Aluminum	[31.180]	100.0000	ug/L	<RL
Antimony	[37.600]	60.00000	ug/L	<RL
Arsenic	ND	5.000000	ug/L	<RL
Barium	[0.0230]	10.00000	ug/L	<RL
Beryllium	[0.0550]	2.000000	ug/L	<RL
Cadmium	[0.0500]	5.000000	ug/L	<RL
Calcium	[3.9410]	500.0000	ug/L	<RL
Chromium	[0.3930]	10.00000	ug/L	<RL
Cobalt	[0.5010]	20.00000	ug/L	<RL
Copper	[0.2570]	10.00000	ug/L	<RL
Iron	[0.2509]	100.0000	ug/L	<RL
Lead	ND	3.000000	ug/L	<RL
Magnesium	[4.7630]	500.0000	ug/L	<RL
Manganese	[0.0200]	10.00000	ug/L	<RL
Molybdenum	[1.4200]	20.00000	ug/L	<RL
Nickel	[0.1950]	20.00000	ug/L	<RL
Selenium	ND	5.000000	ug/L	<RL
Silver	[1.2500]	5.000000	ug/L	<RL
Thallium	[3.2700]	5.000000	ug/L	<RL
Titanium	[2.8300]	10.00000	ug/L	<RL
Vanadium	[0.4490]	10.00000	ug/L	<RL
Zinc	[2.0600]	20.00000	ug/L	<RL

CONTINUING CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instid : MET07 Run Name :
Seqnum : 72143160105 Filename : tr176502 Injected : 09-APR-2002 18:28
Caltype :

Standards: 02WS0159

Analyte	RF/CF	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum		500.0000	462.4000	ug/L	-8	10	
Antimony		500.0000	427.0000	ug/L	-15	10	1 ***
Arsenic		250.0000	257.0000	ug/L	3	10	
Barium		500.0000	485.0000	ug/L	-3	10	
Beryllium		50.00000	49.00000	ug/L	-2	10	
Cadmium		50.00000	49.80000	ug/L	0	10	
Calcium		1000.000	922.3000	ug/L	-8	10	
Chromium		100.0000	98.50000	ug/L	-2	10	
Cobalt		250.0000	246.0000	ug/L	-2	10	
Copper		100.0000	96.80000	ug/L	-3	10	
Iron		500.0000	482.5000	ug/L	-4	10	
Lead		250.0000	251.0000	ug/L	0	10	
Magnesium		1000.000	991.4000	ug/L	-1	10	
Manganese		50.00000	47.60000	ug/L	-5	10	
Molybdenum		500.0000	478.0000	ug/L	-4	10	
Nickel		250.0000	252.0000	ug/L	1	10	
Selenium		250.0000	248.0000	ug/L	-1	10	
Silver		50.00000	49.00000	ug/L	-2	10	
Thallium		250.0000	242.0000	ug/L	-3	10	
Titanium		500.0000	501.0000	ug/L	0	10	
Vanadium		250.0000	244.0000	ug/L	-2	10	
Zinc		50.00000	50.70000	ug/L	1	10	

1=CCV drift out
Page 1 of 1

INSTRUMENT BLANK REPORT
Curtis & Tompkins Laboratories

Instrument: MET07 TJA Trace ICP
Seqnum: 72143160106 Run Name: Injected: 09-APR-2002 18:42
Filename: tr176503 Blank Type: CCB

Analyte	QuantAmt	RL	Units	Req	Flags
Aluminum	[15.540]	100.0000	ug/L	<RL	
Antimony	ND	60.00000	ug/L	<RL	
Arsenic	ND	5.000000	ug/L	<RL	
Barium	ND	10.00000	ug/L	<RL	
Beryllium	[0.5030]	2.000000	ug/L	<RL	
Cadmium	ND	5.000000	ug/L	<RL	
Calcium	ND	500.0000	ug/L	<RL	
Chromium	ND	10.00000	ug/L	<RL	
Cobalt	[0.2560]	20.00000	ug/L	<RL	
Copper	ND	10.00000	ug/L	<RL	
Iron	ND	100.0000	ug/L	<RL	
Lead	ND	3.000000	ug/L	<RL	
Magnesium	[2.1580]	500.0000	ug/L	<RL	
Manganese	ND	10.00000	ug/L	<RL	
Molybdenum	ND	20.00000	ug/L	<RL	
Nickel	[0.1680]	20.00000	ug/L	<RL	
Selenium	ND	5.000000	ug/L	<RL	
Silver	ND	5.000000	ug/L	<RL	
Thallium	5.120000	5.000000	ug/L	<RL	d ***
Titanium	[0.8350]	10.00000	ug/L	<RL	
Vanadium	ND	10.00000	ug/L	<RL	
Zinc	[0.0940]	20.00000	ug/L	<RL	

d=blank contam/missing
Page 1 of 1

CONTINUING CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instid : MET07 Run Name :
Seqnum : 72143160117 Filename : tr176514 Injected : 09-APR-2002 19:44
Caltype :

Standards: 02WS0159

Analyte	RF/CF	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum		500.0000	459.5000	ug/L	-8	10	
Antimony		500.0000	422.0000	ug/L	**-16**	10	**1 *** **
Arsenic		250.0000	254.0000	ug/L	2	10	
Barium		500.0000	483.0000	ug/L	-3	10	
Beryllium		50.00000	49.00000	ug/L	-2	10	
Cadmium		50.00000	50.00000	ug/L	0	10	
Calcium		1000.000	930.9000	ug/L	-7	10	
Chromium		100.0000	99.40000	ug/L	-1	10	
Cobalt		250.0000	249.0000	ug/L	0	10	
Copper		100.0000	96.20000	ug/L	-4	10	
Iron		500.0000	476.7000	ug/L	-5	10	
Lead		250.0000	254.0000	ug/L	2	10	
Magnesium		1000.000	1000.000	ug/L	0	10	
Manganese		50.00000	48.50000	ug/L	-3	10	
Molybdenum		500.0000	477.0000	ug/L	-5	10	
Nickel		250.0000	253.0000	ug/L	1	10	
Selenium		250.0000	249.0000	ug/L	0	10	
Silver		50.00000	48.70000	ug/L	-3	10	
Thallium		250.0000	242.0000	ug/L	-3	10	
Titanium		500.0000	502.0000	ug/L	0	10	
Vanadium		250.0000	246.0000	ug/L	-2	10	
Zinc		50.00000	50.70000	ug/L	1	10	

1=CCV drift out
Page 1 of 1

INSTRUMENT BLANK REPORT
Curtis & Tompkins Laboratories

Instrument: MET07 TJA Trace ICP
Seqnum: 72143160118 Run Name: Injected: 09-APR-2002 19:55
Filename: tr176515 Blank Type: CCB

Analyte	QuantAmt	RL	Units	Req Flags
Aluminum	[1.4290]	100.0000	ug/L	<RL
Antimony	ND	60.00000	ug/L	<RL
Arsenic	ND	5.000000	ug/L	<RL
Barium	ND	10.00000	ug/L	<RL
Beryllium	[0.3700]	2.000000	ug/L	<RL
Cadmium	ND	5.000000	ug/L	<RL
Calcium	ND	500.0000	ug/L	<RL
Chromium	ND	10.00000	ug/L	<RL
Cobalt	ND	20.00000	ug/L	<RL
Copper	ND	10.00000	ug/L	<RL
Iron	ND	100.0000	ug/L	<RL
Lead	ND	3.000000	ug/L	<RL
Magnesium	ND	500.0000	ug/L	<RL
Manganese	ND	10.00000	ug/L	<RL
Molybdenum	ND	20.00000	ug/L	<RL
Nickel	ND	20.00000	ug/L	<RL
Selenium	[0.0860]	5.000000	ug/L	<RL
Silver	ND	5.000000	ug/L	<RL
Thallium	ND	5.000000	ug/L	<RL
Titanium	[0.8050]	10.00000	ug/L	<RL
Vanadium	ND	10.00000	ug/L	<RL
Zinc	[0.0740]	20.00000	ug/L	<RL

SAMPLE PREPARATION SUMMARY

04/05/02 17:36:57

Batch Number : 71411
Date Extracted : 05-APR-02
Extracted By : Victor Vergara
Prep Method : 3050

Analysis: N/A
Bgroup : ICAP
Units : g
Clean-up:

Spike #1 ID : 01SS186
Spike #2 ID : 01SS187
Spike #3 ID :

Sample No.	Type		Client	Matrx	Init W/V	U	Final Vol	Prep D.F.	Clean pH D.F.	Spike #1 Vol	Spike #2 Vol	Spike #3 Vol	Analysis	Comments
157870-001			Erler & Kalinowski, Inc.	Soil	2.35	g	100	42.5531	1				T26/ICP	
157870-002			Erler & Kalinowski, Inc.	Soil	2.27	g	100	44.0528	1				MN	
157870-003			Erler & Kalinowski, Inc.	Soil	2.01	g	100	49.7512	1				MN	
157870-004			Erler & Kalinowski, Inc.	Soil	2.08	g	100	48.0769	1				T26/ICP	
157870-005			Erler & Kalinowski, Inc.	Soil	2.04	g	100	49.0196	1				MN	
157870-006			Erler & Kalinowski, Inc.	Soil	2.09	g	100	47.8468	1				MN	
157870-014			Erler & Kalinowski, Inc.	Soil	2.19	g	100	45.6621	1				T26/ICP	
157870-015			Erler & Kalinowski, Inc.	Soil	2.2	g	100	45.4545	1				MN	
157870-016			Erler & Kalinowski, Inc.	Soil	2.22	g	100	45.0450	1				T26/ICP	
157870-017			Erler & Kalinowski, Inc.	Soil	2.16	g	100	46.2962	1				MN	
157870-018			Erler & Kalinowski, Inc.	Soil	2.21	g	100	45.2488	1				MN	
157881-001			IT Corporation	Soil	2.24	g	100	44.6428	1				PB	
157881-002			IT Corporation	Soil	2.26	g	100	44.2477	1				PB	
157881-003			IT Corporation	Soil	2.63	g	100	38.0228	1				PB	
157881-004			IT Corporation	Soil	2.13	g	100	46.9483	1				PB	
157881-005			IT Corporation	Soil	2.2	g	100	45.4545	1				PB	
157943-001			Tetra Tech EMI	Soil	2.33	g	100	42.9184	1				CO	mss
157943-002			Tetra Tech EMI	Soil	2.03	g	100	49.2610	1				CO	
157946-001			Phillips 66 Company	Misce	2.09	g	100	47.8468	1				V	
157946-002			Phillips 66 Company	Misce	2.06	g	100	48.5436	1				V	
QC175122	BLANK			Soil	2	g	100	50	1					
QC175123	BS			Soil	2	g	100	50	1	1	1			
QC175124	BSD			Soil	2	g	100	50	1	1	1			
QC175125	MS	of 157943-001		Soil	2.16	g	100	46.2962	1	1	1			
QC175126	MSD	of 157943-001		Soil	2.01	g	100	49.7512	1	1	1			
QC175127	SER	of 157943-001		Soil	2.33	g	100	42.9184	1					

Prep Chemist: _____ Reviewed By: _____ Date: 4/9/02

Relinquished By: _____ Received By: _____ Date: 4/9/02

METALS DIGESTION

Notebook No. BK 1528
Continued From Page ∅

04/05/02   BH ~~71428~~ 4/8/02 71411   ICAP/M3050

Sample	mass(g)	final vol(ml)	filtered yes/no	Comments
BLK^QC 175122	∅	100.0	yes	SPIKES
BS 175123	↓			
BSD 175124	↓			#0155186
157943-001 comp MS	2.16			#0155187
-001 MSD	2.01		↓	
157870-001	2.35		no	
-002	2.27		↓	Reagents lot num#
-003	2.01		yes	
-004	2.08		no	HNO3 JTBaker X02028
-005	2.04		yes	H2O2 VWR 41150129
-006	2.09			HCL Fisher 4101050
-014	2.19		↓	
-015	2.20		no	
-016	2.22		yes	
-017	2.16			
-018	2.21		↓	
157881-001	2.24		no	
-002	2.26			
-003	2.63			
-004	2.13			
-005	2.20		↓	
157943-001	2.33		yes	
-002	2.03		yes	
157946-001	2.09			
-002	2.06	↓	↓	

04/06/02

Continued on Page

Read and Understood By

[signature] Signed   04/06/02 Date   307   [signature] Signed   4/7/02 Date

SERIAL DILUTION USER REPORT
Curtis & Tompkins Laboratories
EPA 6010B

Instid	: MET07	Instid	: MET07
Seqnum	: 72153238009	Seqnum	: 72153238013
Filename	: tr177257	Filename	: tr177261
IDF	: 1.0	IDF	: 5.0
PDF	: 47.84689	PDF	: 47.84689
Run type	: MSS	Run type	: SER
Samplenum	: 157881-006	Samplenum	: QC175349
Matrix	: Soil	Matrix	: Soil
Batchnum	: 71467	Batchnum	: 71467
Inj	: 16-APR-2002 10:33	Inj	: 16-APR-2002 10:47
Units	: mg/Kg		

Analyte	MSS	RL	SER	RL	%D	MAX %D	Flags
Aluminum	23000 >LR	4.78	22000	23.9	--	10	u
Antimony	ND	2.87	ND	14.4	--	10	u
Arsenic	5.17	0.239	4.59	1.20	11	10	fu
Barium	75.1	0.478	70.3	2.39	6	10	u
Beryllium	0.411	0.0957	ND	0.478	--	10	u
Cadmium	0.842	0.239	ND	1.20	--	10	u
Calcium	500	23.9	493	120	1	10	u
Chromium	26.0	0.478	25.1	2.39	3	10	u
Cobalt	2.77	0.957	ND	4.78	--	10	u
Copper	4.74	0.478	4.28	2.39	--	10	u
Iron	14400 >LR	4.78	13800	23.9	--	10	u
Lead	4.64	0.144	4.83	0.718	4	10	u
Magnesium	1450	23.9	1430	120	2	10	u
Manganese	36.3	0.478	35.4	2.39	3	10	u
Molybdenum	ND	0.957	ND	4.78	--	10	u
Nickel	19.6	0.957	19.2	4.78	2	10	u
Selenium	0.277	0.239	ND	1.20	--	10	u
Silver	ND	0.239	ND	1.20	--	10	u
Thallium	ND	0.239	ND	1.20	--	10	u
Titanium	395	0.478	366	2.39	7	10	u
Vanadium	26.4	0.478	25.1	2.39	5	10	u
Zinc	11.6	0.957	12.1	4.78	4	10	u

f=recovery failure u=use

SEQUENCE SUMMARY
Curtis & Tompkins Laboratories

Sequence: 72153238 Instrument: MET07 TJA Trace ICP Begun: 16-APR-2002

#	Filename	Type	Samplenum	Batch	Matrix	Analyzed	IDF	PDF	IQC	SPK uL	Stds Used	>LR
001	tr177249	CS				16-APR-2002 09:58	1.0	1.0			1	
002	tr177250	ICV				16-APR-2002 10:04	1.0	1.0			2	
003	tr177251	ICB				16-APR-2002 10:07	1.0	1.0				
004	tr177252	CRI				16-APR-2002 10:11	1.0	1.0			3	
005	tr177253	ICSAB				16-APR-2002 10:15	1.0	1.0			4	4:AL=548000
006	tr177254	BLANK	QC175344	71467	Soil	16-APR-2002 10:22	1.0	50.0	1			
007	tr177255	BS	QC175345	71467	Soil	16-APR-2002 10:26	1.0	50.0				
008	tr177256	BSD	QC175346	71467	Soil	16-APR-2002 10:29	1.0	50.0				
009	tr177257	MSS	157881-006	71467	Soil	16-APR-2002 10:33	1.0	47.84689				2:AL=479900
010	tr177258	MS	QC175347	71467	Soil	16-APR-2002 10:36	1.0	48.30918		1		2:AL=483000
011	tr177259	MSD	QC175348	71467	Soil	16-APR-2002 10:40	1.0	41.66667		1		3:AL=574900
012	tr177260	MSS	157881-006	71467	Soil	16-APR-2002 10:43	1.0	47.84689				2:AL=484800
013	tr177261	SER	QC175349	71467	Soil	16-APR-2002 10:47	5.0	47.84689		1		
014	tr177262	CCV				16-APR-2002 10:51	1.0	1.0			5	
015	tr177263	CCB				16-APR-2002 10:56	1.0	1.0				
016	tr177264	BLANK	QC175344	71467	Soil	16-APR-2002 11:05	1.0	50.0				
017	tr177265	SAMPLE	157881-010	71467	Soil	16-APR-2002 11:09	1.0	46.08295	1			3:AL=424000
018	tr177266	SAMPLE	157881-014	71467	Soil	16-APR-2002 11:14	1.0	45.87156				3:AL=460900
019	tr177267	SAMPLE	157881-018	71467	Soil	16-APR-2002 11:17	1.0	45.24887				2:AL=479500
020	tr177268	SAMPLE	157881-022	71467	Soil	16-APR-2002 11:21	1.0	43.10345				3:AL=551900
021	tr177269	SAMPLE	157881-026	71467	Soil	16-APR-2002 11:24	1.0	42.01681	1			3:AL=513100
022	tr177270	SAMPLE	157881-027	71467	Soil	16-APR-2002 11:28	1.0	46.72897				2:AL=440300
023	tr177271	SAMPLE	157881-031	71467	Soil	16-APR-2002 11:31	1.0	43.66812	1			3:AL=499600
024	tr177272	SAMPLE	157881-035	71467	Soil	16-APR-2002 11:34	1.0	46.72897				3:AL=505400
025	tr177273	SAMPLE	157881-039	71467	Soil	16-APR-2002 11:38	1.0	44.64286				2:AL=450700
026	tr177274	CCV				16-APR-2002 11:44	1.0	1.0			6	
027	tr177275	CCB				16-APR-2002 11:48	1.0	1.0				
028	tr177276	MSS	156490-001	69526	Filtra	16-APR-2002 11:52	1.0	1.0	2			2:MG=1119000
029	tr177277	SSPIKE	QC168103	69526	Water	16-APR-2002 11:58	1.0	1.0	1	15		2:MG=1118000
030	tr177278	SAMPLE	157881-010	71467	Soil	16-APR-2002 12:03	1.0	46.08295	1			3:FE=391300
031	tr177279	SAMPLE	157881-026	71467	Soil	16-APR-2002 12:06	1.0	42.01681				3:AL=475300
032	tr177280	SAMPLE	157881-031	71467	Soil	16-APR-2002 12:09	1.0	43.66812				3:AL=469100

Stds used: 1=02WS0548 2=02WS0158 3=02WS0594 4=02WS0163 5=02WS0160 6=02WS0159 7=02WS0161

Analyst: Mercury Date: 4/16/02

SEQUENCE SUMMARY
Curtis & Tompkins Laboratories

Sequence: 72153238 Instrument: MET07 TJA Trace ICP Begun: 16-APR-2002

#	Filename	Type	Samplenum	Batch	Matrix	Analyzed	IDF	PDF	IQC	SPK uL	Stds Used	>LR
033	tr177287	SAMPLE	157881-044	71467	Soil	16-APR-2002 12:39	1.0	48.07692				
034	tr177288	SAMPLE	157881-045	71467	Soil	16-APR-2002 12:42	1.0	43.10345				
035	tr177289	SAMPLE	157881-046	71467	Soil	16-APR-2002 12:45	1.0	40.98361				
036	tr177290	SAMPLE	157881-047	71467	Soil	16-APR-2002 12:49	1.0	42.55319				2:AL=373000
037	tr177291	SAMPLE	157881-048	71467	Soil	16-APR-2002 12:52	1.0	42.91845				
038	tr177292	CCV				16-APR-2002 13:11	1.0	1.0			7	
039	tr177293	CCB				16-APR-2002 13:15	1.0	1.0				
040	tr177294	SAMPLE	157881-049	71467	Soil	16-APR-2002 13:18	1.0	37.73585	1			
041	tr177295	SAMPLE	157881-050	71467	Soil	16-APR-2002 13:22	1.0	49.01961				
042	tr177296	SAMPLE	157881-051	71467	Soil	16-APR-2002 13:25	1.0	35.84229				
043	tr177297	SAMPLE	157881-049	71467	Soil	16-APR-2002 13:29	1.0	37.73585				
044	tr177298	SAMPLE	157881-052	71467	Soil	16-APR-2002 13:32	1.0	44.84305	1			
045	tr177299	SAMPLE	157881-052	71467	Soil	16-APR-2002 13:38	1.0	44.84305				
046	tr177300	BLANK	QC175408	71492	Soil	16-APR-2002 13:42	1.0	50.0	1			
047	tr177301	BS	QC175409	71492	Soil	16-APR-2002 13:45	1.0	50.0				
048	tr177302	BSD	QC175410	71492	Soil	16-APR-2002 13:48	1.0	50.0				
049	tr177303	ICSAB				16-APR-2002 13:52	1.0	1.0			4	4:AL=531800
050	tr177304	CCV				16-APR-2002 14:00	1.0	1.0			5	
051	tr177305	CCB				16-APR-2002 14:04	1.0	1.0				
052	tr177306	MSS	157881-006	71467	Soil	16-APR-2002 14:08	1.0	47.84689	17			2:AL=355000
053	tr177307	MS	QC175347	71467	Soil	16-APR-2002 14:11	1.0	48.30918	22	19		2:AL=253000
054	tr177308	MSS	157915-004	71492	Soil	16-APR-2002 14:16	1.0	41.66667	1			1:AL=151900
055	tr177309	MS	QC175411	71492	Soil	16-APR-2002 14:19	1.0	49.01961				1:AL=169500
056	tr177310	MSD	QC175412	71492	Soil	16-APR-2002 14:24	1.0	47.39336		1		1:AL=183500
057	tr177311	SAMPLE	157881-043	71467	Soil	16-APR-2002 14:28	1.0	42.19409	1			
058	tr177312	SAMPLE	157881-043	71379	Soil	16-APR-2002 14:31	1.0	42.19409				
059	tr177313	MSS	157915-004	71492	Soil	16-APR-2002 14:35	1.0	41.66667				1:AL=150300
060	tr177314	SAMPLE	157915-001	71492	Soil	16-APR-2002 14:38	1.0	43.66812				1:AL=182100
061	tr177315	ICSAB				16-APR-2002 14:42	1.0	1.0			4	4:AL=532500
062	tr177316	CCV				16-APR-2002 14:47	1.0	1.0			6	
063	tr177317	CCB				16-APR-2002 14:51	1.0	1.0				
064	tr177318	SAMPLE	157915-002	71492	Soil	16-APR-2002 14:55	1.0	46.94836	1			1:AL=152100

Stds used: 1=02WS0548 2=02WS0158 3=02WS0594 4=02WS0163 5=02WS0160 6=02WS0159 7=02WS0161

Analyst: Merill Date: 4/16/02

Method: 6010B Standard: blank
Run Time: 04/16/02 09:47:20

Elem	Sb2068	Sb206A	As1890	Ba4934	Be3130	Cd2265	Cr2677
Avge	.014	.005	-.002	.001	-.397	.005	.004
SDev	.007	.013	.002	.001	.003	.002	.001
%RSD	50.2	273.	131.	125.	.677	43.4	21.9
#1	.018	-.004	-.004	.000	-.399	.004	.003
#2	.009	.014	-.000	.001	-.395	.007	.004

Elem	Co2286	Cu3247	Pb2203	Pb220A	Mo2020	Ni2316	Se1960
Avge	-.001	.006	.023	.004	-.002	.001	-.013
SDev	.003	.005	.017	.003	.004	.005	.007
%RSD	307.	80.8	71.2	70.7	237.	460.	58.4
#1	-.003	.002	.011	.002	-.005	-.002	-.018
#2	.001	.009	.035	.006	.001	.005	-.007

Elem	Se196A	Ag3280	Tl1908	V_2924	Zn2138	Al3082	Ca3179
Avge	.004	-.003	-.008	.002	.159	.1724	.0030
SDev	.013	.002	.000	.001	.000	.0014	.0001
%RSD	331.	67.9	1.89	49.9	.030	.7931	1.589
#1	.013	-.002	-.008	.001	.159	.1714	.0029
#2	-.005	-.005	-.007	.003	.159	.1733	.0030

Elem	Fe2714	Mg2790	Mn2576	Ti3349
Avge	-.0003	.0021	.003	1.44
SDev	.0017	.0008	.002	.00
%RSD	509.1	35.36	69.3	.265
#1	-.0015	.0016	.002	1.44
#2	.0009	.0027	.005	1.44

Method: 6010B Standard: cst hi
Run Time: 04/16/02 09:54:08

Elem	Sb2068	Sb206A	As1890	Ba4934	Be3130	Cd2265	Cr2677
Avge	3.27	2.28	1.06	46.2	13.6	5.56	.872
SDev	.31	.11	.00	.1	.0	.01	.001
%RSD	9.58	4.92	.289	.235	.291	.173	.092
#1	3.05	2.20	1.06	46.2	13.5	5.55	.871
#2	3.49	2.36	1.06	46.3	13.6	5.57	.872

Elem	Co2286	Cu3247	Pb2203	Pb220A	Mo2020	Ni2316	Se1960
Avge	2.98	1.44	3.60	3.97	5.55	8.32	.987
SDev	.01	.01	.00	.03	.05	.02	.004
%RSD	.363	.455	.134	.633	.895	.282	.363
#1	2.98	1.43	3.60	3.96	5.51	8.31	.990
#2	2.99	1.44	3.60	3.99	5.58	8.34	.985

Elem	Se196A	Ag3280	Tl1908	V_2924	Zn2138	Al3082	Ca3179
Avge	1.32	.943	.675	2.97	.841	.4784	1.206
SDev	.01	.002	.007	.01	.001	.0004	.003
%RSD	.426	.255	.985	.191	.134	.0887	.2542
#1	1.31	.941	.670	2.96	.840	.4787	1.203
#2	1.32	.945	.680	2.97	.842	.4781	1.208

Elem	Fe2714	Mg2790	Mn2576	Ti3349
Avge	.4518	.9219	3.65	26.0
SDev	.0027	.0028	.01	.1
%RSD	.6052	.3068	.221	.385
#1	.4537	.9199	3.64	25.9
#2	.4499	.9239	3.65	26.1

Standardization Report 04/16/02 09:57:59 AM page 1

Method: 6010B Slope = Conc(SIR)/IR

Element	Wavelen	High std	Low std	Slope	Y-intercept	Date Standardized
Sb2068	206.831	Multiple	Standards	305.908	-4.13995	04/16/02 09:54:08
Sb206A	206.832	Multiple	Standards	431.106	-2.04057	04/16/02 09:54:08
As1890	189.042	Multiple	Standards	470.662	.878569	04/16/02 09:54:08
Ba4934	493.409	Multiple	Standards	21.6293	-.012257	04/16/02 09:54:08
Be3130	313.042	Multiple	Standards	6.92101	2.74649	04/16/02 09:54:08
Cd2265	226.502	Multiple	Standards	17.9817	-.091707	04/16/02 09:54:08
Cr2677	267.716	Multiple	Standards	230.658	-.891876	04/16/02 09:54:08
Co2286	228.616	Multiple	Standards	167.502	.161919	04/16/02 09:54:08
Cu3247	324.754	Multiple	Standards	139.894	-.792733	04/16/02 09:54:08
Pb2203	220.351	Multiple	Standards	139.775	-3.22881	04/16/02 09:54:08
Pb220A	220.352	Multiple	Standards	124.967	-.466543	04/16/02 09:54:08
Mo2020	202.030	Multiple	Standards	180.281	.336524	04/16/02 09:54:08
Ni2316	231.604	Multiple	Standards	60.0043	-.064005	04/16/02 09:54:08
Se1960	196.021	Multiple	Standards	500.256	6.30322	04/16/02 09:54:08
Se196A	196.022	Multiple	Standards	380.376	-1.49615	04/16/02 09:54:08
Ag3280	328.068	Multiple	Standards	105.690	.352299	04/16/02 09:54:08
Tl1908	190.864	Multiple	Standards	736.981	5.52736	04/16/02 09:54:08
V_2924	292.402	Multiple	Standards	168.584	-.382123	04/16/02 09:54:08
Zn2138	213.856	Multiple	Standards	152.025	-24.2176	04/16/02 09:54:08
Al3082	308.215	Multiple	Standards	3309.38	-570.426	04/16/02 09:54:08
Ca3179	317.933	Multiple	Standards	1663.08	-4.93381	04/16/02 09:54:08
Fe2714	271.441	Multiple	Standards	2306.45	.768816	04/16/02 09:54:08
Mg2790	279.079	Multiple	Standards	2173.95	-4.63776	04/16/02 09:54:08
Mn2576	257.610	Multiple	Standards	27.4476	-.089662	04/16/02 09:54:08
Pb sum	220.353	NONE	NONE	1.00000	.000000	*04/16/02 09:54:08
Sb sum	206.838	NONE	NONE	1.00000	.000000	*04/16/02 09:54:08
Se sum	196.026	NONE	NONE	1.00000	.000000	*04/16/02 09:54:08
Ti3349	334.941	Multiple	Standards	40.7105	-58.5892	04/16/02 09:54:08

INITIAL CALIBRATION CHECK STANDARD
Curtis & Tompkins Laboratories

Instid : MET07 Run Name :
Seqnum : 72153238001 Filename : tr177249 Injected : 16-APR-2002 09:58
Caltype : :

Standards: 02WS0548

Analyte	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum	1000.000	1006.000	ug/L	1	5	
Antimony	1000.000	1030.000	ug/L	3	5	
Arsenic	500.0000	501.0000	ug/L	0	5	
Barium	1000.000	1000.000	ug/L	0	5	
Beryllium	100.0000	100.0000	ug/L	0	5	
Cadmium	100.0000	101.0000	ug/L	1	5	
Calcium	2000.000	2012.000	ug/L	1	5	
Chromium	200.0000	201.0000	ug/L	1	5	
Cobalt	500.0000	503.0000	ug/L	1	5	
Copper	200.0000	201.0000	ug/L	1	5	
Iron	1000.000	1012.000	ug/L	1	5	
Lead	500.0000	504.0000	ug/L	1	5	
Magnesium	2000.000	2018.000	ug/L	1	5	
Manganese	100.0000	100.0000	ug/L	0	5	
Molybdenum	1000.000	1000.000	ug/L	0	5	
Nickel	500.0000	504.0000	ug/L	1	5	
Selenium	500.0000	503.0000	ug/L	1	5	
Silver	100.0000	101.0000	ug/L	1	5	
Thallium	500.0000	505.0000	ug/L	1	5	
Titanium	1000.000	1010.000	ug/L	1	5	
Vanadium	500.0000	502.0000	ug/L	0	5	
Zinc	100.0000	101.0000	ug/L	1	5	

SECOND SOURCE CALIBRATION VERIFICATION
Curtis & Tompkins Laboratories

Instid : MET07 Run Name :
Seqnum : 72153238002 Filename : tr177250 Injected : 16-APR-2002 10:04
Caltype :

Standards: 02WS0158

Analyte	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum	500.0000	495.3000	ug/L	-1	10	
Antimony	500.0000	518.0000	ug/L	4	10	
Arsenic	250.0000	266.0000	ug/L	6	10	
Barium	500.0000	508.0000	ug/L	2	10	
Beryllium	50.00000	50.90000	ug/L	2	10	
Cadmium	50.00000	50.90000	ug/L	2	10	
Calcium	1000.000	1013.000	ug/L	1	10	
Chromium	100.0000	101.0000	ug/L	1	10	
Cobalt	250.0000	253.0000	ug/L	1	10	
Copper	100.0000	101.0000	ug/L	1	10	
Iron	500.0000	501.4000	ug/L	0	10	
Lead	250.0000	258.0000	ug/L	3	10	
Magnesium	1000.000	1030.000	ug/L	3	10	
Manganese	50.00000	50.30000	ug/L	1	10	
Molybdenum	500.0000	509.0000	ug/L	2	10	
Nickel	250.0000	259.0000	ug/L	4	10	
Selenium	250.0000	260.0000	ug/L	4	10	
Silver	50.00000	50.70000	ug/L	1	10	
Thallium	250.0000	252.0000	ug/L	1	10	
Titanium	500.0000	532.0000	ug/L	6	10	
Vanadium	250.0000	254.0000	ug/L	2	10	
Zinc	50.00000	50.90000	ug/L	2	10	

INSTRUMENT BLANK REPORT
Curtis & Tompkins Laboratories

Instrument: MET07 TJA Trace ICP
Seqnum: 72153238003 Run Name: Injected: 16-APR-2002 10:07
Filename: tr177251 Blank Type: ICB

Analyte	QuantAmt	RL	Units	Req Flags
Aluminum	ND	100.0000	ug/L	<RL
Antimony	[52.500]	60.00000	ug/L	<RL
Arsenic	[2.3000]	5.000000	ug/L	<RL
Barium	[0.2810]	10.00000	ug/L	<RL
Beryllium	[0.0490]	2.000000	ug/L	<RL
Cadmium	[0.0530]	5.000000	ug/L	<RL
Calcium	[0.5522]	500.0000	ug/L	<RL
Chromium	ND	10.00000	ug/L	<RL
Cobalt	[0.0450]	20.00000	ug/L	<RL
Copper	ND	10.00000	ug/L	<RL
Iron	ND	100.0000	ug/L	<RL
Lead	ND	3.000000	ug/L	<RL
Magnesium	ND	500.0000	ug/L	<RL
Manganese	ND	10.00000	ug/L	<RL
Molybdenum	[6.9300]	20.00000	ug/L	<RL
Nickel	ND	20.00000	ug/L	<RL
Selenium	[0.8400]	5.000000	ug/L	<RL
Silver	[0.1760]	5.000000	ug/L	<RL
Thallium	[1.2100]	5.000000	ug/L	<RL
Titanium	[4.0000]	10.00000	ug/L	<RL
Vanadium	ND	10.00000	ug/L	<RL
Zinc	[1.1200]	20.00000	ug/L	<RL

LOW-LEVEL PERFORMANCE VERIFICATION STANDARD
Curtis & Tompkins Laboratories

Instid : MET07 Run Name :
Seqnum : 72153238004 Filename : tr177252 Injected : 16-APR-2002 10:11
Caltype :

Standards: 02WS0594

Analyte	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum	100.0000	104.4000	ug/L	4	50	
Antimony	60.00000	66.20000	ug/L	10	50	
Arsenic	5.000000	5.420000	ug/L	8	50	
Barium	10.00000	10.30000	ug/L	3	50	
Beryllium	2.000000	2.100000	ug/L	5	50	
Cadmium	5.000000	5.010000	ug/L	0	50	
Chromium	10.00000	10.10000	ug/L	1	50	
Cobalt	20.00000	20.30000	ug/L	2	50	
Copper	10.00000	9.500000	ug/L	-5	50	
Iron	100.0000	93.18000	ug/L	-7	50	
Lead	3.000000	2.380000	ug/L	-21	50	
Manganese	10.00000	10.00000	ug/L	0	50	
Molybdenum	20.00000	20.80000	ug/L	4	50	
Nickel	20.00000	21.60000	ug/L	8	50	
Selenium	5.000000	6.330000	ug/L	27	50	
Silver	5.000000	4.750000	ug/L	-5	50	
Thallium	5.000000	5.980000	ug/L	20	50	
Vanadium	10.00000	10.00000	ug/L	0	50	
Zinc	20.00000	23.50000	ug/L	18	50	

INTERFERENCE CHECK STANDARD AB
Curtis & Tompkins Laboratories

Instid : MET07 Run Name :
Seqnum : 72153238005 Filename : tr177253 Injected : 16-APR-2002 10:15
Caltype :

Standards: 02WS0163

Analyte	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum	500000.0	548000.0	ug/L	10		
Antimony	500.0000	475.0000	ug/L	-5	20	
Arsenic	500.0000	489.0000	ug/L	-2	20	
Barium	500.0000	524.0000	ug/L	5	20	
Beryllium	500.0000	491.0000	ug/L	-2	20	
Cadmium	1000.000	922.0000	ug/L	-8	20	
Calcium	500000.0	455000.0	ug/L	-9		
Chromium	500.0000	480.0000	ug/L	-4	20	
Cobalt	500.0000	452.0000	ug/L	-10	20	
Copper	500.0000	538.0000	ug/L	8	20	
Iron	200000.0	197800.0	ug/L	-1		
Lead	1000.000	910.0000	ug/L	-9	20	
Magnesium	500000.0	521300.0	ug/L	4		
Manganese	500.0000	481.0000	ug/L	-4	20	
Molybdenum	500.0000	455.0000	ug/L	-9	20	
Nickel	1000.000	999.0000	ug/L	0	20	
Selenium	500.0000	473.0000	ug/L	-5	20	
Silver	1000.000	1080.000	ug/L	8	20	
Thallium	500.0000	448.0000	ug/L	-10	20	
Titanium	20000.00	2020.000	ug/L	-90		
Vanadium	500.0000	500.0000	ug/L	0	20	
Zinc	1000.000	974.0000	ug/L	-3	20	

CONTINUING CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instid : MET07
Seqnum : 72153238014
Run Name :
Filename : tr177262
Injected : 16-APR-2002 10:51
Caltype :

Standards: 02WS0160

Analyte	RF/CF	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum		750.0000	804.3000	ug/L	7	10	
Antimony		750.0000	770.0000	ug/L	3	10	
Arsenic		375.0000	402.0000	ug/L	7	10	
Barium		750.0000	769.0000	ug/L	3	10	
Beryllium		75.00000	78.10000	ug/L	4	10	
Cadmium		75.00000	76.60000	ug/L	2	10	
Calcium		1500.000	1571.000	ug/L	5	10	
Chromium		150.0000	156.0000	ug/L	4	10	
Cobalt		375.0000	386.0000	ug/L	3	10	
Copper		150.0000	157.0000	ug/L	5	10	
Iron		750.0000	819.1000	ug/L	9	10	
Lead		375.0000	394.0000	ug/L	5	10	
Magnesium		1500.000	1591.000	ug/L	6	10	
Manganese		75.00000	77.00000	ug/L	3	10	
Molybdenum		750.0000	776.0000	ug/L	3	10	
Nickel		375.0000	396.0000	ug/L	6	10	
Selenium		375.0000	389.0000	ug/L	4	10	
Silver		75.00000	78.30000	ug/L	4	10	
Thallium		375.0000	383.0000	ug/L	2	10	
Titanium		750.0000	805.0000	ug/L	7	10	
Vanadium		375.0000	389.0000	ug/L	4	10	
Zinc		75.00000	78.20000	ug/L	4	10	

INSTRUMENT BLANK REPORT
Curtis & Tompkins Laboratories

Instrument: MET07 TJA Trace ICP
Seqnum: 72153238015 Run Name: Injected: 16-APR-2002 10:56
Filename: tr177263 Blank Type: CCB

Analyte	QuantAmt	RL	Units	Req Flags
Aluminum	[17.530]	100.0000	ug/L	<RL
Antimony	[20.600]	60.00000	ug/L	<RL
Arsenic	[0.4690]	5.000000	ug/L	<RL
Barium	[0.4040]	10.00000	ug/L	<RL
Beryllium	ND	2.000000	ug/L	<RL
Cadmium	[0.1130]	5.000000	ug/L	<RL
Calcium	[0.9437]	500.0000	ug/L	<RL
Chromium	ND	10.00000	ug/L	<RL
Cobalt	ND	20.00000	ug/L	<RL
Copper	[0.5730]	10.00000	ug/L	<RL
Iron	[16.530]	100.0000	ug/L	<RL
Lead	ND	3.000000	ug/L	<RL
Magnesium	[2.1040]	500.0000	ug/L	<RL
Manganese	[0.0600]	10.00000	ug/L	<RL
Molybdenum	[2.4900]	20.00000	ug/L	<RL
Nickel	[0.1260]	20.00000	ug/L	<RL
Selenium	[3.6700]	5.000000	ug/L	<RL
Silver	[0.8840]	5.000000	ug/L	<RL
Thallium	[4.4700]	5.000000	ug/L	<RL
Titanium	[4.5700]	10.00000	ug/L	<RL
Vanadium	[0.2400]	10.00000	ug/L	<RL
Zinc	[0.9520]	20.00000	ug/L	<RL

CONTINUING CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instid : MET07
Seqnum : 72153238026
Run Name :
Filename : tr177274
Injected : 16-APR-2002 11:44
Caltype :

Standards: 02WS0159

Analyte	RF/CF	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum		500.0000	509.7000	ug/L	2	10	
Antimony		500.0000	506.0000	ug/L	1	10	
Arsenic		250.0000	261.0000	ug/L	4	10	
Barium		500.0000	505.0000	ug/L	1	10	
Beryllium		50.00000	50.20000	ug/L	0	10	
Cadmium		50.00000	50.20000	ug/L	0	10	
Calcium		1000.000	991.2000	ug/L	-1	10	
Chromium		100.0000	100.0000	ug/L	0	10	
Cobalt		250.0000	249.0000	ug/L	0	10	
Copper		100.0000	99.20000	ug/L	-1	10	
Iron		500.0000	537.4000	ug/L	7	10	
Lead		250.0000	255.0000	ug/L	2	10	
Magnesium		1000.000	1021.000	ug/L	2	10	
Manganese		50.00000	49.20000	ug/L	-2	10	
Molybdenum		500.0000	510.0000	ug/L	2	10	
Nickel		250.0000	257.0000	ug/L	3	10	
Selenium		250.0000	255.0000	ug/L	2	10	
Silver		50.00000	50.20000	ug/L	0	10	
Thallium		250.0000	248.0000	ug/L	-1	10	
Titanium		500.0000	523.0000	ug/L	5	10	
Vanadium		250.0000	249.0000	ug/L	0	10	
Zinc		50.00000	50.40000	ug/L	1	10	

INSTRUMENT BLANK REPORT
Curtis & Tompkins Laboratories

Instrument: MET07 TJA Trace ICP
Seqnum: 72153238027 Run Name: Injected: 16-APR-2002 11:48
Filename: tr177275 Blank Type: CCB

Analyte	QuantAmt	RL	Units	Req Flags
Aluminum	[22.380]	100.0000	ug/L	<RL
Antimony	[37.700]	60.00000	ug/L	<RL
Arsenic	ND	5.000000	ug/L	<RL
Barium	[0.3480]	10.00000	ug/L	<RL
Beryllium	[0.2920]	2.000000	ug/L	<RL
Cadmium	[0.0780]	5.000000	ug/L	<RL
Calcium	[3.5530]	500.0000	ug/L	<RL
Chromium	ND	10.00000	ug/L	<RL
Cobalt	ND	20.00000	ug/L	<RL
Copper	ND	10.00000	ug/L	<RL
Iron	[31.050]	100.0000	ug/L	<RL
Lead	ND	3.000000	ug/L	<RL
Magnesium	[7.8310]	500.0000	ug/L	<RL
Manganese	[0.1960]	10.00000	ug/L	<RL
Molybdenum	[5.4000]	20.00000	ug/L	<RL
Nickel	[0.2320]	20.00000	ug/L	<RL
Selenium	[2.1700]	5.000000	ug/L	<RL
Silver	[0.4860]	5.000000	ug/L	<RL
Thallium	[1.8200]	5.000000	ug/L	<RL
Titanium	[5.8600]	10.00000	ug/L	<RL
Vanadium	ND	10.00000	ug/L	<RL
Zinc	[1.3700]	20.00000	ug/L	<RL

CONTINUING CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instid : MET07
Seqnum : 72153238038

Run Name :
Filename : tr177292

Injected : 16-APR-2002 13:11
Caltype :

Standards: 02WS0161

Analyte	RF/CF	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum		250.0000	262.1000	ug/L	5	10	
Antimony		250.0000	237.0000	ug/L	-5	10	
Arsenic		125.0000	138.0000	ug/L	10	10	
Barium		250.0000	259.0000	ug/L	4	10	
Beryllium		25.00000	26.30000	ug/L	5	10	
Cadmium		25.00000	26.50000	ug/L	6	10	
Calcium		500.0000	508.6000	ug/L	2	10	
Chromium		50.00000	51.90000	ug/L	4	10	
Cobalt		125.0000	130.0000	ug/L	4	10	
Copper		50.00000	51.50000	ug/L	3	10	
Iron		250.0000	271.5000	ug/L	9	10	
Lead		125.0000	133.0000	ug/L	6	10	
Magnesium		500.0000	519.5000	ug/L	4	10	
Manganese		25.00000	25.90000	ug/L	4	10	
Molybdenum		250.0000	250.0000	ug/L	0	10	
Nickel		125.0000	135.0000	ug/L	8	10	
Selenium		125.0000	136.0000	ug/L	9	10	
Silver		25.00000	26.00000	ug/L	4	10	
Thallium		125.0000	126.0000	ug/L	1	10	
Titanium		250.0000	266.0000	ug/L	6	10	
Vanadium		125.0000	129.0000	ug/L	3	10	
Zinc		25.00000	25.60000	ug/L	2	10	

INSTRUMENT BLANK REPORT
Curtis & Tompkins Laboratories

Instrument: MET07 TJA Trace ICP
Seqnum: 72153238039 Run Name: Injected: 16-APR-2002 13:15
Filename: tr177293 Blank Type: CCB

Analyte	QuantAmt	RL	Units	Req Flags
Aluminum	ND	100.0000	ug/L	<RL
Antimony	[26.400]	60.00000	ug/L	<RL
Arsenic	[3.1200]	5.000000	ug/L	<RL
Barium	ND	10.00000	ug/L	<RL
Beryllium	[0.0210]	2.000000	ug/L	<RL
Cadmium	[0.0450]	5.000000	ug/L	<RL
Calcium	ND	500.0000	ug/L	<RL
Chromium	ND	10.00000	ug/L	<RL
Cobalt	ND	20.00000	ug/L	<RL
Copper	ND	10.00000	ug/L	<RL
Iron	ND	100.0000	ug/L	<RL
Lead	[0.8080]	3.000000	ug/L	<RL
Magnesium	ND	500.0000	ug/L	<RL
Manganese	ND	10.00000	ug/L	<RL
Molybdenum	[0.2080]	20.00000	ug/L	<RL
Nickel	ND	20.00000	ug/L	<RL
Selenium	ND	5.000000	ug/L	<RL
Silver	ND	5.000000	ug/L	<RL
Thallium	ND	5.000000	ug/L	<RL
Titanium	ND	10.00000	ug/L	<RL
Vanadium	ND	10.00000	ug/L	<RL
Zinc	ND	20.00000	ug/L	<RL

INTERFERENCE CHECK STANDARD AB
Curtis & Tompkins Laboratories

Instid : MET07 Run Name :
Seqnum : 72153238049 Filename : tr177303 Injected : 16-APR-2002 13:52
Caltype :

Standards: 02WS0163

Analyte	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum	500000.0	531800.0	ug/L	6		
Antimony	500.0000	491.0000	ug/L	-2	20	
Arsenic	500.0000	497.0000	ug/L	-1	20	
Barium	500.0000	523.0000	ug/L	5	20	
Beryllium	500.0000	492.0000	ug/L	-2	20	
Cadmium	1000.000	934.0000	ug/L	-7	20	
Calcium	500000.0	456700.0	ug/L	-9		
Chromium	500.0000	482.0000	ug/L	-4	20	
Cobalt	500.0000	453.0000	ug/L	-9	20	
Copper	500.0000	532.0000	ug/L	6	20	
Iron	200000.0	198600.0	ug/L	-1		
Lead	1000.000	922.0000	ug/L	-8	20	
Magnesium	500000.0	520400.0	ug/L	4		
Manganese	500.0000	482.0000	ug/L	-4	20	
Molybdenum	500.0000	467.0000	ug/L	-7	20	
Nickel	1000.000	1000.000	ug/L	0	20	
Selenium	500.0000	482.0000	ug/L	-4	20	
Silver	1000.000	1070.000	ug/L	7	20	
Thallium	500.0000	448.0000	ug/L	-10	20	
Titanium	20000.00	2030.000	ug/L	-90		
Vanadium	500.0000	501.0000	ug/L	0	20	
Zinc	1000.000	989.0000	ug/L	-1	20	

CONTINUING CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instid : MET07 Run Name :
Seqnum : 72153238050 Filename : tr177304 Injected : 16-APR-2002 14:00
Caltype :

Standards: 02WS0160

Analyte	RF/CF	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum		750.0000	760.3000	ug/L	1	10	
Antimony		750.0000	806.0000	ug/L	7	10	
Arsenic		375.0000	399.0000	ug/L	6	10	
Barium		750.0000	762.0000	ug/L	2	10	
Beryllium		75.00000	75.80000	ug/L	1	10	
Cadmium		75.00000	76.60000	ug/L	2	10	
Calcium		1500.000	1517.000	ug/L	1	10	
Chromium		150.0000	153.0000	ug/L	2	10	
Cobalt		375.0000	378.0000	ug/L	1	10	
Copper		150.0000	153.0000	ug/L	2	10	
Iron		750.0000	771.2000	ug/L	3	10	
Lead		375.0000	388.0000	ug/L	3	10	
Magnesium		1500.000	1566.000	ug/L	4	10	
Manganese		75.00000	74.80000	ug/L	0	10	
Molybdenum		750.0000	762.0000	ug/L	2	10	
Nickel		375.0000	389.0000	ug/L	4	10	
Selenium		375.0000	382.0000	ug/L	2	10	
Silver		75.00000	80.70000	ug/L	8	10	
Thallium		375.0000	377.0000	ug/L	1	10	
Titanium		750.0000	785.0000	ug/L	5	10	
Vanadium		375.0000	379.0000	ug/L	1	10	
Zinc		75.00000	75.80000	ug/L	1	10	

INSTRUMENT BLANK REPORT
Curtis & Tompkins Laboratories

Instrument: MET07 TJA Trace ICP
Seqnum: 72153238051 Run Name: Injected: 16-APR-2002 14:04
Filename: tr177305 Blank Type: CCB

Analyte	QuantAmt	RL	Units	Req Flags
Aluminum	ND	100.0000	ug/L	<RL
Antimony	[27.100]	60.00000	ug/L	<RL
Arsenic	[1.0800]	5.000000	ug/L	<RL
Barium	ND	10.00000	ug/L	<RL
Beryllium	[0.1400]	2.000000	ug/L	<RL
Cadmium	ND	5.000000	ug/L	<RL
Calcium	ND	500.0000	ug/L	<RL
Chromium	ND	10.00000	ug/L	<RL
Cobalt	ND	20.00000	ug/L	<RL
Copper	ND	10.00000	ug/L	<RL
Iron	ND	100.0000	ug/L	<RL
Lead	[1.0000]	3.000000	ug/L	<RL
Magnesium	ND	500.0000	ug/L	<RL
Manganese	ND	10.00000	ug/L	<RL
Molybdenum	ND	20.00000	ug/L	<RL
Nickel	ND	20.00000	ug/L	<RL
Selenium	ND	5.000000	ug/L	<RL
Silver	[0.3550]	5.000000	ug/L	<RL
Thallium	ND	5.000000	ug/L	<RL
Titanium	ND	10.00000	ug/L	<RL
Vanadium	ND	10.00000	ug/L	<RL
Zinc	ND	20.00000	ug/L	<RL

INTERFERENCE CHECK STANDARD AB
Curtis & Tompkins Laboratories

Instid : MET07 Run Name :
Seqnum : 72153238061 Filename : tr177315 Injected : 16-APR-2002 14:42
Caltype :

Standards: 02WS0163

Analyte	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum	500000.0	532500.0	ug/L	6		
Antimony	500.0000	456.0000	ug/L	-9	20	
Arsenic	500.0000	486.0000	ug/L	-3	20	
Barium	500.0000	522.0000	ug/L	4	20	
Beryllium	500.0000	485.0000	ug/L	-3	20	
Cadmium	1000.000	927.0000	ug/L	-7	20	
Calcium	500000.0	458900.0	ug/L	-8		
Chromium	500.0000	481.0000	ug/L	-4	20	
Cobalt	500.0000	449.0000	ug/L	-10	20	
Copper	500.0000	528.0000	ug/L	6	20	
Iron	200000.0	196600.0	ug/L	-2		
Lead	1000.000	911.0000	ug/L	-9	20	
Magnesium	500000.0	514900.0	ug/L	3		
Manganese	500.0000	479.0000	ug/L	-4	20	
Molybdenum	500.0000	455.0000	ug/L	-9	20	
Nickel	1000.000	996.0000	ug/L	0	20	
Selenium	500.0000	475.0000	ug/L	-5	20	
Silver	1000.000	1030.000	ug/L	3	20	
Thallium	500.0000	435.0000	ug/L	-13	20	
Titanium	20000.00	2020.000	ug/L	-90		
Vanadium	500.0000	496.0000	ug/L	-1	20	
Zinc	1000.000	983.0000	ug/L	-2	20	

CONTINUING CALIBRATION REPORT
Curtis & Tompkins Laboratories

Instid : MET07 Run Name :
Seqnum : 72153238062 Filename : tr177316 Injected : 16-APR-2002 14:47
Caltype :

Standards: 02WS0159

Analyte	RF/CF	SpkAmt	QuantAmt	Units	%D	Max %D	Flags
Aluminum		500.0000	520.4000	ug/L	4	10	
Antimony		500.0000	488.0000	ug/L	-2	10	
Arsenic		250.0000	259.0000	ug/L	4	10	
Barium		500.0000	503.0000	ug/L	1	10	
Beryllium		50.00000	50.00000	ug/L	0	10	
Cadmium		50.00000	50.50000	ug/L	1	10	
Calcium		1000.000	1038.000	ug/L	4	10	
Chromium		100.0000	100.0000	ug/L	0	10	
Cobalt		250.0000	249.0000	ug/L	0	10	
Copper		100.0000	98.30000	ug/L	-2	10	
Iron		500.0000	491.0000	ug/L	-2	10	
Lead		250.0000	251.0000	ug/L	0	10	
Magnesium		1000.000	1046.000	ug/L	5	10	
Manganese		50.00000	49.40000	ug/L	-1	10	
Molybdenum		500.0000	501.0000	ug/L	0	10	
Nickel		250.0000	256.0000	ug/L	2	10	
Selenium		250.0000	250.0000	ug/L	0	10	
Silver		50.00000	54.20000	ug/L	8	10	
Thallium		250.0000	254.0000	ug/L	2	10	
Titanium		500.0000	523.0000	ug/L	5	10	
Vanadium		250.0000	249.0000	ug/L	0	10	
Zinc		50.00000	49.30000	ug/L	-1	10	

INSTRUMENT BLANK REPORT
Curtis & Tompkins Laboratories

Instrument: MET07 TJA Trace ICP
Seqnum: 72153238063 Run Name: Injected: 16-APR-2002 14:51
Filename: tr177317 Blank Type: CCB

Analyte	QuantAmt	RL	Units	Req Flags
Aluminum	ND	100.0000	ug/L	<RL
Antimony	[20.600]	60.00000	ug/L	<RL
Arsenic	[0.3870]	5.000000	ug/L	<RL
Barium	ND	10.00000	ug/L	<RL
Beryllium	[0.2300]	2.000000	ug/L	<RL
Cadmium	[0.0110]	5.000000	ug/L	<RL
Calcium	ND	500.0000	ug/L	<RL
Chromium	ND	10.00000	ug/L	<RL
Cobalt	ND	20.00000	ug/L	<RL
Copper	ND	10.00000	ug/L	<RL
Iron	ND	100.0000	ug/L	<RL
Lead	ND	3.000000	ug/L	<RL
Magnesium	ND	500.0000	ug/L	<RL
Manganese	ND	10.00000	ug/L	<RL
Molybdenum	ND	20.00000	ug/L	<RL
Nickel	[0.1400]	20.00000	ug/L	<RL
Selenium	ND	5.000000	ug/L	<RL
Silver	[1.6000]	5.000000	ug/L	<RL
Thallium	[0.4990]	5.000000	ug/L	<RL
Titanium	[0.3700]	10.00000	ug/L	<RL
Vanadium	ND	10.00000	ug/L	<RL
Zinc	ND	20.00000	ug/L	<RL

SAMPLE PREPARATION SUMMARY

04/08/02 17:14:48

Batch Number : 71467
Date Extracted : 08-APR-02
Extracted By : Victor Vergara
Prep Method : 3050

Analysis: N/A
Bgroup : ICAP
Units : g
Clean-up:

Spike #1 ID : 01SS186
Spike #2 ID : 01SS187
Spike #3 ID :

Sample No.	Type		Client	Matrx	Init W/V	U	Final Vol	Prep D.F.	Clean pH D.F.	Spike #1 Vol	Spike #2 Vol	Spike #3 Vol	Analysis	Comments
157881-006			IT Corporation	Soil	2.09	g	100	47.8468	1				T26/ICP	mss
157881-010			IT Corporation	Soil	2.17	g	100	46.0829	1				T26/ICP	
157881-014			IT Corporation	Soil	2.18	g	100	45.8715	1				T26/ICP	
157881-018			IT Corporation	Soil	2.21	g	100	45.2488	1				T26/ICP	
157881-022			IT Corporation	Soil	2.32	g	100	43.1034	1				T26/ICP	
157881-026			IT Corporation	Soil	2.38	g	100	42.0168	1				T26/ICP	
157881-027			IT Corporation	Soil	2.14	g	100	46.7289	1				T26/ICP	
157881-031			IT Corporation	Soil	2.29	g	100	43.6681	1				T26/ICP	
157881-035			IT Corporation	Soil	2.14	g	100	46.7289	1				T26/ICP	
157881-039			IT Corporation	Soil	2.24	g	100	44.6428	1				T26/ICP	
157881-043			IT Corporation	Soil	2.37	g	100	42.1940	1				T26/ICP	
157881-044			IT Corporation	Soil	2.08	g	100	48.0769	1				T26/ICP	
157881-045			IT Corporation	Soil	2.32	g	100	43.1034	1				T26/ICP	
157881-046			IT Corporation	Soil	2.44	g	100	40.9836	1				T26/ICP	
157881-047			IT Corporation	Soil	2.35	g	100	42.5531	1				T26/ICP	
157881-048			IT Corporation	Soil	2.33	g	100	42.9184	1				T26/ICP	
157881-049			IT Corporation	Soil	2.65	g	100	37.7358	1				T26/ICP	
157881-050			IT Corporation	Soil	2.04	g	100	49.0196	1				T26/ICP	
157881-051			IT Corporation	Soil	2.79	g	100	35.8422	1				T26/ICP	
157881-052			IT Corporation	Soil	2.23	g	100	44.8430	1				T26/ICP	
QC175344	BLANK			Soil	2	g	100	50	1					
QC175345	BS			Soil	2	g	100	50	1	1	1			
QC175346	BSD			Soil	2	g	100	50	1	1	1			
QC175347	MS	of 157881-006		Soil	2.07	g	100	48.3091	1	1	1			
QC175348	MSD	of 157881-006		Soil	2.4	g	100	41.6666	1	1	1			
QC175349	SER	of 157881-006		Soil	2.09	g	100	47.8468	1					

Prep Chemist: Victor Vergara Reviewed By: MW Date: 4/16/02

Relinquished By: Victor Vergara Received By: MW Date: 4/16/02

PROJECT Soil Digestion

Notebook No. 1528 (BN)

Continued From Page Ø

04/08/02 B# 71467-1 ICAP/M3050

Sample	mass (g)	final vol (ml)	Filtered yes/no	Comments
BLK QC 175344	Ø	100.0	NO	SPIKES
BS 175345				#0155186 (1.0ml)
BSD 175346				#0155187
157881-006 MS A	2.07			
-006 MSD	2.40			
-010	2.17			
-014	2.18			
-018	2.21			
-022	2.32			
-026	2.38			
-027	2.14			
-031	2.29			
-035	2.14			
-039	2.24			
-043	2.37			
-044	2.08			
-045	2.32			
-046	2.44			
-047	2.35			
-048	2.33			
-049	2.65			
-050	2.04			
-051	2.79			
-052	2.23			
MBS 006	2.09			

Reagent lot numb

HNO3 JT Baker IX0208
~~HNO3 4/15/02~~
H2O2 VWR 411529
HCl Fisher 410050

Continued on Page

Read and Understood By

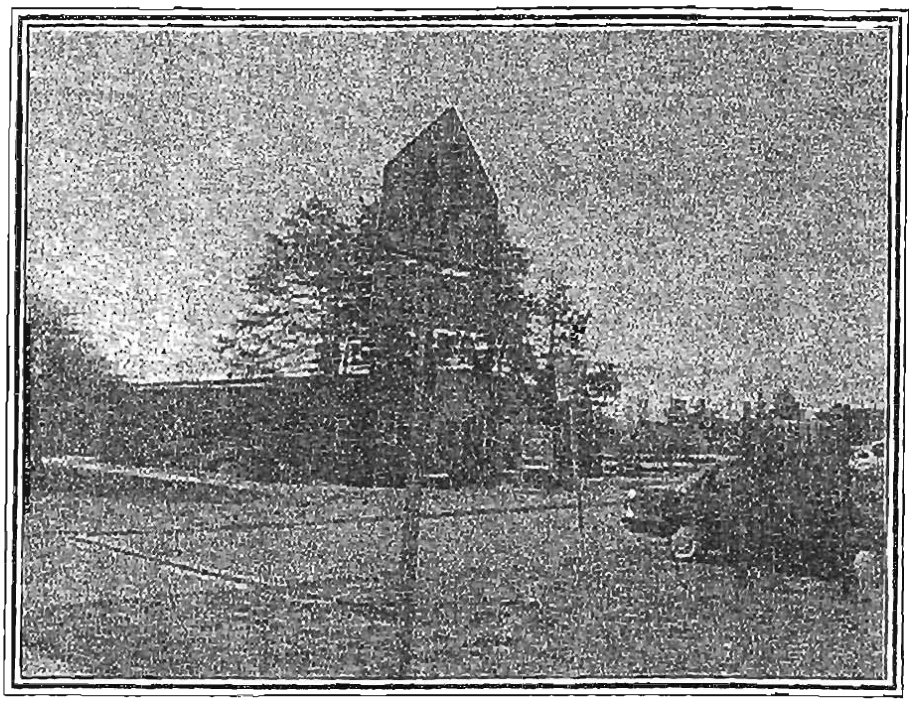
Signed — Date — 332 — Signed — Date

04/08/02 — 4/16/02

Weber, Hayes & Associates
Hydrogeology and Environmental Engineering
120 Westgate Dr., Watsonville, CA 95076
(831) 722-3580 (831) 662-3100
Fax: (831) 722-1159

PHASE I
ENVIRONMENTAL SITE ASSESSMENT

Ark / Monarch School
255 Swift Street
Santa Cruz, California



December 12, 2000

Prepared for:

Steven Graves and Associates
4630 Soquel Drive, Suite 8
Soquel, California 95073

By:

Weber, Hayes and Associates
A California Corporation
Job # 20058

TABLE OF CONTENTS

FIGURES

APPENDICES

Weber, Hayes & Associates
Hydrogeology and Environmental Engineering
120 Westgate Dr., Watsonville, CA 95076
(831) 722-3580 (831) 662-3100
Fax: (831) 722-1159

EXECUTIVE SUMMARY

This report contains results of a Phase I Environmental Site Assessment (ESA) which has been conducted to review potential environmental risks at the Ark and Monarch School properties located at 255 Swift Street in Santa Cruz, California. The site is located in mixed industrial and residential area of Santa Cruz (see Location Map, Figure 1).

Summary of Phase I Research: Phase I research consisted of a visual inspection of the site, an interview with the property manager regarding the current and past use of the site, a review of regulatory lists of known sites in a radial distance of up to ½ mile, and a check of historical documents.

1. Site Inspection: A site inspection was conducted to note potential sources of contamination associated with on-site activities. The site is owned by the Santa Cruz City School system and is currently the campus for the Ark and Monarch alternative schools. There is pavement covering approximately 40 % of the site, with a lawn on native soils covering the remaining portion. The subject site is essentially flat-lying except for a small dry drainage ditch which runs through the site. The site walk-through revealed no apparent evidence of on-site industrial use, hazardous materials/waste use or storage.

   The site inspection did locate an area which was reportedly used by the National Guard for armored tank and truck maintenance prior to the school district's acquisition of the site. The site walk-through also revealed a Groundwater Monitoring Well directly across Swift Street from the subject property. This well was installed as part of a groundwater contamination investigation at the nearby Santa Cruz Industries site, 411 Swift Street (see Figure 2).

   Land use in the area appears to be a mix of commercial / industrial and residential. There were no properties of concern listed within the general area in the regulatory database search. Further investigation revealed that a former industrial property with a known chemical release to groundwater was present at 411 Swift Street, approximately 500 feet to the north, across Delaware Avenue. This site is the Santa Cruz Industries property and it is the principal nearby property of concern (see Site & Vicinity Map - Figure 2).

2. Property Owner Interview: Mr. Karl Balke, the director of the organization overseeing the site project, was interviewed regarding current and previous land use at the subject property. To Mr. Balke's knowledge no hazardous materials storage or use has occurred on the Ark / Monarch property including underground storage of fuels. Mr. Balke did indicate that the adjacent

maintenance yard site is used storage of small quantities of hazardous materials which are associated with the maintenance of school grounds. These materials are stored with proper documentation and are handled and disposed of in the appropriate manner, as outlined in labeling, manufactures' information, and Material Safety Data Sheets (MSDS).

3. Search of Regulatory Lists: Phase I research included a search of regulatory lists to identify known sites having underground storage tanks (USTs), subsurface contamination, or generation of hazardous waste. Phase I research included a review of Santa Cruz County Environmental Health Department files for the nearby Santa Cruz Industries Property. This site was not identified in our initial regulatory database search but was discovered during the site walk-through after locating an unidentified groundwater monitoring well. Review of Santa Cruz County files shows that soil and groundwater in the vicinity of the Santa Cruz Industries property were impacted by painting and metal plating operations which caused chemical releases to the shallow subsurface. Extensive study has been completed at the site to characterize the extent of groundwater contamination. There is an existing plume of halogenated volatile organic compounds (HVOC's) in groundwater which extends from the Santa Cruz Industries site to the Ark/Monarch School property boundary (see Figure 2). A soil and groundwater remediation and cleanup system operated at the site beginning in November of 1999 and was recently shut down pending a re-evaluation of funding. Review of other adjacent sites identified by the Regulatory Database Search indicated that other sites did not have any significant potential to impact the Ark/Monarch property.

Conclusions: Phase I assessments provide limited assurances of risk since they rely on regulatory and historical documentation and current site conditions. **The research, interview, and inspection work tasks completed as part of this Phase I Environmental Site Assessment indicate that the former armored tank and truck maintenance area at the west side of the property is a Recognized Environmental Condition. This area may warrant a limited soil and groundwater investigation, if the proposed development by City of Santa Cruz Schools would require any subsurface excavation near this former maintenance area.**

We understand that soil and groundwater testing is to be conducted at the site for lead and asbestos issues by a different Hazardous Materials inspector (Cathy Braun, Santa Cruz City Schools, personal communication). The sampling plan could be amended to include testing for motor oil, fuels and solvents in shallow soils in the former tank/truck maintenance area.

The scope of the Phase I research and inspection also revealed that the nearby Santa Cruz Industries site has the potential to impact the subject site because of its documented HVOC plume which encroaches on the subject property and is located directly upgradient from the

subject site. However, it is our opinion that historical releases at the Santa Cruz Industries site are unlikely to require cleanup action by the subject parcel because:

- An extensive soil and groundwater investigation and remediation project showing that groundwater is impacted is ongoing. Additional groundwater remediation is planned to more completely remove the contamination at the site;
- The Santa Cruz Industries site is being actively regulated by the California Regional Water Quality Control Board (CRWQCB) and the Santa Cruz County Environmental Health Service (SCC-EHS) overseeing regulatory agencies; and
- Remediation and on-going monitoring of the chemical releases will be the responsibility of the owner of the Santa Cruz Industries property.

It is unlikely that the Ark / Monarch School will be accountable for costs associated with investigation, monitoring or remediation of contaminant plumes originating from an off-site source (i.e. Santa Cruz Industries).

If additional evaluation of environmental risk is required, a Phase II drilling, sampling, and reporting program can be conducted to quantify the potential environmental liability from the armored tank and truck maintenance area at the subject site.

This concludes the Executive Summary.

PURPOSE AND SCOPE

This report contains results of a Phase I Environmental Site Assessment (ESA) which has been conducted to review environmental liabilities resulting from historic or existing environmental hazards at the subject site and nearby properties. Completed work tasks conformed with recommended guidelines established by the American Society for Testing and Materials (ASTM)[1].

The purpose of this ESA is to provide a professional opinion regarding recognized environmental conditions at the site, including potential impacts from known problems in the surrounding area. The term "recognized environmental conditions," is defined as "the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property" (ASTM Standard E 1527-93). Limitations and Exceptions of Assessment are listed at the

---

[1]: ASTM Standard: *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*, Designation E 1527-93

end of this report.

Defined Scope and Methodology: Our scope of services for this investigation was defined in our proposal dated August 23, 2000 and authorized by Steven Graves and Associates. We completed the following tasks:

- We contracted with Environmental Data Resources Inc. (EDR), an information research firm specializing in environmental data collection, to conduct a regulatory list search of known underground storage tanks, subsurface contaminated sites, hazardous waste generation or treatment-storage-and disposal facilities, and landfills located within the ASTM survey radius. We evaluated the locations of identified sites relative to the subject site and shallow groundwater gradient. Copies of EDR's radius maps and report are included as Appendix B.

- We reviewed available historic maps, and aerial photographs, available geologic, topographic and groundwater data of the subject site and vicinity. We conducted additional review of regulatory files at the Santa Cruz County Health Department for sites having historical chemical releases.

- We conducted an interview with the Property Manager (Mr. Karl Balke) regarding current and historical uses of the site and completed a visual inspection of the subject property (Appendix A)

- We evaluated the collected information and prepared this summary report.

LOCATION AND DESCRIPTION

The 2.4-acre subject parcel is located at 255 Swift Street in Santa Cruz (see Location Map, Figure 1). The property is currently used as the campus for the Ark and Monarch alternative schools. There are a total of eleven buildings on the site which are all used primarily as classrooms.

The subject site is owned and operated by the Santa Cruz City School System. Land use in the area is primarily a mix of commercial/industrial and residential. The principal commercial enterprises in the area are Jay's Golf, a Firewood Business, and Haut Surfboards (adjacent to the north). The majority of nearby property use is residential and school oriented (Natural Bridges School to the south and private residential development to the east. There is also a maintenance facility associated with the schools which is adjacent to the subject property to the west. A nearby property of concern is the Santa Cruz Industries property. This is a former industrial site that conducted metal plating and painting. This property is the source of an extensive chemical release to groundwater which has traveled over 500 feet to the south (downgradient).

Hydrogeologic Setting: The site is located at an elevation of 45-50 feet above Mean Sea Level. The

site lies approximately ¼-miles north of the Monterey Bay on a broad coastal marine terrace. Regional topography slopes gently to the southwest. Sediments beneath the site have been mapped as lower emergent, coastal terrace deposits and are of marine and fluvial origin. The Pleistocene age terrace deposits are documented to contain semi-consolidated, generally well sorted sands with a few relatively continuous layers of gravel, and are believed to have been primarily deposited in a near shore, high energy, marine environment. The thickness of this unit has been reported to be from 5 to 40 feet. These coastal terrace deposits are underlain by the Pliocene age Purisima Formation (bedrock) which consists of very thickly bedded, yellowish gray siltstone and can be as much as 3,000 feet thick (Clark).

First groundwater in the area is generally found under unconfined conditions in the terrace deposits. Groundwater flow in the area is generally toward the south and Monterey Bay.

Surface water in the area primarily flows to an unnamed drainage 700 feet to the west (see Figure 1). Historical aerial and topographic maps indicate that local topography has not changed significantly in the past 50 years (see Historical Aerial Photos - 1957-94 in Appendix A, and 1997 in Figure 2, and Historic Topographic Maps - 1940-94 in Appendix B). Shallow groundwater flow in the area is to the south towards the Monterey Bay.

PROPERTY MANAGER INTERVIEW

Mr. Karl Balke, the property manager, was interviewed regarding current and previous land use at the subject property - a copy of the completed *Property Manager/Owner Questionnaire* is included in Appendix A. Mr. Balke is the director for the school district administrative team responsible for the site, and has indicated that to the best of his knowledge the following is true:

- The site has a number of buildings, two of which are permanent structures, the rest temporary relocatable units. The two permanent structures were built in 1963 as part of the National Guard Armory which occupied the site. The remaining relocatable structures have been added periodically since 1986. There is also a temporary greenhouse on the site.

- The site is currently used as the grounds for the Ark and Monarch alternative schools. The school uses all of the buildings on site for classrooms, offices, and storage of academic materials.

- There are no chemicals or fuels used or stored at the subject site.

- The previous owner was the Federal Government who used the site as the local Army Reserve Center.

- The site has not been used for any industrial processes.

Mr. Balke included information for the adjacent Santa Cruz City Schools maintenance yard in his property manager interview form. This information was used to address possible environmental concerns from the adjacent property but was not included in the property manager interview section of this report.

SITE INSPECTION

A site inspection was conducted on November 28, 2000, to note potential sources of contamination associated with on-site activities - a copy of the completed *Site Inspection Checklist* which includes photographs is included in Appendix A. A summary of the findings is available below:

- The property is approximately 2.4 acres in size and is located at 255 Swift Street in Santa Cruz, California. The site is used as the grounds for the Ark and Monarch schools. The property is flat -lying and 40 % is paved, while the remaining 60 % is native soils covered by lawn. There are 11 structures on the property. Two of the buildings are permanent structures, the rest are temporary mobile classroom units. The buildings are all used as classrooms or offices for the school on site.

- The site walk-through revealed no apparent evidence of on-site industrial use, hazardous materials/waste use or storage.

- There was some evidence of past site use noticed during the site walk through. There is a large concrete ramp at the western property boundary. This ramp is oriented east west, it is 60 feet long, 10 feet wide, and 3½ feet above the current ground surface. On-site school employees reported that this ramp was used for armored tank and truck maintenance during the period when the property was used by the National Guard. This may be an area of potential environmental degradation of shallow soil and groundwater on the subject site.

- Land use in the area appears to be a mix of commercial/industrial and residential. The principal commercial enterprises in the area are Jay's Golf, a Firewood Business, and Haut Surfboards (adjacent to the north). To the south is the Natural Bridges elementary school. There is a maintenance yard to the west which is associated with the school system and may use and store some small quantities of hazardous materials. The properties to the east are all private residences. There are a few properties nearby to the north which appear to have housed industrial processes at one time or another. The closest of these is the Santa Cruz Industries property, across Delaware Avenue to the north of the subject site (see Vicinity Map, Figure 2).

- A single unidentified groundwater monitoring well was discovered during the site walk through.

This well is directly across Swift Street to the east of the subject site. This well is associated with the investigation of the groundwater contamination at the Santa Cruz Industries site, 411 Swift Street.

REGULATORY AGENCY INFORMATION

1. **Database search of Federal and State environmental records:** Records of hazardous material storage and releases are required to be kept by regulatory agencies overseeing environmental issues. We contracted Environmental Data Resources (EDR), an information research firm specializing in environmental data collection, to prepare a *Radius Map Report* for the site, dated November 17, 2000 (included as Appendix B). The *Radius Map Report* identifies sites listed in the selected regulatory databases, presents location maps and details on identified sites, provides a description of the 8 Federal and 9 State agency databases reviewed, and limitations to the search. The search specifically documents sites having registered UST's, hazardous waste generation, hazardous waste treatment-storage-disposal facilities, and subsurface contamination. Search distances are per ASTM's E1527-97 standard. **The search shows the subject site does not have a record of any documented contaminant releases, underground / aboveground tank storage of hazardous materials, or generation of hazardous wastes.**

The records search indicated that there are only a few sites which had regulatory records within a ¼-mile radius of the subject property. The three sites within a quarter mile of the subject property were all noted for hazardous materials storage and/or disposal. The use of the ¼-mile radius is an arbitrary distance used to judge the potential impact to the subject site from an off-site source. It should be noted that chemical releases (ie. gas, diesel, and particularly solvents) can travel a great deal further than ¼-mile but this distance has been selected based on extent of contamination records for various magnitudes of fuel leak sites (additional sites are identified up to a 1 mile radius in Appendix B).

During the site walk through an unidentified groundwater monitoring well was discovered, as noted above. We contacted regulatory personnel at both the Santa Cruz County Environmental Health Service (SCC-EHS) and the California Regional Water Quality Control Board (CRWQCB) to determine the reason for the unidentified monitoring well. We discovered that the monitoring well is part of an ongoing study relative to a large chemical release from the Santa Cruz Industries property. This property is 500 feet directly upgradient from the subject site. We coordinated with the SCC-EHS and completed a review of the files associated with this site. The inspection of Santa Cruz County Health Department files for the Santa Cruz Industries (SCI) facility revealed the following:

- SCI operated a metal plating and painting facility at the 411 Swift Street property for more than

ten years. In June of 1989 an environmental management service (California Environmental Management Services Company, Inc.) was retained by the business owners to formally close the plating operations at the site. Soil samples collected on site during closure showed high concentrations of metals and halogenated volatile organic compounds (HVOC's).

- Beginning in February of 1992 a limited soil and groundwater investigation was conducted for environmental compliance by RESNA. This investigation included soil and groundwater sample collection in the area of the former plate shop floor. This investigation found that shallow groundwater on the site was impacted by HVOC's which were probably the result of plating, painting, and degreasing activities.

- Remediation Testing and Design (RTD) took over environmental compliance activities at the site beginning in February of 1994. RTD conducted additional soil and groundwater investigation in order to accurately characterize the HVOC plume in groundwater, this included the installation of a number of groundwater monitoring wells both on the SCI property and in the surrounding area. A corrective action plan was developed in December of 1994 which included the installation of an automated remediation system and extensive excavation of metal impacted soil. In September 1999 impacted soils were removed from the SCI site and disposed of in an appropriately licensed disposal facility. The automated remediation system began operating in November of 1999 and was successful in lowering HVOC concentrations in groundwater. A large HVOC plume remains which extends south of the SCI site and encroaches upon the northern boundary of the Ark / Monarch School property.

The data available from RTD indicates that concentrations in the SCI HVOC plume approach the regulatory established cleanup levels of 1 - 5 parts per billion (ppb) at its southern edge (the northern property line of the Ark / Monarch School). A graphic representation of the relationship between the SCI plume and the Ark / Monarch property can be found in the Vicinity Map attached to this report (Figure 2). RTD site maps showing groundwater monitoring well locations, recent groundwater elevation contours, and HVOC plume distribution through time can be found in Appendix C.

In summary, historical releases at the SCI property have the potential to cause environmental impact to the subject parcel because:

1. The most recent documents from the ongoing study and remediation at the SCI site indicate that the HVOC plume encroaches upon the northern portion of the subject site;
2. The SCI site is considered an open solvent leak site with a contaminant plume and is under regulatory oversight by the CRWQCB and the SCC-EHS; **however**
3. **The releases are the responsibility of a financially responsible party (SCI), which has had a good track record of compliance with the overseeing regulatory agency. It is unlikely that property owners of the subject site will be accountable for costs associated with**

investigation, monitoring or remediation of contaminant plumes originating from an off-site source (ie. SCI).

Regulatory Framework: The CRWQCB has authority to order investigation and cleanup at sites where discharge of any waste threatens water quality. The CRWQCB bases groundwater assessment and cleanup orders on Maximum Contaminant Levels which are established in the California Administrative Code (Title 22) for specific constituents (ie. methylene chloride). Lead personnel from the CRWQCB's regional office have indicated that it is highly unlikely the property owner will be required to conduct further assessment or remediation since the likely source of the solvent release is the upgradient automotive junkyard. Although the CRWQCB has the authority to require on-site cleanup of off-site plumes, it does not and has not normally used this power in the Central Coast Region[2]

HISTORICAL REVIEW

No historical Sanborn fire insurance maps were available for the subject area. Historic air photos from 1957, 1963, 1982, and 1994 were reviewed for notable changes to the property and potential clues of hazardous material storage. Copies of the aerial photos are included in Appendix A.

- In the 1957 photo the subject site appears to have no development. Most of the remaining lands immediately adjacent to the subject site appear undeveloped (empty lots). There is residential development at the property directly across Swift Street. The SCI site, however, has a single large warehouse type building similar to the one which currently exists there.

- The 1963 photo shows major change in the development of the Subject Site. It appears that construction of the current permanent buildings has occurred and that the current parking area and driveway has been completed. The surrounding properties show little change form the 1957 photo, there is slightly more residential development in the southern and eastern areas and a building has been constructed at the south-west corner of Swift Street and Delaware Avenue.

- The 1982 photo shows no significant change to the subject site from 1963. The surrounding area has changed significantly. The Natural Bridges School facility has been completely developed as it appears today. The commercial buildings which are adjacent to the site to the north have been constructed. The SCI facility has been added on to and appears as it is currently. The school maintenance yard to the west does not appear to have been developed yet. The residential development to the east and south has completely filled all available space and appears the same

[2]: Personnel communication: Mr. Bob Hurford, regional case officer for the Santa Cruz County area, Central Coast Region of the California Regional Water Quality Control Board, December 1, 2000.

a in the present.

- The 1994 photo shows little change on the subject property. The addition of the temporary classrooms is visible on the subject site. Off-site properties have remained essentially the same with the exception of the adjacent maintenance yard, which has been developed.

We also reviewed historic topographic maps to determine if topographic changes have occurred on the site or in the surrounding area. We reviewed topographic maps for the area from 1940, 1954, 1968,1981, and 1994. There were no significant changes in topography noted in any of the topographic maps which we reviewed. Copies of the topographic maps are included in Appendix B.

LIMITATIONS AND EXCEPTIONS OF ASSESSMENT

This report and the associated work have been provided in accordance with the principles and practices generally employed by the local environmental consulting profession. This is in lieu of all other warranties, express or implied. This report has been prepared solely for our client (Steven Graves and Associates). The assessment is provided so the client and his specified agents may make a more informed decision as to site conditions. This report shall not be relied upon by or transferred to any other party, or used for any other purpose, without the express written authorization of Weber, Hayes and Associates.

This ESA is not a regulatory compliance audit or an evaluation of the efficiency of the use of any hazardous materials at the site. No evaluation for the presence of asbestos-containing building materials, lead-based paint, urea-formaldehyde foam insulation, or other potentially hazardous building materials; methane; radon gas; lead in drinking water; or wetlands, is included in our assessment.

Our findings and opinions are based on information collected from regulatory agency files and lists, interviews, and site conditions at the time of our site reconnaissance on February 10, 1999. Note that our findings and opinions are based on information that we obtained on specific dates through records review, site reconnaissance, and related activities. It is possible that other information exists or subsequently has become known, just as it is possible for conditions we observed to have changed after our observations.

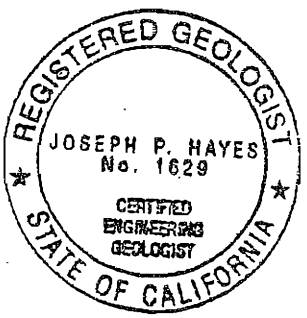
The accuracy and thoroughness of any environmental assessment depends on a variety of factors and optimally will include soil and groundwater sampling. Weber, Hayes and Associates cannot and will not provide guarantees, certifications or warranties that the investigated property is or is not free of environmental impairment. Any person who is aware of any recognized environmental conditions of the site or surrounding areas that are different from those described in the report should report

them immediately to this office for evaluation as part of an additional scope of work.

Thank you for this opportunity to be of service. Should you have any questions or comments regarding this project, please contact us at our offices.

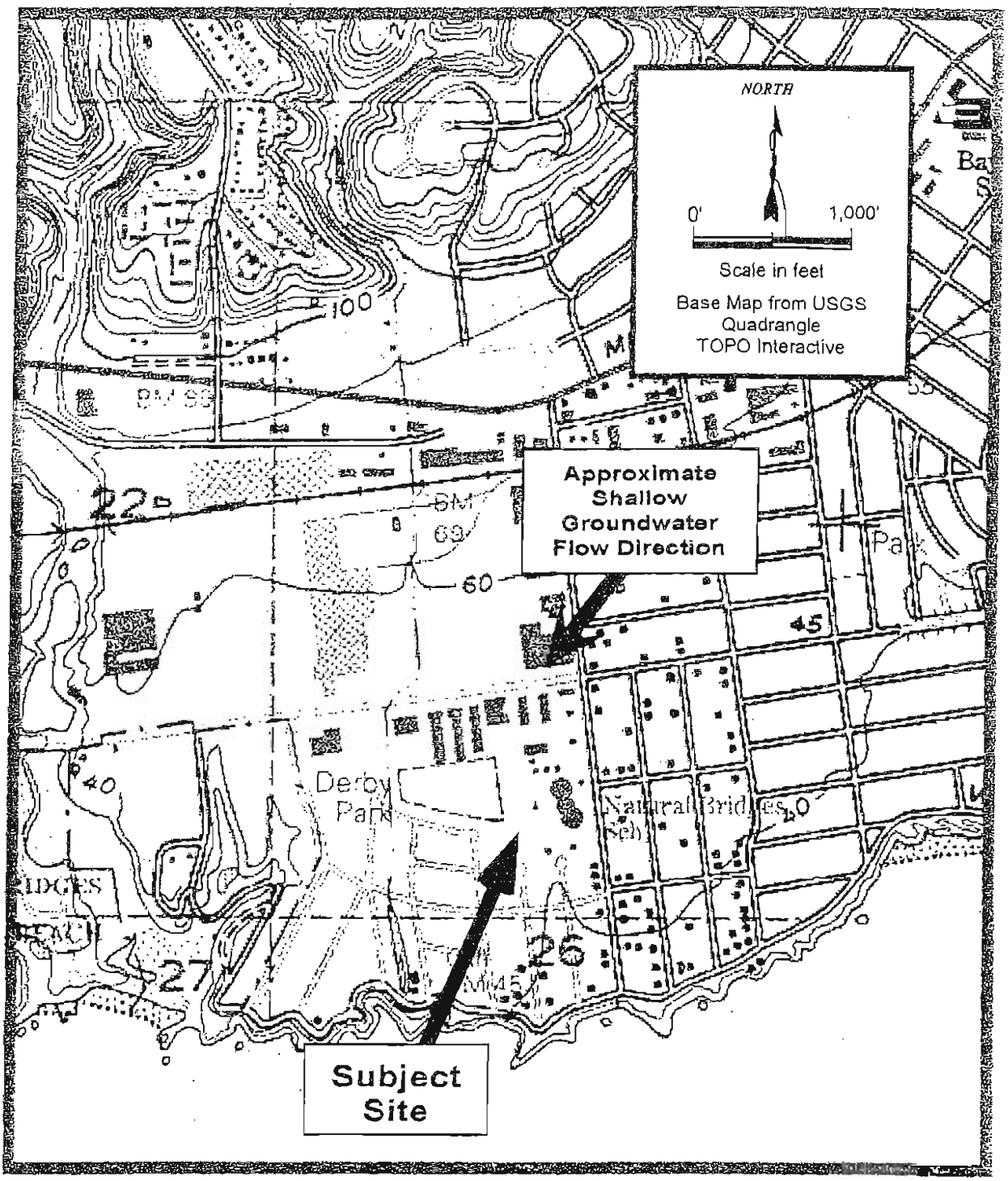
Respectfully submitted,

WEBER, HAYES AND ASSOCIATES
A California Corporation



By: _____
Chad N. Taylor
Staff Geologist

And: _____
Joseph Hayes
Certified Engineering Geologist #1629
Certified Hydrogeologist #373



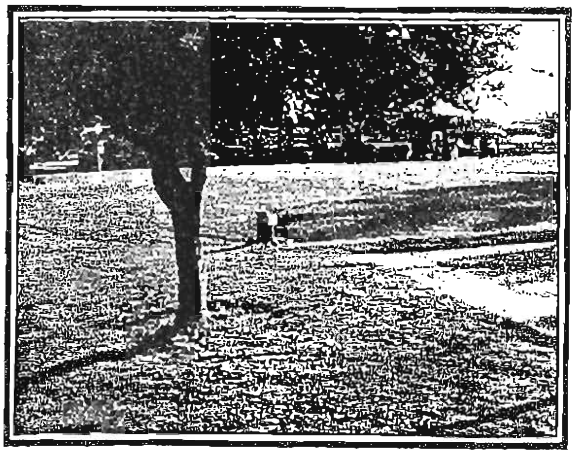
G\20058.natl1-locate

Weber, Hayes & Associates
Hydrogeology and Environmental Engineering
120 Westgate Drive, Watsonville, Ca. 95076
(831) 722 - 3580 (831) 662 - 3100

Location Map
Phase I Environmental Site Assessment
Natural Bridges School
255 Swift Street
Santa Cruz, California

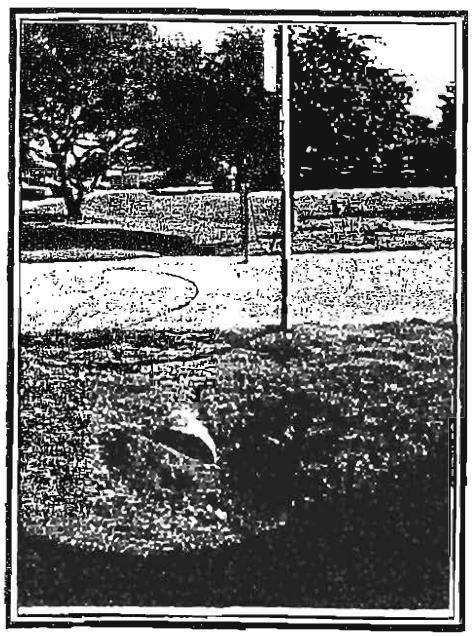
FIGURE 1
Job # 20058

Approximately 40 % of the grounds covered by asphalt in parking lot, basketball court, and pathways. The remaining 60% is native soils with tended lawn



Drainage depression running north-south

- Paving patches/staining? Yes **No**
- Manholes/utility covers? (Describe) **Yes** No
  A few small scattered utility covers for sewer and water.
- Any Stacks visible on roof? **Yes** No
  Ventilation stacks on roof of main building for ventilation of natural gas burning heating system and restrooms.
- Mounds or depressions? **Yes** No
  Drainage depression runs north-south between main building and basketball court and east-west along parking area.
- Do surface water catch basins drain? **Yes** No
- Any ditches or drainages? **Yes** No
  Drainage runs north-south and east-west through property as described above. No flow in drainage during inspection. Any flow would be very minor, resulting from precipitation runoff.



Drainage depression running east-west

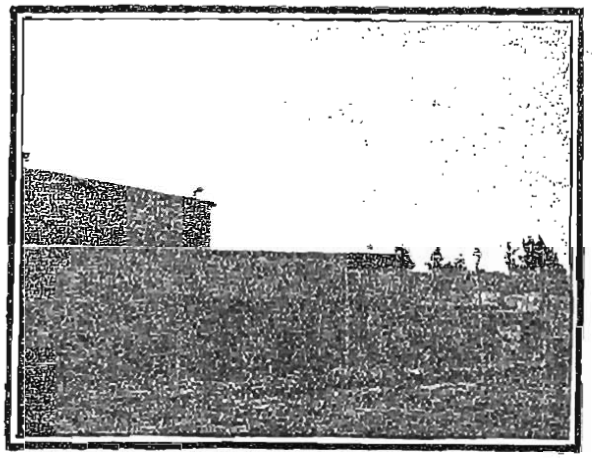
5. Interior Observations:

- Maintenance areas?/Hydraulic equip? Yes **No**
  All maintenance equipment and materials stored at the adjacent maintenance yard.
- Interior floor integrity (**good**, satisfactory, poor)?
- Interior floor patches or staining? Yes **No**
- Interior floor drains? (Outlet Sump?) Yes **No**

5. Describe adjacent site uses. Any areas of concern?

Adjoining sites include the Natural Bridges School to the south and the Santa Cruz School district Maintenance Yard to the west. Nearby properties to the east across Swift street are all private residential. Commercial businesses operate at bordering properties to north including Jay's Golf a Firewood Business and Haut Surfboards. None of these commercial sites have documented chemical releases or

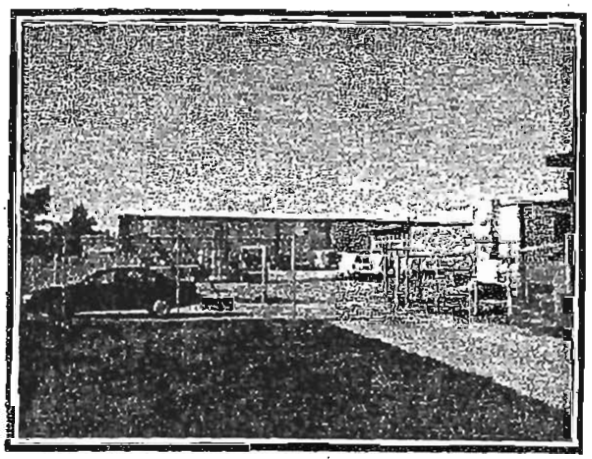
- Any indications of past site uses?: ***Yes. There is a large concrete ramp in a fenced area near the western property boundary which was previously used for armored tank maintenance by the National Guard. The ramp is ~ 25 feet from the western brick building which resembles a garage. These two structures were likely used in conjunction with one another for armored tank and other vehicle maintenance.***



Concrete armored tank maintenance ramp

2. Site Infrastructure:

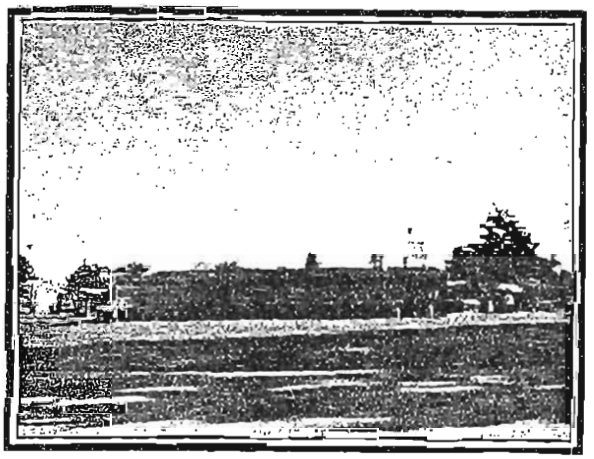
- Any wells, water tanks, water towers? Yes **No**
- Boiler rooms? Yes **No**
- Electrical transformers? Yes **No**
- Septic System? Yes **No**
- Drainage wells or dry wells? Yes **No**



Adjacent district maintenance yard

3. Evidence of Hazardous Material Storage/Use:

- Haz-mat storage area? Location? Yes **No**
  All materials used in site maintenance stored in the adjacent maintenance yard
- Abandoned drums or containers? Yes **No**
- Above-ground storage tanks? Yes **No**
- Underground storage tanks, fuel dispensing equipment or vent pipes? Yes **No**
- Pools of liquid or unusual odors? Yes **No**
- Sumps, oil/water separators, Yes **No**
- Unusual odors, staining, or distressed plants. Yes **No**



Main building showing asphalt basketball court and lawn area

4. Exterior Observations:

- Exterior surface coverings?: **Yes** No

Weber, Hayes & Associates
Hydrogeology and Environmental Engineering
120 Westgate Dr., Watsonville, CA 95076

Phase I Environmental Site Assessment

SITE INSPECTION CHECKLIST

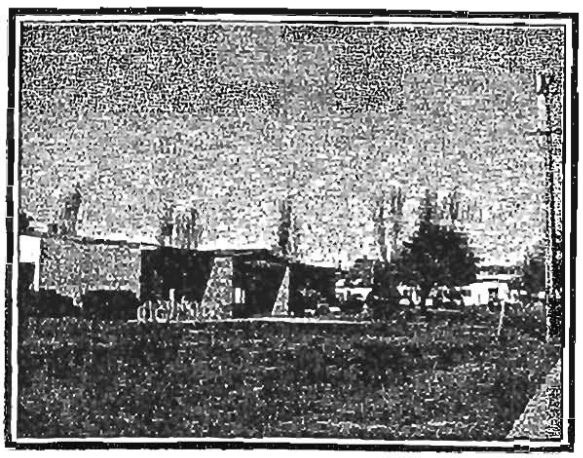
November 28, 2000

Project Name: ***Natural Bridges School Phase I ESA***

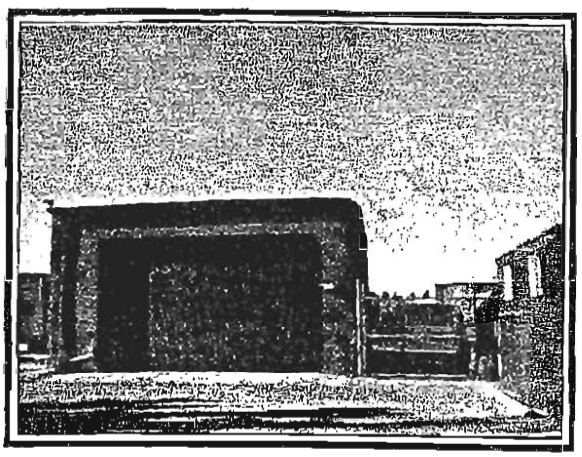
Site Address: ***255 Swift Street***
(Current Business): ***(Alternative Education School System)***

1. Current Uses of the Property (general description of the facility & commercial or industrial processes):

The 2.4-acre, irregularly-shaped site is the campus for the Ark and Monarch Schools, which are a part of the Santa Cruz City School system.



- Topography: ***Topographic elevation of the site is approximately 45-50 feet Mean Sea Level (MSL), on the relatively flat-lying property. There is a small unnamed drainage 700 feet to the west of the site that flows to the Monterey Bay which is ¼-mile to the south of subject site***



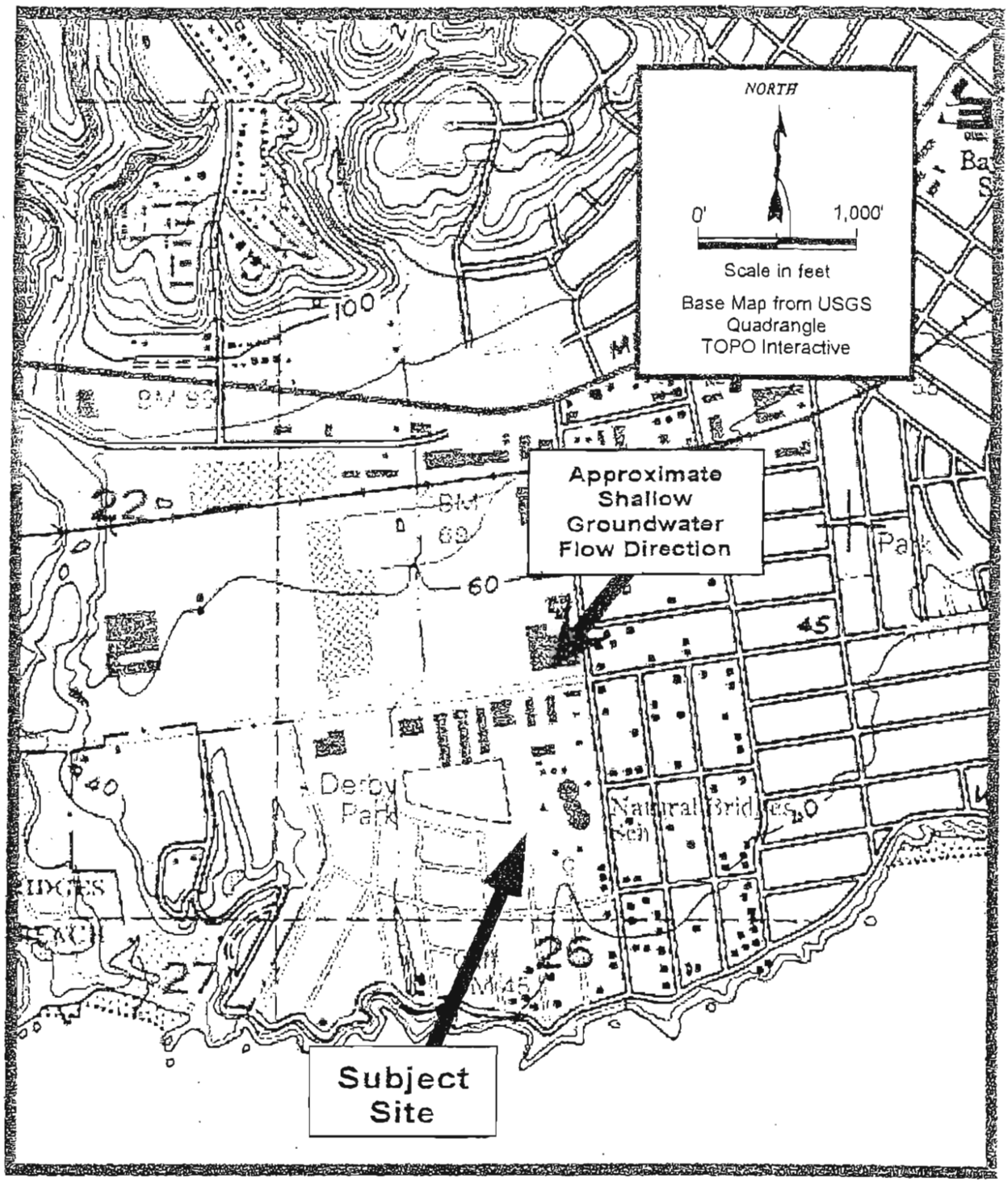
- # of buildings + size/age/condition, occupants/vacancies & nature of business: ***There are a total of 11 buildings on site. Only two of the buildings are permanent structures. These two buildings are the main office building and the brick classroom on the west side of the property which looks like a garage (see top two photos). These buildings were reportedly built in 1963 as part of the original National Guard Armory, they are in good condition and continue to be used as office / classroom space. The remaining 9 buildings are all temporary / relocatable classroom units which are in good condition and have been onsite since between 1950 and 1986. All of the buildings are between 250 and 6,000 square feet in area.***

- Site map provided? ***Yes, attached.***

APPENDIX A

COLLECTED SUBJECT SITE INFORMATION

- *Site Inspection Checklist (with photos/local property owners),*
- *Property Owner/Manager Questionnaire*
- *Historical Aerial Photographs (1957, 1963, 1982, and 1994)*



G\20058.natl1-locate

Weber, Hayes & Associates Hydrogeology and Environmental Engineering 120 Westgate Drive, Watsonville, Ca. 95076 (831) 722 - 3580 (831) 662 - 3100	**Location Map** Phase I Environmental Site Assessment Natural Bridges School 255 Swift Street Santa Cruz, California	FIGURE 1 Job # 20058

environmental issues with overseeing regulatory agencies. (See Vicinity Map, Figure 2).

6. Any inaccessible areas of the property, interior or exterior?

Interior of individual classrooms were not available because classes were in session.

7. Additional comments:

- *Cathy Braun (Santa Cruz City Schools) informs me that a hazardous materials specialist has completed a report on lead and asbestos at the site relative to demolishing site buildings.*
- *The hazardous material specialist recommended a limited drilling program for the site, the scope of work for which is not currently defined.*
- *The site was formerly occupied by the military National Guard and was used as a base for armored tanks. Armored tanks were apparently serviced at the concrete ramp which was described above.*
- *Discover a single Groundwater Monitoring Well directly east of the site in the parking lane across Swift Street. Information concerning this well will be obtained from the SCC-EHS and the regional board if necessary.*

PHASE I ENVIRONMENTAL SITE ASSESSMENT
PROPERTY LAND USE QUESTIONNAIRE

(To be completed by property owner, manager, or person most knowledgeable with current/past site land use)

Site/Facility Name: *Ark and Monark School*
Site Address: *255 Swift Street, Santa Cruz*

Name: Karl Balke Title: Director, Bonds Projects

How long have you owned or been affiliated with the subject property? 5 years

1. CURRENT SITE USE:

a.) What business(es) currently operate at the site?
The site currently consists of two separate educational facilities along with a District Facilities Maintenance area. The Ark School is an alternative high school program while Monarch provides an alternative elementary program. The Facilities area is utilized as a storage and work area for the District Grounds, Maintenance and Transportation departments

b.) Please give a brief description of any commercial or industrial processes which occur at the subject site (ie. what are the business operations):
The closest operations to a commercial or industrial process would be the Facilities Maintenance area. The rear portion of the campus is fenced off from the school areas and is utilized for storage of idle equipment such as tractors, implements, surplus vehicles, etc. There are two moular buildings that are used for storage of small maintenance, painting equipment and materials.

c.) Approximately, how old are the existing site structures and what are they used for? Do you know of any previous structures at the site that have been demolished?
The existing structures for the Ark consists of two buildings built in 1963 that were part of the original National Guard Armory. There are four relocatable classrooms ranging in age from 1940's/50's to 1986. In addition, there is a greenhouse and storage building used by the students and staff. Monarch is presently housed in two relocatables. The Facilities buildings are two modular buildings built in the 1940's/50's. I am not aware of any other buildings that have been demolished on this site.

d.) Are chemicals or fuels used at the site? If so, please describe how are they used, and how any chemical wastes are disposed?
Yes, minor amounts of gasoline, oils, latex and oil based paints are stored and used within the facilities area. All materials are disposed in approved methods as outlined on labeling, manufacturer's information, and MSDS.

2. ***PREVIOUS OWNERS/OCCUPANTS:*** Do you know how the property was used prior to your ownership/use? (ie. residential, businesses, open space, agricultural, auto repair, etc.).

Historical Site Uses	Years of Use *(approximate)*
The District obtained the property from the Federal Government as it was previously used as the local Army Reserve Center.	

To the best of your knowledge, has the property PREVIOUSLY been used as:	Yes	No
- An industrial site (ie. manufacturing, processing, transportation):	☐	☒
- A commercial business using bulk hazardous materials?:	☐	☒
- A gasoline station or motor repair facility:	☐	☒
- Landfill or junkyard?:	☐	☒

3. ***HAZARDOUS MATERIAL USE or CHEMICAL RELEASES:***

Are you aware of any of the following uses at the subject property (current or historical):

	Yes	No
- *Small* Quantity Storage of Fuels or Chemicals (< 15 gallon containers):	☒	☐
- *Bulk* Quantity Storage of Fuels or Chemicals (> 15 gallon containers):	☐	☒
- Underground or Aboveground Storage Tanks:	☐	☒
- Subsurface Hydraulic Equipment (e.g. hydraulic lifts):	☐	☒
- Agricultural Pesticide Use:	☐	☒
- Any Known Chemical Spills or Releases:	☐	☒
- Regulatory Required Subsurface Investigations and/or Reports:	☐	☒
- Groundwater Monitoring Wells:	☐	☒

Please provide details for any yes-checked boxes: As stated in item 1 D.

4. SITE INFRASTRUCTURE

– **WATER:** What is the source of potable water for the property?	*Municipal water supply:* ☒ *Onsite groundwater well:* ☐
– *Do you know of any active, inactive, destroyed, or abandoned water wells on the property?;*	NO
– **EXTERIOR SURFACE DRAINAGE:** How are surface water runoff and roof drain runoff managed at the site? *(i.e. drainage wells, drains and catch basins (sumps), municipal storm sewer hookup)?*	Municipal Storm Sewer (Please attach a copy of any Water Discharge Permits)
– **INTERIOR FACILITY DRAINS & SUMPS:** Is there a floor drain system within any of the site structures? (If so, where do the drains discharge?)	*Yes* ☐ *No* ☒ (Please attach a copy of any Water Discharge Permits)
– **SEPTIC SYSTEM:** Do you know of any operating/closed septic systems/leach-lines on the property?	*Yes* ☐ *No* ☒ (If yes, please identify location on a site map)
– **HEATING:** What is the source of the site's heating and cooling?	*Yes* ☒ *No* ☐ Natural Gas
Was heating oil ever used/stored?:	☐ ☒
Are there transformers on the property?:	☐ ☒

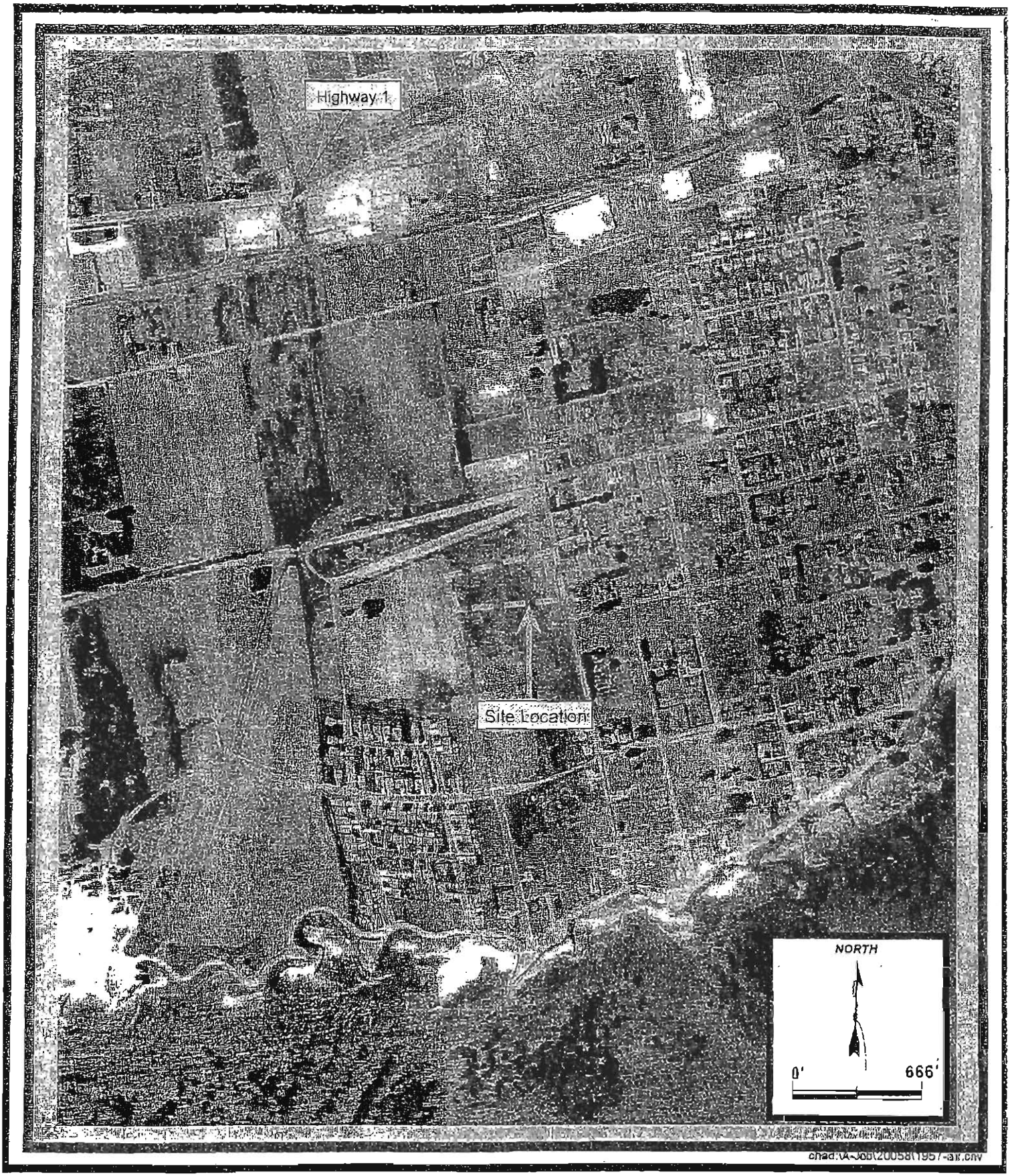
5. ADJOINING PROPERTIES: Do you know the current or previous uses of adjoining properties?

Natural Bridges Elementary School, Golf Shop, Firewood Business, Commercial Shops, Residential Houses.

SIGNATURE: _____ Date: 12/4/00

Karl Balke

TITLE: Director, Bond Projects.



chad:\A-Job\20058\1957-air.cnv

Weber, Hayes & Associates
Hydrogeology and Environmental Engineering
120 Westgate Dr., Watsonville, CA 95076
(831) 722-3580 (831) 662-3100
Fax (831) 722-1159

1957 AERIAL PHOTOGRAPH

NATURAL BRIDGES SCHOOL

255 Swift Street

Santa Cruz California

All chemical listed are stored in <15 gallon containers at the Maintenance Yard.

BUILDING 1

Anti Freeze
Lubrication grease
Compressor oil
Power steering fluid
Spray primer paint
Spray enamel paint
Roofing mastic
Vitamin B1
Rapid rock
Cement
Fertilizer
Oil enamel paint
Poly flex sealant
Anti graffiti clear coat
Cement glue
Tree seal tar
Tire sealant
Chain saw oil
Pipe sealer
Turpentine

BUILDING 2

Oil and latex paints
Neutral cleaner
Paint thinner
Acrylic sealant
Metal prep concentrate
Wall covering adhesive
Concrete curing compound
Drano
Spray silicone
Water based stain
Wood finish (Deft)
Ant & roach spray
Hotsey (steam cleaner detergent
Root –out
Carpet shampoo
Ajax

chad:\A-Job\20058\1982-air.cdr

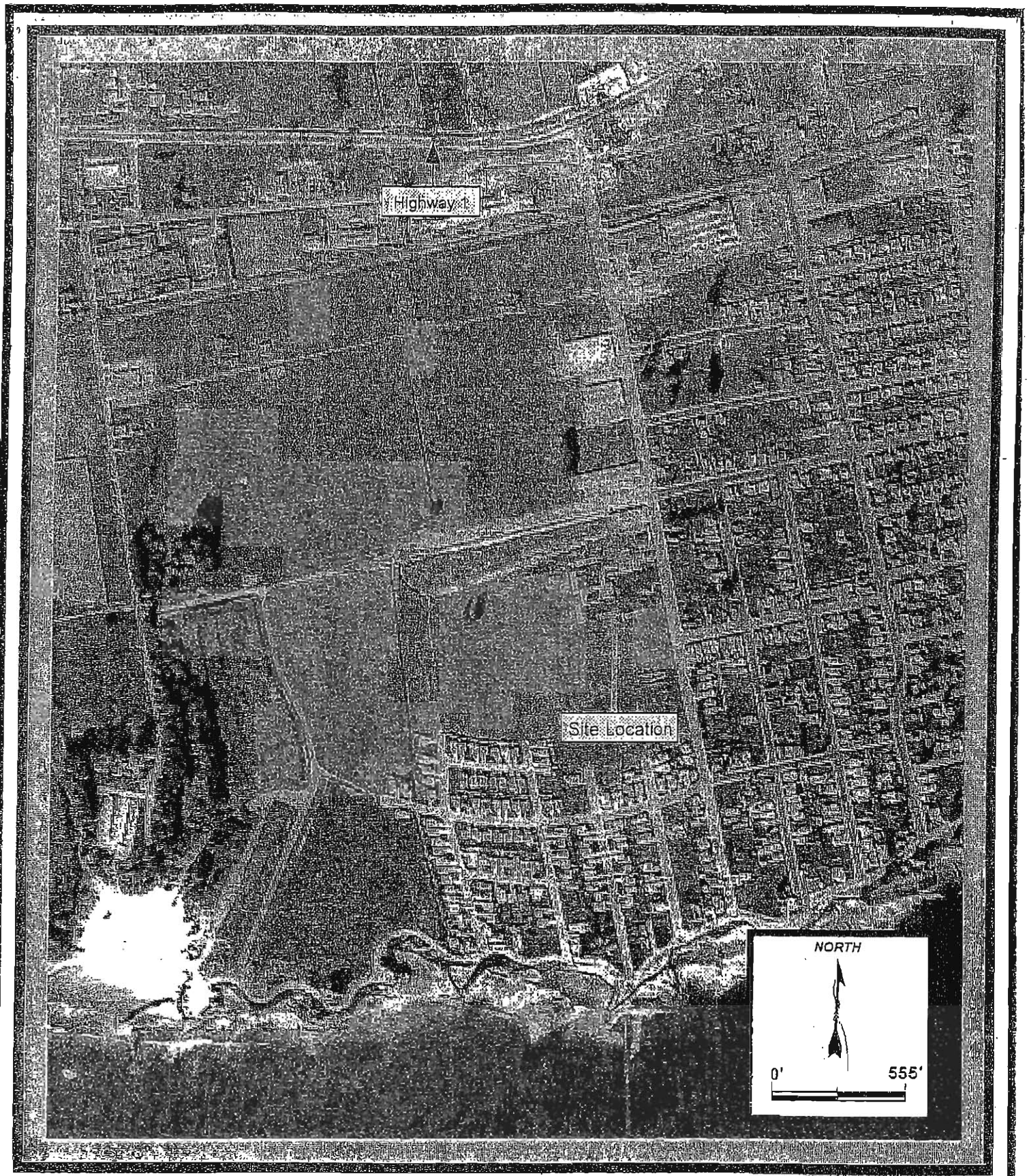
Weber, Hayes & Associates
Hydrogeology and Environmental Engineering
120 Westgate Dr., Watsonville, CA 95076
(831) 722-3580 (831) 662-3100
Fax (831) 722-1159

1982 AERIAL PHOTOGRAPH

NATURAL BRIDGES SCHOOL

255 Swift Street

Santa Cruz California



chad:\A-Job\2005\1963-air.cnv

Weber, Hayes & Associates
Hydrogeology and Environmental Engineering
120 Westgate Dr., Watsonville, CA 95076
(831) 722-3580 (831) 662-3100
Fax (831) 722-1159

1963 AERIAL PHOTOGRAPH

NATURAL BRIDGES SCHOOL

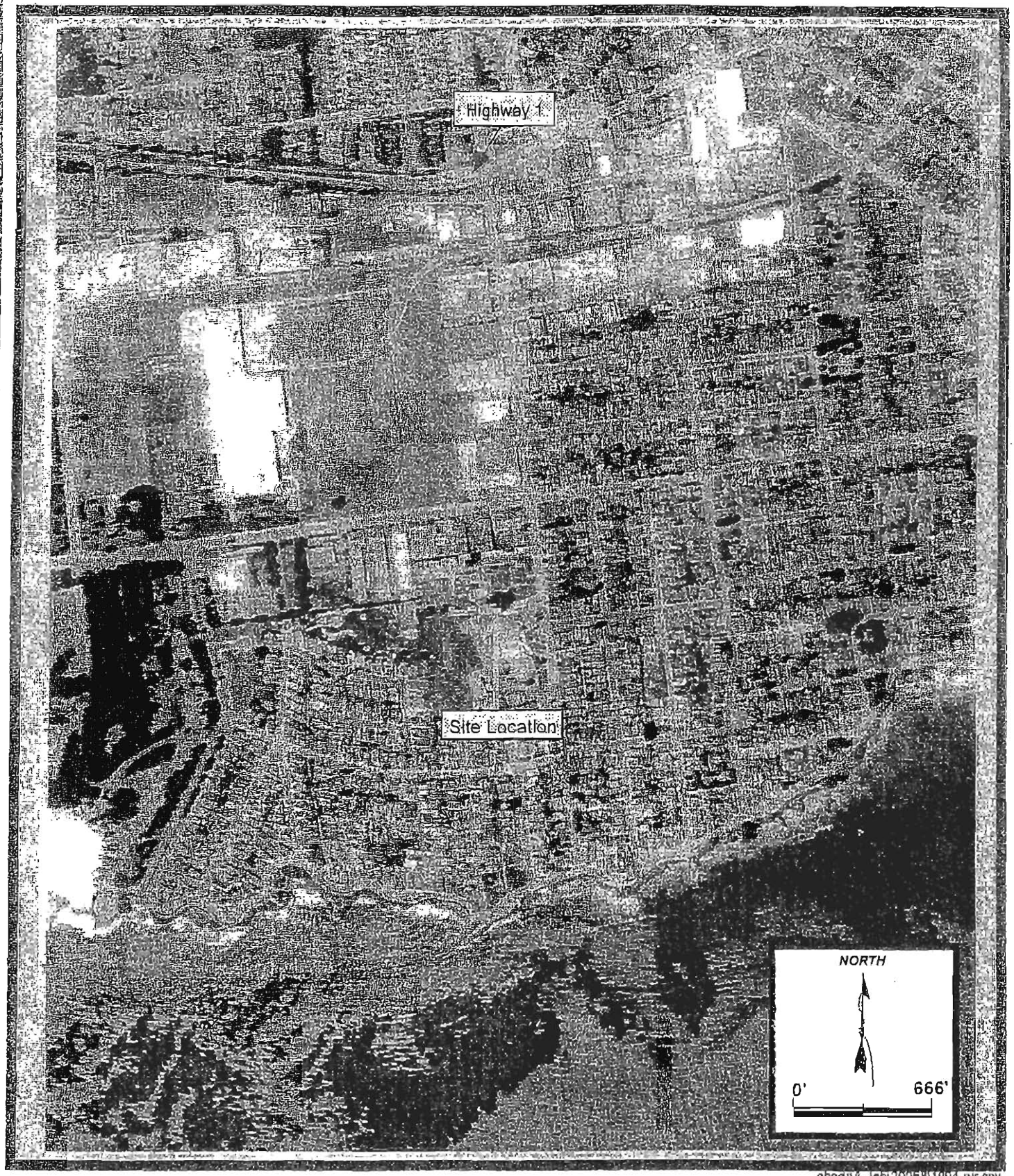
255 Swift Street

Santa Cruz California

Weber, Hayes & Associates
Hydrogeology and Environmental Engineering
120 Westgate Drive, Watsonville, Ca. 95076
(831) 722 - 3580 (831) 662 - 3100

VICINITY MAP
PHASE I ENVIRONMENTAL SITE ASSESSMENT
ARK & MONARK SCHOOL
255 Swift Street
Santa Cruz, California

FIGURE
2
Job #
20058



chad:\A-Job\20058\1994-air.cnv

Weber, Hayes & Associates
Hydrogeology and Environmental Engineering
120 Westgate Dr., Watsonville, CA 95076
(831) 722-3580 (831) 662-3100
Fax (831) 722-1159

1994 AERIAL PHOTOGRAPH

NATURAL BRIDGES SCHOOL

255 Swift Street

Santa Cruz California

APPENDIX B

EDR DATABASE RESEARCH REPORT

HISTORIC TOPOGRAPHIC MAPS
(1940, 1954, 1968, 1981, and 1994)

The EDR-Radius Map
with GeoCheck®

Natural Bridges Elementary School
255 Swift School
Santa Cruz, CA 95060

Inquiry Number: 565109.4s

November 17, 2000

Environmental Data Resources, Inc.

The Source For Environmental Risk Management Data

3530 Post Road
Southport, Connecticut 06490

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

TABLE OF CONTENTS

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc. (EDR). The report meets the government records search requirements of ASTM Standard Practice for Environmental Site Assessments, E 1527-00. Search distances are per ASTM standard or custom distances requested by the user.

TARGET PROPERTY INFORMATION

ADDRESS

255 SWIFT SCHOOL
SANTA CRUZ, CA 95060

COORDINATES

Latitude (North):	36.953800 - 36° 57' 13.7"
Longitude (West):	122.048600 - 122° 2' 55.0"
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	584706.2
UTM Y (Meters):	4089967.0

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property:	2436122-H1 SANTA CRUZ, CA
Source:	USGS 7.5 min quad index

TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following government records. For more information on this property see page 6 of the attached EDR Radius Map report:

Site	Database(s)	EPA ID
NATURAL BRIDGES ELEMENTARY SCHOOL 255 SWIFT ST SANTA CRUZ, CA 95060	HAZNET	N/A

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the ASTM E 1527-00 search radius around the target property for the following databases:

FEDERAL ASTM STANDARD

NPL	National Priority List
Delisted NPL	NPL Deletions
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CERC-NFRAP	Comprehensive Environmental Response, Compensation, and Liability Information System
CORRACTS	Corrective Action Report
RCRIS-TSD	Resource Conservation and Recovery Information System
RCRIS-LQG	Resource Conservation and Recovery Information System
ERNS	Emergency Response Notification System

STATE ASTM STANDARD

AWP	AWP

EXECUTIVE SUMMARY

Cal-Sites..... Cal-Sites
CHMIRS..... California Hazardous Material Incident Report System
Notify 65..... Notify 65
Toxic Pits..... Toxic Pits
SWF/LF..... State Landfill
WMUDS..... WMUDS/SWAT
UST..... Hazardous Substance Storage Container Database
Ca. BEP..... CA Bond Exp. Plan
Ca. FID..... CA FID

FEDERAL ASTM SUPPLEMENTAL

CONSENT..... CONSENT
ROD..... ROD
FINDS..... Facility Index System/Facility Identification Initiative Program Summary Report
HMIRS..... Hazardous Materials Information Reporting System
MLTS..... Material Licensing Tracking System
MINES..... Mines Master Index File
NPL Lien..... NPL Liens
PADS..... PCB Activity Database System
RAATS..... RCRA Administrative Action Tracking System
TRIS..... Toxic Chemical Release Inventory System
TSCA..... Toxic Substances Control Act

STATE OR LOCAL ASTM SUPPLEMENTAL

AST..... Aboveground Petroleum Storage Tank Facilities
Ca. WDS..... CA WDS
CA SLIC..... CA SLIC regions.

EDR PROPRIETARY DATABASES

Coal Gas..... Former Manufactured gas (Coal Gas) Sites.

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified.

Elevations have been determined from the USGS 1 degree Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. EDR's definition of a site with an elevation equal to the target property includes a tolerance of +/- 10 feet. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property (by more than 10 feet). Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

FEDERAL ASTM STANDARD

RCRIS: The Resource Conservation and Recovery Act database includes selected information on sites that generate, store, treat, or dispose of hazardous waste as defined by the Act. The source of this database is the U.S. EPA.

A review of the RCRIS-SQG list, as provided by EDR, and dated 06/21/2000 has revealed that there are 2 RCRIS-SQG sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
SANTA CRUZ WIRE & MFG CO#	*411 SWIFT ST*	*1/8 - 1/4 NNE*	*A4*	*6*
SCHMITT,GEORGE & CO. INC.	*511 SWIFT ST.*	*1/8 - 1/4 NNE*	*B6*	*8*

STATE ASTM STANDARD

CORTESE: This database identifies public drinking water wells with detectable levels of contamination, hazardous substance sites selected for remedial action, sites with known toxic material identified through the abandoned site assessment program, sites with USTs having a reportable release and all solid waste disposal facilities from which there is known migration. The source is the California Environmental Protection Agency/Office of Emergency Information.

A review of the Cortese list, as provided by EDR, has revealed that there are 8 Cortese sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
MISSION LINEN SERVICE	*601 SWIFT ST*	*1/4 - 1/2 N*	*7*	*8*
LIPTON, INC.	*2200 DELAWARE AVE*	*1/4 - 1/2 W*	*9*	*11*
E.V. MOCEO CO., INC.	*1206 FAIR AVE*	*1/4 - 1/2 NNE*	*10*	*14*
ELYXIR DISTRIBUTING	*2521 MISSION ST*	*1/4 - 1/2 N*	*11*	*16*
RUDOLPH PROPERTY	*2429 MISSION ST*	*1/4 - 1/2 N*	*12*	*18*
ULTRAMAR BEACON #734	*2202 MISSION*	*1/2 - 1 NNE*	*13*	*20*
BP STATION	*2003 MISSION ST*	*1/2 - 1 NNE*	*14*	*21*
HER COMPANY	*1725 MISSION ST*	*1/2 - 1 NNE*	*15*	*22*

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the State Water Resources Control Board Leaking Underground Storage Tank Information System.

A review of the LUST list, as provided by EDR, and dated 07/05/2000 has revealed that there are 6 LUST sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
MISSION LINEN SERVICE	*601 SWIFT ST*	*1/4 - 1/2 N*	*7*	*8*
S.C. ARTICHOKE & SPROUT GROWER	402 INGALLS ST	1/4 - 1/2 NNE	8	10
LIPTON, INC.	*2200 DELAWARE AVE*	*1/4 - 1/2 W*	*9*	*11*
E.V. MOCEO CO., INC.	*1206 FAIR AVE*	*1/4 - 1/2 NNE*	*10*	*14*
ELYXIR DISTRIBUTING	*2521 MISSION ST*	*1/4 - 1/2 N*	*11*	*16*
RUDOLPH PROPERTY	*2429 MISSION ST*	*1/4 - 1/2 N*	*12*	*18*

STATE OR LOCAL ASTM SUPPLEMENTAL

HAZNET: The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000-1,000,000 annually, representing approximately 350,000-500,000 shipments. Data from non-California manifests & continuation sheets are not included at the present time. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, & disposal method. The source is the Department of Toxic Substance Control is the agency

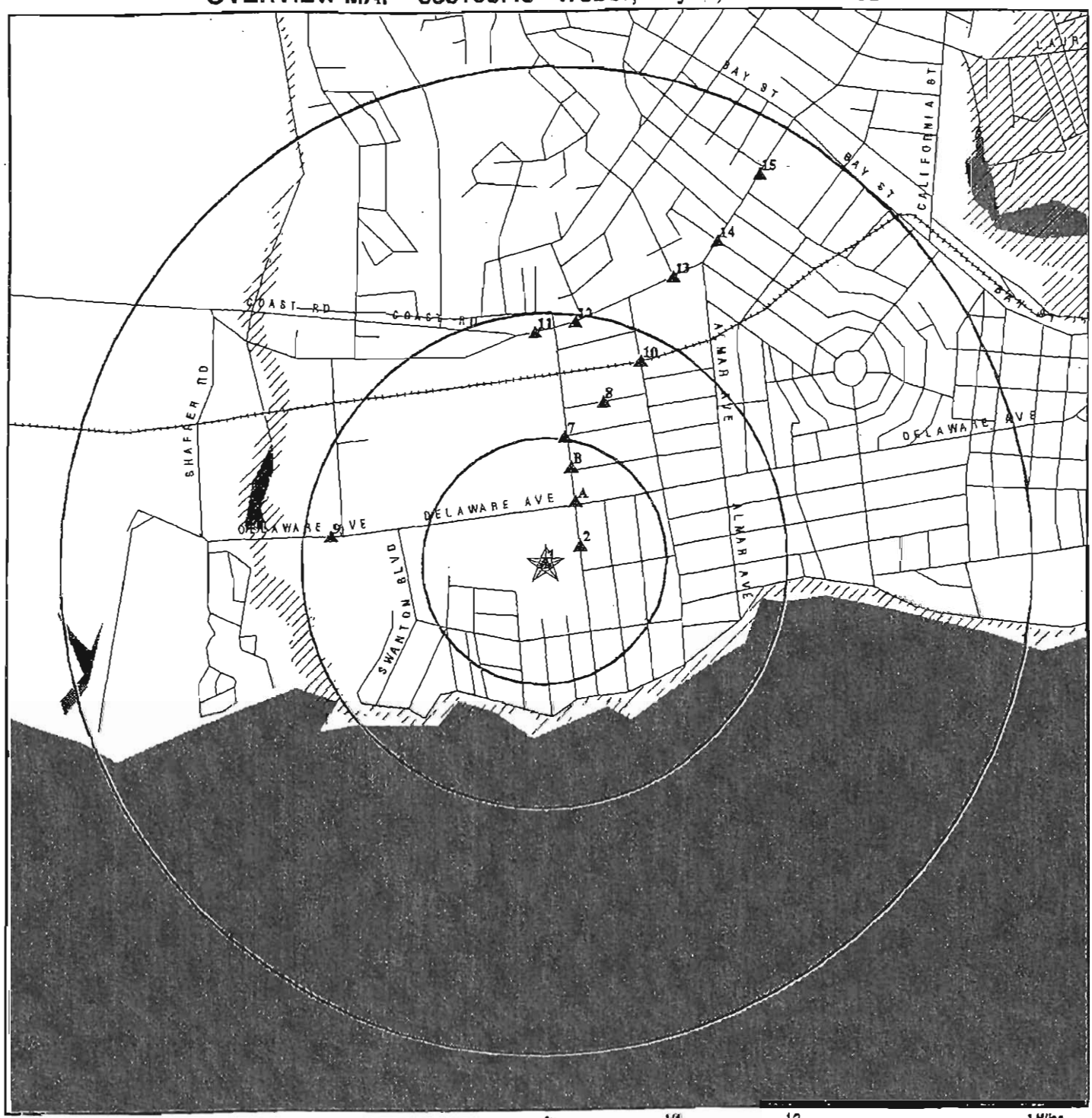
A review of the HAZNET list, as provided by EDR, has revealed that there are 3 HAZNET sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
SANTA CRUZ CITY SCHOOLS/GROUND	313 SWIFT ST	0 - 1/8 ENE	2	6
SANTA CRUZ INDUSTRIES	411 SWIFT ST	1/8 - 1/4 NNE	A3	6
VITEX PACKAGING INC	511 SWIFT ST.	1/8 - 1/4 NNE	B5	7

Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
STANDARD OIL COMPANY OF CALIFORNIA	Cal-Sites
WILDER RANCH BURN DUMP	CERCLIS
XANTHUS PROPERTY EXEMPTION	SWF/LF
SCCSD RIO DEL MAR PUMP STATION	LUST
SANTA CRUZ DISPOSAL SITE	WMUDS,Ca. WDS
STEPHENSON RANCH	HAZNET
SANTA CRUZ BIO TECHNOLOGIES	HAZNET
FORMER CAMP MCQUAIDE	HAZNET
DAVID WALKER	HAZNET

OVERVIEW MAP - 565109.4s - Weber, Hayes, & Associates



★ Target Property

▲ Sites at elevations higher than or equal to the target property

◆ Sites at elevations lower than the target property

♟ Coal Gasification Sites (if requested)

National Priority List Sites

Landfill Sites

Power transmission lines

Oil & Gas pipelines

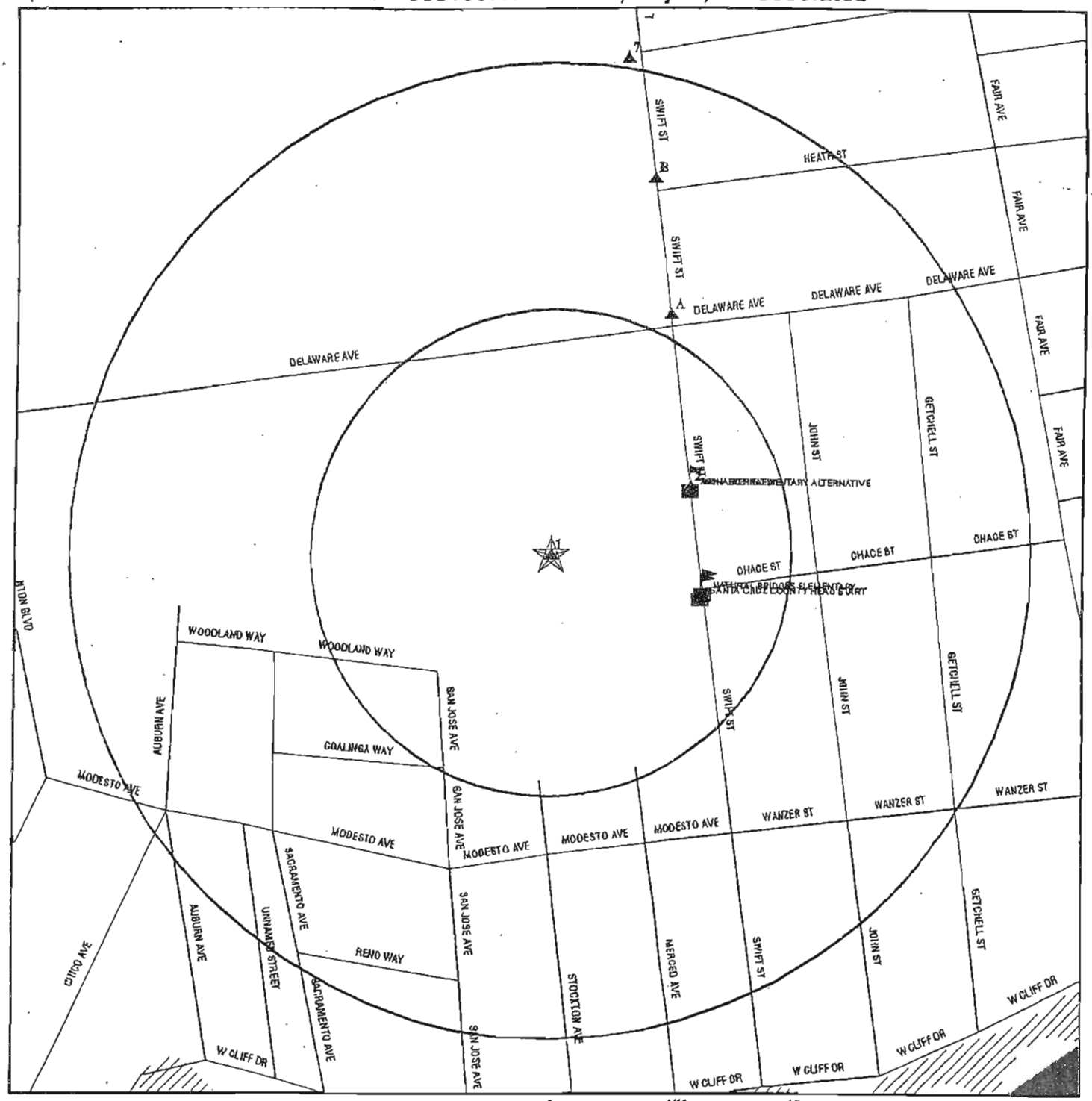
100-year flood zone

500-year flood zone

Areas of Concern

TARGET PROPERTY:	Natural Bridges Elementary School	CUSTOMER:	Weber, Hayes, & Associates
ADDRESS:	255 Swift School	CONTACT:	Pat Hoban
CITY/STATE/ZIP:	Santa Cruz CA 95060	INQUIRY #:	565109.4s

DETAIL MAP - 565109.4s - Weber, Hayes, & Associates



- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- Coal Gasification Sites (if requested)
- Sensitive Receptors
- National Priority List Sites
- Landfill Sites
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- Areas of Concern

TARGET PROPERTY:	Natural Bridges Elementary School	CUSTOMER:	Weber, Hayes, & Associates
ADDRESS:	255 Swift School	CONTACT:	Pat Hoban
CITY/STATE/ZIP:	Santa Cruz CA 95060	INQUIRY #:	565109.4s
LAT/LONG:	36.9538 / 122.0486	DATE:	November 17, 2000 2:15 pm

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FEDERAL ASTM STANDARD								
NPL		1.000	0	0	0	0	NR	0
Delisted NPL		1.000	0	0	0	0	NR	0
CERCLIS		0.500	0	0	0	NR	NR	0
CERC-NFRAP		0.250	0	0	NR	NR	NR	0
CORRACTS		1.000	0	0	0	0	NR	0
RCRIS-TSD		0.500	0	0	0	NR	NR	0
RCRIS Lg. Quan. Gen.		0.250	0	0	NR	NR	NR	0
RCRIS Sm. Quan. Gen.		0.250	0	2	NR	NR	NR	2
ERNS		TP	NR	NR	NR	NR	NR	0
STATE ASTM STANDARD								
AWP		1.000	0	0	0	0	NR	0
Cal-Sites		1.000	0	0	0	0	NR	0
CHMIRS		1.000	0	0	0	0	NR	0
Cortese		1.000	0	0	5	3	NR	8
Notify 65		1.000	0	0	0	0	NR	0
Toxic Pits		1.000	0	0	0	0	NR	0
State Landfill		0.500	0	0	0	NR	NR	0
WMUDS/SWAT		0.500	0	0	0	NR	NR	0
LUST		0.500	0	0	6	NR	NR	6
UST		0.250	0	0	NR	NR	NR	0
CA Bond Exp. Plan		1.000	0	0	0	0	NR	0
CA FID		0.250	0	0	NR	NR	NR	0
FEDERAL ASTM SUPPLEMENTAL								
CONSENT		1.000	0	0	0	0	NR	0
ROD		1.000	0	0	0	0	NR	0
FINDS		TP	NR	NR	NR	NR	NR	0
HMIRS		TP	NR	NR	NR	NR	NR	0
MLTS		TP	NR	NR	NR	NR	NR	0
MINES		0.250	0	0	NR	NR	NR	0
NPL Liens		TP	NR	NR	NR	NR	NR	0
PADS		TP	NR	NR	NR	NR	NR	0
RAATS		TP	NR	NR	NR	NR	NR	0
TRIS		TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
STATE OR LOCAL ASTM SUPPLEMENTAL								
AST		TP	NR	NR	NR	NR	NR	0
CA WDS		TP	NR	NR	NR	NR	NR	0
CA SLIC		0.500	0	0	0	NR	NR	0
HAZNET	X	0.250	1	2	NR	NR	NR	3
EDR PROPRIETARY DATABASES								
Coal Gas		1.000	0	0	0	0	NR	0

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted

AQUIFLOW - see EDR Physical Setting Source Addendum

TP = Target Property

NR = Not Requested at this Search Distance

* Sites may be listed in more than one database

Map ID / Direction / Distance / Distance (ft.) / Elevation	Site	Database(s)	EDR ID Number / EPA ID Number

Coal Gas Site Search: No site was found in a search of Real Property Scan's ENVIROHAZ database.

1
Target Property

NATURAL BRIDGES ELEMENTARY SCHOOL
255 SWIFT ST
SANTA CRUZ, CA 95060

HAZNET

S103978968
N/A

HAZNET:

Gepaid:	CAC001498608	Tepaid:	CAD028409019
Contact:	SANTA CRUZ CITY SCHOOLS	Telephone:	(408) 429-3904
Gen County:	Santa Cruz	Tsd County:	Los Angeles
Tons:	0.01		
Category:	Liquids with pH <UN-> 2		
Disposal Method:	Transfer Station		
Mailing Address:	2931 MISSION ST SANTA CRUZ, CA 95060		
County	Not reported		

2
ENE
< 1/8
422
Higher

SANTA CRUZ CITY SCHOOLS/GROUNDS DEPT
313 SWIFT ST
SANTA CRUZ, CA 95060

HAZNET

S103651937
N/A

HAZNET:

Gepaid:	CAC001188584	Tepaid:	CAT080022148
Contact:	SANTA CRUZ CITY SCHOOLS	Telephone:	(000) 000-0000
Gen County:	Santa Cruz	Tsd County:	San Bernardino
Tons:	0.1084		
Category:	Liquids with pH <UN-> 2		
Disposal Method:	Not reported		
Mailing Address:	2931 MISSION ST SANTA CRUZ, CA 95060		
County	Not reported		

A3
NNE
1/8-1/4
726
Higher

SANTA CRUZ INDUSTRIES
411 SWIFT ST
SANTA CRUZ, CA 95060

HAZNET

S102858349
N/A

HAZNET:

Gepaid:	CAD009177650	Tepaid:	CAD980675276
Contact:	TOM EKLOF	Telephone:	(000) 000-0000
Gen County:	Santa Cruz	Tsd County:	Kern
Tons:	112.85		
Category:	Contaminated soil from site clean-ups		
Disposal Method:	Disposal, Land Fill		
Mailing Address:	411 SWIFT ST SANTA CRUZ, CA 95060		
County	Not reported		

A4
NNE
1/8-1/4
726
Higher

SANTA CRUZ WIRE & MFG CO#
411 SWIFT ST
SANTA CRUZ, CA 95060

RCRIS-SQG
FINDS

1000395001
CAD009177650

SANTA CRUZ WIRE & MFG CO# (Continued) 1000395001

RCRIS:
Owner: AXEL ELLOF
(415) 555-1212
Contact: ENVIRONMENTAL MANAGER
(408) 423-9211
Record Date: 09/01/1996
Classification: Small Quantity Generator
Used Oil Recyc: No
Violation Status: No violations found

B5 VITEX PACKAGING INC HAZNET S100877703
NNE 511 SWIFT ST. N/A
1/8-1/4 SANTA CRUZ, CA 95060
1052
Higher

HAZNET:

Gepaid:	CAD057443269	Tepaid:	CAD009452657
Contact:	VITEX PACKAGING INC	Telephone:	(757) 539-2334
Gen County:	Santa Cruz	Tsd County:	San Mateo
Tons:	3.753		
Category:	Unspecified organic liquid mixture		
Disposal Method:	Disposal, Other		
Mailing Address:	PO BOX 730 SUFFOLK, VA 23439 - 5823		
County	Not reported		

Gepaid:	CAD057443269	Tepaid:	CAD009452657
Contact:	VITEX PACKAGING INC	Telephone:	(757) 539-2334
Gen County:	Santa Cruz	Tsd County:	San Mateo
Tons:	0.417		
Category:	Aqueous solution (2 < pH < 12.5) containing reactive anions (azide, bromate, chlorate, cyanide, fluoride, hypochlorite, nitrite, perchlorate, and sulfide anions)		
Disposal Method:	Recycler		
Mailing Address:	PO BOX 730 SUFFOLK, VA 23439 - 5823		
County	Not reported		

Gepaid:	CAD057443269	Tepaid:	CAD009452657
Contact:	VITEX PACKAGING INC	Telephone:	(757) 539-2334
Gen County:	Santa Cruz	Tsd County:	San Mateo
Tons:	0.834		
Category:	Unspecified organic liquid mixture		
Disposal Method:	Disposal, Other		
Mailing Address:	PO BOX 730 SUFFOLK, VA 23439 - 5823		
County	Not reported		

Map ID / Direction / Distance / Distance (ft.) / Elevation	Site	Database(s)	EDR ID Number / EPA ID Number

VITEX PACKAGING INC (Continued) S100877703

Gepaid:	CAD057443269	Tepaid:	CAD009452657
Contact:	VITEX PACKAGING INC	Telephone:	(757) 539-2334
Gen County:	Santa Cruz	Tsd County:	San Mateo
Tons:	3.336		
Category:	Unspecified organic liquid mixture		
Disposal Method:	Recycler		
Mailing Address:	PO BOX 730 SUFFOLK, VA 23439 - 5823		
County	Not reported		

Gepaid:	CAD057443269	Tepaid:	CAD009452657
Contact:	VITEX PACKAGING INC	Telephone:	(757) 539-2334
Gen County:	Santa Cruz	Tsd County:	San Mateo
Tons:	0.417		
Category:	Aqueous solution (2 < pH < 12.5) containing reactive anions (azide, bromate, chlorate, cyanide, fluoride, hypochlorite, nitrite, perchlorate, and sulfide anions)		
Disposal Method:	Recycler		
Mailing Address:	PO BOX 730 SUFFOLK, VA 23439 - 5823		
County	Not reported		

The CA HAZNET database contains 13 additional records for this site.
Please contact your EDR Account Executive for more information.

B6 NNE 1/8-1/4 1052 Higher — SCHMITT,GEORGE & CO. INC., 511 SWIFT ST., SANTA CRUZ, CA 95060 — RCRIS-SQG, FINDS — 1000404142, CAD057443269

RCRIS:

Owner:	GEORGE SCHMITT & CO., INC. (415) 555-1212
Contact:	ENVIRONMENTAL MANAGER (408) 426-9159
Record Date:	09/01/1996
Classification:	Small Quantity Generator
Used Oil Recyc:	No
Violation Status:	No violations found

---

7 North 1/4-1/2 1350 Higher — MISSION LINEN SERVICE, 601 SWIFT ST, SANTA CRUZ, CA 95060 — Cortese, LUST — S101304442, N/A

MISSION LINEN SERVICE (Continued) S101304442

State LUST:

Cross Street:	N/A		
Qty Leaked:	Not reported		
Case Number	683		
Reg Board:	Central Coast Region		
Chemical:	Diesel		
Lead Agency:	Local Agency		
Case Type:	Soil only		
Status:	Remediation plan developed		
County:	Santa Cruz		
Abate Method:	Excavate and Dispose - remove contaminated soil and dispose in approved site		
Review Date:	03/09/94	Confirm Leak:	Not reported
Workplan:	Not reported	Prelim Assess:	Not reported
Pollution Char:	Not reported	Remed Plan:	6/13/90
Remed Action:	Not reported	Monitoring:	Not reported
Close Date:	Not reported	Release Date:	06/16/89

LUST Region 3:

Case Number:	Not reported	Release Date	06/16/89
Cross Street:	N/A	Enter Date:	09/15/89
Reported By:	MISSION INDUSTRIES P.O. DRAWER MM SANTA CRUZ CA 95060		
Representing:	Not reported		
Respble Party:	MISSION INDUSTRIES P.O. DRAWER MM SANTA BARBARA CA 93102		
RP Telephone:	(805)963-1841		
Operator:	MICHAEL TRAMMELL	Contact:	SAUL RACKAUSKAS
Local Agency:	03	Regional Board:	Central Coast Region
Chemical:	DIESEL	Quantity:	Not reported
Discovered:	10/21/87	Stop Date:	/ /
How Found:	Tank Closure	How Stopped:	Repair Tank
Source:	Tank		
Cause:	Corrosion		
Lead Agency:	Local Agency		
Case Type:	Soil only		
Priority:	0	Staff Initials:	BWH
Facility Status:	Remediation plan developed		
Abate Method:	Excavate and Dispose - remove contaminated soil and dispose in approved site		
Review Date:	03/09/94	Funding:	Responsible Party
Confirm Leak:	Not reported	Workplan:	Not reported
Prelim Assess:	Not reported	Pollution Char:	/ /
Remed Plan:	06/13/90	Remed Action:	/ /
Monitoring:	Not reported	Close Date:	Not reported
Enforce Type:	Not reported		
Enforce Date:	Not reported	Pilot Program:	UST
Interim Action:	0	Region:	3
Contaminants:	12034		
Site Telephone:	(408)423-1630		
Basin Plan:	4.11		
Facility Id :	683		
CUF Id :	Not reported		
Max MTBE Ground Water :	0		
Max MTBE Soil :	Not reported		

MISSION LINEN SERVICE (Continued) S101304442

Max MTBE Data : / /
MTBE Tested : NT
Suspended : Not reported
Beneficial : Not reported
Lat/Long : Not reported
Soil Qualifier: Not reported
Groundwater Qualifier: Not reported
Summary: 6/13/90 SOIL CLEAN-UP REQUIRED 3/9/94
LETTER SENT 4/3/91 APPROVING OF WORKPLAN FOR SOILCLEAN-UP. THIS WAS LAST PROPOSAL FROM TERRA TECH. LETTER SENT TO MISSION 3/9/94.

CORTESE:
Reg By: LTNKA
Reg Id: 683,00000
Region: CORTESE

8
NNE
1/4-1/2
1818
Higher

S.C. ARTICHOKE & SPROUT GROWER
402 INGALLS ST
SANTA CRUZ, CA 95061

LUST S102436170
N/A

State LUST:
Cross Street: SWIFT STREET
Qty Leaked: Not reported
Case Number 616
Reg Board: Central Coast Region
Chemical: Gasoline
Lead Agency: Regional Board
Case Type: Other ground water affected
Status: Signed off, remedial action completed or deemed unnecessary
County: Santa Cruz
Abate Method: U
Review Date: 03/22/93 Confirm Leak: Not reported
Workplan: Not reported Prelim Assess: Not reported
Pollution Char: Not reported Remed Plan: Not reported
Remed Action: Not reported Monitoring: 8/13/90
Close Date: 3/23/93 Release Date: 02/16/88

LUST Region 3:
Case Number: Not reported Release Date 02/16/88
Cross Street: SWIFT STREET Enter Date: 03/01/88
Reported By: MONDO, HERMAN
P.O. BOX 839, SANTA CRUZ, CA 95061
Representing: Other
Respble Party: S.C. ARTICHOKE & SPROUT GROWER
P.O. BOX 839, SANTA CRUZ, CA 95061
RP Telephone: (408)423-2830
Operator: S.C. ARTICHOKE & SPROUT GROWER Contact: HERMAN MONDO
Local Agency: 03 Regional Board: Central Coast Region
Chemical: GASOLINE Quantity: Not reported
Discovered: 12/30/87 Stop Date: / /
How Found: Tank Closure How Stopped: Remove Contents
Source: Tank
Cause: Corrosion
Lead Agency: Regional Board
Case Type: Other ground water affected
Priority: 3 Staff Initials: HCP

S.C. ARTICHOKE & SPROUT GROWER (Continued) S102436170

Facility Status: Signed off, remedial action completed or deemed unnecessary
Abate Method: U
Review Date: 03/22/93
Confirm Leak: Not reported
Prelim Assess: Not reported
Remed Plan: / /
Monitoring: 8/13/90
Enforce Type: Not reported
Enforce Date: Not reported
Interim Action: 0
Contaminants: 8006619
Site Telephone: (408)423-2830
Basin Plan: 4.11
Funding: Responsible Party
Workplan: Not reported
Pollution Char: / /
Remed Action: / /
Close Date: 3/23/93
Pilot Program: UST
Region: 3
Facility Id : 616
CUF Id : Not reported
Max MTBE Ground Water : 0
Max MTBE Soil : Not reported
Max MTBE Data : / /
MTBE Tested : NT
Suspended : Not reported
Beneficial : Not reported
Lat/Long : Not reported
Soil Qualifier: Not reported
Groundwater Qualifier: Not reported
Summary: CLOSED.

9
West
1/4-1/2
2350
Higher

LIPTON, INC.
2200 DELAWARE AVE
SANTA CRUZ, CA 95060

Cortese
LUST

S104162779
N/A

State LUST:
Cross Street: Not reported
Qty Leaked: Not reported
Case Number 01-0053
Reg Board: San Francisco Bay Region
Chemical: Diesel
Lead Agency: Local Agency
Case Type: Other ground water affected
Status: Signed off, remedial action completed or deemed unnecessary
County: Alameda
Abate Method: No Action Taken - no action has as yet been taken at the site
Review Date: 03/18/98
Workplan: Not reported
Pollution Char: Not reported
Remed Action: Not reported
Close Date: 3/18/98
Confirm Leak: Not reported
Prelim Assess: Not reported
Remed Plan: Not reported
Monitoring: Not reported
Release Date: 08/15/89

LIPTON, INC. (Continued) S104162779

Cross Street:	NATURAL BRIDGES ROAD		
Qty Leaked:	Not reported		
Case Number	354		
Reg Board:	Central Coast Region		
Chemical:	Diesel		
Lead Agency:	Regional Board		
Case Type:	Other ground water affected		
Status:	Post remedial action monitoring in progress		
County:	Santa Cruz		
Abate Method:	Excavate and Dispose - remove contaminated soil and dispose in approved site, Remove Free Product - remove floating product from water table		
Review Date:	11/08/93	Confirm Leak:	Not reported
Workplan:	Not reported	Prelim Assess:	Not reported
Pollution Char:	5/9/88	Remed Plan:	11/15/90
Remed Action:	Not reported	Monitoring:	11/15/90
Close Date:	Not reported	Release Date:	04/19/88

LUST Region 2:

Region:	2
Facility Id:	01-0053
Entered Date:	10/31/89
Facility Status:	Signed off, remedial action completed or deemed unnecessary
Maximum Soil Concentration:	270
Maximum Groundwater Impact:	1900
Current Benzene:	ND
Current MTBE :	32
Maximum MTBE Groundwater:	32
MTBE Quali:	Not reported

LUST Region 3:

Case Number:	Not reported	Release Date	04/19/88
Cross Street:	NATURAL BRIDGES ROAD	Enter Date:	05/20/88
Reported By:	WELLS, KEVIN 2200 DELAWARE AVENUE, SANTA CRUZ, CA 95060		
Representing:	Owner		
Respble Party:	THOMAS J. LIPTON, INC. 2200 DELAWARE AVENUE, SANTA CRUZ, CA 95060		
RP Telephone:	(408)426-9100		
Operator:	THOMAS J. LIPTON, INC.	Contact:	KURT CHRISTIANSON
Local Agency:	03	Regional Board:	Central Coast Region
Chemical:	DIESEL	Quantity:	Not reported
Discovered:	04/18/88	Stop Date:	/ /
How Found:	Other Means	How Stopped:	Other Means
Source:	Piping		
Cause:	Corrosion		
Lead Agency:	Regional Board		
Case Type:	Other ground water affected		
Priority:	3A3	Staff Initials:	BWH
Facility Status:	Post remedial action monitoring in progress		
Abate Method:	Excavate and Dispose - remove contaminated soil and dispose in approved site, Remove Free Product - remove floating product from water table		
Review Date:	11/08/93	Funding:	Responsible Party
Confirm Leak:	Not reported	Workplan:	Not reported
Prelim Assess:	Not reported	Pollution Char:	05/09/88
Remed Plan:	11/15/90	Remed Action:	/ /

LIPTON, INC. (Continued) S104162779

Monitoring:	11/15/90	Close Date:	Not reported
Enforce Type:	Not reported		
Enforce Date:	Not reported	Pilot Program:	UST
Interim Action:	0	Region:	3
Contaminants:	12034		
Site Telephone:	(408)426-9100		
Basin Plan:	4.11		

Facility Id : 354
CUF Id : Not reported
Max MTBE Ground Water : 0
Max MTBE Soil : Not reported
Max MTBE Data : / /
MTBE Tested : NT
Suspended : Not reported
Beneficial : Not reported
Lat/Long : Not reported
Soil Qualifier: Not reported
Groundwater Qualifier: Not reported
Summary: POST REMEDIATION MONITORING UNDERWAY. 2.2 PPM DIESEL IN MW-29/93.

LUST Alameda County:

Region : ALAMEDA
Facility Id : 354
Status : 9
Facility Type : O
Case Closed : Y
Date Case Closed : 3/18/98
Contact : Meyer & Annegret Tru
Contact Company : St & Glassman L. & Diana A.
Clean up Fund : Not reported
LOP Status : I
Tank Removal : -0-
SLIC : -0-
Priority Code : MOD/Water Source/Soil Bad-ReDo
Inspector Initial : CL
Leak Source : F
Substance : Diesel
Date Reported : 8/15/89
Date Confirmed : 8/15/89
Multiple Responsible Parties : Y
Emergency Resp Date : -0-
Research : S
Date RP was Sent Notice : 2/11/93
Preliminary Investigation : C
Begin Date : -0-
End Date : 7/17/97
Remedial Investigation : -0-
RI Begin Date : -0-
RI End Date : -0-
Remediation Action : -0-
Remediation Begin Date : -0-
Remediation End Date : -0-
Post Remedial Monitoring : -0-
PRM Begin Date : -0-
PRM End Date : -0-
Enforcement Type : 2
Enf Action Date : 12/27/95
LUFT Category : 3SCA

Map ID / Direction / Distance / Distance (ft.) / Elevation | Site | Database(s) | EDR ID Number / EPA ID Number

LIPTON, INC. (Continued) S104162779

Excavation began :	8/15/89
Remedial Action Occured :	UK
Contact Address :	1225-7th St. Oakland C A 94607
Contact Phone :	-0-
RP Cost :	0.00
Comments :	The DA prosecuted Al Plute for felonyUSA Petroleum MTBE=32ppb@5'
Last Correspondence :	3/18/98
Flag Date :	-0-
Location :	-0-
LOP Entry :	1/28/93
LOP Edit :	03/18/1998
LOP Flag :	-0-

CORTESE:
Reg By: LTNKA
Reg Id: 354.00000
Region: CORTESE

---

10 / NNE / 1/4-1/2 / 2360 / Higher

E.V. MOCEO CO., INC.
1206 FAIR AVE
SANTA CRUZ, CA 95060

Ca. FID 1000301008
Cortese N/A
LUST
UST

State LUST:

Cross Street:	MISSION ST		
Qty Leaked:	Not reported		
Case Number	611		
Reg Board:	Central Coast Region		
Chemical:	Gasoline		
Lead Agency:	Regional Board		
Case Type:	Other ground water affected		
Status:	Post remedial action monitoring in progress		
County:	Santa Cruz		
Abate Method:	Excavate and Dispose - remove contaminated soil and dispose in approved site		
Review Date:	04/03/00	Confirm Leak:	Not reported
Workplan:	Not reported	Prelim Assess:	Not reported
Pollution Char:	Not reported	Remed Plan:	Not reported
Remed Action:	Not reported	Monitoring:	4/20/00
Close Date:	Not reported	Release Date:	04/26/89

LUST Region 3:

Case Number:	Not reported	Release Date	04/26/89
Cross Street:	MISSION ST	Enter Date:	07/23/89
Reported By:	FRANK COSTELLA 1206 FAIR AVE SANTA CRUZ CA 95060 ,		
Representing:	Regional Board		
Respble Party:	E.V.MOCEO CO. INC 1206 FAIR AVE SANTA CRUZ CA ,		
RP Telephone:	(408)423-4102		
Operator:	RALPH MOCEO	Contact:	FRANK COSTELLA
Local Agency:	03	Regional Board:	Central Coast Region
Chemical:	GASOLINE	Quantity:	Not reported
Discovered:	/ /	Stop Date:	/ /
How Found:	Tank Test	How Stopped:	Remove Contents
Source:	Tank		

E.V. MOCEO CO., INC. (Continued) 1000301008

Cause: Unknown
Lead Agency: Regional Board
Case Type: Other ground water affected
Priority: 3A3 Staff Initials: BWH
Facility Status: Post remedial action monitoring in progress
Abate Method: Excavate and Dispose - remove contaminated soil and dispose in approved site
Review Date: 05/18/00 Funding: Responsible Party
Confirm Leak: Not reported Workplan: Not reported
Prelim Assess: Not reported Pollution Char: / /
Remed Plan: / / Remed Action: / /
Monitoring: 4/20/00 Close Date: Not reported
Enforce Type: Not reported
Enforce Date: Not reported Pilot Program: UST
Interim Action: 0 Region: 3
Contaminants: 8006619
Site Telephone: (408)423-4102
Basin Plan: 4.11
Facility Id : 611
CUF Id : Not reported
Max MTBE Ground Water : 210
Max MTBE Soil : Not reported
Max MTBE Data : 04/02/99
MTBE Tested : YES
Suspended : Not reported
Beneficial : Not reported
Lat/Long : Not reported
Soil Qualifier: Not reported
Groundwater Qualifier: *
Summary: 3/8/94 SOIL AND GROUNDWATER SAMPLES TAKEN AT REMOVAL SHOWED CONTAMINATION. SOILS REMOVED AND REMEDIATED. NO WELLS WERE INSTALLED. HIGH GROUNDWATER AND FREE PRODUCT WERE NOTED IN PITS 1 & 2. WATER SAMPLES SHOW VARIOUS GAS CONCENTRATIONS. 4/29/99: APPR

CORTESE:
Reg By: LTNKA
Reg Id: 611.00000
Region: CORTESE

FID:
Facility ID: 44000063 Regulate ID: 00064706
Reg By: Inactive Underground Storage Tank Location
Cortese Code: Not reported SIC Code: Not reported
Status: Inactive Facility Tel: (408) 423-4102
Mail To: Not reported
P O BOX
SANTA CRUZ, CA 95060
Contact: Not reported Contact Tel: Not reported
DUNs No: Not reported NPDES No: Not reported
Creation: 10/22/93 Modified: 00/00/00
EPA ID: Not reported
Comments: Not reported

Map ID / Direction / Distance / Distance (ft.) / Elevation	Site	Database(s)	EDR ID Number / EPA ID Number
	E.V. MOCEO CO., INC. (Continued)		1000301008

State UST:

Facility ID:	64706		
Tank Num:	1	Container Num:	1
Tank Capacity:	550	Year Installed:	1959
Tank Used for:	PRODUCT		
Type of Fuel:	REGULAR	Tank Constrctn:	Not reported
Leak Detection:			
Contact Name:	RALPH MOCE	Telephone:	(408) 423-4102
Total Tanks:	3	Region:	STATE
Facility Type:	2	Other Type:	PRODUCE SHIPPER

Facility ID:	64706		
Tank Num:	2	Container Num:	2
Tank Capacity:	550	Year Installed:	1973
Tank Used for:	PRODUCT		
Type of Fuel:	UNLEADED	Tank Constrctn:	Not reported
Leak Detection:			
Contact Name:	RALPH MOCE	Telephone:	(408) 423-4102
Total Tanks:	3	Region:	STATE
Facility Type:	2	Other Type:	PRODUCE SHIPPER

Facility ID:	64706		
Tank Num:	3	Container Num:	3
Tank Capacity:	550	Year Installed:	1983
Tank Used for:	PRODUCT		
Type of Fuel:	DIESEL	Tank Constrctn:	Not reported
Leak Detection:			
Contact Name:	RALPH MOCE	Telephone:	(408) 423-4102
Total Tanks:	3	Region:	STATE
Facility Type:	2	Other Type:	PRODUCE SHIPPER

Map ID / Direction / Distance / Distance (ft.) / Elevation	Site	Database(s)	EDR ID Number / EPA ID Number
11 / North / 1/4-1/2 / 2450 / Higher	ELYXIR DISTRIBUTING 2521 MISSION ST SANTA CRUZ, CA 95060	Ca. FID Cortese LUST	S101594724 N/A

State LUST:

Cross Street:	SWIFT		
Qty Leaked:	Not reported		
Case Number	2434		
Reg Board:	Central Coast Region		
Chemical:	Gasoline		
Lead Agency:	Local Agency		
Case Type:	Soil only		
Status:	Signed off, remedial action completed or deemed unnecessary		
County:	Santa Cruz		
Abate Method:	U		
Review Date:	04/26/94	Confirm Leak:	Not reported
Workplan:	Not reported	Prelim Assess:	Not reported
Pollution Char:	Not reported	Remed Plan:	Not reported
Remed Action:	Not reported	Monitoring:	Not reported
Close Date:	3/25/98	Release Date:	05/16/90

ELYXIR DISTRIBUTING (Continued) S101594724

Cross Street:	WASHINGTON		
Qty Leaked:	Not reported		
Case Number	49-0248		
Reg Board:	San Francisco Bay Region		
Chemical:	Misc. Motor Vehicle Fuels		
Lead Agency:	Local Agency		
Case Type:	Undefined		
Status:	Preliminary site assessment underway		
County:	Sonoma		
Abate Method:	Other Means		
Review Date:	08/12/98	Confirm Leak:	Not reported
Workplan:	6/14/96	Prelim Assess:	6/27/96
Pollution Char:	Not reported	Remed Plan:	Not reported
Remed Action:	Not reported	Monitoring:	Not reported
Close Date:	Not reported	Release Date:	05/11/94

LUST Region 2:

Region:	2
Facility Id:	49-0248
Entered Date:	03/24/95
Facility Status:	Preliminary site assessment underway
Maximum Soil Concentration:	Not reported
Maximum Groundwater Impact:	Not reported
Current Benzene:	Not reported
Current MTBE :	Not reported
Maximum MTBE Groundwater:	Not reported
MTBE Qual:	Not reported

LUST Region 3:

Case Number:	Not reported	Release Date	05/16/90
Cross Street:	SWIFT	Enter Date:	04/26/94
Reported By:	HERMAN MONDO 201 KALKAR DR SANTA CRUZ CA 95060		
Representing:	Owner		
Respble Party:	HERMAN MONDO 201 KALKAR DR SANTA CRUZ 95060		
RP Telephone:	(408)423-2830		
Operator:	PAUL AND GLEN ELY	Contact:	HERMON MONDO
Local Agency:	03	Regional Board:	Central Coast Region
Chemical:	GASOLINE	Quantity:	Not reported
Discovered:	10/13/89	Stop Date:	10/13/89
How Found:	Tank Closure	How Stopped:	Repair Tank
Source:	Unknown		
Cause:	Unknown		
Lead Agency:	Local Agency		
Case Type:	Soil only		
Priority:	Not reported	Staff Initials:	BWH
Facility Status:	Signed off, remedial action completed or deemed unnecessary		
Abate Method:	U		
Review Date:	04/26/94	Funding:	Not reported
Confirm Leak:	Not reported	Workplan:	Not reported
Prelim Assess:	Not reported	Pollution Char:	/ /
Remed Plan:	/ /	Remed Action:	/ /
Monitoring:	Not reported	Close Date:	3/25/98
Enforce Type:	None taken		

ELYXIR DISTRIBUTING (Continued) S101594724

Enforce Date: Not reported
Interim Action: 0
Contaminants: 8006619
Site Telephone: (408)426-9663
Basin Plan: 4.11
Facility Id : 2434
CUF Id : Not reported
Max MTBE Ground Water : 0
Max MTBE Soil : Not reported
Max MTBE Data : / /
MTBE Tested : NT
Suspended : Not reported
Beneficial : Not reported
Lat/Long : Not reported
Soil Qualifier: Not reported
Groundwater Qualifier: Not reported
Pilot Program: UST
Region: 3

Summary: LAB REPORT FORWARDED TO REGIONAL WATER QUALITY CONTROL BOARD BY WATERWORK 1710 MAIN ST, ESCALON CA 95320 PIT WATER SHOWED GASOLINE-RELATED CONTAMINATION: BENZENE 33.4 PPB, ETHYLBENZEN 4.0 PPB, XYLENSE 10.59 PPB AND TOLUENE 48.9 PPB. SOIL WAS ND.

CORTESE:
Reg By: LTNKA
Reg Id: 2434.00000
Region: CORTESE

FID:
Facility ID: 44000333
Reg By: Inactive Underground Storage Tank Location
Cortese Code: Not reported
Status: Inactive
Mail To: Not reported
201 KALKAR DR
SANTA CRUZ, CA 95060
Contact: Not reported
DUNs No: Not reported
Creation: 10/22/93
EPA ID: Not reported
Comments: Not reported
Regulate ID: Not reported
SIC Code: Not reported
Facility Tel: Not reported
Contact Tel: Not reported
NPDES No: Not reported
Modified: 00/00/00

---

12 RUDOLPH PROPERTY Cortese S101309571
North 2429 MISSION ST LUST N/A
1/4-1/2 SANTA CRUZ, CA 95060
2572
Higher

State LUST:
Cross Street: SWIFT STREET
Qty Leaked: Not reported
Case Number 344
Reg Board: Central Coast Region
Chemical: Gasoline
Lead Agency: Regional Board
Case Type: Other ground water affected
Status: Post remedial action monitoring in progress
County: Santa Cruz
Abate Method: No Action Taken - no action has as yet been taken at the site
Review Date: 05/03/99
Workplan: Not reported
Pollution Char: 1/27/89
Confirm Leak: Not reported
Prelim Assess: Not reported
Remed Plan: Not reported

RUDOLPH PROPERTY (Continued) S101309571

Remed Action: Not reported
Close Date: Not reported
Monitoring: 6/27/97
Release Date: 01/09/89

LUST Region 3:
Case Number: Not reported
Cross Street: SWIFT STREET
Reported By: HAYES, JOSEPH
955 HIGH STREET, SANTA CRUZ, CA 95060
Release Date 01/09/89
Enter Date: 01/27/89

Representing: Owner
Respble Party: RUDOLPH, ROBERT N.
120 WESTGATE DRIVE, WATSONVILLE, CA

RP Telephone: (408)423-7420
Operator: RUDOLPH, ROBERT N.
Local Agency: 03
Chemical: GASOLINE
Discovered: 11/08/88
How Found: Tank Closure
Source: Other
Cause: Overfill
Lead Agency: Regional Board
Case Type: Other ground water affected
Priority: 3A3
Facility Status: Post remedial action monitoring in progress
Abate Method: No Action Taken - no action has as yet been taken at the site
Review Date: 05/09/00
Confirm Leak: Not reported
Prelim Assess: Not reported
Remed Plan: / /
Monitoring: 6/27/97
Enforce Type: Not reported
Enforce Date: Not reported
Interim Action: 0
Contaminants: 8006619
Site Telephone: (408)423-7420
Basin Plan: 4.11
Contact: Not reported
Regional Board: Central Coast Region
Quantity: Not reported
Stop Date: 11/08/88
How Stopped: Close Tank
Staff Initials: BWH
Funding: Responsible Party
Workplan: Not reported
Pollution Char: 01/27/89
Remed Action: / /
Close Date: Not reported
Pilot Program: UST
Region: 3

Facility Id : 344
CUF Id : Not reported
Max MTBE Ground Water : 5
Max MTBE Soil : Not reported
Max MTBE Data : 04/06/99
MTBE Tested : YES
Suspended : Not reported
Beneficial : MUN
Lat/Long : Not reported
Soil Qualifier: Not reported
Groundwater Qualifier: <

Summary: SITE IS REDEVELOPED. ADDITIONAL MONITORING REQUESTED TO DETERMINE EXTENT OF PETROLEUM PRODUCT CONTAMINATION. PLUME DELINEATED. ORC USE CONCURRED WITH.

CORTESE:
Reg By: LTNKA
Reg Id: 344.00000
Region: CORTESE

Map ID / Direction / Distance / Distance (ft.) / Elevation	Site	Database(s)	EDR ID Number / EPA ID Number
13 NNE 1/2-1 3310 Higher	ULTRAMAR BEACON #734 2202 MISSION SANTA CUUZ, CA 95060	Cortese LUST	S102439565 N/A

State LUST:

Cross Street:	Not reported		
Qty Leaked:	Not reported		
Case Number	2039		
Reg Board:	Central Coast Region		
Chemical:	Gasoline		
Lead Agency:	Regional Board		
Case Type:	Other ground water affected		
Status:	Remediation plan developed		
County:	Santa Cruz		
Abate Method:	Excavate and Dispose - remove contaminated soil and dispose in approved site		
Review Date:	03/09/00	Confirm Leak:	Not reported
Workplan:	Not reported	Prelim Assess:	Not reported
Pollution Char:	10/20/92	Remed Plan:	6/18/99
Remed Action:	1/23/92	Monitoring:	9/1/95
Close Date:	Not reported	Release Date:	09/20/91

LUST Region 3:

Case Number:	Not reported	Release Date	09/20/91
Cross Street:	Not reported	Enter Date:	10/18/91
Reported By:	SANT CRUZ CO. ENVIR HEALTH DEP P.O. BOX 466 , HANFORD, CA 93232-0466		
Representing:	Owner		
Respble Party:	ULTRAMAR INC. 701 OCEAN ST, RM 312 SANTA CRUZ, CA 95060		
RP Telephone:	(209)582-0241		
Operator:	Not reported	Contact:	KENNETH ERNEST
Local Agency:	03	Regional Board:	Central Coast Region
Chemical:	GASOLINE	Quantity:	Not reported
Discovered:	02/25/91	Stop Date:	/ /
How Found:	Tank Closure	How Stopped:	Repair Tank
Source:	Unknown		
Cause:	Unknown		
Lead Agency:	Regional Board		
Case Type:	Other ground water affected		
Priority:	3A3	Staff Initials:	BWH
Facility Status:	Remediation plan developed		
Abate Method:	Excavate and Dispose - remove contaminated soil and dispose in approved site		
Review Date:	07/17/00	Funding:	State Funds
Confirm Leak:	Not reported	Workplan:	Not reported
Prelim Assess:	Not reported	Pollution Char:	10/20/92
Remed Plan:	06/18/99	Remed Action:	01/23/92
Monitoring:	9/1/95	Close Date:	Not reported
Enforce Type:	Not reported		
Enforce Date:	Not reported	Pilot Program:	UST
Interim Action:	0	Region:	3
Contaminants:	8006619		
Site Telephone:	(408)426-5840		
Basin Plan:	4.11		
Facility Id :	2039		

ULTRAMAR BEACON #734 (Continued) S102439565

CUF Id : Not reported
Max MTBE Ground Water : 12000
Max MTBE Soil : Not reported
Max MTBE Data : 04/20/99
MTBE Tested : YES
Suspended : Not reported
Beneficial : MUN
Lat/Long : Not reported
Soil Qualifier: Not reported
Groundwater Qualifier:
Summary: VAPOR EXTRATION WELLS & PIPING WERE INSTALLED AT AREA WHERE CONTAMINATED SOIL SAMPLES WERE COLLECTED. TANK AND LINES WERE INSTALLED AT SITE. MW-4, MW-7 ABANDONED DUE TO CITY ROAD CONSTRUCTION RETURNED TO QUARTERLY MONITORING - 6/16/99

CORTESE:
Reg By: LTNKA
Reg Id: 2039.00000
Region: CORTESE

14
NNE
1/2-1
3864
Higher

BP STATION
2003 MISSION ST
SANTA CRUZ, CA 95060

Cortese S102509600
LUST N/A

State LUST:
Cross Street: Not reported
Qty Leaked: Not reported
Case Number 2790
Reg Board: Central Coast Region
Chemical: 800661
Lead Agency: Regional Board
Case Type: Other ground water affected
Status: Preliminary site assessment underway
County: Santa Cruz
Abate Method: No Action Taken - no action has as yet been taken at the site
Review Date: Not reported — Confirm Leak: Not reported
Workplan: Not reported — Prelim Assess: 1/6/97
Pollution Char: Not reported — Remed Plan: Not reported
Remed Action: Not reported — Monitoring: Not reported
Close Date: Not reported — Release Date: 06/21/96

LUST Region 3:
Case Number: Not reported — Release Date 06/21/96
Cross Street: Not reported — Enter Date: 01/06/97
Reported By: CALTRANS
1045 AIRPORT BLVD., SOUTH SAN FRANCISCO 94080
Representing: Not reported
Respble Party: ANDY SABERI
BOX 23660 OAKLAND, CA 94623
RP Telephone: Not reported
Operator: Not reported — Contact: Not reported
Local Agency: 03 — Regional Board: Central Coast Region
Chemical: GASOLINE — Quantity: Not reported
Discovered: 03/09/96 — Stop Date: / /
How Found: Subsurface Monitoring — How Stopped: Not reported
Source: Unknown

BP STATION (Continued) S102509600

Cause: Unknown
Lead Agency: Regional Board
Case Type: Other ground water affected
Priority: 3A3 Staff Initials: BWH
Facility Status: Preliminary site assessment underway
Abate Method: No Action Taken - no action has as yet been taken at the site
Review Date: / / Funding: 0
Confirm Leak: Not reported Workplan: Not reported
Prelim Assess: 1/6/97 Pollution Char: / /
Remed Plan: / / Remed Action: / /
Monitoring: Not reported Close Date: Not reported
Enforce Type: Not reported
Enforce Date: Not reported Pilot Program: UST
Interim Action: 0 Region: 3
Contaminants: 800661
Site Telephone: Not reported
Basin Plan: 4.11
Facility Id : 2790
CUF Id : Not reported
Max MTBE Ground Water : 0
Max MTBE Soil : Not reported
Max MTBE Data : / /
MTBE Tested : YES
Suspended : Not reported
Beneficial : Not reported
Lat/Long : Not reported
Soil Qualifier: Not reported
Groundwater Qualifier: Not reported
Summary: EVIDENCE OF LEAK FOUND BY CALTRANS PRIOR TO STREET WIDENING. NO URF. CLAIM TO USTCF DENIED 3/3/98 DUE TO LACK OF PROOF OF UNAUTHORIZED RELEASE.

CORTESE:
Reg By: LTNKA
Reg Id: 2790.00000
Region: CORTESE

---

15 HER COMPANY Cortese S102509599
NNE 1725 MISSION ST LUST N/A
1/2-1 SANTA CRUZ, CA 95060
4713
Higher

State LUST:
Cross Street: Not reported
Qty Leaked: Not reported
Case Number 2789
Reg Board: Central Coast Region
Chemical: Gasoline
Lead Agency: Regional Board
Case Type: Other ground water affected
Status: Remediation plan developed
County: Santa Cruz
Abate Method: No Action Taken - no action has as yet been taken at the site
Review Date: 05/01/00 Confirm Leak: Not reported
Workplan: Not reported Prelim Assess: 1/6/97
Pollution Char: Not reported Remed Plan: 6/15/99
Remed Action: Not reported Monitoring: Not reported
Close Date: Not reported Release Date: 06/21/96

HER COMPANY (Continued) S102509599

LUST Region 3:

Case Number:	Not reported	Release Date	06/21/96
Cross Street:	Not reported	Enter Date:	01/06/97
Reported By:	CALTRANS 1725 MISSION ST SANTA CRUZ, CA 95060		
Representing:	Owner		
Respble Party:	FREDERICK SINOPOLI P.O. BOX 23660 OAKLAND, CA 94623		
RP Telephone:	Not reported		
Operator:	Not reported	Contact:	Not reported
Local Agency:	03	Regional Board:	Central Coast Region
Chemical:	GASOLINE	Quantity:	Not reported
Discovered:	03/09/96	Stop Date:	/ /
How Found:	Subsurface Monitoring	How Stopped:	Not reported
Source:	Unknown		
Cause:	Unknown		
Lead Agency:	Regional Board		
Case Type:	Other ground water affected		
Priority:	3A3	Staff Initials:	BWH
Facility Status:	Remediation plan developed		
Abate Method:	No Action Taken - no action has as yet been taken at the site		
Review Date:	05/01/00	Funding:	0
Confirm Leak:	Not reported	Workplan:	Not reported
Prelim Assess:	1/6/97	Pollution Char:	/ /
Remed Plan:	06/15/99	Remed Action:	/ /
Monitoring:	Not reported	Close Date:	Not reported
Enforce Type:	Not reported		
Enforce Date:	Not reported	Pilot Program:	UST
Interim Action:	0	Region:	3
Contaminants:	8006619		
Site Telephone:	Not reported		
Basin Plan:	4.11		

Facility Id :	2789
CUF Id :	Not reported
Max MTBE Ground Water :	2800
Max MTBE Soil :	Not reported
Max MTBE Data :	04/13/98
MTBE Tested :	YES
Suspended :	Not reported
Beneficial :	MUN
Lat/Long :	Not reported
Soil Qualifier:	Not reported
Groundwater Qualifier:	=

Summary: EVIDENCE OF LEAK FOUND BY CALTRANS PRIOR TO STREET WIDENING. NO URF. FURTHER DELINEATION

CORTESE:

Reg By:	LTNKA
Reg Id:	2789.00000
Region:	CORTESE

ORPHAN SUMMARY

City		EDR ID	Site Name	Site Address	Zip	Database(s)	Facility ID
APTOS		S103291480	SCCSD RIO DEL MAR PUMP STATION	CLIFF DR	95060	LUST	
SANTA CRUZ		S103663914	STEPHENSON RANCH	5322 COAST HWY 1	95060	HAZNET	CAL000179564
SANTA CRUZ		S104583100	SANTA CRUZ BIO TECHNOLOGIES	5322 COAST HWY 1	95060	HAZNET	CAL000208918
SANTA CRUZ		S103964749	FORMER CAMP MCQUAIDE	CORNER OF SAN ANDREAS RD / ACADEMY R		HAZNET	CAC001486520
SANTA CRUZ		S102362558	XANTHUS PROPERTY EXEMPTION	LARKIN VALLEY ROAD		SWF/LF	44-AA-0006
SANTA CRUZ		S101482444	STANDARD OIL COMPANY OF CALIFORNIA	108 LOCUST STREET	95060	Cal-Sites	44510009
SANTA CRUZ		S103960055	DAVID WALKER	719 SWIFT ST UNIT 10	95060	HAZNET	CAC001394400
SANTA CRUZ		1001404267	WILDER RANCH BURN DUMP	WILDER RANCH STATE PARK	95060	CERCLIS	
SANTA CRUZ	CA	S101612199	SANTA CRUZ DISPOSAL SITE	HIGHWAY 1 XST DIMEO LN	95060	WMUDS, Ca. WDS	3 440301001

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Elapsed ASTM days: Provides confirmation that this EDR report meets or exceeds the 90-day updating requirement of the ASTM standard.

FEDERAL ASTM STANDARD RECORDS

NPL: National Priority List
Source: EPA
Telephone: N/A
National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC).

Date of Government Version: 06/13/00
Date Made Active at EDR: 07/06/00
Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 06/27/00
Elapsed ASTM days: 9
Date of Last EDR Contact: 11/06/00

DELISTED NPL: NPL Deletions
Source: EPA
Telephone: N/A
The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 06/13/00
Date Made Active at EDR: 07/06/00
Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 06/27/00
Elapsed ASTM days: 9
Date of Last EDR Contact: 11/06/00

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System
Source: EPA
Telephone: 703-413-0223
CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 04/16/00
Date Made Active at EDR: 08/16/00
Database Release Frequency: Quarterly

Date of Data Arrival at EDR: 06/05/00
Elapsed ASTM days: 72
Date of Last EDR Contact: 08/28/00

CERCLIS-NFRAP: No Further Remedial Action Planned
Source: EPA
Telephone: 703-413-0223
As of February 1995, CERCLIS sites designated "No Further Remedial Action Planned" (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration. EPA has removed approximately 25,000 NFRAP sites to lift the unintended barriers to the redevelopment of these properties and has archived them as historical records so EPA does not needlessly repeat the investigations in the future. This policy change is part of the EPA's Brownfields Redevelopment Program to help cities, states, private investors and affected citizens to promote economic redevelopment of unproductive urban sites.

Date of Government Version: 04/16/00
Date Made Active at EDR: 08/16/00
Database Release Frequency: Quarterly

Date of Data Arrival at EDR: 06/05/00
Elapsed ASTM days: 72
Date of Last EDR Contact: 08/28/00

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CORRACTS: Corrective Action Report
Source: EPA
Telephone: 800-424-9346
CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 04/20/00
Date Made Active at EDR: 08/01/00
Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 06/12/00
Elapsed ASTM days: 50
Date of Last EDR Contact: 09/12/00

RCRIS: Resource Conservation and Recovery Information System
Source: EPA/NTIS
Telephone: 800-424-9346
Resource Conservation and Recovery Information System. RCRIS includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA).

Date of Government Version: 06/21/00
Date Made Active at EDR: 07/31/00
Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 07/10/00
Elapsed ASTM days: 21
Date of Last EDR Contact: 11/09/00

ERNS: Emergency Response Notification System
Source: EPA/NTIS
Telephone: 202-260-2342
Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 08/08/00
Date Made Active at EDR: 09/06/00
Database Release Frequency: Quarterly

Date of Data Arrival at EDR: 08/11/00
Elapsed ASTM days: 26
Date of Last EDR Contact: 10/31/00

FEDERAL ASTM SUPPLEMENTAL RECORDS

BRS: Biennial Reporting System
Source: EPA/NTIS
Telephone: 800-424-9346
The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/97
Database Release Frequency: Biennially

Date of Last EDR Contact: 09/18/00
Date of Next Scheduled EDR Contact: 12/18/00

CONSENT: Superfund (CERCLA) Consent Decrees
Source: EPA Regional Offices
Telephone: Varies
Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: N/A
Database Release Frequency: Varies

Date of Last EDR Contact: N/A
Date of Next Scheduled EDR Contact: N/A

ROD: Records Of Decision
Source: NTIS
Telephone: 703-416-0223
Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 01/31/99
Database Release Frequency: Annually

Date of Last EDR Contact: 10/12/00
Date of Next Scheduled EDR Contact: 01/08/01

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

FINDS: Facility Index System/Facility Identification Initiative Program Summary Report
Source: EPA
Telephone: N/A
Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 07/07/00
Database Release Frequency: Quarterly
Date of Last EDR Contact: 10/10/00
Date of Next Scheduled EDR Contact: 01/08/01

HMIRS: Hazardous Materials Information Reporting System
Source: U.S. Department of Transportation
Telephone: 202-366-4526
Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 06/30/99
Database Release Frequency: Annually
Date of Last EDR Contact: 10/24/00
Date of Next Scheduled EDR Contact: 01/22/01

MLTS: Material Licensing Tracking System
Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/23/00
Database Release Frequency: Quarterly
Date of Last EDR Contact: 10/10/00
Date of Next Scheduled EDR Contact: 01/08/01

MINES: Mines Master Index File
Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959

Date of Government Version: 08/01/98
Database Release Frequency: Semi-Annually
Date of Last EDR Contact: 10/02/00
Date of Next Scheduled EDR Contact: 01/01/01

NPL LIENS: Federal Superfund Liens
Source: EPA
Telephone: 205-564-4267
Federal Superfund Liens. Under the authority granted the USEPA by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner receives notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/91
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 08/21/00
Date of Next Scheduled EDR Contact: 11/20/00

PADS: PCB Activity Database System
Source: EPA
Telephone: 202-260-3936
PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 01/01/00
Database Release Frequency: Annually
Date of Last EDR Contact: 08/15/00
Date of Next Scheduled EDR Contact: 11/13/00

RAATS: RCRA Administrative Action Tracking System
Source: EPA
Telephone: 202-564-4104
RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 04/17/95
Database Release Frequency: No Update Planned

Date of Last EDR Contact: 09/12/00
Date of Next Scheduled EDR Contact: 12/11/00

TRIS: Toxic Chemical Release Inventory System
Source: EPA
Telephone: 202-260-1531
Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/97
Database Release Frequency: Annually

Date of Last EDR Contact: 09/25/00
Date of Next Scheduled EDR Contact: 12/25/00

TSCA: Toxic Substances Control Act
Source: EPA
Telephone: 202-260-1444
Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/98
Database Release Frequency: Every 4 Years

Date of Last EDR Contact: 09/12/00
Date of Next Scheduled EDR Contact: 12/11/00

STATE OF CALIFORNIA ASTM STANDARD RECORDS

CAL-SITES (AWP): Annual Workplan
Source: California Environmental Protection Agency
Telephone: 916-323-3400
Known Hazardous Waste Sites. California DTSC's Annual Workplan (AWP), formerly BEP, identifies known hazardous substance sites targeted for cleanup.

Date of Government Version: 03/10/00
Date Made Active at EDR: 05/10/00
Database Release Frequency: Annually

Date of Data Arrival at EDR: 04/10/00
Elapsed ASTM days: 30
Date of Last EDR Contact: 10/31/00

CAL-SITES (ASPIS): Calsites
Source: Department of Toxic Substance Control
Telephone: 916-323-3400
The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database.

Date of Government Version: 07/01/00
Date Made Active at EDR: 09/13/00
Database Release Frequency: Quarterly

Date of Data Arrival at EDR: 08/01/00
Elapsed ASTM days: 43
Date of Last EDR Contact: 09/15/00

CHMIRS: California Hazardous Material Incident Report System
Source: Office of Emergency Services
Telephone: 916-464-3283
California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 12/31/94
Date Made Active at EDR: 04/24/95
Database Release Frequency: No Update Planned

Date of Data Arrival at EDR: 03/13/95
Elapsed ASTM days: 42
Date of Last EDR Contact: 08/28/00

CORTESE: Cortese
Source: CAL EPA/Office of Emergency Information
Telephone: 916-327-1848
The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 04/01/98
Date Made Active at EDR: 09/23/98
Database Release Frequency: Varies

Date of Data Arrival at EDR: 08/26/98
Elapsed ASTM days: 28
Date of Last EDR Contact: 11/03/00

NOTIFY 65: Proposition 65
Source: State Water Resources Control Board
Telephone: 916-657-0696
Proposition 65 Notification Records. NOTIFY 65 contains facility notifications about any release which could impact drinking water and thereby expose the public to a potential health risk.

Date of Government Version: 10/21/93
Date Made Active at EDR: 11/19/93
Database Release Frequency: No Update Planned

Date of Data Arrival at EDR: 11/01/93
Elapsed ASTM days: 18
Date of Last EDR Contact: 10/24/00

TOXIC PITS: Toxic Pits
Source: State Water Resources Control Board
Telephone: 916-227-4364
Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/95
Date Made Active at EDR: 09/26/95
Database Release Frequency: No Update Planned

Date of Data Arrival at EDR: 08/30/95
Elapsed ASTM days: 27
Date of Last EDR Contact: 11/06/00

SWF/LF (SWIS): Solid Waste Information System
Source: Integrated Waste Management Board
Telephone: 916-255-4035
Active, Closed and Inactive Landfills. SWF/LF records typically contain an inventory of solid waste disposal facilities or landfills. These may be active or inactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 09/27/00
Date Made Active at EDR: 10/30/00
Database Release Frequency: Quarterly

Date of Data Arrival at EDR: 09/27/00
Elapsed ASTM days: 33
Date of Last EDR Contact: 09/22/00

WMUDS/SWAT: Waste Management Unit Database
Source: State Water Resources Control Board
Telephone: 916-227-4448
Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/00
Date Made Active at EDR: 05/10/00
Database Release Frequency: Quarterly

Date of Data Arrival at EDR: 04/10/00
Elapsed ASTM days: 30
Date of Last EDR Contact: 09/12/00

LUST: Leaking Underground Storage Tank Information System
Source: State Water Resources Control Board
Telephone: 916-445-6532
Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 07/05/00
Date Made Active at EDR: 08/25/00
Database Release Frequency: Quarterly

Date of Data Arrival at EDR: 07/10/00
Elapsed ASTM days: 46
Date of Last EDR Contact: 10/10/00

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CA UST:

UST: Hazardous Substance Storage Container Database
Source: State Water Resources Control Board
Telephone: 916-227-4408
The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/90
Date Made Active at EDR: 02/12/91
Database Release Frequency: No Update Planned
Date of Data Arrival at EDR: 01/25/91
Elapsed ASTM days: 18
Date of Last EDR Contact: 10/16/00

BEP: Bond Expenditure Plan
Source: Department of Health Services
Telephone: 916-255-2118
Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/89
Date Made Active at EDR: 08/02/94
Database Release Frequency: No Update Planned
Date of Data Arrival at EDR: 07/27/94
Elapsed ASTM days: 6
Date of Last EDR Contact: 05/31/94

FID: Facility Inventory Database
Source: California Environmental Protection Agency
Telephone: 916-445-6532
The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/94
Date Made Active at EDR: 09/29/95
Database Release Frequency: No Update Planned
Date of Data Arrival at EDR: 09/05/95
Elapsed ASTM days: 24
Date of Last EDR Contact: 12/28/98

STATE OF CALIFORNIA ASTM SUPPLEMENTAL RECORDS

AST: Aboveground Petroleum Storage Tank Facilities
Source: State Water Resources Control Board
Telephone: 916-227-4382
Registered Aboveground Storage Tanks.

Date of Government Version: 09/01/00
Database Release Frequency: Quarterly
Date of Last EDR Contact: 11/06/00
Date of Next Scheduled EDR Contact: 02/05/01

WDS: Waste Discharge System
Source: State Water Resources Control Board
Telephone: 916-657-1571
Sites which have been issued waste discharge requirements.

Date of Government Version: 08/21/00
Database Release Frequency: Quarterly
Date of Last EDR Contact: 08/30/00
Date of Next Scheduled EDR Contact: 12/25/00

HAZNET: Hazardous Waste Information System
Source: California Environmental Protection Agency
Telephone: 916-324-1781
Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method.

Date of Government Version: 12/31/99
Database Release Frequency: Annually
Date of Last EDR Contact: 08/15/00
Date of Next Scheduled EDR Contact: 11/13/00

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

LOCAL RECORDS

ALAMEDA COUNTY:

Local Oversight Program Listing of UGT Cleanup Sites
Source: Alameda County Environmental Health Services
Telephone: 510-567-6700

Date of Government Version: 08/01/00
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 10/31/00
Date of Next Scheduled EDR Contact: 01/29/01

Underground Tanks
Source: Alameda County Environmental Health Services
Telephone: 510-567-6700

Date of Government Version: 08/01/00
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 10/31/00
Date of Next Scheduled EDR Contact: 01/29/01

CONTRA COSTA COUNTY:

SL: Site List
Source: Contra Costa Health Services Department
Telephone: 925-646-2286
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 05/08/00
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 09/05/00
Date of Next Scheduled EDR Contact: 12/04/00

KERN COUNTY:

UST: Sites & Tanks Listing
Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Kern County Sites and Tanks Listing.

Date of Government Version: 06/09/99
Database Release Frequency: Quarterly

Date of Last EDR Contact: 09/05/00
Date of Next Scheduled EDR Contact: 12/04/00

LOS ANGELES COUNTY:

SWF/LF: List of Solid Waste Facilities
Source: La County Department of Public Works
Telephone: 818-458-5185

Date of Government Version: 09/16/98
Database Release Frequency: Varies

Date of Last EDR Contact: 08/23/00
Date of Next Scheduled EDR Contact: 11/20/00

CA City of El Segundo UST
Source: City of El Segundo Fire Department
Telephone: 310-607-2239

Date of Government Version: 02/01/00
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 08/21/00
Date of Next Scheduled EDR Contact: 11/20/00

CA City of Long Beach UST
Source: City of Long Beach Fire Department
Telephone: 562-570-2543

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/01/99
Database Release Frequency: Annually

Date of Last EDR Contact: 08/28/00
Date of Next Scheduled EDR Contact: 11/27/00

CA City of Torrance UST
Source: City of Torrance Fire Department
Telephone: 310-618-2973

Date of Government Version: 02/01/00
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 08/21/00
Date of Next Scheduled EDR Contact: 11/20/00

City of Los Angeles Landfills
Source: Engineering & Construction Division
Telephone: 213-473-7869

Date of Government Version: 08/31/99
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 09/22/00
Date of Next Scheduled EDR Contact: 12/18/00

HMS: Street Number List
Source: Department of Public Works
Telephone: 626-458-3517
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 04/27/99
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 08/25/00
Date of Next Scheduled EDR Contact: 11/20/00

Site Mitigation List
Source: Community Health Services
Telephone: 323-890-7806
Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 06/02/00
Database Release Frequency: Annually

Date of Last EDR Contact: 08/21/00
Date of Next Scheduled EDR Contact: 11/20/00

San Gabriel Valley Areas of Concern
Source: EPA Region 9
Telephone: 415-744-2407
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 12/31/98
Database Release Frequency: N/A

Date of Last EDR Contact: 06/29/99
Date of Next Scheduled EDR Contact: N/A

MARIN COUNTY:

UST Sites
Source: Public Works Department Waste Management
Telephone: 415-499-6647
Currently permitted USTs in Marin County.

Date of Government Version: 08/08/00
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 11/06/00
Date of Next Scheduled EDR Contact: 02/05/01

NAPA COUNTY:

LUST: Sites With Reported Contamination
Source: Napa County Department of Environmental Management
Telephone: 707-253-4269

Date of Government Version: 08/27/99
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 10/03/00
Date of Next Scheduled EDR Contact: 01/01/01

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

UST: Closed and Operating Underground Storage Tank Sites
Source: Napa County Department of Environmental Management
Telephone: 707-253-4269

Date of Government Version: 08/30/99
Database Release Frequency: Annually

Date of Last EDR Contact: 10/03/00
Date of Next Scheduled EDR Contact: 01/01/01

ORANGE COUNTY:

LUST: List of Underground Storage Tank Cleanups
Source: Health Care Agency
Telephone: 714-834-3446
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 06/02/00
Database Release Frequency: Quarterly

Date of Last EDR Contact: 09/12/00
Date of Next Scheduled EDR Contact: 12/11/00

UST: List of Underground Storage Tank Facilities
Source: Health Care Agency
Telephone: 714-834-3446
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 06/02/00
Database Release Frequency: Quarterly

Date of Last EDR Contact: 09/12/00
Date of Next Scheduled EDR Contact: 12/11/00

List of Industrial Site Cleanups
Source: Health Care Agency
Telephone: 714-834-3446
Petroleum and non-petroleum spills.

Date of Government Version: 01/19/99
Database Release Frequency: Annually

Date of Last EDR Contact: 09/12/00
Date of Next Scheduled EDR Contact: 12/11/00

PLACER COUNTY:

MS: Master List of Facilities
Source: Placer County Health and Human Services
Telephone: 530-889-7335
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 07/18/00
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 09/25/00
Date of Next Scheduled EDR Contact: 12/25/00

RIVERSIDE COUNTY:

LUST: Listing of Underground Tank Cleanup Sites
Source: Department of Public Health
Telephone: 909-358-5055
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 04/03/00
Database Release Frequency: Quarterly

Date of Last EDR Contact: 11/01/00
Date of Next Scheduled EDR Contact: 01/22/01

UST: Tank List
Source: Health Services Agency
Telephone: 909-358-5055

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 08/01/00
Database Release Frequency: Quarterly

Date of Last EDR Contact: 11/01/00
Date of Next Scheduled EDR Contact: 01/22/01

SACRAMENTO COUNTY:

Toxisite List
Source: Sacramento County Environmental Management
Telephone: 916-875-8450

Date of Government Version: 08/30/00
Database Release Frequency: Quarterly

Date of Last EDR Contact: 11/07/00
Date of Next Scheduled EDR Contact: 02/05/01

ML: Regulatory Compliance Master List
Source: Sacramento County Environmental Management
Telephone: 916-875-8450
Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 08/30/00
Database Release Frequency: Quarterly

Date of Last EDR Contact: 11/07/00
Date of Next Scheduled EDR Contact: 02/05/01

SAN BERNARDINO COUNTY:

DEHS Permit System Print-Out By Location
Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 07/01/00
Database Release Frequency: Quarterly

Date of Last EDR Contact: 09/12/00
Date of Next Scheduled EDR Contact: 12/11/00

SAN DIEGO COUNTY:

SWF/LF: Solid Waste Facilities
Source: Department of Health Services
Telephone: 619-338-2209
San Diego County Solid Waste Facilities.

Date of Government Version: 07/01/98
Database Release Frequency: Annually

Date of Last EDR Contact: 08/31/00
Date of Next Scheduled EDR Contact: 11/27/00

HMMD: Hazardous Materials Management Division Database
Source: Hazardous Materials Management Division
Telephone: 619-338-2268
The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 07/09/00
Database Release Frequency: Quarterly

Date of Last EDR Contact: 10/10/00
Date of Next Scheduled EDR Contact: 01/08/01

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SAN FRANCISCO COUNTY:

LUST: Local Oversite Facilities
Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920

Date of Government Version: 09/01/00
Database Release Frequency: Quarterly

Date of Last EDR Contact: 09/12/00
Date of Next Scheduled EDR Contact: 12/11/00

Underground Storage Tank Information
Source: Department of Public Health
Telephone: 415-252-3920

Date of Government Version: 06/13/00
Database Release Frequency: Quarterly

Date of Last EDR Contact: 09/12/00
Date of Next Scheduled EDR Contact: 12/11/00

SAN MATEO COUNTY:

LUST: Fuel Leak List
Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921

Date of Government Version: 04/05/00
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 10/11/00
Date of Next Scheduled EDR Contact: 01/29/01

Business Inventory
Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 06/24/99
Database Release Frequency: Annually

Date of Last EDR Contact: 10/17/00
Date of Next Scheduled EDR Contact: 01/15/01

SANTA CLARA COUNTY:

LUST: Fuel Leak Site Activity Report
Source: Santa Clara Valley Water District
Telephone: 408-927-0710

Date of Government Version: 07/01/00
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 10/03/00
Date of Next Scheduled EDR Contact: 01/01/01

Hazmat Facilities
Source: City of San Jose Fire Department
Telephone: 408-277-4659

Date of Government Version: 03/20/00
Database Release Frequency: Quarterly

Date of Last EDR Contact: 09/12/00
Date of Next Scheduled EDR Contact: 12/11/00

SOLANO COUNTY:

LUST: Leaking Undergroung Storage Tanks
Source: Solano County Department of Environmental Management
Telephone: 707-421-6770

Date of Government Version: 09/01/00
Database Release Frequency: Quarterly

Date of Last EDR Contact: 09/18/00
Date of Next Scheduled EDR Contact: 12/18/00

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

UST: Underground Storage Tanks
Source: Solano County Department of Environmental Management
Telephone: 707-421-6770

Date of Government Version: 09/01/00
Database Release Frequency: Quarterly

Date of Last EDR Contact: 09/18/00
Date of Next Scheduled EDR Contact: 12/18/00

SONOMA COUNTY:

LUST Sites
Source: Department of Health Services
Telephone: 707-525-6565

Date of Government Version: 05/16/00
Database Release Frequency: Quarterly

Date of Last EDR Contact: 10/30/00
Date of Next Scheduled EDR Contact: 01/29/01

SUTTER COUNTY:

UST: Underground Storage Tanks
Source: Sutter County Department of Agriculture
Telephone: 530-741-7504

Date of Government Version: 07/01/00
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 10/10/00
Date of Next Scheduled EDR Contact: 01/08/01

VENTURA COUNTY:

SWF/LF: Inventory of Illegal Abandoned and Inactive Sites
Source: Environmental Health Division
Telephone: 805-654-2813
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 06/01/99
Database Release Frequency: Annually

Date of Last EDR Contact: 08/17/00
Date of Next Scheduled EDR Contact: 11/27/00

LUST: Listing of Underground Tank Cleanup Sites
Source: Environmental Health Division
Telephone: 805-654-2813
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 02/24/00
Database Release Frequency: Quarterly

Date of Last EDR Contact: 09/18/00
Date of Next Scheduled EDR Contact: 12/18/00

UST: Underground Tank Closed Sites List
Source: Environmental Health Division
Telephone: 805-654-2813
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 04/24/00
Database Release Frequency: Quarterly

Date of Last EDR Contact: 10/17/00
Date of Next Scheduled EDR Contact: 01/15/01

BWT: Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 09/06/00
Database Release Frequency: Quarterly

Date of Last EDR Contact: 09/18/99
Date of Next Scheduled EDR Contact: 12/18/00

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report
Source: Yolo County Department of Health
Telephone: 530-666-8646

Date of Government Version: 07/07/00
Database Release Frequency: Annually

Date of Last EDR Contact: 10/23/00
Date of Next Scheduled EDR Contact: 01/22/01

California Regional Water Quality Control Board (RWQCB) LUST Records

LUST REG 1: Active Toxic Site Investigation
Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-576-2220

Date of Government Version: 08/01/00
Database Release Frequency: Quarterly

Date of Last EDR Contact: 08/31/00
Date of Next Scheduled EDR Contact: 11/27/00

LUST REG 2: Fuel Leak List
Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457

Date of Government Version: 06/01/00
Database Release Frequency: Quarterly

Date of Last EDR Contact: 10/16/00
Date of Next Scheduled EDR Contact: 01/15/00

LUST REG 3: LUSTIS Database
Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147

Date of Government Version: 08/01/00
Database Release Frequency: Quarterly

Date of Last EDR Contact: 08/21/00
Date of Next Scheduled EDR Contact: 11/20/00

LUST REG 4: Underground Storage Tank Leak List
Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-266-6600

Date of Government Version: 05/16/00
Database Release Frequency: Quarterly

Date of Last EDR Contact: 10/03/00
Date of Next Scheduled EDR Contact: 01/01/01

LUST REG 5: Leaking Underground Storage Tank Database
Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-255-3125

Date of Government Version: 07/20/00
Database Release Frequency: Quarterly

Date of Last EDR Contact: 10/10/00
Date of Next Scheduled EDR Contact: 01/08/01

LUST REG 6L: Leaking Underground Storage Tank Case Listing
Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 916-542-5424

Date of Government Version: 10/01/00
Database Release Frequency: Quarterly

Date of Last EDR Contact: 10/10/00
Date of Next Scheduled EDR Contact: 01/08/01

LUST REG 6V: Leaking Underground Storage Tank Case Listing
Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-346-7491

Date of Government Version: 07/01/00
Database Release Frequency: Quarterly

Date of Last EDR Contact: 10/10/00
Date of Next Scheduled EDR Contact: 01/08/01

LUST REG 7: Leaking Underground Storage Tank Case Listing
Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-346-7491

Date of Government Version: 07/20/00
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 10/03/00
Date of Next Scheduled EDR Contact: 01/01/01

LUST REG 8: (LUSTIS) Leaking Underground Storage Tanks
Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4498

Date of Government Version: 05/10/00
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 09/12/00
Date of Next Scheduled EDR Contact: 11/13/00

LUST REG 9: Leaking Underground Storage Tank Report
Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 619-467-2952

Date of Government Version: 06/28/00
Database Release Frequency: Quarterly

Date of Last EDR Contact: 10/23/00
Date of Next Scheduled EDR Contact: 01/22/01

California Regional Water Quality Control Board (RWQCB) SLIC Records

SLIC REG 1: Active Toxic Site Investigations
Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220

Date of Government Version: 08/01/00
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 08/31/00
Date of Next Scheduled EDR Contact: 11/27/00

SLIC REG 2: North and South Bay Slic Report
Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Any contaminated site that impacts groundwater or has the potential to impact groundwater.

Date of Government Version: 04/01/00
Database Release Frequency: Quarterly

Date of Last EDR Contact: 10/16/00
Date of Next Scheduled EDR Contact: 01/15/01

SLIC REG 3: SLIC Data
Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Any contaminated site that impacts groundwater or has the potential to impact groundwater.

Date of Government Version: 08/01/00
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 08/21/00
Date of Next Scheduled EDR Contact: 11/20/00

SLIC REG 4: SLIC Sites
Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Any contaminated site that impacts groundwater or has the potential to impact groundwater.

Date of Government Version: 08/01/00
Database Release Frequency: Quarterly

Date of Last EDR Contact: 10/31/00
Date of Next Scheduled EDR Contact: 01/29/01

SLIC REG 5: SLIC List
Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-855-3075
Unregulated sites that impact groundwater or have the potential to impact groundwater.

Date of Government Version: 10/04/00
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 10/10/00
Date of Next Scheduled EDR Contact: 01/08/00

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583

Date of Government Version: 12/01/98
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 10/12/00
Date of Next Scheduled EDR Contact: 01/08/01

SLIC REG 8: SLIC List
Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-3298

Date of Government Version: 06/01/00
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 10/11/00
Date of Next Scheduled EDR Contact: 01/08/01

SLIC REG 9: SLIC List
Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980

Date of Government Version: 06/01/00
Database Release Frequency: Annually

Date of Last EDR Contact: 09/05/00
Date of Next Scheduled EDR Contact: 12/04/00

EDR PROPRIETARY DATABASES

Former Manufactured Gas (Coal Gas) Sites: The existence and location of Coal Gas sites is provided exclusively to EDR by Real Property Scan, Inc. ©Copyright 1993 Real Property Scan, Inc. For a technical description of the types of hazards which may be found at such sites, contact your EDR customer service representative.

HISTORICAL AND OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

Oil/Gas Pipelines/Electrical Transmission Lines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines and electrical transmission lines.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 1999 from the U.S. Fish and Wildlife Service.

GEOCHECK®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

NATURAL BRIDGES ELEMENTARY SCHOOL
255 SWIFT SCHOOL
SANTA CRUZ, CA 95060

TARGET PROPERTY COORDINATES

Latitude (North):	36.953800 - 36° 57' 13.7"
Longitude (West):	122.048599 - 122° 2' 55.0"
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	584706.2
UTM Y (Meters):	4089967.0

EDR's GeoCheck Physical Setting Source Addendum has been developed to assist the environmental professional with the collection of physical setting source information in accordance with ASTM 1527-00, Section 7.2.3. Section 7.2.3 requires that a current USGS 7.5 Minute Topographic Map (or equivalent, such as the USGS Digital Elevation Model) be reviewed. It also requires that one or more additional physical setting sources be sought when (1) conditions have been identified in which hazardous substances or petroleum products are likely to migrate to or from the property, and (2) more information than is provided in the current USGS 7.5 Minute Topographic Map (or equivalent) is generally obtained, pursuant to local good commercial or customary practice, to assess the impact of migration of recognized environmental conditions in connection with the property. Such additional physical setting sources generally include information about the topographic, hydrologic, hydrogeologic, and geologic characteristics of a site, and wells in the area.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata. EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

USGS TOPOGRAPHIC MAP ASSOCIATED WITH THIS SITE

Target Property: 2436122-H1 SANTA CRUZ, CA
Source: USGS 7.5 min quad index

GENERAL TOPOGRAPHIC GRADIENT AT TARGET PROPERTY

Target Property: General SSE

Source: General Topographic Gradient has been determined from the USGS 1 Degree Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Q3 Flood Data Electronic Coverage
SANTA CRUZ, CA	YES

Flood Plain Panel at Target Property:	0603550003B / CBPP
Additional Panels in search area:	0603530350B / CBPP
	0603550004C / CBPP
	0603530335B / CBPP

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Coverage
NOT AVAILABLE	NO

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Site-Specific Hydrogeological Data:*
Search Radius: 2.0 miles
Status: Not found

AQUIFLOW®

Search Radius: 2.000 Miles.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

GEOLOGIC AGE IDENTIFICATION

Geologic Code: Tm
Era: Cenozoic
System: Tertiary
Series: Miocene

ROCK STRATIGRAPHIC UNIT

Category: Stratified Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Component Name: WATSONVILLE

Soil Surface Texture: loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Somewhat poorly. Soils commonly have a layer with low hydraulic conductivity, wet state high in profile, etc. Depth to water table is 1 to 3 feet.

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: HIGH

Depth to Bedrock Min: > 60 inches

Depth to Bedrock Max: > 60 inches

Soil Layer Information

	Boundary			Classification		
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)
1	0 inches	18 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 2.00 Min: 0.60
2	18 inches	39 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 0.06 Min: 0.00
3	39 inches	63 inches	sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	COURSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand.	Max: 0.20 Min: 0.06

OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures: sandy loam
loamy sand
clay
gravelly - sandy loam
unweathered bedrock

Surficial Soil Types: sandy loam
loamy sand
clay

	gravelly - sandy loam
	unweathered bedrock
Shallow Soil Types:	clay
	gravelly - sandy clay loam
	silty clay
	silt loam
	gravelly - coarse sandy loam
	loamy sand
Deeper Soil Types:	stratified
	weathered bedrock
	loam
	fine sand
	sandy loam
	very fine sandy loam
	unweathered bedrock

ADDITIONAL ENVIRONMENTAL RECORD SOURCES

According to ASTM E 1527-00, Section 7.2.2, "one or more additional state or local sources of environmental records may be checked, in the discretion of the environmental professional, to enhance and supplement federal and state sources... Factors to consider in determining which local or additional state records, if any, should be checked include (1) whether they are reasonably ascertainable, (2) whether they are sufficiently useful, accurate, and complete in light of the objective of the records review (see 7.1.1), and (3) whether they are obtained, pursuant to local, good commercial or customary practice." One of the record sources listed in Section 7.2.2 is water well information. Water well information can be used to assist the environmental professional in assessing sources that may impact groundwater flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	365700122035301	1/2 - 1 Mile WSW

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

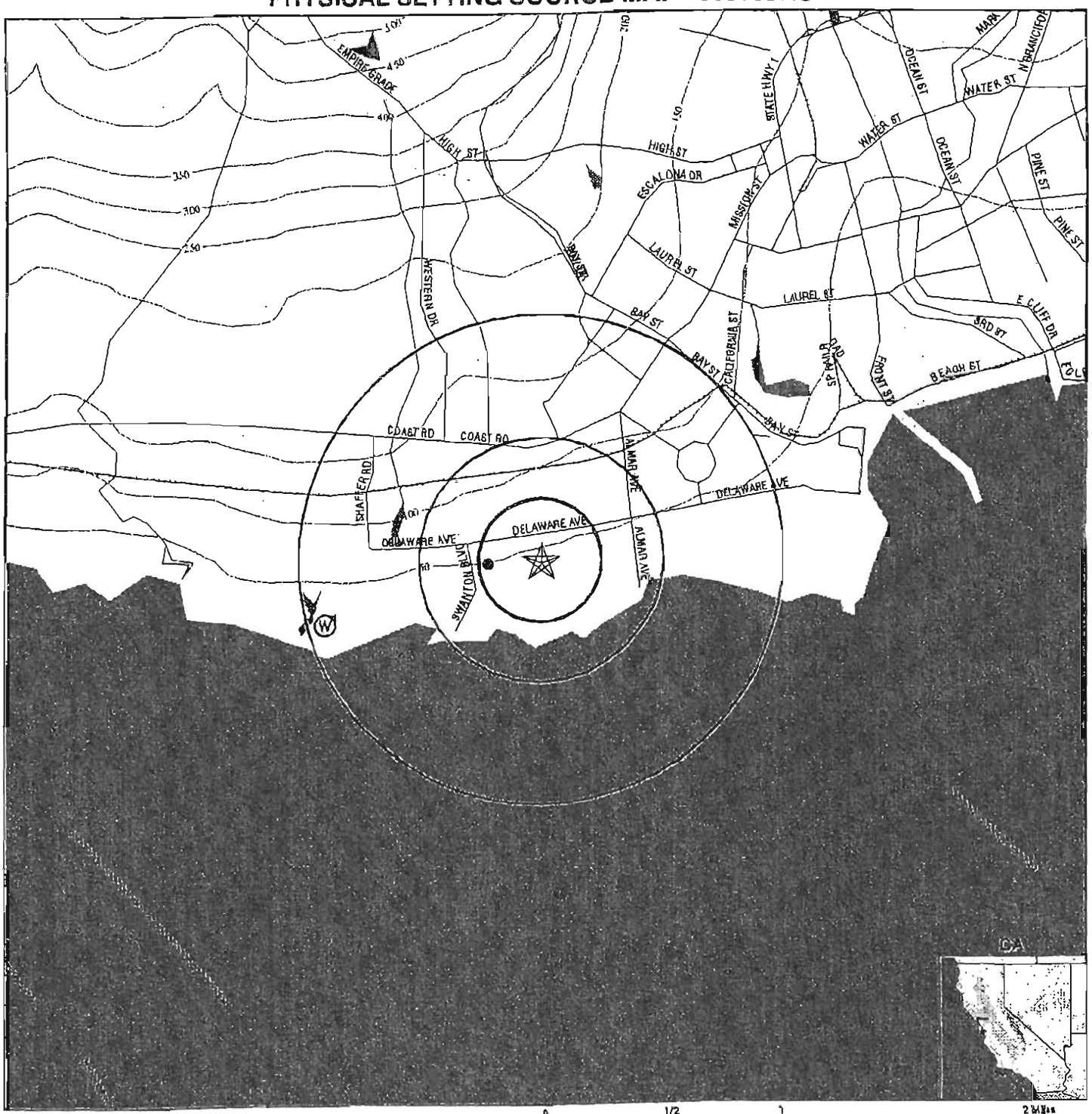
STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

STATE OIL/GAS WELL INFORMATION

DISTANCE FROM TP (Miles)	DISTANCE FROM TP (Miles)
1/8 - 1/4 Mile West	

PHYSICAL SETTING SOURCE MAP - 565109.4s



- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Water Wells
- Public Water Supply Wells
- Groundwater Flow Direction
- Indeterminate Groundwater Flow at Location
- Groundwater Flow Varies at Location
- Cluster of Multiple Icons
- Earthquake epicenter, Richter 5 or greater
- Closest Hydrogeological Data
- Oil, gas or related wells

TARGET PROPERTY:	Natural Bridges Elementary School	CUSTOMER:	Weber, Hayes, & Associates
ADDRESS:	255 Swift School	CONTACT:	Pat Hoban
CITY/STATE/ZIP:	Santa Cruz CA 95060	INQUIRY #:	565109.4s
LAT/LONG:	36.9538 / 122.0486	DATE:	November 17, 2000 2:16 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation		Database	EDR ID Number
1 WSW 1/2 - 1 Mile Lower		FED USGS	365700122035301

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	Not Reported	County:	Santa Cruz
Altitude:	40.00 ft.	State:	California
Well Depth:	Not Reported	Topographic Setting:	Not Reported
Depth to Water Table:	Not Reported	Prim. Use of Site:	Not Reported
Date Measured:	Not Reported	Prim. Use of Water:	Not Reported

OTHER STATE DATABASE INFORMATION

West
1/8 - 1/4 Mile

CA OIL/GAS R3 CAR3010270

Well Number:	1	Status:	Plugged and abandoned-dry hole
API Number:	08700031	Operator:	SWANTON IMPROVEMENT CO
Latitude:	36.953603000	Longitude:	-122.052444000
Region:	3	Lease:	Not Reported
Section:	23	Township:	11S
Range:	02W	Map Number:	W3-10
Base and Meridian:	Mo	Total Depth:	712
Field:	SANTA CRUZ CO		
Remark:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

Federal EPA Radon Zone for SANTA CRUZ County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Zip Code: 95060

Number of sites tested: 1

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	4.800 pCi/L	0%	100%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 1999 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW[R] Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the national Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

ADDITIONAL ENVIRONMENTAL RECORD SOURCES

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-260-2805
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-260-2805
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: In November 1971 the United States Geological Survey (USGS) implemented a national water resource information tracking system. This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on more than 900,000 wells, springs, and other sources of groundwater.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STATE RECORDS

California Drinking Water Quality Database
Source: Department of Health Services
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

California Oil and Gas Well Locations for District 2 and 6
Source: Department of Conservation
Telephone: 916-323-1779

RADON

Area Radon Information: The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones: Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

The EDR-Historical Topographic Map Report

Inquiry Number:
565109-6

Environmental Data Resources, Inc.
an edr company

The Source For Environmental Risk Management Data

3530 Post Road
Southport, Connecticut 06490

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802

Environmental Data Resources, Inc.
Historical Topographic Map Report

Environmental Data Resources, Inc.'s (EDR) Historical Topographic Map Report is designed to assist professionals in evaluating potential liability on a target property, and its surrounding area, resulting from past activities. ASTM E 1527-00, Section 7.3 on Historical Use Information, identifies the prior use requirements for a Phase I environmental site assessment. The ASTM standard requires a review of *reasonably ascertainable standard historical sources. Reasonably ascertainable is defined as information that is publicly available, obtainable from a source with reasonable time and cost constraints, and practically reviewable.*

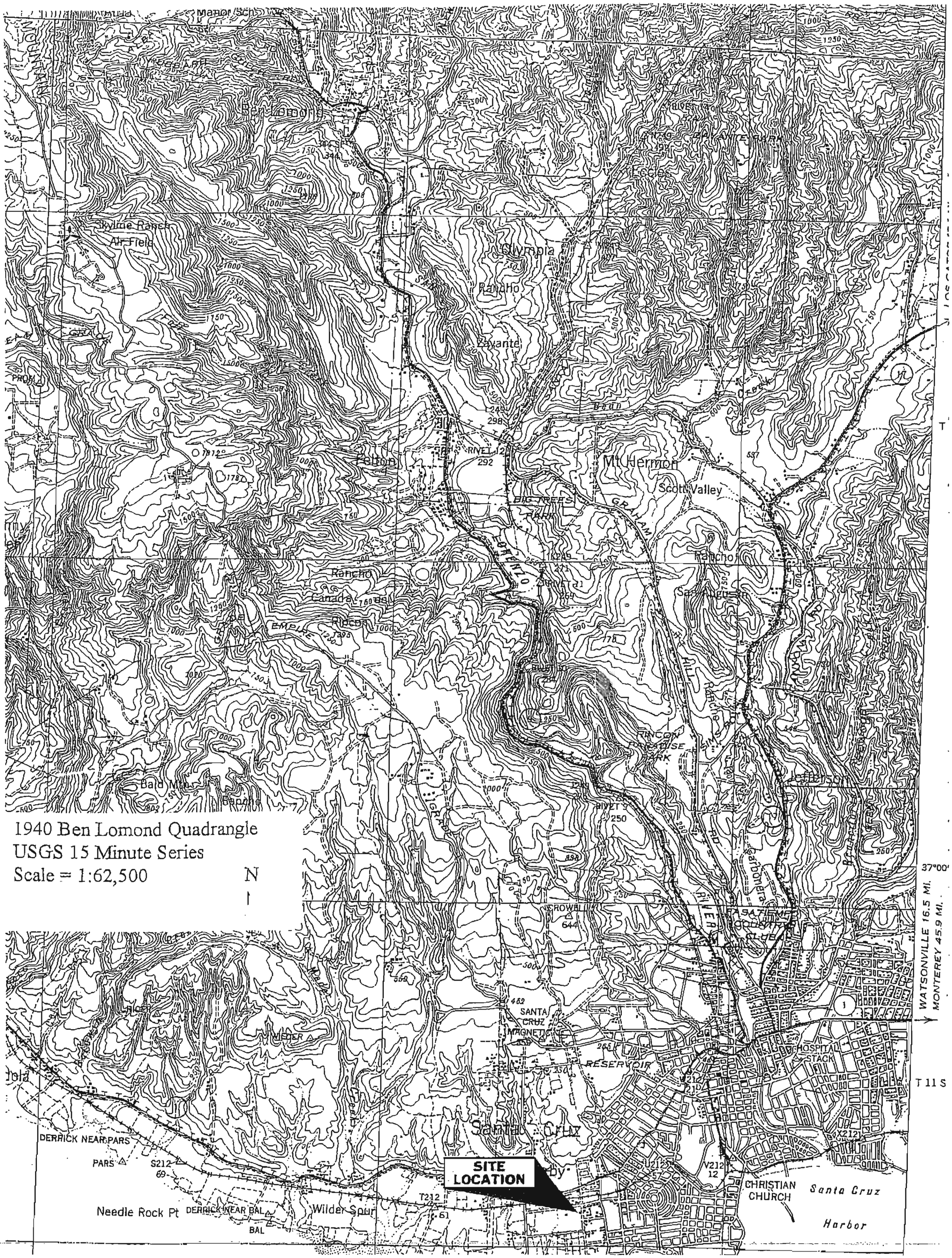
To meet the prior use requirements of ASTM E 1527-00, Section 7.3.2, the following *standard historical sources* may be used: aerial photographs, city directories, fire insurance maps, topographic maps, property tax files, land title records (although these cannot be the sole historical source consulted), building department records, or zoning/and use records. ASTM E 1527-00 requires *"All obvious uses of the property shall be identified from the present, back to the property's obvious first developed use, or back to 1940, whichever is earlier. This task requires reviewing only as many of the standard historical sources as are necessary, and that are reasonably ascertainable and likely to be useful."* (ASTM E 1527-00, Section 7.3.2 page 11.)

EDR's Historical Topographic Map Report includes a search of available public and private color historical topographic map collections.

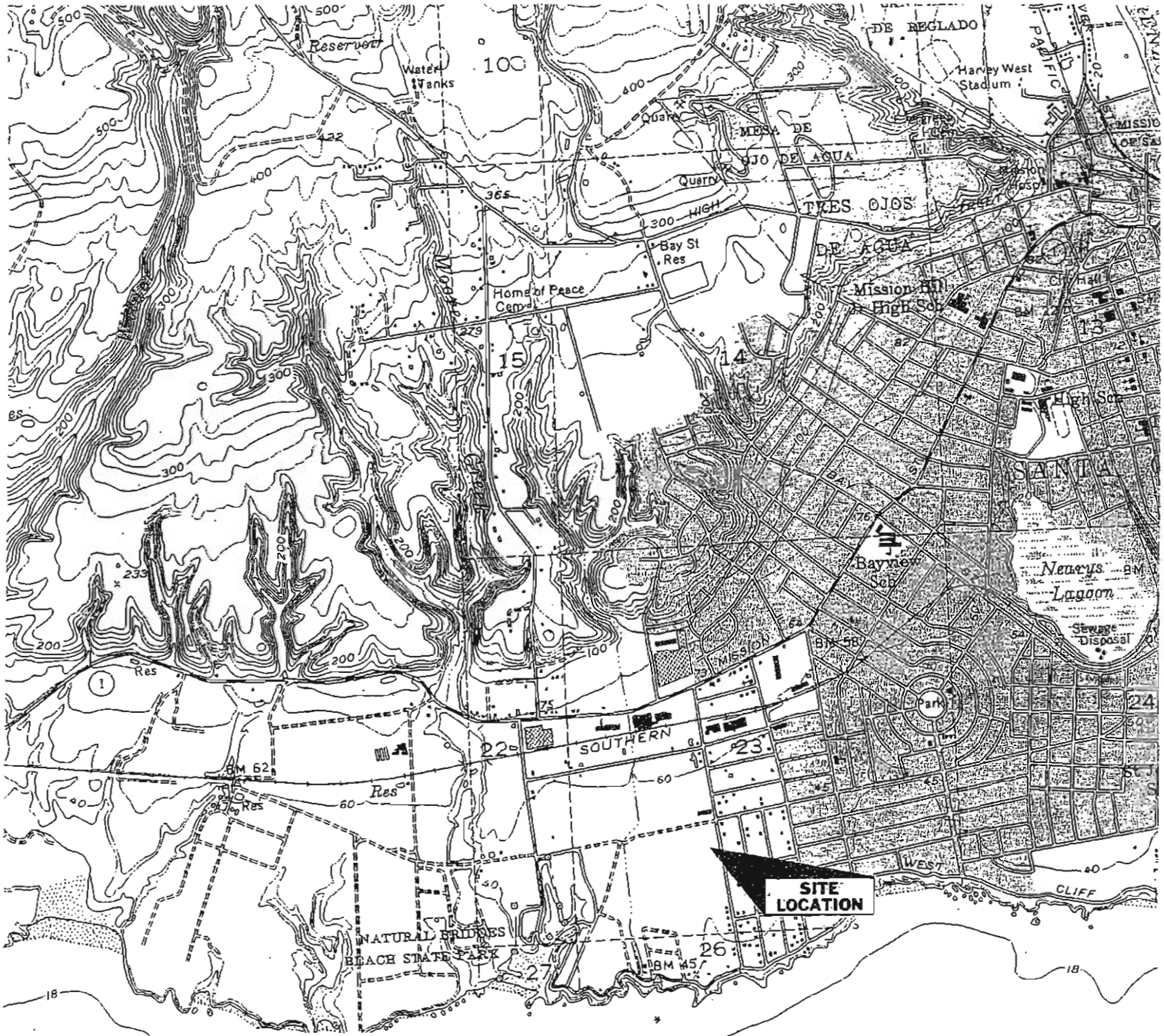
Topographic Maps

A topographic map (topo) is a color coded line-and-symbol representation of natural and selected artificial features plotted to a scale. Topos show the shape, elevation, and development of the terrain in precise detail by using contour lines and color coded symbols. Many features are shown by lines that may be straight, curved, solid, dashed, dotted, or in any combination. The colors of the lines usually indicate similar classes of information. For example, topographic contours (brown); lakes, streams, irrigation ditches, etc. (blue); land grids and important roads (red); secondary roads and trails, railroads, boundaries, etc. (black); and features that have been updated using aerial photography, but not field verified, such as disturbed land areas (e.g., gravel pits) and newly developed water bodies (purple).

For more than a century, the USGS has been creating and revising topographic maps for the entire country at a variety of scales. There are about 60,000 U.S. Geological Survey (USGS) produced topo maps covering the United States. Each map covers a specific quadrangle (quad) defined as a four-sided area bounded by latitude and longitude. Historical topographic maps are a valuable historical resource for documenting the prior use of a property and its surrounding area, and due to their frequent availability can be particularly helpful when other standard historical sources (such as city directories, fire insurance maps, or aerial photographs) are not reasonably ascertainable.

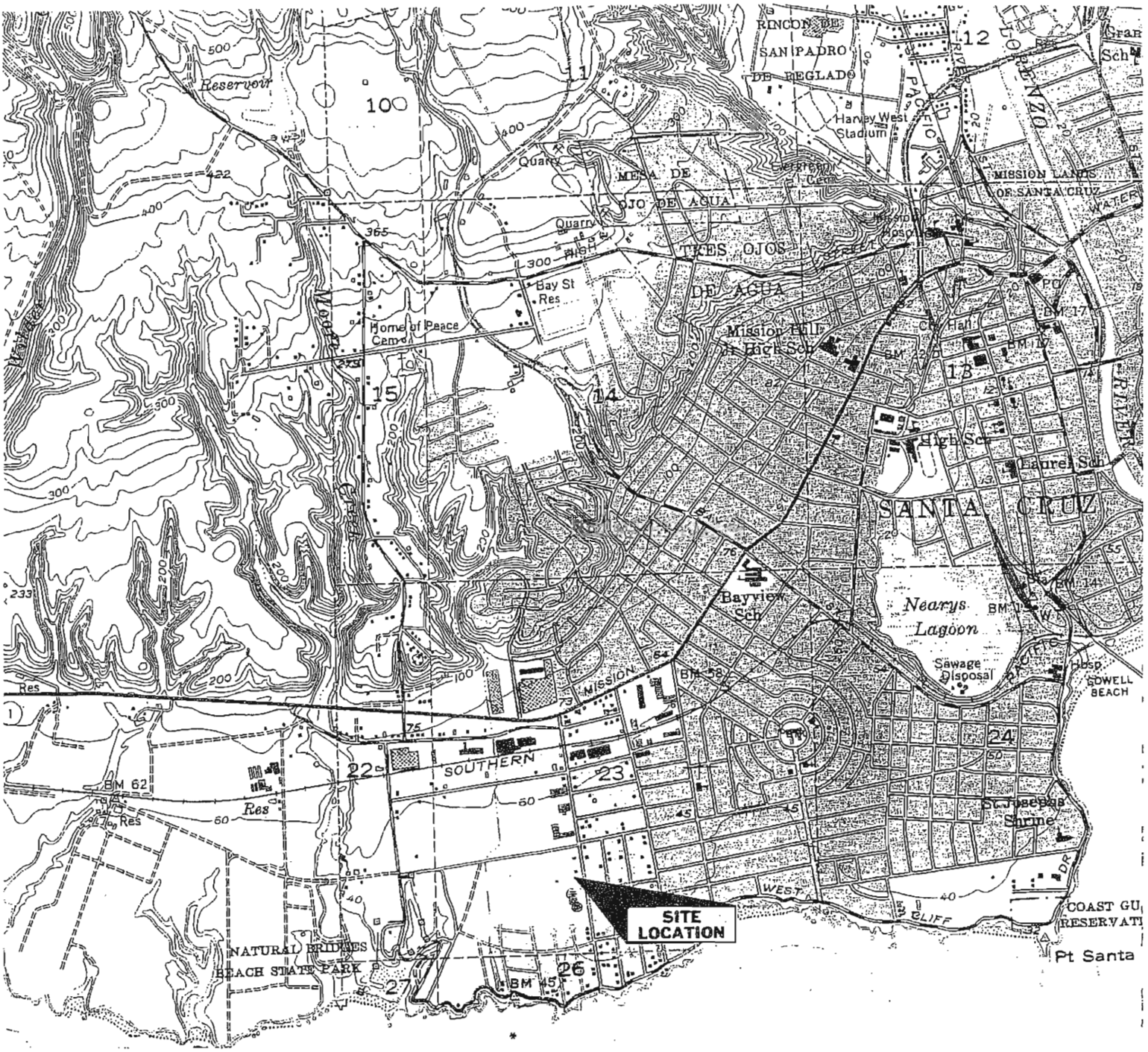


1940 Ben Lomond Quadrangle
USGS 15 Minute Series
Scale = 1:62,500
N



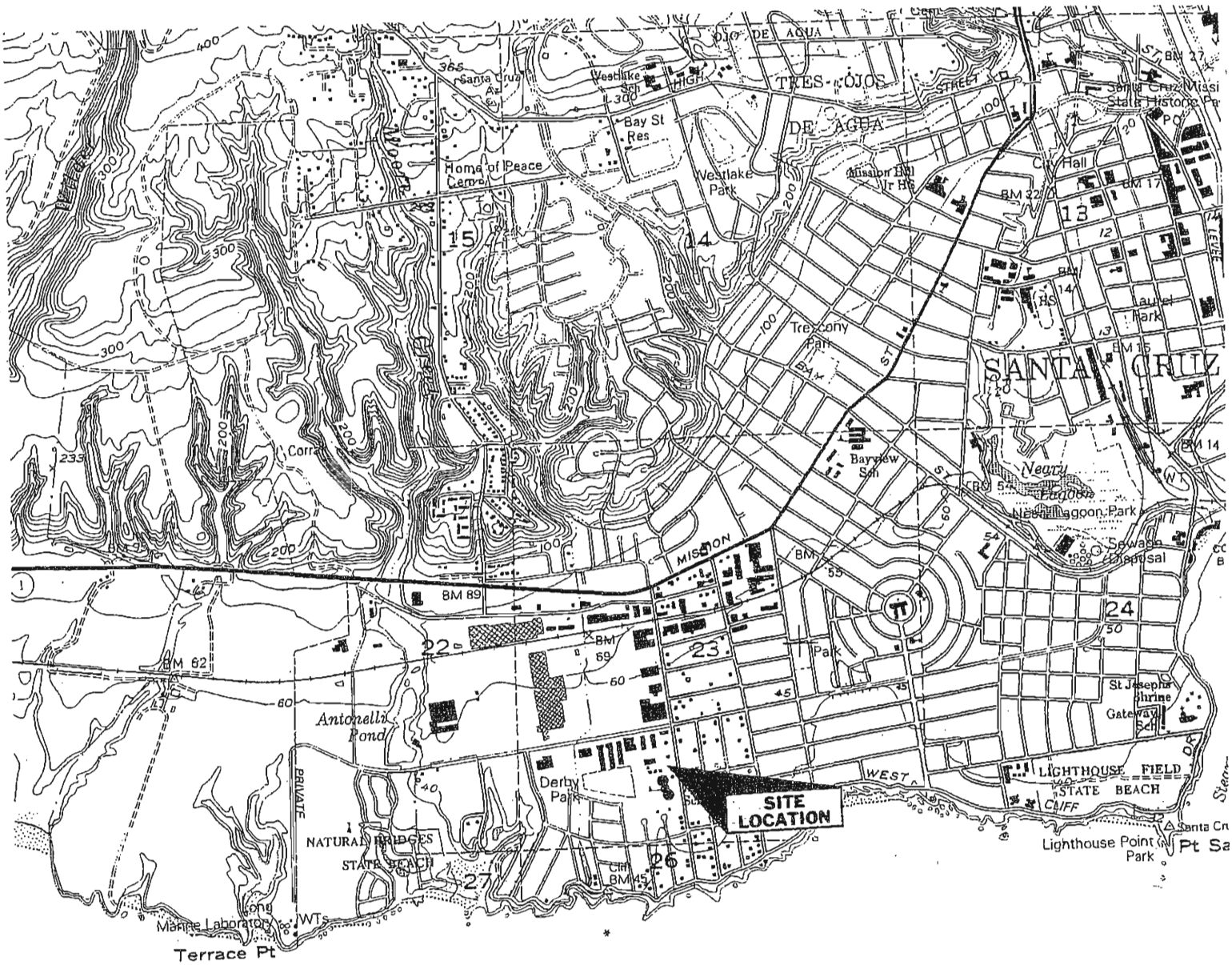
1954 Santa Cruz Quadrangle
USGS 7.5 Minute Series
Scale = 1:24,000

N



1968 Soquel Quadrangle
(photorevised 1968)
USGS 7.5 Minute Series N
Scale = 1:24,000

1981 Soquel Quadrangle
(photorevised 1981)
USGS 7.5 Minute Series N
Scale = 1:24,000



1994 Soquel Quadrangle
(photorevised 1994)
USGS 7.5 Minute Series N
Scale = 1:24,000

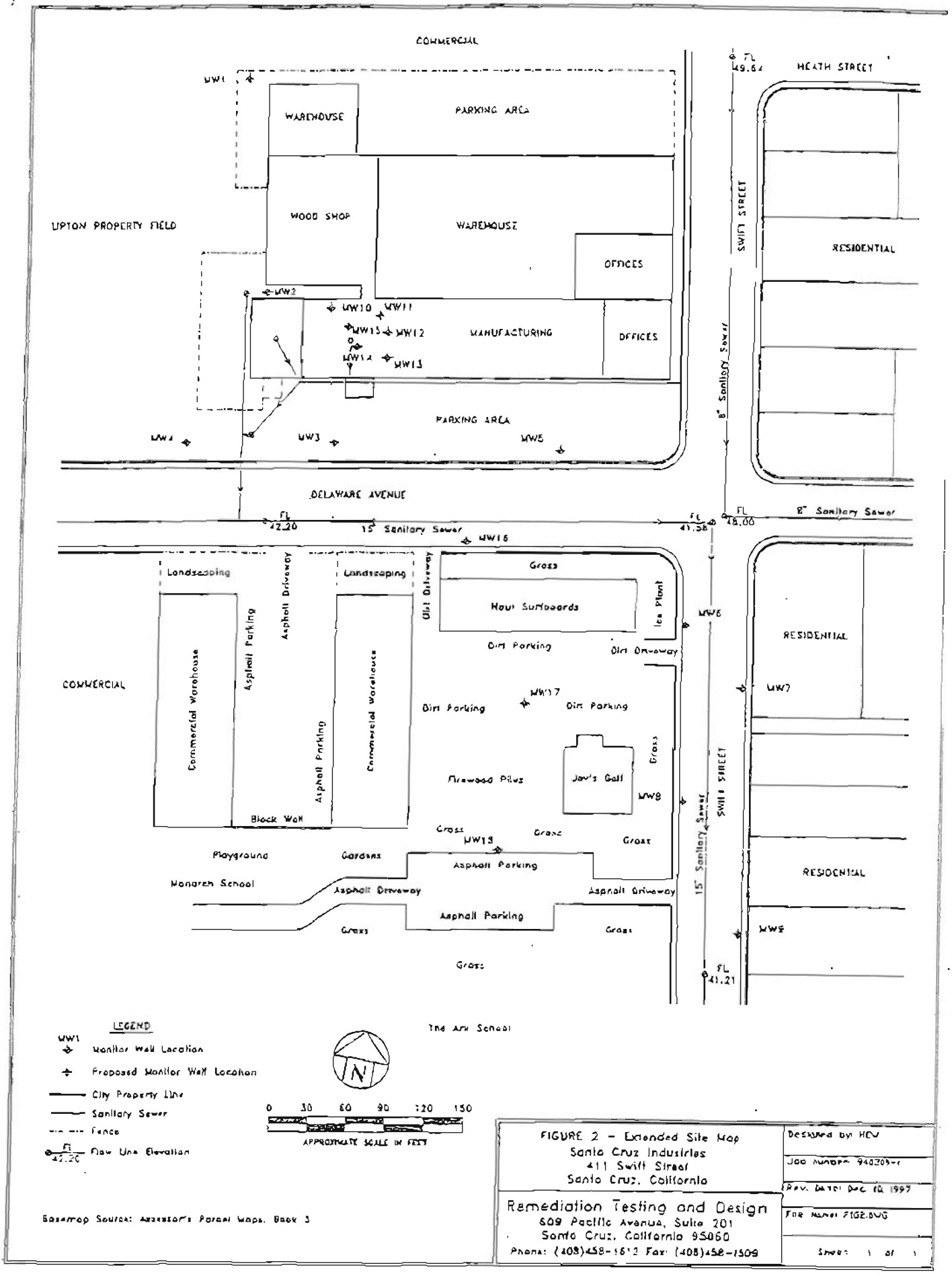
A

APPENDIX C

OFF-SITE INFORMATION

DATA FROM LOCAL REGULATORY FILES SEARCH

Site Map, Groundwater Contours June 11, 2000, Total VOC's June 11, 2000, Total VOC's June 1998, *Total VOC's May 1996*
(August 3, 2000, by RTD)



Basemap Source: Assessor's Parcel Maps, Book 3

FIGURE 2 - Extended Site Map
Santa Cruz Industries
411 Swift Street
Santa Cruz, California

Designed by HCV
Job Number 940309-1
Rev. Date: Dec 10, 1997
File Name: FIG2-SUS
Sheet 1 of 1

Remediation Testing and Design
609 Pacific Avenue, Suite 201
Santa Cruz, California 95060
Phone: (408)458-1612 Fax: (408)458-1509

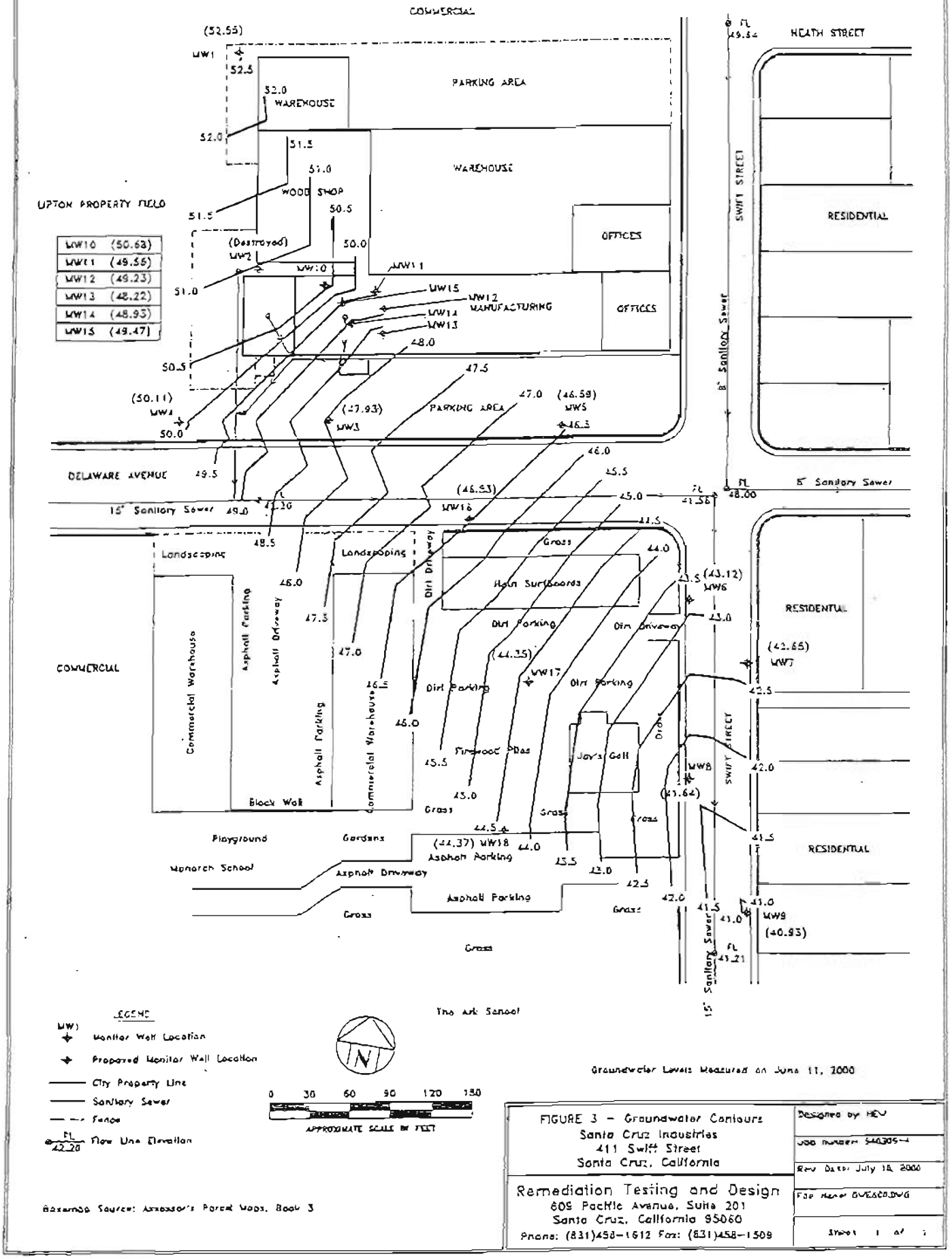
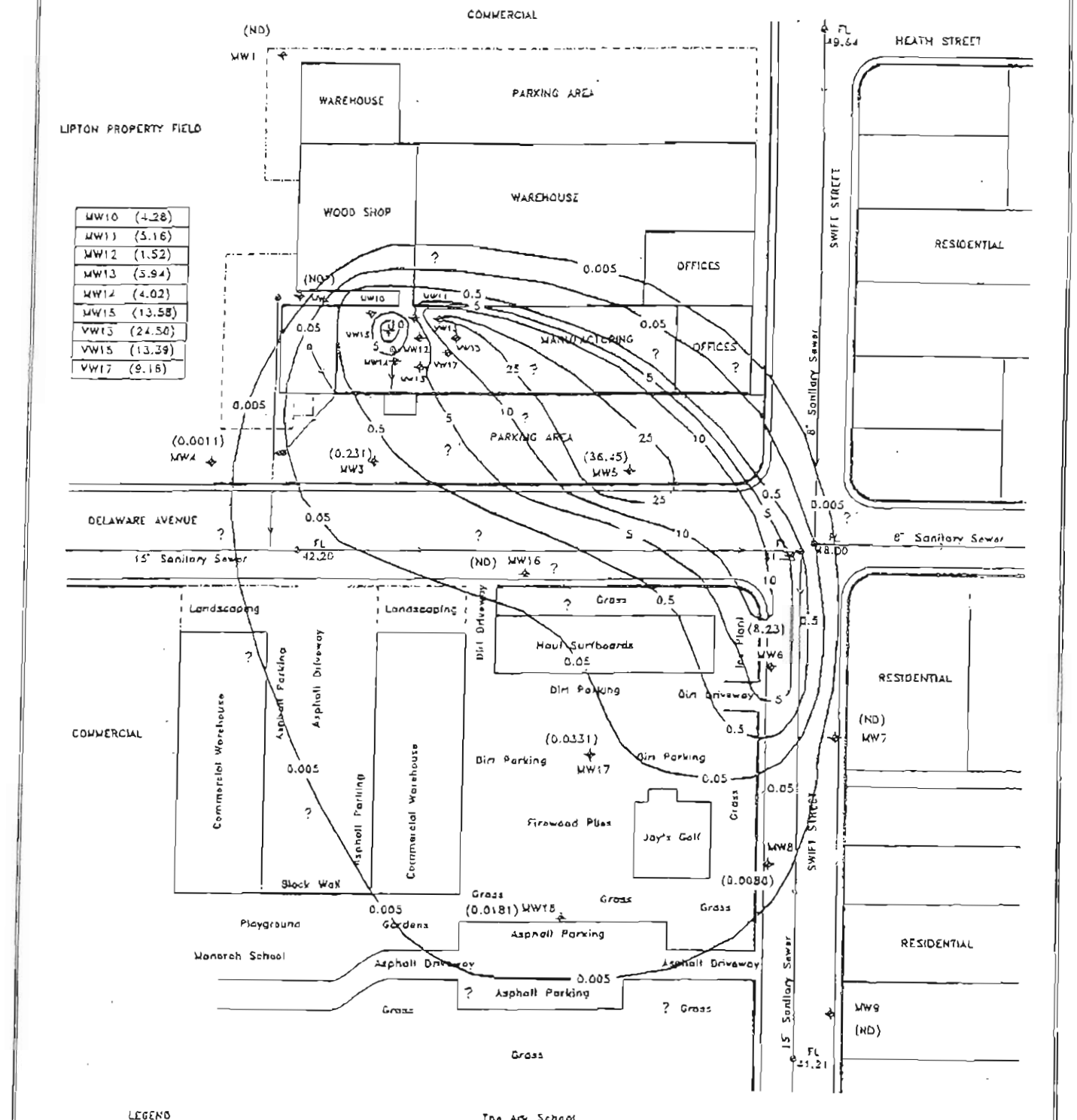


FIGURE 3 – Groundwater Contours
Santa Cruz Industries
411 Swift Street
Santa Cruz, California

Designed by MEV
Job number SAN305-4
Rev Date: July 18, 2000
File Name: GWCONTS.DWG
Sheet 1 of 1

Remediation Testing and Design
605 Pacific Avenue, Suite 201
Santa Cruz, California 95060
Phone: (831)458-1612 Fax: (831)458-1509



LEGEND

- MW1 Monitor Well Location
- Proposed Monitor Well Location
- City Property Line
- Sanitary Sewer
- Fence
- FL 42.20 Flow Line Elevation

(ND*) Well Destroyed. Historically ND

Basemap Source: Assessor's Parcel Maps, Book 3

0 30 60 90 120 150

APPROXIMATE SCALE IN FEET

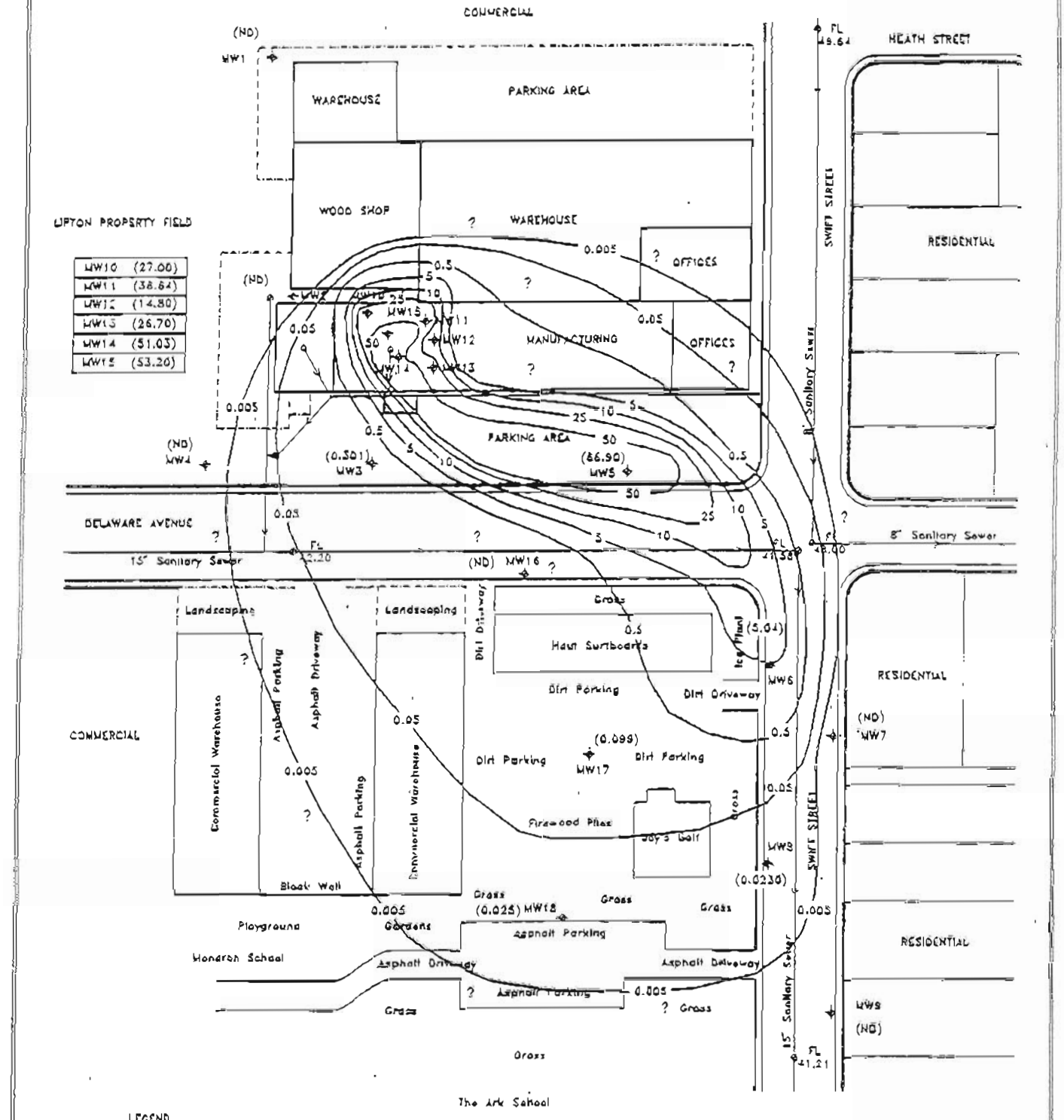
N

Groundwater Samples Collected on June 11, 2000

FIGURE 5 – Total VOCs
Santa Cruz Industries
411 Swift Street
Santa Cruz, California

Remediation Testing and Design
609 Pacific Avenue, Suite 201
Santa Cruz, California 95060
Phone: (831) 458-1612 Fax: (831) 458-1509

Designed by: HEV
Job number: 940309-1
Rev. Date: Aug 2, 2000
File Name: VOC-600.DWG
Sheet 1 of 1



LEGEND

MW1 Monitor Well Location

Proposed Monitor Well Location

City Property Line

Sanitary Sewer

Fence

FL 42.20 Flow Line Elevation

Groundwater Samples Collected on June 18 and 23, 1998

0 30 60 90 120 150

APPROXIMATE SCALE IN FEET

Basemap Source: Assessor's Parcel Maps, Book 5

FIGURE 6 – Total VOCs
Santa Cruz Industries
411 Swift Street
Santa Cruz, California

Designed by HEV

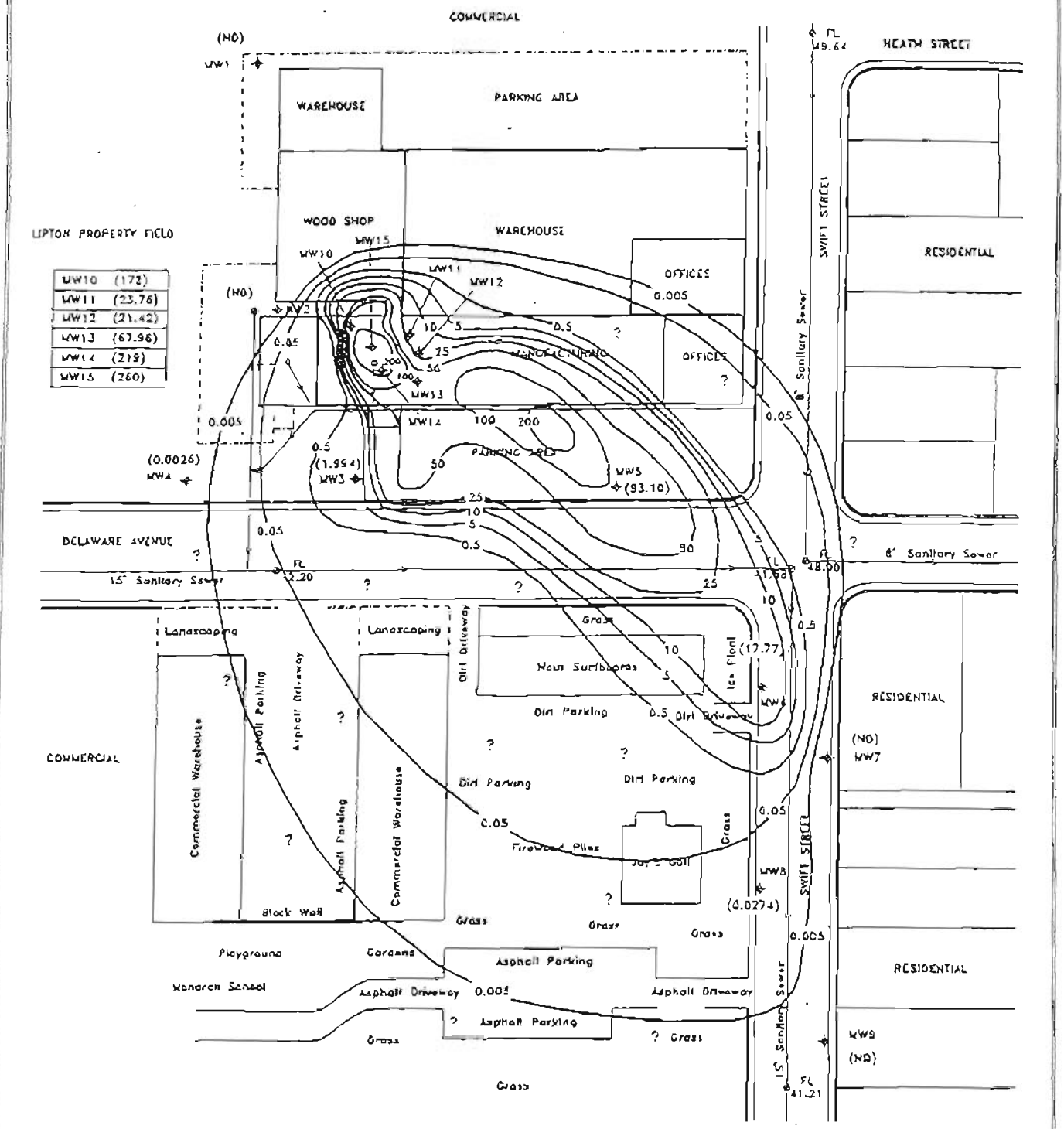
Job Number: 94(1)09-4

Rev. Date: Aug. 2, 2000

File Name: VOC-598.DWG

Sheet 1 of 1

Remediation Testing and Design
609 Pacific Avenue, Suite 201
Santa Cruz, California 95060
Phone: (831) 458-7612 Fax: (831) 458-1509



LEGEND

MW1 Monitor Well Location

Proposed Monitor Well Location

City Property Line

Sanitary Sewer

Fence

FL 42.20 Flow Line Elevation

0 30 50 90 120 150

APPROXIMATE SCALE IN FEET

N

Basemap Source: Assessor's Parcel Maps, Book 3

Groundwater Samples Collected on May 13, 1996

Contour Details Based, in Part, on Data from Soil Borings Collected in June 1994

FIGURE 7 – Total VOCs
Santa Cruz Industries
411 Swift Street
Santa Cruz, California

Designed by: HEV
Job Number: 940309-1
Rev. Date: Aug 3, 2000
File Name: VOC-596.DWG
Sheet 1 of 1

Remediation Testing and Design
609 Pacific Avenue, Suite 201
Santa Cruz, California 95060
Phone: (831) 458-1612 Fax: (831) 458-1509

Appendix C—Archaeological Report

CULTURAL RESOURCE EVALUATION OF THE ARK-MONARCH CAMPUS PROJECT IN THE CITY OF SANTA CRUZ

FOR

MR. DICK MOSS
CARE OF STEPHEN GRAVES & ASSOCIATES
4630 SOQUEL DRIVE, SUITE 8
SANTA CRUZ, CA 95073
#60800-00-945

BY

ARCHAEOLOGICAL RESOURCE MANAGEMENT
496 N. FIFTH STREET
SAN JOSE, CA 95112 (408) 295-1373
ROBERT CARTIER, PRINCIPAL

NOVEMBER 27, 2000

ABSTRACT

This cultural resource evaluation was carried out for the Ark-Monarch Campus Project located in the City of Santa Cruz. The research included an archival search in the State records and a surface survey of the proposed project area. The archival research revealed that there are no recorded sites within the project area. There are two sites located within a half mile radius of the project area: sites P-44-406 and CA-SCR-274. P-44-406 is Mission Street, and is located 2,800 feet north of the project area. Site CA-SCR-274 is a shell processing site and temporary encampment, and is located 2,500 feet southwest of the project area. No previous surveys have been conducted in the project area; however, seven previous surveys have been conducted within a half mile radius of the project area. Surface survey for the current study found indications of prehistoric cultural resources consisting of small shell pieces scattered in the landscaping area near the structures. No historic cultural resources were observed during surface reconnaissance. Due to the presence of prehistoric shell and the possibility of additional subsurface deposits, it is recommended that all earthmoving construction activities be appropriately monitored by a qualified archaeologist.

REQUEST FOR CULTURAL RESOURCE EVALUATION

The cultural resource evaluation was carried out to determine the presence or absence of any significant cultural resources. Cultural resource services were requested in November 2000 in order to provide an evaluation that would investigate the possible presence of cultural resources. This study meets the requirements of CEQA (California Environmental Quality Act).

QUALIFICATIONS OF ARCHAEOLOGICAL RESOURCE MANAGEMENT

Archaeological Resource Management has been specifically engaged in cultural resource management projects in central California since 1977. The firm is owned and supervised by Dr. Robert Cartier, the Principal Investigator. Dr. Cartier has a Ph.D. in anthropology, and is certified by the Register of Professional Archaeologists (ROPA) for conducting cultural resource investigations as well as other specialized work in archaeology.

LOCATION AND DESCRIPTION OF THE SUBJECT AREA

The subject area consists of the Ark-Monarch Campus located in the City of Santa Cruz, Santa Cruz County. On the USGS 7.5 minute quadrangle of Santa Cruz, the Universal Transverse Mercator Grid (UTMG) centerpoint of the project area is 5 84 920mE/40 90 180mN. The elevation is approximately 50 feet MSL and the nearest source of fresh water is Moore Creek located approximately three quarters of a mile northwest of the project area. The project area is located less than one half mile from the Pacific Ocean.

The proposed project consists of the construction of a public school campus. This will involve the necessary grading, trenching, and other earthmoving activities.

METHODOLOGY

The methodology used in this investigation consisted of an archival search, a surface reconnaissance, and a written report of the findings with appropriate recommendations. The archival research is conducted by transferring the study location to a state archaeological office which maintains all records of archaeological investigations. This is done in order to learn if any archaeological sites or surveys have been recorded within a half mile of the subject area. Each archival search with the State is given a file number for

verification. The surface reconnaissance portion of the evaluation is done to determine if traces of historic or prehistoric materials exist within the study area. This survey is conducted by a field archaeologist who examines exposed soils for cultural material. The archaeologist is looking for early ceramics, Native American cooking debris, and artifacts of stone, bone, and shell. For historic cultural resources, the field evaluation also considers older structures, distinctive architecture, and subsurface historic trash deposits of potentially significant antiquity. A report is written containing the archival information, record search number, the survey findings, and appropriate recommendations. A copy of this evaluation is sent to the State archaeological office by requirements of State procedure.

A cultural resource is considered "significant" if it qualifies as eligible for listing in the California Register of Historic Resources (CRHR). Properties that are eligible for listing in the CRHR must meet one or more of the following criteria:

1. Association with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States;
2. Association with the lives of persons important to local, California, or national history;
3. Embodying the distinctive characteristics of a type, period, region, or method of construction, or representing the work of a master, or possessing high artistic values; or
4. Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

Most Native American prehistoric sites are eligible due to their age, scientific potential, and/or burial remains.

The CRHR interprets the integrity of a cultural resource as its physical authenticity. An historic cultural resource must retain its historic character or appearance and thus be recognizable as an historic resource. Integrity is evaluated by examining the subject's location, design, setting, materials, workmanship, feeling, and association. If the subject has retained these qualities, it may be said to have integrity. It is possible that a cultural resource may not retain sufficient integrity to be listed in the National Register of Historic Places yet still be eligible for listing in the CRHR. If a cultural resource retains the potential to convey significant historical/scientific data, it may be said to retain sufficient integrity for potential listing in the CRHR.

ARCHIVAL BACKGROUND

Prior to reconnoitering the subject area, a study of the maps and records at the Northwest Information Center of the California Archaeological Site Inventory was conducted and given the file number #60800-00-945. This research into the records at the Information Center was done to determine if any known archaeological resources were reported in or around the subject area. Archival research revealed that there are no recorded sites within the project area; however, there are two recorded sites within a .5 mile radius: P-44-406, and CA-SCR-274. These sites are described below.

P-44-406

This site was first recorded by Laura Leach-Palm, J. Berg, and S. Mikesell in 1999. It is described as Highway 1 (Mission Street), which stretches through Monterey, San Luis Obispo and Santa Cruz. Adopted by the state highway system in 1933, it was called route 56 until the 1960s. P-44-406 is located approximately 2,800 feet to the north of the proposed project area.

CA-SCR-274
First recorded by Sandy Taugher and Jim Woodward in 1984, the site is described as a moderately dense scatter of marine shell mixed with broken pieces of Santa Cruz mudstone which vaguely resemble crude percussion flakes. The site may have been utilized for shell processing and as a temporary camp site. This site is located to the southwest of the proposed project area, at a distance of 2,500 feet.

There have been no prior studies conducted within the proposed project area. However, seven studies have been conducted within a .5 mile radius of the project area. These are: S-20978, S-3848, S-17294, S-20080, S-11230, S-11488.

SURFACE RECONNAISSANCE

A "general surface reconnaissance" was conducted by the Principal Investigator on all visible open land surfaces in the project area. A "controlled intuitive reconnaissance" was performed in places where burrowing animals, exposed banks and inclines, and other activities had revealed subsurface stratigraphy and soil contents. Boundaries were established in the field by fence lines and through reference to the existing structures. Accessibility to the project area was good with all areas accessible for survey. Vegetation on the property consisted primarily of lawn with some domestic shrubs and trees. Visibility of native soils was poor in the majority of the property, due to the fact that approximately 99 percent of the soil was covered by either thick lawn, hard top areas, or structures. Small areas near the planters and green house had limited soil exposures. Where native soils were exposed, a sandy loam was observed, and rock types included a small amount of siltstone and few pieces of sandstone. Prehistoric cultural resources within the area consisted of a few small pieces of prehistoric shell in the landscaping area near the structures. No historic cultural resources were observed within the proposed project area.

CONCLUSION AND RECOMMENDATIONS

The archival research revealed that there are no recorded sites within the project area; however, there are two sites located within a half mile radius. These are P-44-406 and CA-SCR-274. P-44-406 is Mission Street, and is located 2,800 feet north of the project area. Site CA-SCR-274 is a possible shell processing site and temporary encampment, and is located 2,500 feet southwest of the project area. No previous surveys have been conducted in the project area, and seven previous surveys have been conducted within a half mile radius of the project area. The surface reconnaissance revealed that the project area contains prehistoric cultural remains, in the form of small amounts of prehistoric shell scattered in the landscaping area near the structures. Due to the presence of the shell and the potential for buried archaeological deposits, it is recommended that earthmoving construction activities be appropriately monitored by a qualified archaeologist.

LITERATURE CITED AND CONSULTED

Northwest Information Center
2000 Archival search number 60800-00-945 on file at the Northwest Information Center, Department of Anthropology, Sonoma State University, Rohnert Park.

Leach-Palm, Laura, J. Berg and S. Mikesell
1999 Site record for P-44-406 on file at Northwest Information Center, Department of Anthropology, Sonoma State University, Rohnert Park.

Taugher, Sandy and Jim Woodward
1984 Site record for CA-SCR-274 on file at Northwest Information Center, Department of Anthropology, Sonoma State University, Rohnert Park.

PROJECT LOCATION MAP

SANTA CRUZ, CALIF.

36122-H1-TF-024

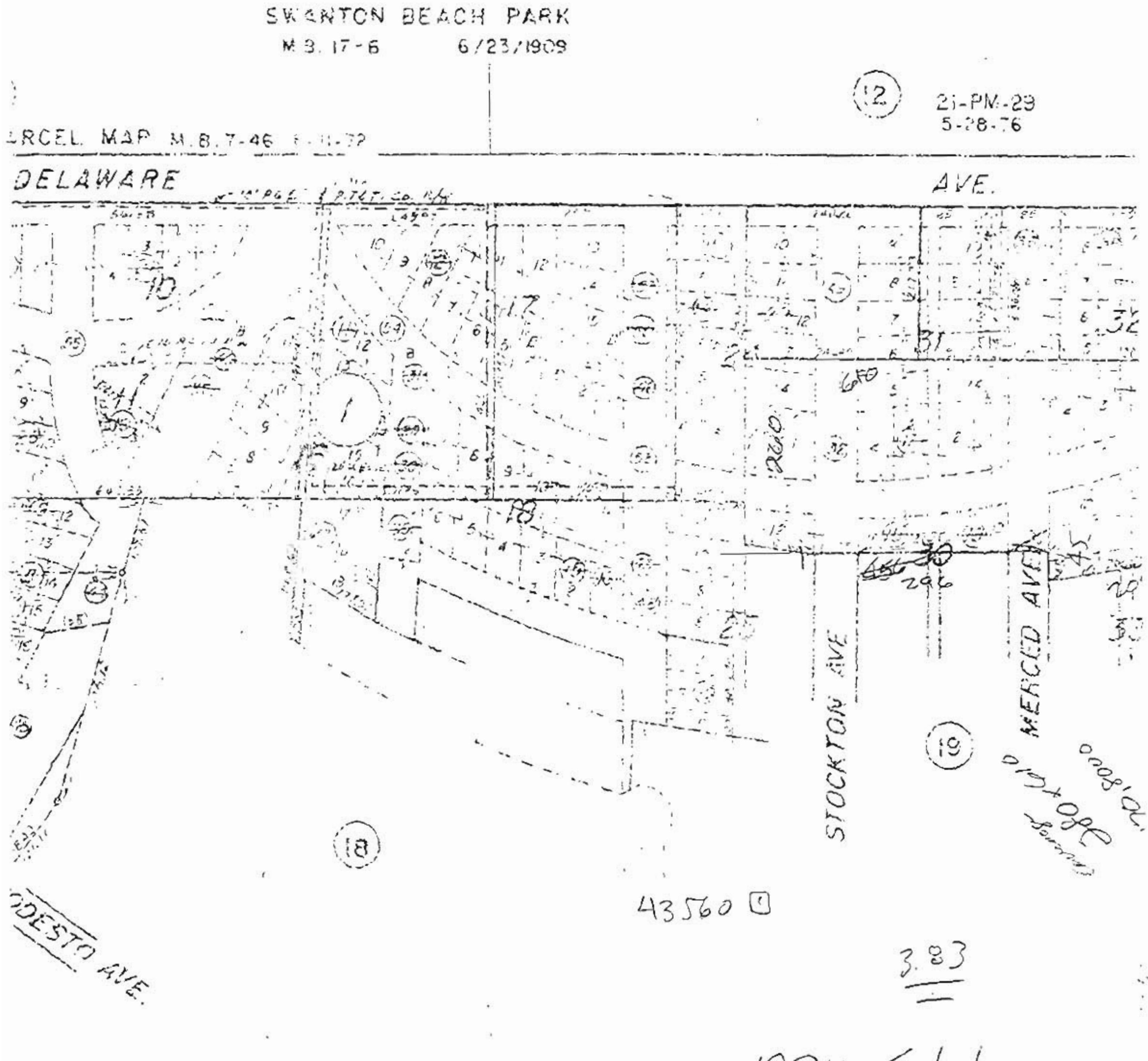
1954

REVISED 1994

DMA 1557 I NE-SERIES V895

CITY OF SANTA CRUZ

Tax Area Co
1-001

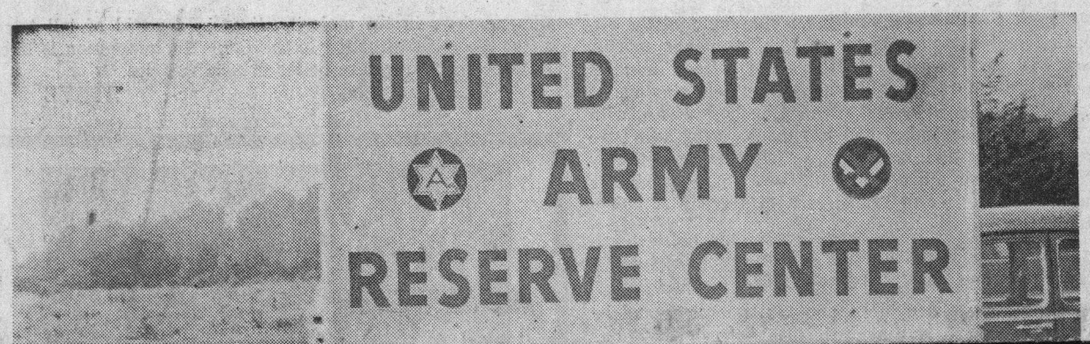


PRK School
315 SWIFT St.
A.P.N. 3-161-32

Note - Assessor's Parcel Block &
Lot Numbers Shown in Circles

U.S. Armed Forces

Even weekend warriors get K.P. Private David Harris, left, and Private John Gho spend Saturday morning in that perennial military chore, peeling potatoes.



Tree'n'Sea Living

Weekend Warriors

They patrol the post.

They guard the gate.

They cruise the city, and they walk its streets.

They catch the criminal, the breaker of military law.

Their white hats and white gloves and highly polished leather are symbols of safety and law and that stern stuff known as military discipline.

They are the Military Police.

Located in Santa Cruz, at the U.S. Army Reserve Center, 313 Swift street, is the 422nd Military Police Company (PCS) commanded by Captain Gordon S. Grout of Los Gatos.

The 422nd is part of the Army Reserve, a reservoir of trained manpower that is ready and waiting if needed.

The company's 108 men, including four officers and two warrant officers, are drawn primarily from Santa Cruz County and represent a cross-section of civilian pursuits. At least two are bank officials, another is a sporting goods store owner, and still others are employed by civilian law enforcement agencies including the California Highway Patrol and the Santa Cruz County Sheriff's Department.

The 422nd is one of four companies that make up the 496th Military Police Battalion with headquarters in San Jose. Each of the other companies has its own role, Grout explained, primarily in processing and transporting and guarding of prisoners of war, duties that are not assigned to the 422nd.

Captain Grout explains that PCS stands for "Post, Camp and Station" and reflects the unit's mission to police a garrison, which may be a post, a camp or a station, or a nearby city or town.

The unit has five sections — headquarters, dismounted patrol for on-and-off-post assignments; desk, records and registration; traffic and gate; motorized; and criminal investigation.

A distinctive feature of the company is its criminal investigation section. With a clerk-typist, four criminal investigators and an assistant investigator, this section represents "the Army's detectives".

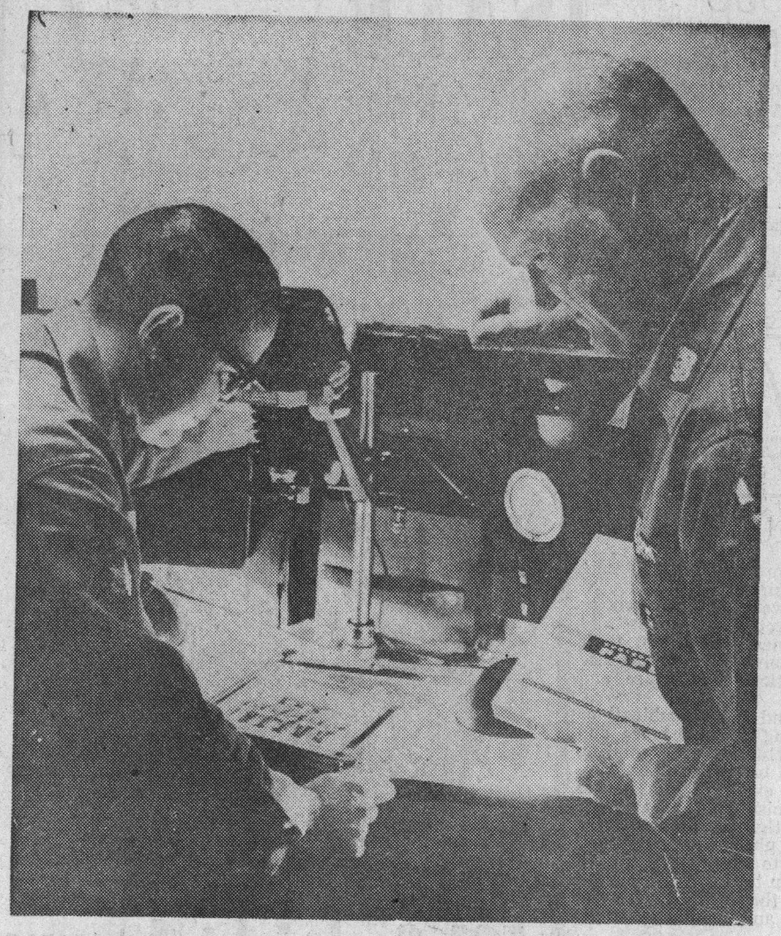
The company meets two days each month—on Satur-

(Continued on Page 22)

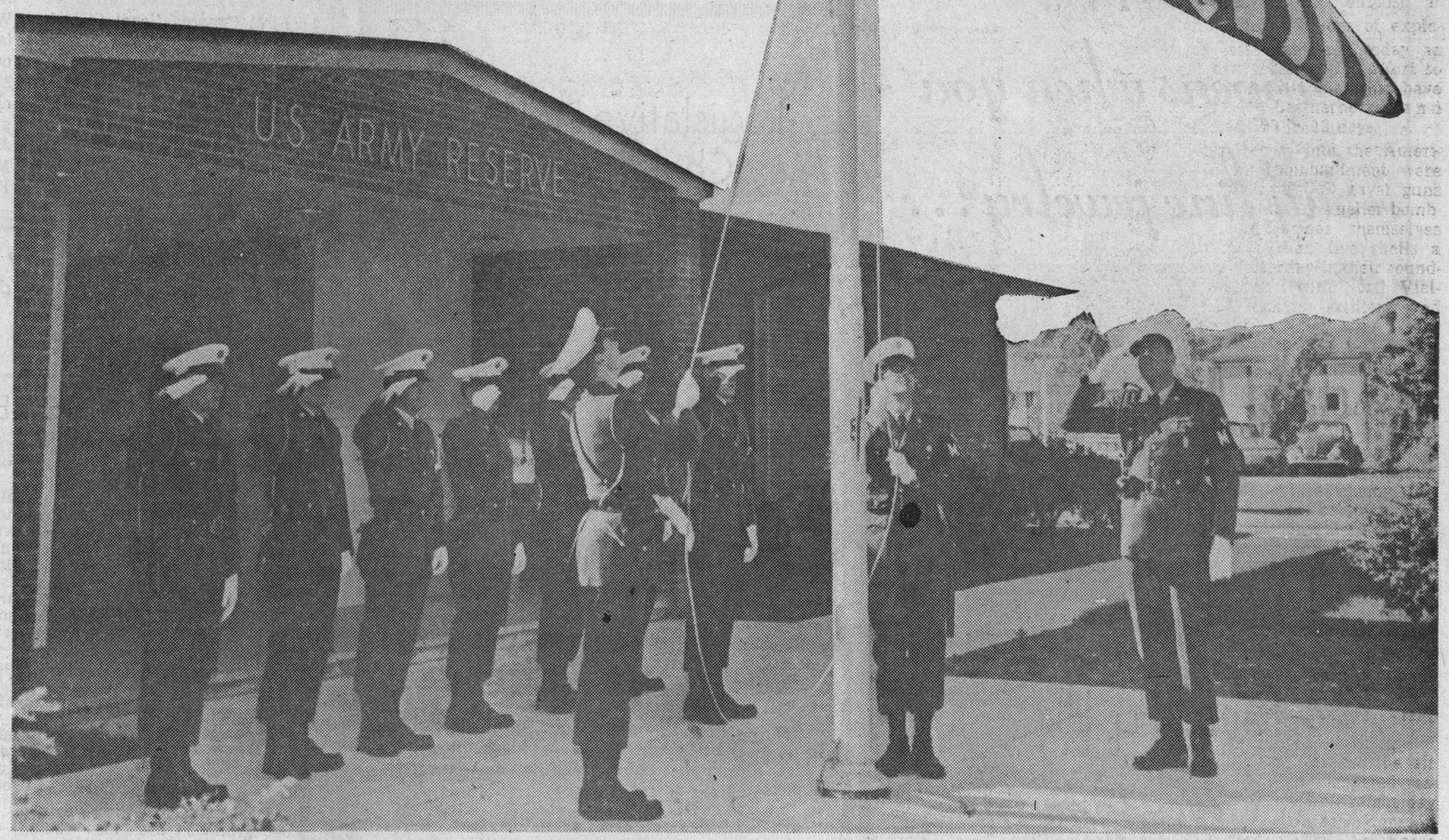
Photos By
Vester Dick

Text By
Mel Baughman

And now it's chow time. Saturday noon of the two-day weekend drill found the men of the 422nd enjoying a baked ham lunch on the lawns surrounding the reserve training center at 313 Swift street.

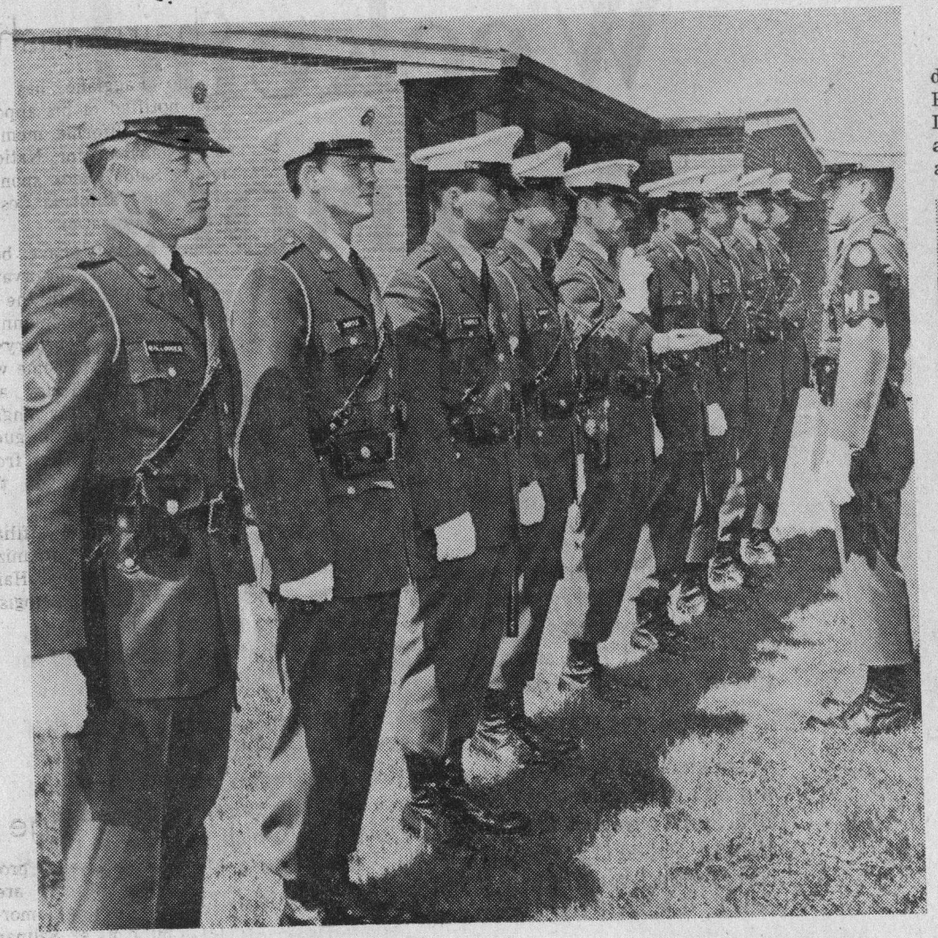


Warrant Officer Ralph W. Landre Jr., right, and Specialist Fourth Class Stanley Wood enlarge pictures in the dark room of 422nd's criminal investigations section as part of the unit's regular monthly program of training.



The day ends at 4:30 p.m. with traditional retreat formation and ceremonies during which a detail of troops "snaps to" as Old Glory is lowered from the flagpole in front of the center.

They Police The Military



INSPECTION—Men and equipment get the eagle eye prior to simulated town patrol duty, one of the tasks assigned to the 422nd Military Police company, an Army Reserve unit based in Santa Cruz.

(Continued from page 21)

day and Sunday—at Rebuffo Hall, the reserve center. Duty hours are from 7:30 a.m. to 4:30 p.m. Then there are the annual two weeks of summer camp at Camp Roberts, near Paso Robles, from which the unit returned on August 12. And, in addition, officers and section chiefs meet on evenings for "administrative drills."

Equipment includes three jeeps, two 2½-ton trucks and a three-quarter-ton truck.

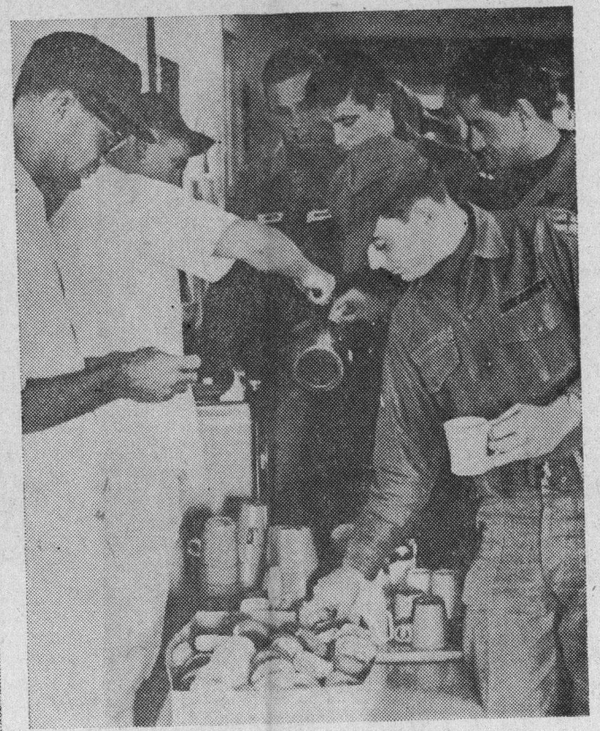
On a corridor wall in Rebuffo Hall there is a sign. It reads:

"Weak People Weaken US"

"We must not let weak people weaken us at any echelon. The only men we can afford to retain are those who measure up in both potential and output."

This is the watchword of the officers and men of the 422nd Military Police Company as they pursue their important mission.

They police the military.



COFFEE BREAK—A break for coffee and doughnuts — an old military tradition — is included in the intensive schedule of training classes that are conducted one weekend a month by the 422d.

PATROL—Staff Sergeant William A. Veselka, behind wheel, and Private First Class Ronald R. Gandolfi prepare to depart on motorized patrol during training exercises of the 422d Military Police Company, a reserve unit.

From: Brady Nagle [mailto:bsn@tsgcorp.net]
Sent: Tuesday, December 27, 2022 1:45 PM
To: 'Thomas, Dean@Waterboards' <Dean.Thomas@waterboards.ca.gov>
Cc: 'Ricci, Jaime@Waterboards' <Jaime.Ricci@Waterboards.ca.gov>; 'Nelson, Paul@Waterboards' <Paul.Nelson@Waterboards.ca.gov>; David Reinsma <dar@tsgcorp.net>; Anna Machulskaya <am@tsgcorp.net>; George Mead <gwm@tsgcorp.net>
Subject: RE: Former Santa Cruz Industries - Second Work Plan Addendum for Off-Site Vapor Intrusion Assessment

Dean,

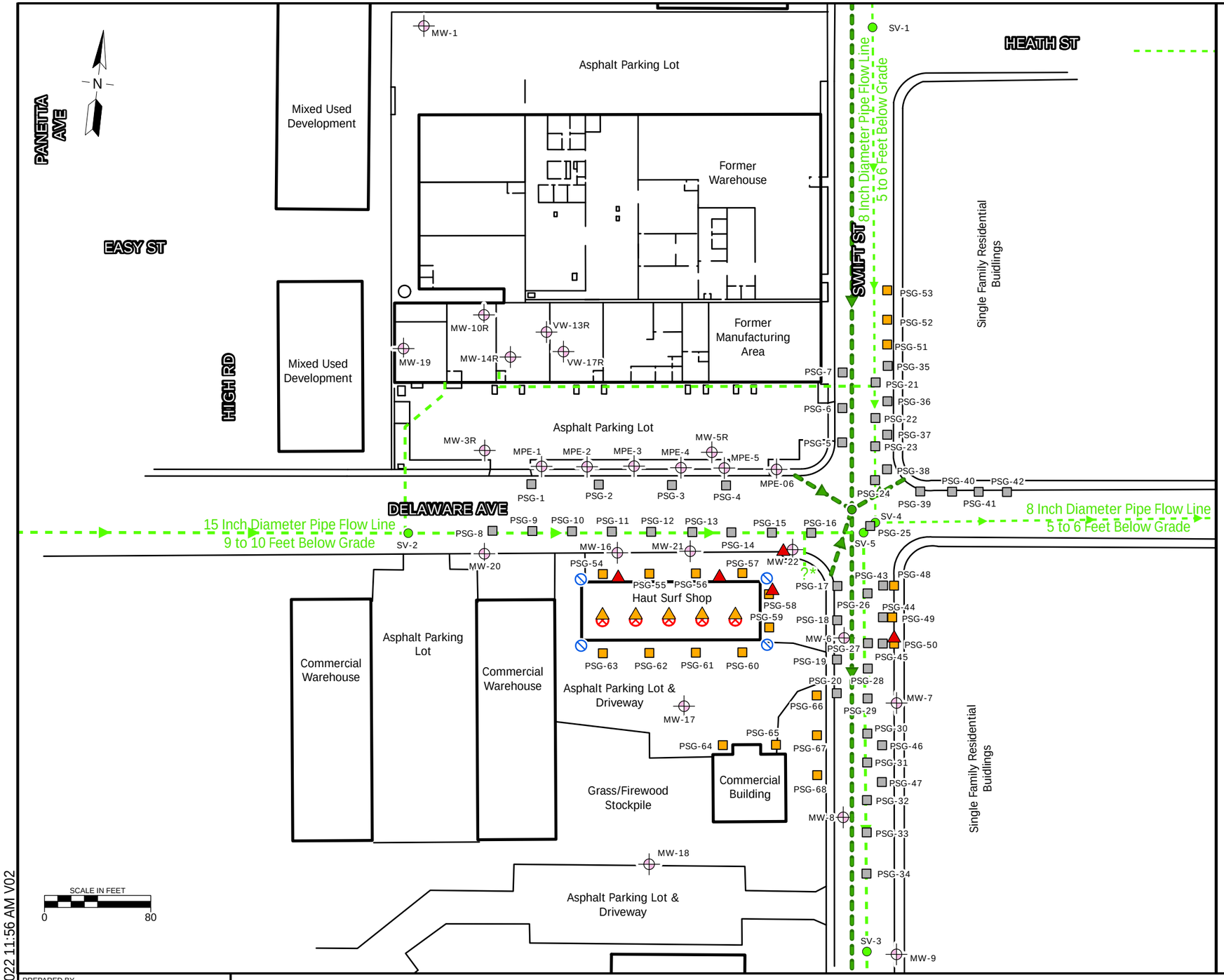
Attached is a revised map showing a proposed additional vapor intrusion assessment point location. As per your email below, an additional active soil vapor probe is proposed in the vicinity of MW-22. The proposed probe near PSG-50 will be installed as close to the curb as we can without encroaching on the gutter or sidewalk. We will let you know when the field activities are scheduled. Thanks.

Brady Nagle
Senior Project Manager

Trinity Source Group, Inc.
119 Encinal Street
Santa Cruz, CA 95060

Tel: (831) 426-5600
Cell: (831) 713-9255
Fax: (831) 426-5602

Visit our website at: www.trinitysourcegroup.com



Legend

- Proposed Active Soil Vapor Probe (5-foot) Location (5)
- Proposed Sub-Slab Vapor Probe Location (5)
- Proposed Indoor Air Sampling Location (5)
- Proposed Outdoor Air Sampling Location (4)
- SV-1 — Passive Sewer Vapor Sample Location (5) Retrieved 11/09/2022
- PSG-48 — Additional Beacon Passive Soil Vapor Probe Location (21) Retrieved 11/09/2022
- PSG-1 — Beacon Passive Soil Vapor Probe Location (47) Retrieved 08/16/2022
- MW-1 — Groundwater Monitoring Well
- Sanitary Sewer and Flow Direction
- Storm Drain and Flow Direction
- Storm Drain Manhole

* Estimated location of sewer connection based on City marks on the curb.

12/27/2022 11:56 AM V02

PREPARED BY
TRINITY source group, inc.
Environmental Consultants
119 Encinal Street
Santa Cruz, California 95060
v: 831.426.5600
f: 831.426.5602

PROPOSED ADDITIONAL VAPOR INTRUSION ASSESSMENT POINT LOCATIONS

Former Santa Cruz Industries
411 Swift Street
Santa Cruz, California

PROJECT: 155.010.004

FIGURE: 2

From: Thomas, Dean@Waterboards [mailto:Dean.Thomas@waterboards.ca.gov]
Sent: Friday, December 23, 2022 1:49 PM
To: Brady Nagle <bsn@tsgcorp.net>
Cc: Ricci, Jaime@Waterboards <Jaime.Ricci@Waterboards.ca.gov>; Nelson, Paul@Waterboards <Paul.Nelson@Waterboards.ca.gov>; David Reinsma <dar@tsgcorp.net>; Anna Machulskaya <am@tsgcorp.net>; George Mead <gwm@tsgcorp.net>
Subject: RE: Former Santa Cruz Industries - Second Work Plan Addendum for Off-Site Vapor Intrusion Assessment

Brady,
Central Coast Water Board staff concurs with the work plan addendum. However, we request that an additional gas probe be installed in the vicinity of PSG#15, PSG#16 and MW-22 to monitor residual vapor source in that area. Also, please ensure that the proposed SVP near PSG#50 is installed as close to the curb as possible.
Wishing you and the rest of the SCI a very happy holiday!

Dean Thomas, P.G. #7019
Engineering Geologist
Site Cleanup Program
Central Coast Regional Water Quality Control Board
(805) 549-3690

From: Brady Nagle <bsn@tsgcorp.net>
Sent: Thursday, December 22, 2022 4:51 PM
To: Thomas, Dean@Waterboards <Dean.Thomas@waterboards.ca.gov>
Cc: Ricci, Jaime@Waterboards <Jaime.Ricci@Waterboards.ca.gov>; Nelson, Paul@Waterboards <Paul.Nelson@Waterboards.ca.gov>; David Reinsma <dar@tsgcorp.net>; Anna Machulskaya <am@tsgcorp.net>; George Mead <gwm@tsgcorp.net>
Subject: Former Santa Cruz Industries - Second Work Plan Addendum for Off-Site Vapor Intrusion Assessment

EXTERNAL:

Dean,

Attached are the following showing the results of the recent passive soil gas (PSG) and passive sewer gas sampling:

- Beacon Environmental's laboratory data report that includes maps depicting concentrations of PCE, TCE, 11-DCE, benzene, vinyl chloride, and total VOCs in soil vapor. The maps show both the results of the September 2022 PSG sampling and the November 28, 2022 results.
- Tables summarizing the results of the passive soil gas and passive sewer gas analysis
- A figure showing the results of the passive sewer gas sampling
- A figure showing the proposed permanent soil vapor sampling probes (approximately 5 feet deep), sub-slab vapor probes, and indoor/outdoor air sampling locations

The results of the PSG study indicates that elevated concentrations of VOC are present over the sanitary sewer line beneath Delaware Avenue. Concentrations of chemicals of concern decrease to generally below commercial ESLs outside of the building at 2111 Delaware Avenue.

This email provides a proposed scope of work for the next phase of off-site vapor intrusion assessment, and is intended to serve as an addendum to the July 28, 2022 *Work Plan for Off-Site Soil Vapor Intrusion Investigation*, and the October 7, 2022 *Work Plan Addendum for Off-Site Vapor Intrusion Assessment* (submitted by email). As shown on the fourth attachment, we propose installing permanent 5-foot soil vapor probes to verify the results of the PSGs and to monitor VOC concentration over time at the following locations:

- Near PSG-49 and PSG-50 to monitor the concentrations of VOC, particularly vinyl chloride, in soil gas near those residences
- Near PSG-58 to monitor VOCs in soil gas on the northeast side of the off-site building at 2111 Delaware Avenue where there was a PCE exceedance to the commercial ESL
- Near PSG-55 and PSG-57 to monitor VOCs on the north side of the off-site building at 2111 Delaware Avenue

We propose installation of off-site sub-slab vapor probes at 5 locations within 2111 Delaware Avenue. As presented in Trinity's August 2, 2022 email (approved by the Water Board on August 3, 2022), sub-slab vapor samples will be analyzed for a full scan of VOCs and for radon. Indoor air samples that are co-located at each sub-slab vapor probe will be analyzed for radon only. Additionally, outdoor air samples will be collected at four locations for radon only analysis. The results of radon analysis will be used to determine a site-specific building slab attenuation factor and potential vapor intrusion risk using the methods described in Trinity's April 23, 2021 *Radon Study and Site-Specific Cleanup Goals Report*.

Please let us know if you approve of this approach.

Thanks.

Brady Nagle
Senior Project Manager

Trinity Source Group, Inc.
119 Encinal Street
Santa Cruz, CA 95060

Tel: (831) 426-5600
Cell: (831) 713-9255
Fax: (831) 426-5602

Visit our website at: www.trinitysourcegroup.com

Beacon Environmental
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA
1.410.838.8780

CERTIFICATE OF ANALYSIS

Beacon Proposal No.: 221027R01

Beacon Project No.: 0006666

Project Description:

Project Site: Former Santa Cruz Industries
Santa Cruz, CA

Client PO No.: 155.010.004

Prepared for:

Anna Machulskaya
Trinity Source Group, Inc.
119 Encinal Street
Santa Cruz, CA 95060

Ryan W. Schneider
Senior Project Manager

December 19, 2022

All data meet requirements as specified in the Beacon Environmental Services, Inc. Quality Assurance Project Plan and the results relate only to the samples reported. The work performed was in accordance with ISO/IEC 17025:2017 requirements, except samples were analyzed within a 24-hour tune window. This report shall not be reproduced, except in full, without written approval of the laboratory. Release of the data contained in this data package has been authorized by the Laboratory Director or his signee, as verified by the following signatures:

Steven C. Thornley
Laboratory Director

Peter B. Kelly
Quality Manager

2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA
1.410.838.8780

Map Report

Trinity Source Group, Inc.	**Project Site:** Former Santa Cruz Industries	**Beacon Proposal:** 221027R01
119 Encinal Street	**Project Location:** Santa Cruz, CA	**Beacon Project No.:** 0006666
Santa Cruz, CA 95060	**Project Manager:** Anna Machulskaya	**Reported:** 12/19/2022

Summary of Compound Detections - Concentration

Instrument File ID:	C22112815.D	**PSG-48**		Method:	EPA 8260C
Lab Sample ID:	0006666-02	Soil Gas		Analyzed:	11/28/2022 20:16

Analyte	CAS#	Result (µg/m³)	Q	LOQ (µg/m³)
1,1-Dichloroethane	75-34-3	**1.05**		0.58
cis-1,2-Dichloroethene	156-59-2	**1.07**		0.93
Benzene	71-43-2	**15.0**		2.34
Toluene	108-88-3	**6.28**		3.09
p & m-Xylene	179601-23-1	**1.57**		1.41

Instrument File ID:	C22112816.D	**PSG-49**		Method:	EPA 8260C
Lab Sample ID:	0006666-03	Soil Gas		Analyzed:	11/28/2022 20:42

Analyte	CAS#	Result (µg/m³)	Q	LOQ (µg/m³)
Vinyl Chloride	75-01-4	**0.80**		0.61
1,1-Dichloroethene	75-35-4	**3.26**		1.50
trans-1,2-Dichloroethene	156-60-5	**5.76**		1.13
1,1-Dichloroethane	75-34-3	**1.96**		0.58
cis-1,2-Dichloroethene	156-59-2	**19.6**		0.93
Benzene	71-43-2	**11.7**		2.34
Toluene	108-88-3	**4.23**		3.09

Instrument File ID:	C22112817.D	**PSG-50**		Method:	EPA 8260C
Lab Sample ID:	0006666-04	Soil Gas		Analyzed:	11/28/2022 21:09

Analyte	CAS#	Result (µg/m³)	Q	LOQ (µg/m³)
Vinyl Chloride	75-01-4	**0.97**		0.61
1,1-Dichloroethene	75-35-4	**2.01**		1.50
trans-1,2-Dichloroethene	156-60-5	**3.10**		1.13
1,1-Dichloroethane	75-34-3	**2.47**		0.58
cis-1,2-Dichloroethene	156-59-2	**12.5**		0.93
Benzene	71-43-2	**31.4**		2.34
Toluene	108-88-3	**105**		3.10

2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA
1.410.838.8780

Map Report

Trinity Source Group, Inc.	**Project Site:** Former Santa Cruz Industries	**Beacon Proposal:** 221027R01
119 Encinal Street	**Project Location:** Santa Cruz, CA	**Beacon Project No.:** 0006666
Santa Cruz, CA 95060	**Project Manager:** Anna Machulskaya	**Reported:** 12/19/2022

Summary of Compound Detections - Concentration

Instrument File ID:	C22112818.D	**PSG-51**		Method:	EPA 8260C
Lab Sample ID:	0006666-05	Soil Gas		Analyzed:	11/28/2022 21:36

Analyte	CAS#	Result (µg/m³)	Q	LOQ (µg/m³)
Benzene	71-43-2	**4.66**		2.34
Tetrachloroethene	127-18-4	**2.18**		1.21

Instrument File ID:	C22112819.D	**PSG-52**		Method:	EPA 8260C
Lab Sample ID:	0006666-06	Soil Gas		Analyzed:	11/28/2022 22:04

Analyte	CAS#	Result (µg/m³)	Q	LOQ (µg/m³)
Benzene	71-43-2	**8.17**		2.34
Toluene	108-88-3	**4.70**		3.10
Tetrachloroethene	127-18-4	**3.36**		1.21
p & m-Xylene	179601-23-1	**1.61**		1.41

Instrument File ID:	C22112820.D	**PSG-53**		Method:	EPA 8260C
Lab Sample ID:	0006666-07	Soil Gas		Analyzed:	11/28/2022 22:30

Analyte	CAS#	Result (µg/m³)	Q	LOQ (µg/m³)
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**5.68**		0.56
Benzene	71-43-2	**8.65**		2.34
Toluene	108-88-3	**3.78**		3.10

Instrument File ID:	C22112821.D	**PSG-54**		Method:	EPA 8260C
Lab Sample ID:	0006666-08	Soil Gas		Analyzed:	11/28/2022 22:57

Analyte	CAS#	Result (µg/m³)	Q	LOQ (µg/m³)
Benzene	71-43-2	**3.49**		2.34

2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA
1.410.838.8780

Map Report

Trinity Source Group, Inc.	**Project Site:** Former Santa Cruz Industries	**Beacon Proposal:** 221027R01
119 Encinal Street	**Project Location:** Santa Cruz, CA	**Beacon Project No.:** 0006666
Santa Cruz, CA 95060	**Project Manager:** Anna Machulskaya	**Reported:** 12/19/2022

Summary of Compound Detections - Concentration

Instrument File ID:	C22112822.D	**PSG-55**		Method:	EPA 8260C
Lab Sample ID:	0006666-09	Soil Gas		Analyzed:	11/28/2022 23:24

Analyte	CAS#	Result (µg/m³)	Q	LOQ (µg/m³)
1,1-Dichloroethene	75-35-4	**3.45**		1.51
1,1-Dichloroethane	75-34-3	**1.28**		0.58
cis-1,2-Dichloroethene	156-59-2	**0.97**		0.94
Benzene	71-43-2	**8.81**		2.34
Trichloroethene	79-01-6	**16.9**		1.51
Tetrachloroethene	127-18-4	**19.7**		1.21

Instrument File ID:	C22112823.D	**PSG-56**		Method:	EPA 8260C
Lab Sample ID:	0006666-10	Soil Gas		Analyzed:	11/28/2022 23:51

Analyte	CAS#	Result (µg/m³)	Q	LOQ (µg/m³)
Tetrachloroethene	127-18-4	**1.60**		1.21

Instrument File ID:	C22112824.D	**PSG-57**		Method:	EPA 8260C
Lab Sample ID:	0006666-11	Soil Gas		Analyzed:	11/29/2022 00:18

Analyte	CAS#	Result (µg/m³)	Q	LOQ (µg/m³)
Benzene	71-43-2	**4.60**		2.34
Tetrachloroethene	127-18-4	**11.7**		1.21

Instrument File ID:	C22112825.D	**PSG-58**		Method:	EPA 8260C
Lab Sample ID:	0006666-12	Soil Gas		Analyzed:	11/29/2022 00:45

Analyte	CAS#	Result (µg/m³)	Q	LOQ (µg/m³)
1,1-Dichloroethane	75-34-3	**0.71**		0.58
1,1,1-Trichloroethane	71-55-6	**0.53**		0.47
Benzene	71-43-2	**8.37**		2.34
Toluene	108-88-3	**3.67**		3.10
Tetrachloroethene	127-18-4	**77.2**		1.21

2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA
1.410.838.8780

Map Report

Trinity Source Group, Inc.	**Project Site:** Former Santa Cruz Industries	**Beacon Proposal:** 221027R01
119 Encinal Street	**Project Location:** Santa Cruz, CA	**Beacon Project No.:** 0006666
Santa Cruz, CA 95060	**Project Manager:** Anna Machulskaya	**Reported:** 12/19/2022

Summary of Compound Detections - Concentration

Instrument File ID:	C22112826.D	**PSG-59**		Method:	EPA 8260C
Lab Sample ID:	0006666-13	Soil Gas		Analyzed:	11/29/2022 01:12

Analyte	CAS#	Result (µg/m³)	Q	LOQ (µg/m³)
Chloroform	67-66-3	**2.19**		1.42
Benzene	71-43-2	**8.83**		2.34
Toluene	108-88-3	**45.0**		3.10
Tetrachloroethene	127-18-4	**17.5**		1.21

Instrument File ID:	C22112827.D	**PSG-60**		Method:	EPA 8260C
Lab Sample ID:	0006666-14	Soil Gas		Analyzed:	11/29/2022 01:39

Analyte	CAS#	Result (µg/m³)	Q	LOQ (µg/m³)
Benzene	71-43-2	**12.4**		2.34
Toluene	108-88-3	**4.32**		3.10

Instrument File ID:	C22112829.D	**PSG-62**		Method:	EPA 8260C
Lab Sample ID:	0006666-16	Soil Gas		Analyzed:	11/29/2022 02:33

Analyte	CAS#	Result (µg/m³)	Q	LOQ (µg/m³)
Benzene	71-43-2	**2.38**		2.34

Instrument File ID:	C22112834.D	**PSG-67**		Method:	EPA 8260C
Lab Sample ID:	0006666-21	Soil Gas		Analyzed:	11/29/2022 04:48

Analyte	CAS#	Result (µg/m³)	Q	LOQ (µg/m³)
Chloroform	67-66-3	**2.21**		1.42

2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA
1.410.838.8780

Map Report

Trinity Source Group, Inc.	**Project Site:** Former Santa Cruz Industries	**Beacon Proposal:** 221027R01
119 Encinal Street	**Project Location:** Santa Cruz, CA	**Beacon Project No.:** 0006666
Santa Cruz, CA 95060	**Project Manager:** Anna Machulskaya	**Reported:** 12/19/2022

Summary of Compound Detections - Concentration

Instrument File ID:	C22112836.D	**SV-1**		Method:	EPA 8260C
Lab Sample ID:	0006666-23	Sewer Gas		Analyzed:	11/29/2022 05:41

Analyte	CAS#	Result (µg/m³)	Q	LOQ (µg/m³)
Vinyl Chloride	75-01-4	**1.13**		0.61
1,1-Dichloroethene	75-35-4	**15.5**		1.50
Methylene Chloride	75-09-2	**27.8**		1.42
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**1.54**		0.56
trans-1,2-Dichloroethene	156-60-5	**1.56**		1.13
1,1-Dichloroethane	75-34-3	**1.31**		0.58
cis-1,2-Dichloroethene	156-59-2	**15.0**		0.94
Chloroform	67-66-3	**242**		1.42
Trichloroethene	79-01-6	**31.4**		1.50
Toluene	108-88-3	**9.28**		3.10
Tetrachloroethene	127-18-4	**35.7**		1.21
1,4-Dichlorobenzene	106-46-7	**1.58**		0.66

Instrument File ID:	C22112837.D	**SV-2**		Method:	EPA 8260C
Lab Sample ID:	0006666-24	Sewer Gas		Analyzed:	11/29/2022 06:08

Analyte	CAS#	Result (µg/m³)	Q	LOQ (µg/m³)
Vinyl Chloride	75-01-4	**4.96**		0.61
1,1-Dichloroethene	75-35-4	**117**		1.50
Methylene Chloride	75-09-2	**26.3**		1.42
trans-1,2-Dichloroethene	156-60-5	**30.8**		1.13
1,1-Dichloroethane	75-34-3	**9.29**		0.58
cis-1,2-Dichloroethene	156-59-2	**174**		0.94
Chloroform	67-66-3	**589**		1.42
Carbon Tetrachloride	56-23-5	**1.58**		1.15
Benzene	71-43-2	**3.08**		2.34
Trichloroethene	79-01-6	**301**		1.50
Toluene	108-88-3	**137**		3.10
Tetrachloroethene	127-18-4	**268**		1.21
p & m-Xylene	179601-23-1	**2.31**		1.41
1,4-Dichlorobenzene	106-46-7	**1.40**		0.66

2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA
1.410.838.8780

Map Report

Trinity Source Group, Inc.	**Project Site:** Former Santa Cruz Industries	**Beacon Proposal:** 221027R01
119 Encinal Street	**Project Location:** Santa Cruz, CA	**Beacon Project No.:** 0006666
Santa Cruz, CA 95060	**Project Manager:** Anna Machulskaya	**Reported:** 12/19/2022

Summary of Compound Detections - Concentration

Instrument File ID:	C22112838.D	**SV-3**		Method:	EPA 8260C
Lab Sample ID:	0006666-25	Sewer Gas		Analyzed:	11/29/2022 06:35

Analyte	CAS#	Result (µg/m³)	Q	LOQ (µg/m³)
Vinyl Chloride	75-01-4	**4.10**		0.61
1,1-Dichloroethene	75-35-4	**79.2**		1.50
Methylene Chloride	75-09-2	**25.8**		1.42
trans-1,2-Dichloroethene	156-60-5	**17.1**		1.13
1,1-Dichloroethane	75-34-3	**5.55**		0.58
cis-1,2-Dichloroethene	156-59-2	**106**		0.94
Chloroform	67-66-3	**527**		1.42
Carbon Tetrachloride	56-23-5	**1.51**		1.15
Benzene	71-43-2	**2.86**		2.34
Trichloroethene	79-01-6	**181**		1.50
Toluene	108-88-3	**122**		3.10
Tetrachloroethene	127-18-4	**140**		1.21
p & m-Xylene	179601-23-1	**1.98**		1.41
1,4-Dichlorobenzene	106-46-7	**1.13**		0.66

Instrument File ID:	C22112839.D	**SV-4**		Method:	EPA 8260C
Lab Sample ID:	0006666-26	Sewer Gas		Analyzed:	11/29/2022 07:02

Analyte	CAS#	Result (µg/m³)	Q	LOQ (µg/m³)
Vinyl Chloride	75-01-4	**3.16**		0.61
1,1-Dichloroethene	75-35-4	**51.1**		1.50
Methylene Chloride	75-09-2	**16.9**		1.42
trans-1,2-Dichloroethene	156-60-5	**8.62**		1.13
1,1-Dichloroethane	75-34-3	**4.02**		0.58
cis-1,2-Dichloroethene	156-59-2	**76.1**		0.94
Chloroform	67-66-3	**313**		1.42
Benzene	71-43-2	**2.47**		2.34
Trichloroethene	79-01-6	**115**		1.50
Toluene	108-88-3	**70.9**		3.10
Tetrachloroethene	127-18-4	**101**		1.21
1,4-Dichlorobenzene	106-46-7	**0.79**		0.66

2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA
1.410.838.8780

Map Report

Trinity Source Group, Inc.	**Project Site:** Former Santa Cruz Industries	**Beacon Proposal:** 221027R01
119 Encinal Street	**Project Location:** Santa Cruz, CA	**Beacon Project No.:** 0006666
Santa Cruz, CA 95060	**Project Manager:** Anna Machulskaya	**Reported:** 12/19/2022

Summary of Compound Detections - Concentration

Instrument File ID:	C22112840.D	**SV-5**		Method:	EPA 8260C
Lab Sample ID:	0006666-27	Sewer Gas		Analyzed:	11/29/2022 07:29

Analyte	CAS#	Result (µg/m³)	Q	LOQ (µg/m³)
Vinyl Chloride	75-01-4	**4.05**		0.61
1,1-Dichloroethene	75-35-4	**93.6**		1.50
Methylene Chloride	75-09-2	**20.5**		1.42
trans-1,2-Dichloroethene	156-60-5	**20.1**		1.13
1,1-Dichloroethane	75-34-3	**6.87**		0.58
cis-1,2-Dichloroethene	156-59-2	**120**		0.94
Chloroform	67-66-3	**534**		1.42
Carbon Tetrachloride	56-23-5	**1.81**		1.15
Benzene	71-43-2	**2.96**		2.34
Trichloroethene	79-01-6	**195**		1.50
Toluene	108-88-3	**114**		3.10
Tetrachloroethene	127-18-4	**172**		1.21
p & m-Xylene	179601-23-1	**1.93**		1.41
1,4-Dichlorobenzene	106-46-7	**1.17**		0.66

Instrument File ID:	S22120145.D	**PSG-53 Dup**		Method:	EPA 8260C
Lab Sample ID:	0006666-28	Soil Gas		Analyzed:	12/02/2022 10:30

Analyte	CAS#	Result (µg/m³)	Q	LOQ (µg/m³)
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**6.54**		0.56
Benzene	71-43-2	**5.94**		2.34

Instrument File ID:	S22120146.D	**PSG-56 Dup**		Method:	EPA 8260C
Lab Sample ID:	0006666-29	Soil Gas		Analyzed:	12/02/2022 10:57

Analyte	CAS#	Result (µg/m³)	Q	LOQ (µg/m³)
Tetrachloroethene	127-18-4	**1.56**		1.21

2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA
1.410.838.8780

Map Report

Trinity Source Group, Inc.	**Project Site:** Former Santa Cruz Industries	**Beacon Proposal:** 221027R01
119 Encinal Street	**Project Location:** Santa Cruz, CA	**Beacon Project No.:** 0006666
Santa Cruz, CA 95060	**Project Manager:** Anna Machulskaya	**Reported:** 12/19/2022

Summary of Compound Detections - Concentration

Instrument File ID:	S22120147.D	**SV-5 Dup**	Method:	EPA 8260C
Lab Sample ID:	0006666-30	Sewer Gas	Analyzed:	12/02/2022 11:24

Analyte	CAS#	Result (µg/m³)	Q	LOQ (µg/m³)
Vinyl Chloride	75-01-4	**3.49**		0.61
1,1-Dichloroethene	75-35-4	**84.5**		1.50
Methylene Chloride	75-09-2	**20.9**		1.42
trans-1,2-Dichloroethene	156-60-5	**20.3**		1.13
1,1-Dichloroethane	75-34-3	**5.99**		0.58
cis-1,2-Dichloroethene	156-59-2	**126**		0.94
Chloroform	67-66-3	**463**		1.42
Carbon Tetrachloride	56-23-5	**1.84**		1.15
Benzene	71-43-2	**2.34**		2.34
Trichloroethene	79-01-6	**219**		1.50
1,4-Dioxane	123-91-1	**1.84**		1.21
Toluene	108-88-3	**94.2**		3.10
Tetrachloroethene	127-18-4	**172**		1.21
p & m-Xylene	179601-23-1	**1.79**		1.41
1,4-Dichlorobenzene	106-46-7	**0.93**		0.66

2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA
1.410.838.8780

Map Report

Trinity Source Group, Inc.	**Project Site:** Former Santa Cruz Industries	**Beacon Proposal:** 221027R01
119 Encinal Street	**Project Location:** Santa Cruz, CA	**Beacon Project No.:** 0006666
Santa Cruz, CA 95060	**Project Manager:** Anna Machulskaya	**Reported:** 12/19/2022

Map Data Summary Table

Sample locations are shown on **Figure 1**. The following table lists number of detections on field samples from the current survey, the reporting limit, and the maximum value for each mapped compound. The table also includes the transformation and interpolation method for the compound distribution maps provided.

Figure No.	Compound	Number of Detections	LOQ (µg/m³)	Max Value (µg/m³)	Transformation Method	Interpolation Method
2	Vinyl Chloride	7	0.610	4.96	Log	Kriging
3	1,1-Dichloroethene	8	1.50	117	Log	Kriging
4	Benzene	17	2.34	31.4	Log	Kriging
5	Trichloroethene	6	1.50	301	Log	Kriging
6	Tetrachloroethene	12	1.21	268	Log	Kriging
7	Total VOCs	25	0.118	1,670	Log	Kriging

BEACON ENVIRONMENTAL
2203A Commerce Road, Suite 1, Forest Hill, MD 21050 USA
www.Beacon-USA.com 1-410-838-8780
Beacon Project 6666, November 2022

LEGEND

▲ PASSIVE SOIL-GAS SAMPLE LOCATION (November 2022)

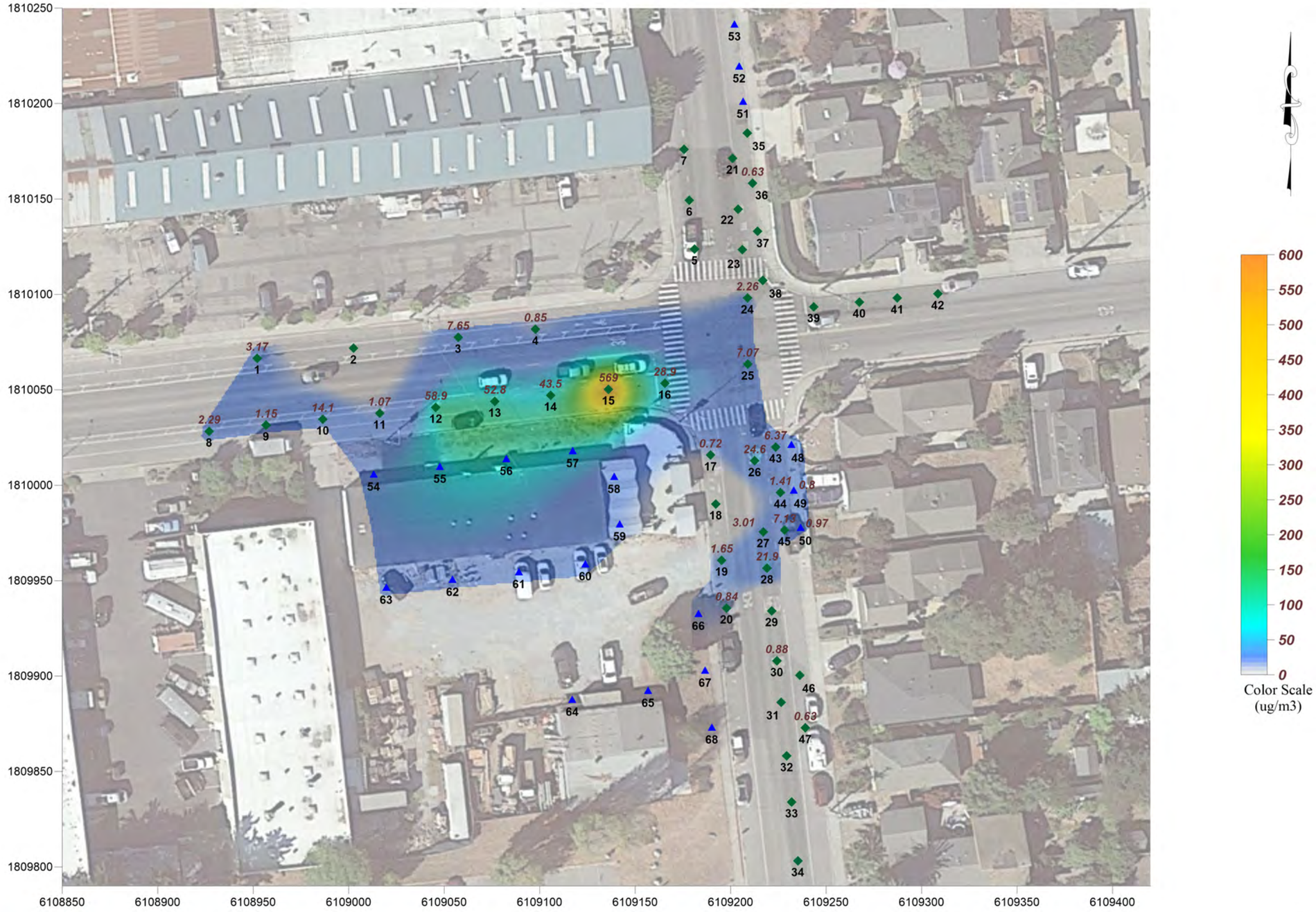
◆ PASSIVE SOIL-GAS SAMPLE LOCATION (September 2022)

Scale in Feet
0 55 110

System: State Plane
Zone: California zone 3
Datum: NAD83(2011) (EPSG:6420)
Coordinate Units: Feet

Figure 1
Passive Soil-Gas Survey
Sample Locations

2100 Delaware Avenue
Santa Cruz, CA



BEACON ENVIRONMENTAL
2203A Commerce Road, Suite 1, Forest Hill, MD 21050 USA
www.Beacon-USA.com 1-410-838-8780
Beacon Project 6666, November 2022

LEGEND

1,000 MICROGRAMS/CUBIC METER

▲ PASSIVE SOIL-GAS SAMPLE LOCATION (November 2022)

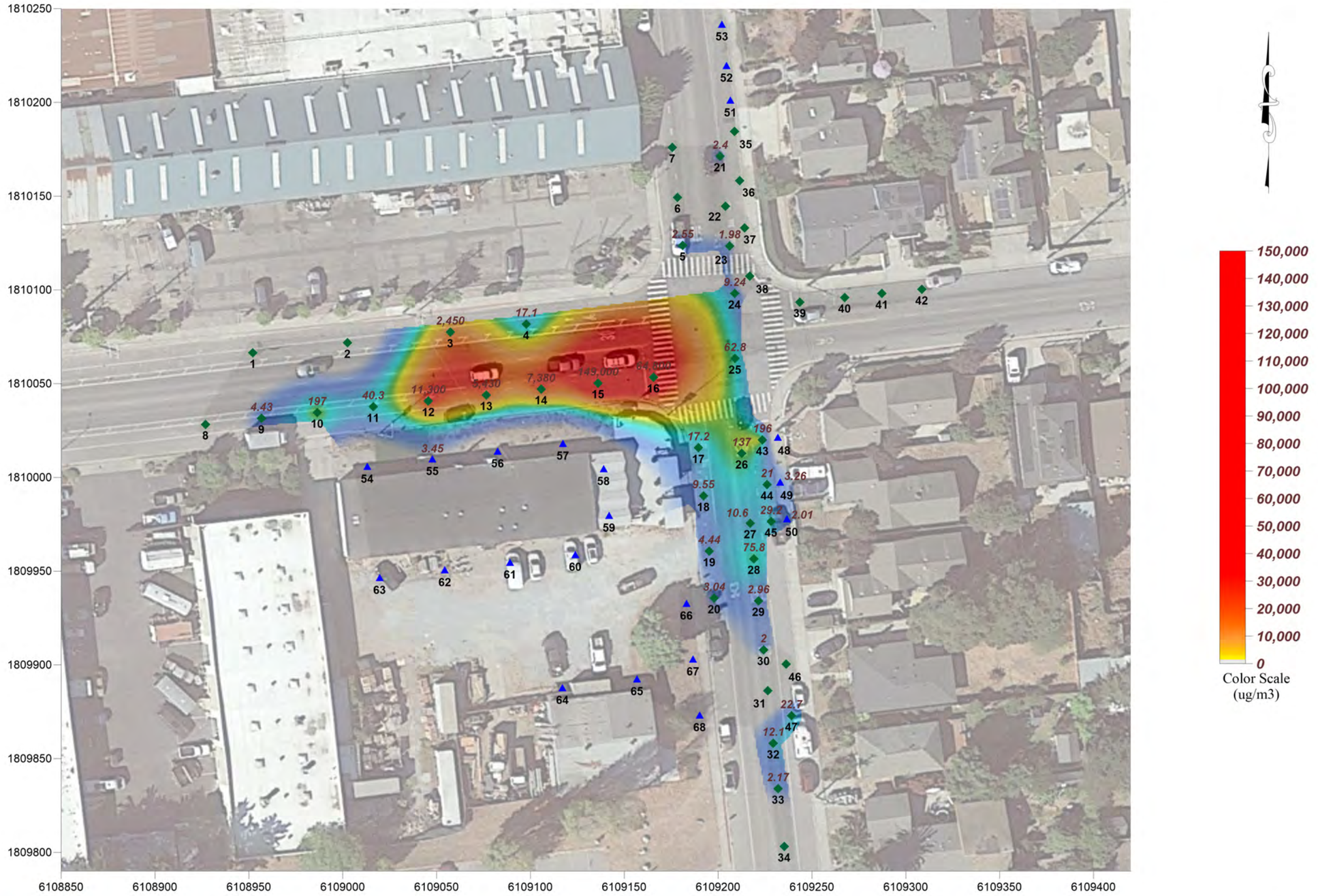
◆ PASSIVE SOIL-GAS SAMPLE LOCATION (September 2022)

Scale in Feet
0 55 110

System:	State Plane
Zone:	California zone 3
Datum:	NAD83(2011) (EPSG:6420)
Coordinate Units:	Feet

Figure 2
Passive Soil-Gas Survey
Vinyl Chloride

2100 Delaware Avenue
Santa Cruz, CA



BEACON ENVIRONMENTAL
2203A Commerce Road, Suite 1, Forest Hill, MD 21050 USA
www.Beacon-USA.com 1-410-838-8780
Beacon Project 6666, November 2022

LEGEND

1,000 MICROGRAMS/CUBIC METER

PASSIVE SOIL-GAS SAMPLE LOCATION (November 2022)

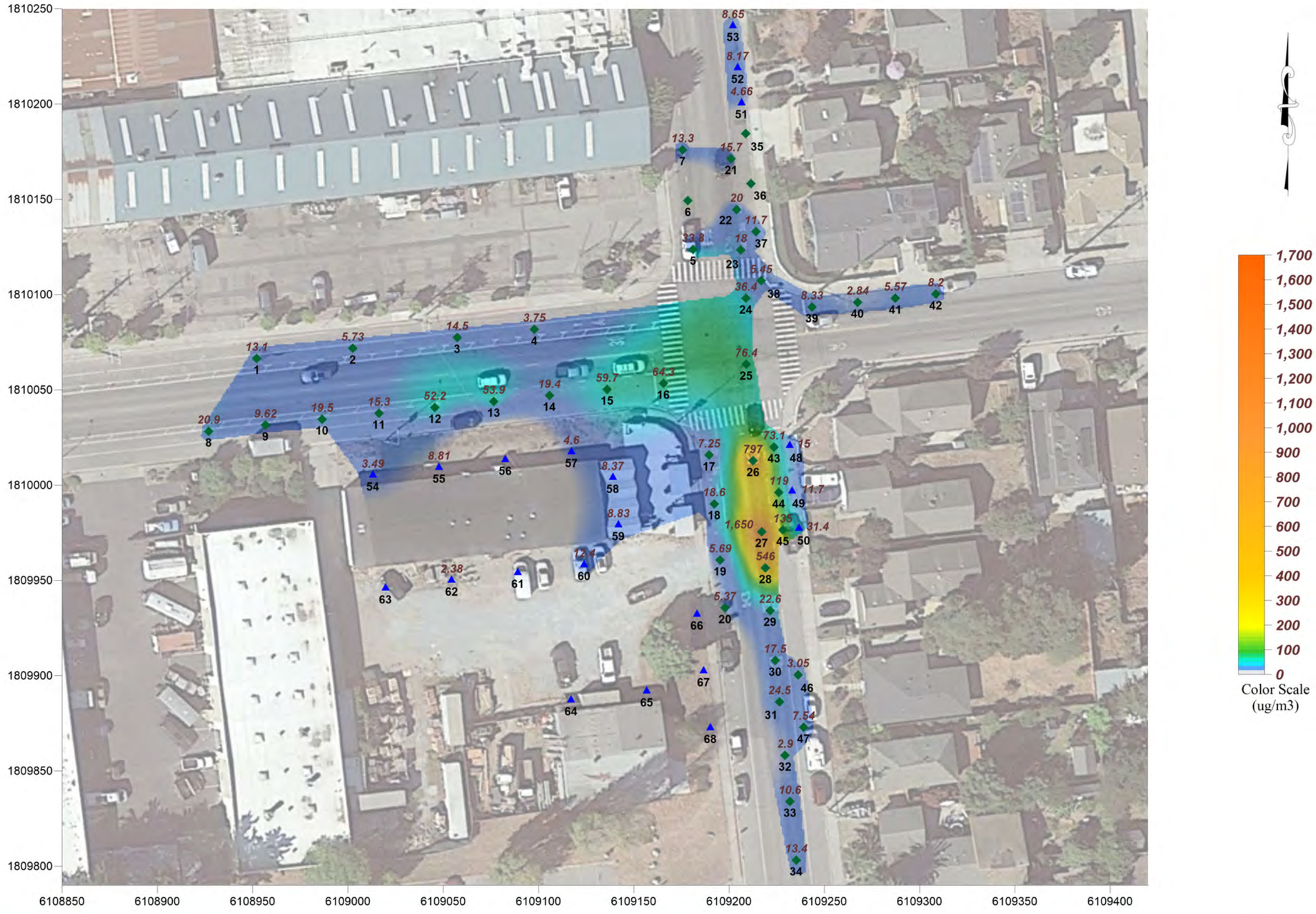
PASSIVE SOIL-GAS SAMPLE LOCATION (September 2022)

Scale in Feet: 0 55 110

System:	State Plane
Zone:	California zone 3
Datum:	NAD83(2011) (EPSG:6420)
Coordinate Units:	Feet

Figure 3
Passive Soil-Gas Survey
1,1-Dichloroethene

2100 Delaware Avenue
Santa Cruz, CA



BEACON ENVIRONMENTAL
2203A Commerce Road, Suite 1, Forest Hill, MD 21050 USA
www.Beacon-USA.com 1-410-838-8780
Beacon Project 6666, November 2022

LEGEND

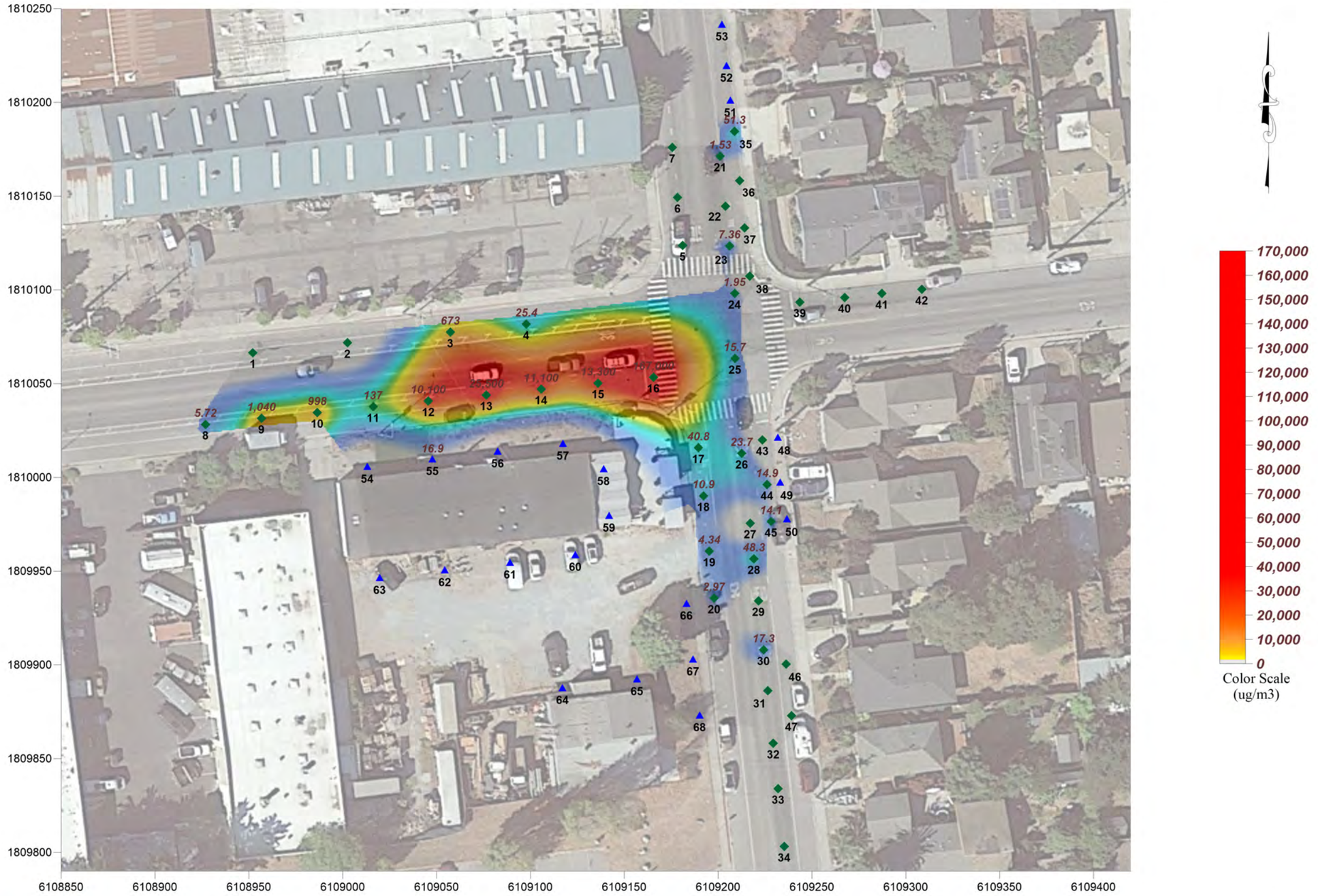
1,000 MICROGRAMS/CUBIC METER
▲ PASSIVE SOIL-GAS SAMPLE LOCATION (November 2022)
◆ PASSIVE SOIL-GAS SAMPLE LOCATION (September 2022)

Scale in Feet
0 55 110

System: State Plane
Zone: California zone 3
Datum: NAD83(2011) (EPSG:6420)
Coordinate Units: Feet

Figure 4
Passive Soil-Gas Survey
Benzene

2100 Delaware Avenue
Santa Cruz, CA



BEACON ENVIRONMENTAL
2203A Commerce Road, Suite 1, Forest Hill, MD 21050 USA
www.Beacon-USA.com 1-410-838-8780
Beacon Project 6666, November 2022

LEGEND

1,000 MICROGRAMS/CUBIC METER

PASSIVE SOIL-GAS SAMPLE LOCATION (November 2022)

PASSIVE SOIL-GAS SAMPLE LOCATION (September 2022)

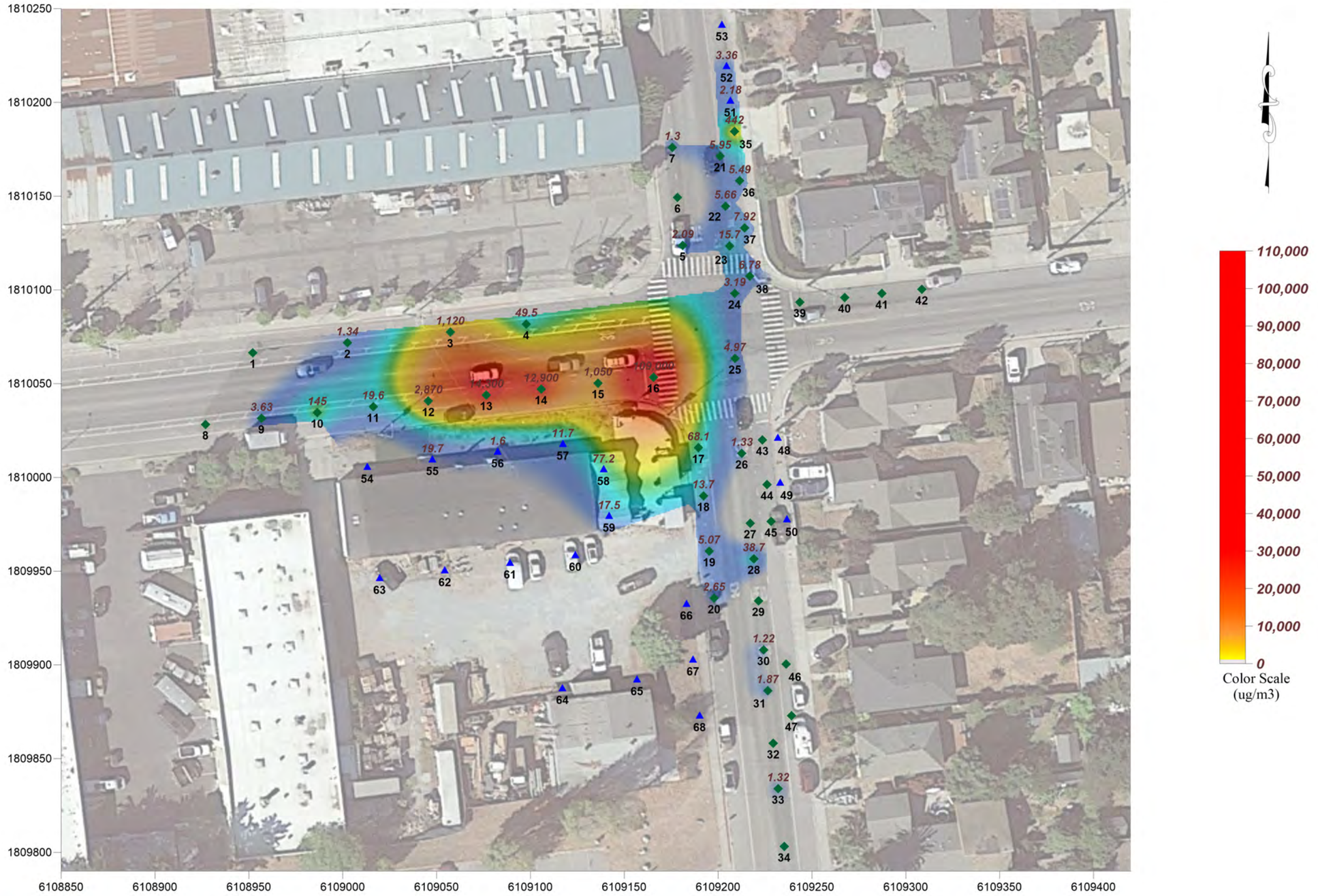
Scale in Feet

0 55 110

System:	State Plane
Zone:	California zone 3
Datum:	NAD83(2011) (EPSG:6420)
Coordinate Units:	Feet

Figure 5
Passive Soil-Gas Survey
Trichloroethene

2100 Delaware Avenue
Santa Cruz, CA



BEACON ENVIRONMENTAL
2203A Commerce Road, Suite 1, Forest Hill, MD 21050 USA
www.Beacon-USA.com 1-410-838-8780
Beacon Project 6666, November 2022

LEGEND

1,000 MICROGRAMS/CUBIC METER

▲ PASSIVE SOIL-GAS SAMPLE LOCATION (November 2022)

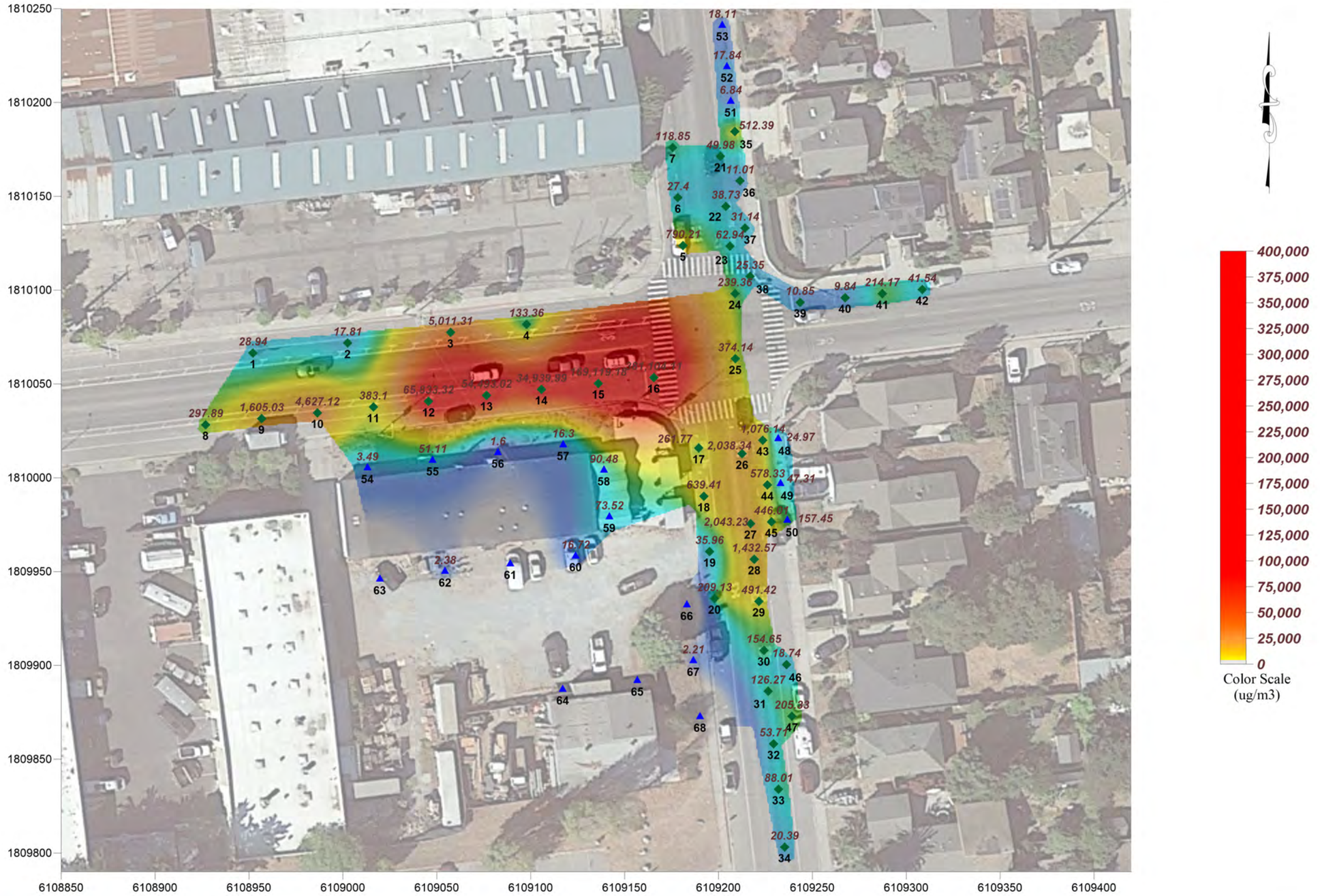
◆ PASSIVE SOIL-GAS SAMPLE LOCATION (September 2022)

Scale in Feet: 0 — 55 — 110

System:	State Plane
Zone:	California zone 3
Datum:	NAD83(2011) (EPSG:6420)
Coordinate Units:	Feet

Figure 6
Passive Soil-Gas Survey
Tetrachloroethene

2100 Delaware Avenue
Santa Cruz, CA



BEACON ENVIRONMENTAL
2203A Commerce Road, Suite 1, Forest Hill, MD 21050 USA
www.Beacon-USA.com 1-410-838-8780
Beacon Project 6666, November 2022

LEGEND

1,000 MICROGRAMS/CUBIC METER
▲ PASSIVE SOIL-GAS SAMPLE LOCATION (November 2022)
◆ PASSIVE SOIL-GAS SAMPLE LOCATION (September 2022)

Scale in Feet
0 55 110

System:	State Plane
Zone:	California zone 3
Datum:	NAD83(2011) (EPSG:6420)
Coordinate Units:	Feet

Figure 7
Passive Soil-Gas Survey
Total VOCs

2100 Delaware Avenue
Santa Cruz, CA

TABLE 1
Passive Soil Gas Analytical Table

Former Santa Cruz Industries (Eklof, Inc.)
411 Swift Street
Santa Cruz, California

Sample Name	Date Sampled	EPA METHOD 8260C																						
		PCE (µg/m³)	TCE (µg/m³)	cis-1,2-DCE (µg/m³)	trans-1,2-Dichloroethene (µg/m³)	1,1-DCA (µg/m³)	1,1-DCE (µg/m³)	Vinyl Chloride (µg/m³)	1,4-Dioxane (µg/m³)	1,1,1-Trichloroethane (µg/m³)	Freon 113 (µg/m³)	1,2,4-Trimethylbenzene (µg/m³)	1,2-Dichloroethane (µg/m³)	1,3,5-Trimethylbenzene (µg/m³)	1,4-Dichlorobenzene (µg/m³)	2-Methylnaphthalene (µg/m³)	Benzene (µg/m³)	Chlorobenzene (µg/m³)	Chloroform (µg/m³)	Ethylbenzene (µg/m³)	Isopropylbenzene (µg/m³)	Methyl-t-butyl ether (µg/m³)	Naphthalene (µg/m³)	o-Xylene (µg/m³)	p & m-Xylene (µg/m³)	Toluene (µg/m³)	All Other VOCs (µg/m³)
PSG-1	08/30/2022	< 1.21	< 1.51	**1.11**	< 1.13	**4.72**	< 1.51	**3.17**	< 1.21	< 0.47	< 0.56	< 1.50	< 0.89	< 1.50	< 0.66	< 1.63	**13.1**	< 0.58	< 1.42	< 1.46	< 1.50	< 2.49	< 1.55	< 1.41	**2.16**	**4.68**	ND
PSG-2	08/30/2022	**1.34**	< 1.51	< 0.94	< 1.13	< 0.58	< 1.51	< 0.61	< 1.21	< 0.47	< 0.56	**2.19**	< 0.89	< 1.50	< 0.66	< 1.63	**5.73**	< 0.58	< 1.42	< 1.46	< 1.50	< 2.49	< 1.55	< 1.41	**3.53**	**5.02**	ND
PSG-2 Dup	08/30/2022	< 1.21	< 1.51	< 0.94	< 1.13	< 0.58	< 1.51	< 0.61	< 1.21	< 0.47	< 0.56	**1.93**	< 0.89	< 1.50	< 0.66	< 1.63	**5.39**	< 0.58	< 1.42	< 1.46	< 1.50	< 2.49	< 1.55	< 1.41	**2.62**	**3.73**	ND
PSG-3	08/30/2022	**1,120**	**673**	**474**	**62.6**	**186**	**2,450**	**7.65**	< 1.21	**1.03**	< 0.56	**3.44**	< 0.89	< 1.50	< 0.66	< 1.64	**14.5**	< 0.58	**6.84**	< 1.46	< 1.50	< 2.49	< 1.55	< 1.41	**3.6**	**8.65**	ND
PSG-4	08/30/2022	**49.5**	**25.4**	**1.55**	< 1.13	**0.83**	**17.1**	**0.85**	< 1.21	< 0.47	< 0.56	< 1.50	< 0.89	< 1.50	< 0.66	< 1.64	**3.75**	< 0.59	**3.82**	**3.72**	< 1.50	< 2.49	< 1.55	**6.02**	**16.3**	**4.52**	ND
PSG-5	08/30/2022	**2.09**	< 1.51	< 0.94	< 1.13	< 0.58	**2.55**	< 0.61	< 1.21	**13.2**	< 0.56	**143**	< 0.89	**119**	< 0.66	**3.95**	**33.8**	< 0.58	< 1.42	**28.6**	**5.02**	< 2.49	**4.9**	**82.1**	**126**	**226**	ND
PSG-5 Dup	08/30/2022	**2.07**	< 1.51	< 0.94	< 1.13	**0.62**	**2.48**	< 0.61	< 1.21	**11.6**	< 0.56	**158**	< 0.89	**136**	< 0.66	**4.29**	**37.7**	< 0.58	< 1.42	**32.8**	**5.65**	< 2.49	**4.95**	**92.9**	**144**	**245**	ND
PSG-6	08/30/2022	**< 1.21**	< 1.51	< 0.94	< 1.13	< 0.58	< 1.51	< 0.61	< 1.21	< 0.47	< 0.56	**18.3**	< 0.89	**5.21**	< 0.66	**1.92**	< 2.35	< 0.58	< 1.42	< 1.46	< 1.50	< 2.49	< 1.55	< 1.41	**1.97**	**< 3.11**	ND
PSG-7	08/30/2022	**1.3**	< 1.51	< 0.94	< 1.13	< 0.59	< 1.51	< 0.61	< 1.21	< 0.47	**1.75**	**7.91**	< 0.89	**2.88**	< 0.66	< 1.64	**13.3**	**0.59**	< 1.42	**9.62**	< 1.50	< 2.49	< 1.55	**21.7**	**49.5**	**10.3**	ND
PSG-8	08/30/2022	**< 1.21**	**5.72**	**196**	**52.2**	< 0.59	< 1.51	**2.29**	< 1.21	< 0.47	< 0.56	**6.14**	< 0.89	**1.83**	< 0.66	< 1.64	**20.9**	< 0.59	**1.43**	< 1.46	< 1.50	< 2.49	< 1.55	< 1.41	**3.49**	**7.89**	ND
PSG-9	08/30/2022	**3.63**	**1,040**	**414**	**104**	**2.55**	**4.43**	**1.15**	< 1.21	< 0.47	< 0.56	**2.59**	< 0.89	< 1.50	< 0.66	< 1.64	**9.62**	< 0.59	**15.3**	< 1.46	< 1.50	< 2.49	< 1.55	< 1.41	**2.51**	**5.25**	ND
PSG-10	08/30/2022	**145**	**998**	**2,470**	**609**	**126**	**197**	**14.1**	< 1.21	< 0.47	< 0.56	**2.86**	< 0.89	< 1.50	< 0.66	< 1.64	**19.5**	< 0.59	**27.8**	< 1.46	< 1.50	< 2.49	< 1.55	**1.45**	**4.91**	**11.5**	ND
PSG-11	08/30/2022	**19.6**	**137**	**125**	**27.1**	**5.81**	**40.3**	**1.07**	< 1.21	< 0.47	< 0.56	**2.21**	< 0.89	< 1.50	< 0.66	< 1.64	**15.3**	< 0.59	< 1.42	< 1.46	< 1.50	< 2.49	< 1.55	< 1.41	**2.15**	**7.56**	ND
PSG-12	08/30/2022	**2,870**	**10,100**	**37,900**	**3,150**	**352**	**11,300**	**58.9**	< 1.21	< 0.47	< 0.56	**2.62**	**1.74**	< 1.50	< 0.66	< 1.64	**52.2**	< 0.59	**2.45**	< 1.46	< 1.50	**27.5**	< 1.55	< 1.41	**2.71**	**13.2**	ND
PSG-13	08/30/2022	**14,300**	**25,500**	**7,000**	**892**	**1,240**	**5,430**	**52.8**	**4.42**	< 0.47	< 0.56	< 1.50	**4.12**	< 1.50	< 0.66	< 1.64	**53.9**	< 0.59	**5.89**	< 1.46	< 1.50	< 2.49	< 1.56	< 1.41	< 1.41	**9.89**	ND
PSG-14	08/30/2022	**12,900**	**11,100**	**1,530**	**310**	**1,560**	**7,380**	**43.5**	**4.98**	**44.5**	< 0.56	**3.98**	**2.02**	**1.55**	< 0.66	**3.01**	**19.4**	< 0.59	**26.4**	< 1.46	< 1.50	< 2.49	**1.81**	< 1.41	**2.55**	**6.29**	ND
PSG-15	08/30/2022	**1,050**	**13,300**	**2,740**	**1,910**	**438**	**149,000**	**569**	< 1.21	< 0.47	< 0.56	**6.79**	**3.11**	**2.2**	< 0.66	**6.8**	**59.7**	< 0.59	< 1.42	**1.66**	< 1.50	< 2.49	**1.61**	**2.51**	**7.2**	**20.6**	ND
PSG-16	08/30/2022	**109,000**	**167,000**	**34,000**	**4,140**	**1,940**	**64,800**	**28.9**	**1.38**	**23.8**	< 0.56	**10**	**3.46**	**3.98**	< 0.66	**4.72**	**64.3**	**1.02**	**48.7**	**1.73**	< 1.50	< 2.49	**2.61**	**3.09**	**6.72**	**19.7**	ND
PSG-17	08/30/2022	**68.1**	**40.8**	**6.45**	**1.43**	**3.1**	**17.2**	**0.72**	< 1.22	< 0.47	< 0.56	**3.72**	< 0.89	< 1.50	< 0.66	< 1.64	**7.25**	< 0.59	< 1.42	**12.4**	< 1.50	< 2.49	< 1.56	**26.6**	**63**	**11**	ND
PSG-18	08/30/2022	**13.7**	**10.9**	**2.5**	< 1.13	**3.71**	**9.55**	< 0.62	< 1.22	< 0.47	< 0.56	**7.84**	**2.52**	**3.53**	< 0.66	**1.66**	**18.6**	< 0.59	< 1.42	**69.9**	**3.8**	< 2.49	< 1.56	**138**	**280**	**73.2**	ND
PSG-19	08/30/2022	**5.07**	**4.34**	**7.02**	**1.51**	**2.83**	**4.44**	**1.65**	< 1.22	< 0.47	< 0.56	**1.51**	< 0.89	< 1.50	< 0.66	< 1.64	**5.69**	< 0.59	< 1.42	< 1.47	< 1.50	< 2.49	< 1.56	< 1.42	**1.9**	< 3.12	ND
PSG-20	08/30/2022	**2.65**	**2.97**	**11.9**	**2.32**	**1.14**	**3.04**	**0.84**	< 1.22	< 0.47	< 0.56	< 1.50	< 0.89	< 1.50	< 0.66	< 1.64	**5.37**	< 0.59	< 1.42	**23**	< 1.50	< 2.49	< 1.56	**37.7**	**101**	**17.2**	ND
PSG-21	08/30/2022	**5.95**	**1.53**	< 0.94	< 1.13	< 0.59	**2.4**	< 0.62	< 1.22	< 0.47	**19.4**	< 1.50	< 0.89	< 1.50	< 0.66	< 1.64	**15.7**	< 0.59	< 1.42	< 1.47	< 1.50	< 2.49	< 1.56	< 1.42	< 1.42	**5**	ND
PSG-22	08/30/2022	**5.66**	< 1.51	< 0.94	< 1.13	< 0.59	< 1.51	< 0.62	< 1.22	< 0.47	**3.56**	**2.07**	< 0.89	< 1.50	< 0.66	< 1.64	**20**	< 0.59	< 1.42	< 1.47	< 1.50	< 2.49	< 1.56	< 1.42	< 1.42	**7.44**	ND
PSG-23	08/30/2022	**15.7**	**7.36**	**3.55**	< 1.13	**4.91**	**1.98**	< 0.62	< 1.22	**2.9**	**2.14**	< 1.50	< 0.89	< 1.50	< 0.66	< 1.64	**18**	< 0.59	< 1.42	< 1.47	< 1.50	< 2.49	< 1.56	< 1.42	< 1.42	**6.4**	ND
PSG-24	08/30/2022	**3.19**	**1.95**	**3.15**	< 1.13	**104**	**9.24**	**2.26**	< 1.22	**18.9**	**1.16**	**16.5**	< 0.89	**6.56**	< 0.66	**6.6**	**36.4**	< 0.59	< 1.42	**1.87**	< 1.50	< 2.49	**2.98**	**4.75**	**6.45**	**13.4**	ND
PSG-25	08/30/2022	**4.97**	**15.7**	**98.5**	**32.3**	**16.5**	**62.8**	**7.07**	< 1.22	< 0.48	< 0.56	**9.16**	**1.36**	**3.19**	**1.59**	**8.35**	**76.4**	< 0.59	< 1.43	**1.55**	< 1.50	< 2.49	**4.85**	**2.32**	**5.43**	**22.1**	ND
PSG-26	08/30/2022	**1.33**	**23.7**	**663**	**111**	**42.7**	**137**	**24.6**	**2.04**	< 0.47	< 0.56	**11.8**	**12.4**	**6.85**	< 0.66	**3.96**	**797**	< 0.59	< 1.42	**5.1**	**2.18**	< 2.49	**3.18**	**10.5**	**35**	**145**	ND
PSG-27	08/30/2022	< 1.22	< 1.51	**61.1**	**10.2**	**6.22**	**10.6**	**3.01**	**7.2**	< 0.47	< 0.56	**32.7**	< 0.89	**19.7**	< 0.66	**3.68**	**1,650**	< 0.59	< 1.42	**20**	**5.22**	< 2.49	**3.6**	**32.7**	**127**	**50.3**	ND
PSG-27 Dup	08/30/2022	< 1.22	< 1.51	**69.8**	**11.3**	**7.31**	**9.49**	**2.56**	**8.06**	< 0.47	< 0.56	**34.2**	< 0.89	**21.9**	< 0.66	**3.44**	**2,290**	< 0.59	< 1.42	**29.8**	**6.03**	< 2.49	**3.3**	**45.2**	**186**	**75.2**	ND
PSG-28	08/30/2022	**38.7**	**48.3**	**343**	**71.1**	**47.7**	**75.8**	**21.9**	**7.23**	< 0.47	< 0.56	**15.8**	**7.02**	**8.11**	< 0.66	**14.3**	**546**	< 0.59	< 1.42	**4.57**	**3.64**	< 2.49	**5.26**	**7.74**	**18.4**	**148**	ND
PSG-29	08/30/2022	< 1.22	< 1.51	**12.5**	**2.97**	**4.98**	**2.96**	< 0.62	< 1.22	< 0.48	< 0.56	**3.86**	< 0.89	**1.7**	< 0.67	**5.55**	**22.6**	< 0.59	< 1.43	**49.6**	**3.25**	< 2.49	**2.25**	**108**	**215**	**56.2**	ND
PSG-30	08/30/2022	**1.22**	**17.3**	**26.9**	**4.94**	**11.6**	**2.0**	**0.88**	< 1.22	< 0.48	< 0.56	< 1.50	< 0.89	< 1.50	< 0.67	**2.27**	**17.5**	< 0.59	< 1.43	**8.44**	**< 1.50**	< 2.49	< 1.56	**14.6**	**34.3**	**12.7**	ND
PSG-31	08/30/2022	**1.87**	< 1.51	< 0.94	< 1.13	**1.26**	< 1.51	< 0.62	< 1.22	< 0.48	< 0.56	**9.1**	< 0.89	**4.6**	< 0.67	**66**	**24.5**	< 0.59	< 1.43	< 1.47	< 1.50	< 2.49	**7.01**	**1.65**	**1.89**	**8.39**	ND
PSG-32	08/30/2022	< 1.22	< 1.51	< 0.94	< 1.13	< 0.59	**12.1**	< 0.62	< 1.22	**26.9**	< 0.56	< 1.50	< 0.89	< 1.50	< 0.66	**2.94**	**2.9**	< 0.59	< 1.42	< 1.47	< 1.50	< 2.49	< 1.56	**2.78**	**6.09**	< 3.12	ND
PSG-33	08/30/2022	**1.32**	< 1.51	< 0.94	< 1.13	< 0.59	**2.17**	< 0.62	< 1.22	**7.13**	< 0.56	**4.38**	< 0.89	**1.5**	< 0.66	**6.41**	**10.6**	< 0.59	< 1.42	**6.13**	< 1.50	< 2.49	**2.59**	**11.6**	**26.4**	**7.78**	ND
PSG-34	08/30/2022	< 1.22	< 1.51	< 0.94	< 1.13	< 0.59	< 1.51	< 0.62	< 1.22	< 0.47	< 0.56	< 1.50	< 0.89	< 1.50	< 0.66	< 1.64	**13.4**	< 0.59	< 1.42	< 1.47	< 1.50	< 2.49	< 1.56	< 1.42	**2.37**	**4.62**	ND

TABLE 1
Passive Soil Gas Analytical Table

Former Santa Cruz Industries (Eklof, Inc.)
411 Swift Street
Santa Cruz, California

Sample Name	Date Sampled	EPA METHOD 8260C																						
		PCE (µg/m³)	TCE (µg/m³)	cis-1,2-DCE (µg/m³)	trans-1,2-Dichloroethene (µg/m³)	1,1-DCA (µg/m³)	1,1-DCE (µg/m³)	Vinyl Chloride (µg/m³)	1,4-Dioxane (µg/m³)	1,1,1-Trichloroethane (µg/m³)	Freon 113 (µg/m³)	1,2,4-Trimethylbenzene (µg/m³)	1,2-Dichloroethane (µg/m³)	1,3,5-Trimethylbenzene (µg/m³)	1,4-Dichlorobenzene (µg/m³)	2-Methylnaphthalene (µg/m³)	Benzene (µg/m³)	Chlorobenzene (µg/m³)	Chloroform (µg/m³)	Ethylbenzene (µg/m³)	Isopropylbenzene (µg/m³)	Methyl-t-butyl ether (µg/m³)	Naphthalene (µg/m³)	o-Xylene (µg/m³)	p & m-Xylene (µg/m³)	Toluene (µg/m³)	All Other VOCs (µg/m³)
PSG-1	08/30/2022	< 1.21	< 1.51	**1.11**	< 1.13	**4.72**	< 1.51	**3.17**	< 1.21	< 0.47	< 0.56	< 1.50	< 0.89	< 1.50	< 0.66	< 1.63	**13.1**	< 0.58	< 1.42	< 1.46	< 1.50	< 2.49	< 1.55	< 1.41	**2.16**	**4.68**	ND
PSG-2	08/30/2022	**1.34**	< 1.51	< 0.94	< 1.13	< 0.58	< 1.51	< 0.61	< 1.21	< 0.47	< 0.56	**2.19**	< 0.89	< 1.50	< 0.66	< 1.63	**5.73**	< 0.58	< 1.42	< 1.46	< 1.50	< 2.49	< 1.55	< 1.41	**3.53**	**5.02**	ND
PSG-35	08/30/2022	**442**	**51.3**	**2.21**	< 1.13	< 0.59	< 1.51	< 0.61	< 1.21	< 0.47	< 0.56	< 1.50	< 0.89	< 1.50	< 0.66	< 1.64	< 2.35	< 0.59	< 1.42	**2.23**	< 1.50	< 2.49	< 1.56	**4.45**	**10.2**	< 3.11	ND
PSG-36	08/30/2022	**5.49**	< 1.51	< 0.94	< 1.13	< 0.59	< 1.51	**0.63**	< 1.21	< 0.47	< 0.56	< 1.50	**4.89**	< 1.50	< 0.66	< 1.64	< 2.35	< 0.59	< 1.42	< 1.47	< 1.50	< 2.49	< 1.56	< 1.42	< 1.42	< 3.11	ND
PSG-37	08/30/2022	**7.92**	< 1.51	< 0.94	< 1.13	< 0.59	< 1.51	< 0.61	< 1.21	< 0.47	< 0.56	**1.87**	< 0.89	< 1.50	< 0.66	< 1.64	**11.7**	< 0.59	< 1.42	< 1.47	< 1.50	< 2.49	< 1.56	**1.51**	**3.39**	**4.75**	ND
PSG-38	08/30/2022	**6.78**	< 1.51	< 0.94	< 1.13	< 0.59	< 1.51	< 0.61	< 1.21	< 0.47	< 0.56	< 1.50	< 0.89	< 1.50	< 0.66	< 1.64	**5.45**	< 0.59	< 1.42	**1.66**	< 1.50	< 2.49	< 1.56	**3.59**	**7.87**	< 3.11	ND
PSG-39	08/30/2022	< 1.22	< 1.51	< 0.94	< 1.13	< 0.59	< 1.51	< 0.62	< 1.22	< 0.47	< 0.56	< 1.50	< 0.89	< 1.50	< 0.66	< 1.64	**8.33**	< 0.59	**2.52**	< 1.47	< 1.50	< 2.49	< 1.56	< 1.42	< 1.42	< 3.11	ND
PSG-40	08/30/2022	< 1.22	< 1.51	< 0.94	< 1.13	< 0.59	< 1.51	< 0.62	< 1.22	< 0.47	< 0.56	< 1.50	< 0.89	< 1.50	< 0.66	< 1.64	**2.84**	< 0.59	< 1.42	< 1.47	< 1.50	< 2.49	< 1.56	**2.02**	**4.98**	< 3.12	ND
PSG-41	08/30/2022	< 1.22	< 1.51	< 0.94	< 1.13	< 0.59	< 1.51	< 0.62	< 1.22	< 0.47	< 0.56	< 1.50	< 0.89	< 1.50	< 0.66	< 1.64	**5.57**	< 0.59	< 1.42	**30**	< 1.50	< 2.49	< 1.56	**49.2**	**109**	**20.4**	ND
PSG-41 Dup	08/30/2022	< 1.22	< 1.51	< 0.94	< 1.13	< 0.59	< 1.51	< 0.62	< 1.22	< 0.47	< 0.56	< 1.50	< 0.89	< 1.50	< 0.66	< 1.64	**7.01**	< 0.59	< 1.42	**21.1**	< 1.50	< 2.49	< 1.56	**37.3**	**75.2**	**17.7**	ND
PSG-42	08/30/2022	< 1.21	< 1.51	< 0.94	< 1.13	< 0.59	< 1.51	< 0.61	< 1.21	< 0.47	< 0.56	< 1.50	< 0.89	< 1.50	< 0.66	< 1.64	**8.2**	< 0.59	< 1.42	**3.89**	< 1.50	< 2.49	< 1.56	**7.25**	**17.3**	**4.9**	ND
PSG-43	08/30/2022	< 1.22	< 1.51	**561**	**95.8**	**100**	**196**	**6.37**	< 1.22	**0.68**	< 0.56	**9.64**	< 0.89	**3.8**	< 0.66	**6.44**	**73.1**	< 0.59	< 1.42	< 1.47	< 1.50	**2.8**	**3.78**	**2.62**	**4.49**	**9.62**	ND
PSG-44	08/30/2022	< 1.22	**14.9**	**283**	**73.6**	**13.3**	**21**	**1.41**	< 1.22	< 0.47	< 0.56	**4.94**	**1.9**	**1.98**	< 0.66	**3.64**	**119**	< 0.59	< 1.42	**3.32**	< 1.50	< 2.49	**2.47**	**5.77**	**14.3**	**13.8**	ND
PSG-45	08/30/2022	< 1.22	**14.1**	**157**	**28.6**	**30.1**	**29.2**	**7.13**	< 1.22	< 0.47	< 0.56	**11.8**	**4.0**	**4.53**	< 0.66	**2.82**	**135**	< 0.59	< 1.42	< 1.47	< 1.50	< 2.49	**2.2**	**3.07**	**4.16**	**12.3**	ND
PSG-46	08/30/2022	< 1.22	< 1.51	< 0.94	< 1.13	< 0.59	< 1.51	< 0.62	< 1.22	< 0.47	< 0.56	**6.26**	< 0.89	**2.14**	< 0.66	**3.85**	**3.05**	< 0.59	< 1.42	< 1.47	< 1.50	< 2.49	**1.78**	< 1.42	**1.66**	< 3.12	ND
PSG-47	08/30/2022	< 1.22	< 1.51	< 0.94	< 1.13	**1.97**	**22.7**	**0.63**	< 1.22	**169**	< 0.56	**3.49**	< 0.89	< 1.50	< 0.66	< 1.64	**7.54**	< 0.59	< 1.42	< 1.47	< 1.50	< 2.49	< 1.56	< 1.42	< 1.42	< 3.12	ND
PSG-47 Dup	08/30/2022	< 1.22	< 1.51	< 0.94	< 1.13	**1.87**	**39.1**	**1.24**	< 1.22	**119**	< 0.56	**3.38**	< 0.89	< 1.50	< 0.66	< 1.64	**7.96**	< 0.59	< 1.42	< 1.47	< 1.50	< 2.49	< 1.56	< 1.42	< 1.42	**3.86**	ND
PSG-48	11/28/2022	< 1.21	< 1.50	**1.07**	< 1.13	**1.05**	< 1.50	< 0.61	< 1.21	< 0.47	< 0.56	< 1.49	< 0.88	< 1.49	< 0.66	< 1.63	**15**	< 0.58	< 1.41	< 1.46	< 1.49	< 2.48	< 1.55	< 1.41	**1.57**	**6.28**	ND
PSG-49	11/28/2022	< 1.21	< 1.50	**19.6**	**5.76**	**1.96**	**3.26**	**0.8**	< 1.21	< 0.47	< 0.56	< 1.49	< 0.88	< 1.49	< 0.66	< 1.63	**11.7**	< 0.58	< 1.41	< 1.46	< 1.49	< 2.48	< 1.55	< 1.41	< 1.41	**4.23**	ND
PSG-50	11/28/2022	< 1.21	< 1.50	**12.5**	**3.1**	**2.47**	**2.01**	**0.97**	< 1.21	< 0.47	< 0.56	< 1.49	< 0.88	< 1.49	< 0.66	< 1.63	**31.4**	< 0.58	< 1.41	< 1.46	< 1.49	< 2.48	< 1.55	< 1.41	< 1.41	**105**	ND
PSG-51	11/28/2022	**2.18**	< 1.50	< 0.94	< 1.13	< 0.58	< 1.50	< 0.61	< 1.21	< 0.47	< 0.56	< 1.49	< 0.89	< 1.49	< 0.66	< 1.63	**4.66**	< 0.58	< 1.42	< 1.46	< 1.49	< 2.48	< 1.55	< 1.41	< 1.41	< 3.10	ND
PSG-52	11/28/2022	**3.36**	< 1.50	< 0.94	< 1.13	< 0.58	< 1.50	< 0.61	< 1.21	< 0.47	< 0.56	< 1.49	< 0.89	< 1.49	< 0.66	< 1.63	**8.17**	< 0.58	< 1.42	< 1.46	< 1.49	< 2.48	< 1.55	< 1.41	**1.61**	**4.7**	ND
PSG-53	11/28/2022	< 1.21	< 1.50	< 0.94	< 1.13	< 0.58	< 1.50	< 0.61	< 1.21	< 0.47	5.68	< 1.49	< 0.89	< 1.49	< 0.66	< 1.63	**8.65**	< 0.58	< 1.42	< 1.46	< 1.49	< 2.48	< 1.55	< 1.41	< 1.41	**3.78**	ND
PSG-53 Dup	11/28/2022	< 1.21	< 1.50	< 0.94	< 1.13	< 0.58	< 1.50	< 0.61	< 1.21	< 0.47	**6.54**	< 1.49	< 0.89	< 1.49	< 0.66	< 1.63	**5.94**	< 0.58	< 1.42	< 1.46	< 1.49	< 2.48	< 1.55	< 1.41	< 1.41	< 3.10	ND
PSG-54	11/28/2022	< 1.21	< 1.51	< 0.94	< 1.13	< 0.58	< 1.51	< 0.61	< 1.21	< 0.47	< 0.56	< 1.50	< 0.89	< 1.50	< 0.66	< 1.63	**3.49**	< 0.58	< 1.42	< 1.46	< 1.50	< 2.48	< 1.55	< 1.41	< 1.41	< 3.10	ND
PSG-55	11/28/2022	**19.7**	**16.9**	**0.97**	< 1.13	**1.28**	**3.45**	< 0.61	< 1.21	< 0.47	< 0.56	< 1.50	< 0.89	< 1.50	< 0.66	< 1.63	**8.81**	< 0.58	< 1.42	< 1.46	< 1.50	< 2.48	< 1.55	< 1.41	< 1.41	< 3.10	ND
PSG-56	11/28/2022	**1.6**	< 1.51	< 0.94	< 1.13	< 0.58	< 1.51	< 0.61	< 1.21	< 0.47	< 0.56	< 1.50	< 0.89	< 1.50	< 0.66	< 1.63	< 2.34	< 0.58	< 1.42	< 1.46	< 1.50	< 2.48	< 1.55	< 1.41	< 1.41	< 3.10	ND
PSG-56 Dup	11/28/2022	**1.56**	< 1.51	< 0.94	< 1.13	< 0.58	< 1.51	< 0.61	< 1.21	< 0.47	< 0.56	< 1.50	< 0.89	< 1.50	< 0.66	< 1.63	< 2.34	< 0.58	< 1.42	< 1.46	< 1.50	< 2.48	< 1.55	< 1.41	< 1.41	< 3.10	ND
PSG-57	11/28/2022	**11.7**	< 1.51	< 0.94	< 1.13	< 0.58	< 1.51	< 0.61	< 1.21	< 0.47	< 0.56	< 1.50	< 0.89	< 1.50	< 0.66	< 1.63	**4.6**	< 0.58	< 1.42	< 1.46	< 1.50	< 2.48	< 1.55	< 1.41	< 1.41	< 3.10	ND
PSG-58	11/28/2022	**77.2**	< 1.50	< 0.94	< 1.13	0.71	< 1.50	< 0.61	< 1.21	**0.53**	< 0.56	< 1.49	< 0.89	< 1.49	< 0.66	< 1.63	**8.37**	< 0.58	< 1.42	< 1.46	< 1.49	< 2.48	< 1.55	< 1.41	< 1.41	**3.67**	ND
PSG-59	11/28/2022	**17.5**	< 1.50	< 0.94	< 1.13	< 0.58	< 1.50	< 0.61	< 1.21	< 0.47	< 0.56	< 1.50	< 0.89	< 1.50	< 0.66	< 1.63	**8.83**	< 0.58	2.19	< 1.46	< 1.50	< 2.48	< 1.55	< 1.41	< 1.41	**45**	ND
PSG-60	11/28/2022	< 1.21	< 1.50	< 0.94	< 1.13	< 0.58	< 1.50	< 0.61	< 1.21	< 0.47	< 0.56	< 1.49	< 0.89	< 1.49	< 0.66	< 1.63	**12.4**	< 0.58	< 1.42	< 1.46	< 1.49	< 2.48	< 1.55	< 1.41	< 1.41	**4.32**	ND
PSG-61	11/28/2022	< 1.21	< 1.50	< 0.94	< 1.13	< 0.58	< 1.50	< 0.61	< 1.21	< 0.47	< 0.56	< 1.49	< 0.89	< 1.49	< 0.66	< 1.63	< 2.34	< 0.58	< 1.42	< 1.46	< 1.49	< 2.48	< 1.55	< 1.41	< 1.41	< 3.10	ND
PSG-62	11/28/2022	< 1.21	< 1.50	< 0.94	< 1.13	< 0.58	< 1.50	< 0.61	< 1.21	< 0.47	< 0.56	< 1.50	< 0.89	< 1.50	< 0.66	< 1.63	**2.38**	< 0.58	< 1.42	< 1.46	< 1.50	< 2.48	< 1.55	< 1.41	< 1.41	< 3.10	ND
PSG-63	11/28/2022	< 1.21	< 1.50	< 0.94	< 1.13	< 0.58	< 1.50	< 0.61	< 1.21	< 0.47	< 0.56	< 1.49	< 0.89	< 1.49	< 0.66	< 1.63	< 2.34	< 0.58	< 1.42	< 1.46	< 1.49	< 2.48	< 1.55	< 1.41	< 1.41	< 3.10	ND
PSG-64	11/28/2022	< 1.21	< 1.50	< 0.94	< 1.13	< 0.58	< 1.50	< 0.61	< 1.21	< 0.47	< 0.56	< 1.49	< 0.89	< 1.49	< 0.66	< 1.63	< 2.34	< 0.58	< 1.42	< 1.46	< 1.49	< 2.48	< 1.55	< 1.41	< 1.41	< 3.10	ND
PSG-65	11/28/2022	< 1.21	< 1.50	< 0.94	< 1.13	< 0.58	< 1.50	< 0.61	< 1.21	< 0.47	< 0.56	< 1.49	< 0.89	< 1.49	< 0.66	< 1.63	< 2.34	< 0.58	< 1.42	< 1.46	< 1.49	< 2.48	< 1.55	< 1.41	< 1.41	< 3.10	ND

TABLE 1
Passive Soil Gas Analytical Table

Former Santa Cruz Industries (Eklof, Inc.)
411 Swift Street
Santa Cruz, California

Sample Name	Date Sampled	EPA METHOD 8260C																							
		PCE (µg/m³)	TCE (µg/m³)	cis-1,2-DCE (µg/m³)	trans-1,2-Dichloroethene (µg/m³)	1,1-DCA (µg/m³)	1,1-DCE (µg/m³)	Vinyl Chloride (µg/m³)	1,4-Dioxane (µg/m³)	1,1,1-Trichloroethane (µg/m³)	Freon 113 (µg/m³)	1,2,4-Trimethylbenzene (µg/m³)	1,2-Dichloroethane (µg/m³)	1,3,5-Trimethylbenzene (µg/m³)	1,4-Dichlorobenzene (µg/m³)	2-Methylnaphthalene (µg/m³)	Benzene (µg/m³)	Chlorobenzene (µg/m³)	Chloroform (µg/m³)	Ethylbenzene (µg/m³)	Isopropylbenzene (µg/m³)	Methyl-t-butyl ether (µg/m³)	Naphthalene (µg/m³)	o-Xylene (µg/m³)	p & m-Xylene (µg/m³)	Toluene (µg/m³)	All Other VOCs (µg/m³)
PSG-1	08/30/2022	< 1.21	< 1.51	**1.11**	< 1.13	**4.72**	< 1.51	**3.17**	< 1.21	< 0.47	< 0.56	< 1.50	< 0.89	< 1.50	< 0.66	< 1.63	**13.1**	< 0.58	< 1.42	< 1.46	< 1.50	< 2.49	< 1.55	< 1.41	**2.16**	**4.68**	ND
PSG-2	08/30/2022	**1.34**	< 1.51	< 0.94	< 1.13	< 0.58	< 1.51	< 0.61	< 1.21	< 0.47	< 0.56	**2.19**	< 0.89	< 1.50	< 0.66	< 1.63	**5.73**	< 0.58	< 1.42	< 1.46	< 1.50	< 2.49	< 1.55	< 1.41	**3.53**	**5.02**	ND
PSG-66	11/28/2022	< 1.21	< 1.50	< 0.94	< 1.13	< 0.58	< 1.50	< 0.61	< 1.21	< 0.47	< 0.56	< 1.50	< 0.89	< 1.50	< 0.66	< 1.63	< 2.34	< 0.58	< 1.42	< 1.46	< 1.50	< 2.48	< 1.55	< 1.41	< 1.41	< 3.10	ND
PSG-67	11/28/2022	< 1.21	< 1.50	< 0.94	< 1.13	< 0.58	< 1.50	< 0.61	< 1.21	< 0.47	< 0.56	< 1.49	< 0.89	< 1.49	< 0.66	< 1.63	< 2.34	< 0.58	**2.21**	< 1.46	< 1.49	< 2.48	< 1.55	< 1.41	< 1.41	< 3.10	ND
PSG-68	11/28/2022	< 1.21	< 1.50	< 0.94	< 1.13	< 0.58	< 1.50	< 0.61	< 1.21	< 0.47	< 0.56	< 1.49	< 0.89	< 1.49	< 0.66	< 1.63	< 2.34	< 0.58	< 1.42	< 1.46	< 1.49	< 2.48	< 1.55	< 1.41	< 1.41	< 3.10	ND
SFBRWQCB Residential ESL		15	16	280	2,800	58	2,400	0.32	12	35,000	--	--	3.6	--	8.5	--	3.2	1,700	4.1	37	--	360	2.8	3,500[1]	3,500[1]	10,000	--
SFBRWQCB Commercial ESL		67	100	1,200	12,000	260	10,000	5.2	53	150,000	--	--	16	--	37	--	14	7,300	18	160	--	1,600	12	15,000[1]	15,000[1]	44,000	--

Notes:

EPA = Environmental Protection Agency
SFBRWQCB = San Francisco Bay Regional Water Quality Control Board
ESL = SFBRWQCB Environmental Screening Levels Subslab/Soil Gas Vapor Intrusion, Table SG-1 (June 2019, Revision 2)
µg/m³ = Micrograms per Cubic Meter
< = Indicated chemical not detected at or above the laboratory Practical Quantitation Limit shown
Bold = Analyte detected at shown concentration
ND = Not detected at or above the laboratory Practical Quantitation Limit
VOCs = Volatile organic compounds
[1] = ESL for sum of m,p-xylene and o-xylene
-- = Not Applicable
= Analyte Exceeds the Residential ESL
= Analyte Exceeds the Commercial ESL

PCE = Tetrachloroethylene
TCE = Trichloroethylene
cis-1,2-DCE = cis-1,2-Dichloroethene
1,1-DCA = 1,1-Dichloroethane
1,1-DCE = 1,1-Dichloroethene

TABLE 2
Passive Sewer Gas Analytical Table

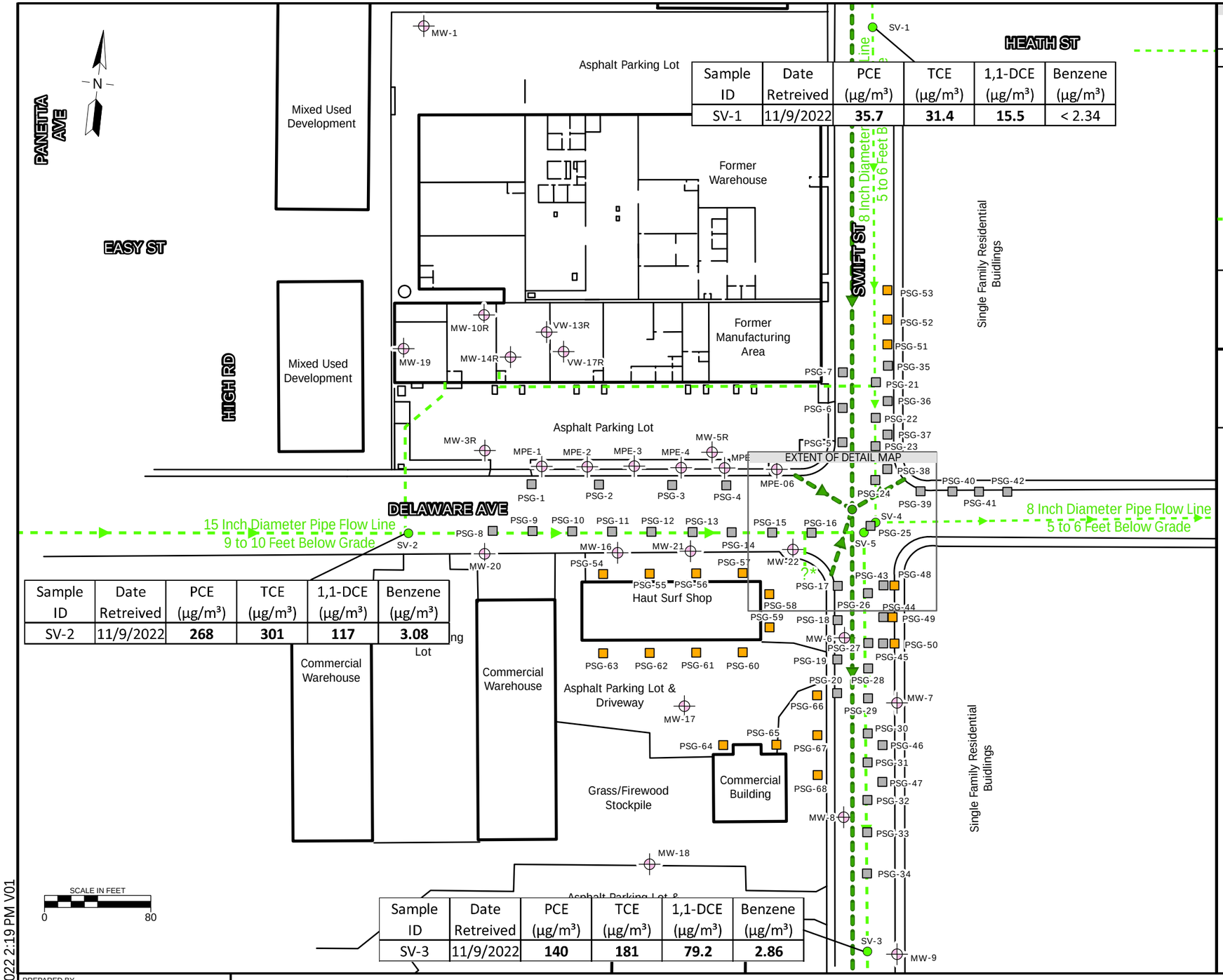
Former Santa Cruz Industries (Eklof, Inc.)
411 Swift Street
Santa Cruz, California

Sample Name	Date Sampled	EPA METHOD 8260C																							
		PCE (µg/m³)	TCE (µg/m³)	cis-1,2-DCE (µg/m³)	trans-1,2-Dichloro ethene (µg/m³)	1,1-DCA (µg/m³)	1,1-DCE (µg/m³)	Vinyl Chloride (µg/m³)	1,4-Dioxane (µg/m³)	1,1,1-Trichloro ethane (µg/m³)	Freon 113 (µg/m³)	1,2,4-Trimethyl benzene (µg/m³)	1,2-Dichloro ethane (µg/m³)	1,3,5-Trimethyl benzene (µg/m³)	1,4-Dichloro benzene (µg/m³)	2-Methyl naphthalene (µg/m³)	Benzene (µg/m³)	Chloro benzene (µg/m³)	Chloroform (µg/m³)	Ethyl benzene (µg/m³)	Isopropyl benzene (µg/m³)	Methyl-t-butyl ether (µg/m³)	Naphthalene (µg/m³)	o-Xylene (µg/m³)	p & m-Xylene (µg/m³)	Toluene (µg/m³)	All Other VOCs (µg/m³)
SV-1	11/28/2022	**35.7**	**31.4**	**15**	**1.56**	**1.31**	**15.5**	**1.13**	< 1.21	< 0.47	**1.54**	< 1.49	< 0.89	< 1.49	**1.58**	< 1.63	< 2.34	< 0.58	**242**	< 1.46	< 1.49	< 2.48	< 1.55	< 1.41	< 1.41	**9.28**	ND
SV-2	11/28/2022	**268**	**301**	**174**	**30.8**	**9.29**	**117**	**4.96**	< 1.21	< 0.47	< 0.56	< 1.49	< 0.89	< 1.49	**1.4**	< 1.63	**3.08**	< 0.58	**589**	< 1.46	< 1.49	< 2.48	< 1.55	< 1.41	**2.31**	**137**	ND
SV-3	11/28/2022	**140**	**181**	**106**	**17.1**	**5.55**	**79.2**	**4.1**	< 1.21	< 0.47	< 0.56	< 1.49	< 0.89	< 1.49	**1.13**	< 1.63	**2.86**	< 0.58	**527**	< 1.46	< 1.49	< 2.48	< 1.55	< 1.41	**1.98**	**122**	ND
SV-4	11/28/2022	**101**	**115**	**76.1**	**8.62**	**4.02**	**51.1**	**3.16**	< 1.21	< 0.47	< 0.56	< 1.49	< 0.89	< 1.49	**0.79**	< 1.63	**2.47**	< 0.58	**313**	< 1.46	< 1.49	< 2.48	< 1.55	< 1.41	< 1.41	**70.9**	ND
SV-5	11/28/2022	**172**	**195**	**120**	**20.1**	**6.87**	**93.6**	**4.05**	< 1.21	< 0.47	< 0.56	< 1.49	< 0.89	< 1.49	**1.17**	< 1.63	**2.96**	< 0.58	**534**	< 1.46	< 1.49	< 2.48	< 1.55	< 1.41	**1.93**	**114**	ND
SV-5 Dup	11/28/2022	**172**	**219**	**126**	**20.3**	**5.99**	**84.5**	**3.49**	**1.84**	< 0.47	< 0.56	< 1.49	< 0.89	< 1.49	**0.93**	< 1.63	**2.34**	< 0.58	**463**	< 1.46	< 1.49	< 2.48	< 1.55	< 1.41	**1.79**	**94.2**	ND
SFBRWQCB Residential ESL		15	16	280	2,800	58	2,400	0.32	12	35,000	--	--	3.6	--	8.5	--	3.2	1,700	4.1	37	--	360	2.8	3,500[1]	3,500[1]	10,000	--
SFBRWQCB Commercial ESL		67	100	1,200	12,000	260	10,000	5.2	53	150,000	--	--	16	--	37	--	14	7,300	18	160	--	1,600	12	15,000[1]	15,000[1]	44,000	--

Notes:

EPA = Environmental Protection Agency
SFBRWQCB = San Francisco Bay Regional Water Quality Control Board
ESL = SFBRWQCB Environmental Screening Levels Subslab/Soil Gas Vapor Intrusion, Table SG-1 (June 2019, Revision 2)
µg/m³ = Micrograms per Cubic Meter
< = Indicated chemical not detected at or above the laboratory Practical Quantitation Limit shown
Bold = Analyte detected at shown concentration
ND = Not detected at or above the laboratory Practical Quantitation Limit
VOCs = Volatile organic compounds
[1] = ESL for sum of m,p-xylene and o-xylene
-- = Not Applicable
= Analyte Exceeds the Residential ESL
= Analyte Exceeds the Commercial ESL

PCE = Tetrachloroethylene
TCE = Trichloroethylene
cis-1,2-DCE = cis-1,2-Dichloroethene
1,1-DCA = 1,1-Dichloroethane
1,1-DCE = 1,1-Dichloroethene



Sample ID	Date Retreived	PCE (µg/m³)	TCE (µg/m³)	1,1-DCE (µg/m³)	Benzene (µg/m³)
SV-1	11/9/2022	**35.7**	**31.4**	**15.5**	< 2.34

Sample ID	Date Retreived	PCE (µg/m³)	TCE (µg/m³)	1,1-DCE (µg/m³)	Benzene (µg/m³)
SV-2	11/9/2022	**268**	**301**	**117**	**3.08**

Sample ID	Date Retreived	PCE (µg/m³)	TCE (µg/m³)	1,1-DCE (µg/m³)	Benzene (µg/m³)
SV-3	11/9/2022	**140**	**181**	**79.2**	**2.86**

DETAIL MAP

Sample ID	Date Retreived	PCE (µg/m³)	TCE (µg/m³)	1,1-DCE (µg/m³)	Benzene (µg/m³)
SV-4	11/9/2022	**101**	**115**	**51.1**	**2.47**

Sample ID	Date Retreived	PCE (µg/m³)	TCE (µg/m³)	1,1-DCE (µg/m³)	Benzene (µg/m³)
SV-5	11/9/2022	**172**	**195**	**93.6**	**2.96**

Legend

- SV-1 — Passive Sewer Vapor Sample Locaton (5) Retrieved 11/09/2022
- PSG-48 — Additonal Beacon Passive Soil Vapor Probe Locaton (21) Retrieved 11/09/2022
- PSG-1 — Beacon Passive Soil Vapor Probe Locaton (47) Retrieved 08/16/2022
- MW-1 — Groundwater Monitoring Well
- Sanitary Sewer and Flow Direcon
- Storm Drain and Flow Direcon
- Storm Drain Manhole

PCE Tetrachloroethene
TCE Trichloroethene
1,1-DCE 1,1-Dichloroethene
µg/m³ Micrograms per Cubic Meter
< Not Detected At or Above the Laboratory Reportng Limit

* Estmated locaton of sewer connecton based on City marks on the curb.

12/21/2022 2:19 PM V01

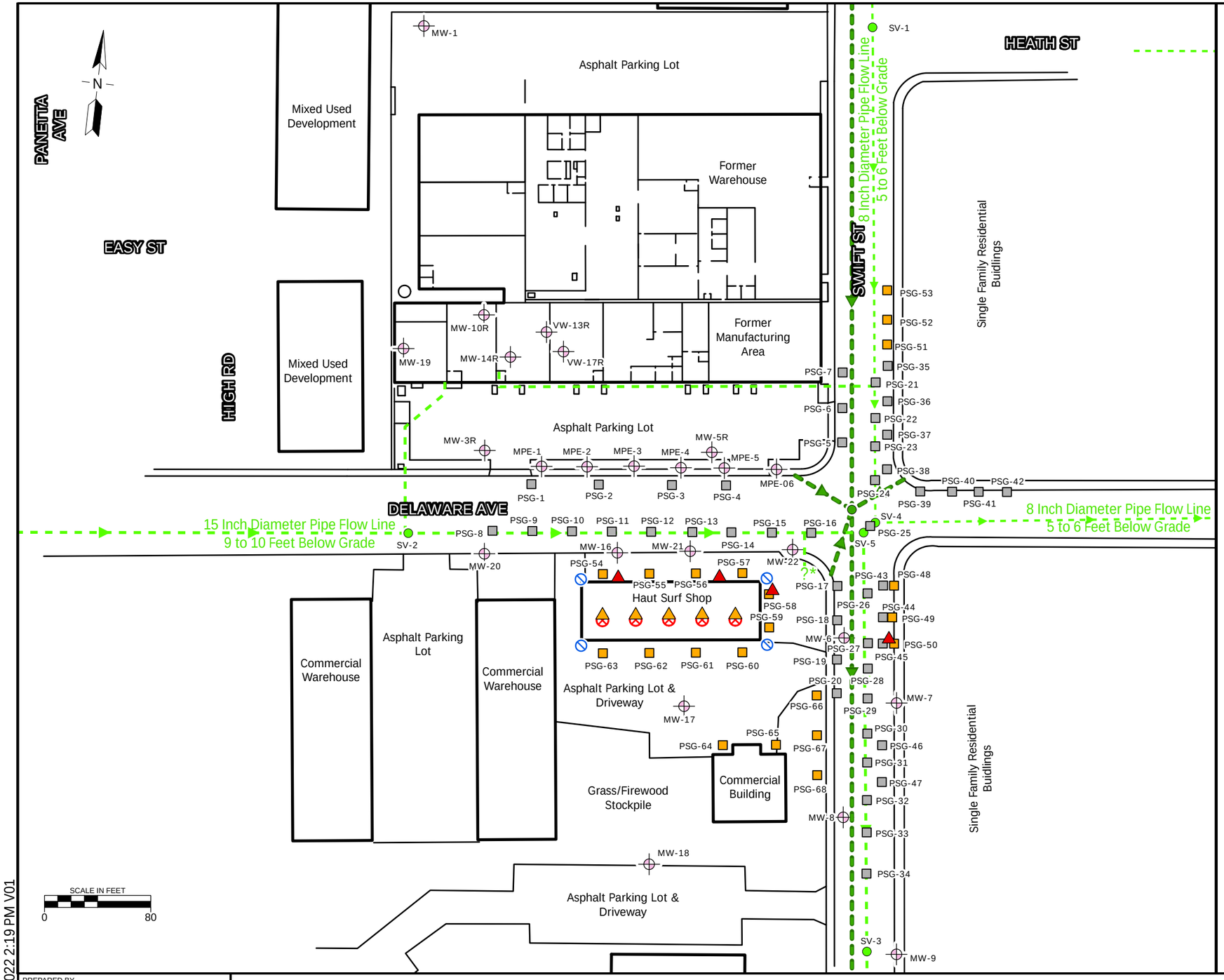
PREPARED BY

TRINITY source group, inc.
Environmental Consultants
119 Encinal Street
Santa Cruz, California 95060
v: 831.426.5600
f: 831.426.5602

BEACON PASSIVE SOIL VAPOR PROBE LOCATIONS AND SEWER SAMPLING RESULTS
Former Santa Cruz Industries
411 Swift Street
Santa Cruz, California

PROJECT: 155.010.004

FIGURE: 1



Legend

- Proposed Active Soil Vapor Probe (5-foot) Location (4)
- Proposed Sub-Slab Vapor Probe Location (5)
- Proposed Indoor Air Sampling Location (5)
- Proposed Outdoor Air Sampling Location (4)
- SV-1 — Passive Sewer Vapor Sample Location (5) Retrieved 11/09/2022
- PSG-48 — Additional Beacon Passive Soil Vapor Probe Location (21) Retrieved 11/09/2022
- PSG-1 — Beacon Passive Soil Vapor Probe Location (47) Retrieved 08/16/2022
- MW-1 — Groundwater Monitoring Well
- Sanitary Sewer and Flow Direction
- Storm Drain and Flow Direction
- Storm Drain Manhole

* Estimated location of sewer connection based on City marks on the curb.

12/21/2022 2:19 PM V01

PREPARED BY
TRINITY source group, inc.
Environmental Consultants
119 Encinal Street
Santa Cruz, California 95060
v: 831.426.5600
f: 831.426.5602

PROPOSED ADDITIONAL VAPOR INTRUSION ASSESSMENT POINT LOCATIONS

Former Santa Cruz Industries
411 Swift Street
Santa Cruz, California

PROJECT: 155.010.004

FIGURE: 2


335
334
330
313
SWIFT ST
324
320
318
314
250

Case Details

Case Number CE16-0107

313 SWIFT ST

As of 5/10/2023

Type / Subtype	ZONING / PARKING	**Opened**	5/19/2016	CPW
Case Name	Parking on dirt lot behind the school	**Closed**	05/19/2016	CPW
Officer	Paige White	**Last Action**	5/19/2016	CPW
Status	CLOSED	**Follow Up**		
Site APN	003-161-32			

Description

Chronology Actions

Type of Action	Action Date	Completion Date	Action by
CALL - MADE	05/19/2016	05/19/2016	Paige White

(5/19/2016 2:25 PM CPW)
CPW called City Schools- Facilities to discuss. They are going to install a fence to prevent vehicle access.

CALL - MADE	05/19/2016	05/19/2016	Paige White

(5/19/2016 8:47 AM CPW)
CPW left msg for high school administration.

INSPECTION - 1ST	05/13/2016	05/13/2016	Paige White

(5/19/2016 8:34 AM CPW)
CPW site check. Drove to dirt lot behind the school. Could see where people drive through the high school property to park and use the tennis courts at Derby Park.

Contacts

Contact Type	Name Address	Phone City, State, Zip	Email
OWNER	SANTA CRUZ CITY SCHOOL DISTRIC 405 OLD SAN JOSE RD	 SOQUEL CA 95073	

Fees

Description of Fee Quantity	Date Paid Amount	Paid By	Pay Method
NO FEES			

Inspections

Type of Inspection Inspector	Scheduled Date Result	Complete Date Remarks
NO ACTIVITY		

Linked Cases

Case Number	Date Opened	Date Closed	Officer Assigned	Status
CE16-0107	05/19/2016	05/19/2016	Paige White	CLOSED

Violations

Type of Violation Remarks	Date Observed Status	Date Corrected Location
NONE LISTED		

BUILDING/ZONING COMPLAINT FORM

Department of Planning & Community Development
809 Center Street, Room 206
Santa Cruz, CA 95060
www.cityofsantacruz.com
(831) 420-5100 phone
(831) 420-5434 fax

CITY OF SANTA CRUZ

DATE STAMP: 5-2-16

CASE# 16-0107

Assigned to: Paige

Received by: Paige

NOTICE TO COMPLAINANT: You must fill out all of the lines with an asterisk *. The City will not investigate incomplete or anonymous complaints or complaints without enough detail to show reasonable cause for investigation. For questions, please call (831) 420-5100. Return the form to: Planning and Community Development Department, City of Santa Cruz, 809 Center Street, Room 206, Santa Cruz, CA 95060.

* **Violation Address:** 313 Swift Zip Code: _____

Property Owner: Natural Bridges High School Phone: [redacted]

Address: _____ Zip Code: [redacted]

Occupant (if not owner): _____ Phone: _____

Business Name (if a business): _____

Complainant information is required and is confidential unless ordered by a court of law.

*Complainant Name: [redacted] *Phone:

*Address: _____

*Email Address: [redacted]

* **DESCRIBE COMPLAINT (please attach additional sheets, dated photos, and documentation):**

Parking in dirt lot behind school.

For Staff Use Only

APN: 003-161-32 Priority: 3 Referred to: _____

Target Area: ☐ Yes ☒ No Type: Zoning Subtype: Use Not Permitted

Comments: _____

Paige White

From: [redacted]
Sent: Monday, May 02, 2016 10:55 AM
To: Paige White
Subject: Re: Traffic and Parking

Hi Paige
If you look at the map of the property behind 313 you will see where rather parking lot ends on culdesac there show s a walking trail from there to derby/tennis courts at the area where the dirt begins and the road ends is where the cars are driving all the way back to the tennis courts on the pedestrian path. They have gotten stuck in the mud a few times so there is large drops in the ground. This path is used by people to get to park and the cars race through 313 parking lots, swerving to avoid speed bumps and driving back on dirt area. We followed one of the cars that we signaled to slow down and found him teaching pickle ball at the Derby tennis courts.
I hope this helps. I. Unable to print map. I would be happy to meet you there as well to give more specifics.
When pickle ball is happening now there are roughly 5+ cars using this back area as a parking lot.
Would you be the person to discuss speeding issues on Swift St?
Thank you
[redacted]

On Monday, May 2, 2016, Paige White <pwhite@cityofsantacruz.com> wrote:

Hi [redacted]

My name is Paige White and I'm a Code Enforcement Officer with the City of Santa Cruz. I received a copy of your email concerning speeding on Swift and the parking in a dirt lot behind a school.

Can you please indicate on this aerial, the areas of concern. You can print it out, draw on it and send it back as a pdf.

This will assist us in identifying who we need to address.

Thank you.

Permit Details

Permit Number PWST-20030017

313 SWIFT ST

As of 5/11/2023

Type / Subtype	STREET OPENING / Gas			
Occupancy Type		**Application Date**	02/07/2003	CRW
Status	APPROVED	**Approval Date**	02/07/2003	CRW
Site APN	003-161-32	**Issued Date**	02/07/2003	CRW
Job Valuation		**Finaled Date**		
Construction Type		**Expiration Date**	03/09/2003	CRW
Building Sq Ft				
No. Stories	**No. Units**			

Description Trench for PG&E to install a new gas line to Ark High School

Notes Trench for PG&E to install a new gas line to Ark High School on Swift Street.

Chronology Actions

Type of Action	Action Date	Completion Date	Action By
No Activity			

Contacts

Contact Type	Name	Phone	Email
Name	**Address**	**City, State, and Zip**	
CONTRACTOR	Slatter Construction	(831) 425-5425	
	126 Fern Street	Santa Cruz CA 95060	
APPLICANT	Slatter Construction	(831) 425-5425	
	126 Fern Street	Santa Cruz CA 95060	
OWNER	SANTA CRUZ CITY SCHOOL DISTRIC		
	405 OLD SAN JOSE RD	SOQUEL CA 95073	

Fees

Description of Fee		Date Paid	
Quantity	**Amount**	**Paid By**	**Pay Method**
No Fees			

Parent Project

Parent Project No.	Date Applied	Date Approved	Date Closed
Type	**Subtype**	**Status**	**Planner**

Reviews

Type of Review	Date Sent	Date Due	Date Received
Contact	**Status**	**Remarks**	
No Reviews			

APPENDIX D

EDR REPORT

Santa Cruz City Schools - Workforce Housing
313 Swift Street
SANTA CRUZ, CA 95060

Inquiry Number: 07295354.2r
March 31, 2023

EDR Summary Radius Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

313 SWIFT STREET
SANTA CRUZ, CA 95060

COORDINATES

Latitude (North):	36.9544600 - 36° 57' 16.05''
Longitude (West):	122.0494780 - 122° 2' 58.12''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	584627.2
UTM Y (Meters):	4090039.5
Elevation:	52 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property:	TP
Source:	U.S. Geological Survey

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20140613
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
313 SWIFT STREET
SANTA CRUZ, CA 95060

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
A1	SANTA CRUZ CITY SCHO	313 SWIFT ST	HAZNET, HWTS		TP
A2	SANTA CRUZ CITY SCHO	SWIFT STORAGE YARD 3	HWTS		TP
A3	SANTA CRUZ CITY SCHO	313 SWIFT ST	HWTS		TP
A4	ARK/MONARCH SCHOOL E	313 SWIFT STREET	CERS		TP
A5	ARK MONARCH SCHOOLS	313 SWIFT ST	CIWQS		TP
A6	ARK/MONARCH SCHOOL E	313 SWIFT STREET	ENVIROSTOR, SCH		TP
A7	SANTA CRUZ CITY SCH/	313 SWIFT ST	HAZNET, HWTS		TP
8	CABINET TOWN	2117 DELAWARE AVE ST	RCRA NonGen / NLR	Higher	325, 0.062, North
B9	CEN-CON, INC.	335 SWIFT ST.	RCRA-SQG	Higher	343, 0.065, ENE
B10	CEN-CON, INC	335 SWIFT ST	RCRA NonGen / NLR	Higher	343, 0.065, ENE
B11	SURFBOARDS BY HAUT	345 SWIFT ST	CUPA Listings, CERS	Higher	359, 0.068, NE
12	EKLOF INC	2100 DELAWARE AVE ST	RCRA NonGen / NLR	Higher	529, 0.100, NNE
C13	SANTA CRUZ BIOTECHNO	2141-2145 DELAWARE A	CERS HAZ WASTE, HAZNET, CERS, HWTS	Higher	647, 0.123, WNW
C14	SANTA CRUZ BIOTECHNO	2141-2145 DELAWARE A	RCRA NonGen / NLR	Higher	647, 0.123, WNW
D15	SANTA CRUZ INDUSTRIE	411 SWIFT ST	RCRA-SQG, FINDS, ECHO	Higher	650, 0.123, NNE
D16	SANTA CRUZ INDUSTRIE	411 SWIFT ST	CPS-SLIC, Notify 65, CERS	Higher	650, 0.123, NNE
C17	SANTA CRUZ BIOTECHNO	2145 DELAWARE AVE	CUPA Listings	Higher	743, 0.141, WNW
18	SANTA CRUZ CITY SCHO	225 SWIFT ST	RCRA NonGen / NLR	Lower	783, 0.148, SSE
19	DALLAS ELECTRONICS I	2151 DELAWARE AVE	CUPA Listings	Higher	875, 0.166, WNW
20	BRAD LAMB	220 SAN JOSE AVE	RCRA NonGen / NLR	Lower	889, 0.168, SSW
21	SHANA CHAMPION	502 WOODLAND WAY	RCRA NonGen / NLR	Lower	920, 0.174, WSW
22	JANICE WALKER	114 COALINGA WAY	RCRA NonGen / NLR	Lower	929, 0.176, SW
E23	VI TEX PACKAGING INC	511 SWIFT ST.	RCRA-SQG, FINDS, ECHO	Higher	947, 0.179, North
E24	VI TEX PACKAGING INC	36.95703/-122.04869	PFAS ECHO	Higher	964, 0.183, NNE
25	STEVE SVETE	404 MODESTO AVE	RCRA NonGen / NLR	Lower	995, 0.188, SSE
26	TARIQ JONES	212 HEATH STREET	RCRA NonGen / NLR	Higher	1040, 0.197, NNE
27	HOLMES, ROY	346 GETCHELL STREET	RCRA NonGen / NLR	Higher	1097, 0.208, ENE
F28	LIPTON INC	2200 DELAWARE AVE	LUST	Higher	1121, 0.212, WNW
F29	LIPTON INC	2200 DELAWARE AVE	Cortese	Higher	1121, 0.212, WNW
F30	MCM DIVERSIFIED	2200 DELAWARE AVE.	RCRA NonGen / NLR	Higher	1121, 0.212, WNW
F31	MCM DIVERSIFIED	2200 DELAWARE AVE.	RCRA NonGen / NLR	Higher	1121, 0.212, WNW
F32	LIPTON	2200 DELAWARE AVE	HIST UST	Higher	1121, 0.212, WNW
F33	LIPTON	2200 DELAWARE AVE	SWEEPS UST, CA FID UST	Higher	1121, 0.212, WNW
F34	LIPTON	2200 DELAWARE AVENUE	HIST UST	Higher	1121, 0.212, WNW
F35	SANTA CRUZ NUTRITION	2200 DELAWARE AVE	CERS HAZ WASTE, HAZNET, NPDES, CIWQS, CERS, HWTS	Higher	1121, 0.212, WNW
F36	SANTA CRUZ NUTRITION	2200 DELAWARE AVE	RCRA NonGen / NLR	Higher	1121, 0.212, WNW
F37	SANTA CRUZ NUTRITION	2200 DELAWARE AVE	CUPA Listings	Higher	1121, 0.212, WNW
F38	MCM DIVERSIFIED	2200 DELAWARE AVE.	RCRA-SQG, ICIS, US AIRS, FINDS, ECHO	Higher	1121, 0.212, WNW
G39	PROMETHEUS FUELS, IN	601 SWIFT STREET	RCRA NonGen / NLR	Higher	1122, 0.213, North

MAPPED SITES SUMMARY

Target Property Address:
313 SWIFT STREET
SANTA CRUZ, CA 95060

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
G40	MISSION LINON SUPPLY	601 SWIFT ST	SWEEPS UST, CA FID UST	Higher	1122, 0.213, North
G41	MISSION LINEN SERVIC	601 SWIFT ST	LUST, CERS HAZ WASTE, Cortese, HIST CORTESE, CERS	Higher	1122, 0.213, North
G42	PROMETHEUS FUELS INC	601 SWIFT ST	RCRA NonGen / NLR	Higher	1122, 0.213, North
G43	MISSION LINON SUPPLY	601 SWIFT ST	HIST UST	Higher	1122, 0.213, North
44	ROSA RADICCHI	730 MODESTO AVENUE	RCRA NonGen / NLR	Lower	1192, 0.226, SW
45	S.C. ARTICHOKE & SPR	402 INGALLS ST	LUST, CHMIRS, Cortese, HIST CORTESE, CERS	Higher	1569, 0.297, NNE
46	MARSHALL STEEL CLEAN	1229 28TH ST E	LUST, HIST CORTESE	Higher	1961, 0.371, NW
47	PERSYS ENGRG., INC.	815 SWIFT STREET	ENVIROSTOR	Higher	2018, 0.382, North
H48	ELYXIR DISTRIBUTING	2521 MISSION ST	LUST, SWEEPS UST, HIST UST, CA FID UST, Cortese,...	Higher	2050, 0.388, North
H49	ELYXIR DISTRIBUTING	2521 MISSION ST	LUST, HIST UST	Higher	2050, 0.388, North
50	RUDOLPH PROPERTY	2429 MISSION ST	LUST, Cortese, CUPA Listings, HIST CORTESE,...	Higher	2175, 0.412, North
51	E.V. MOCEO CO., INC.	1206 FAIR AVE	LUST, SWEEPS UST, HIST UST, CA FID UST, Cortese,...	Higher	2323, 0.440, NNE
52	SILICON SYSTEMS, INC	2300 DELAWARE AVENUE	ENVIROSTOR, CERS HAZ WASTE, HIST UST, CHMIRS, CUPA L...	Higher	2506, 0.475, West

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following records. For more information on this property see page 9 of the attached EDR Radius Map report:

Site	Database(s)	EPA ID
SANTA CRUZ CITY SCHO 313 SWIFT ST SANTA CRUZ, CA 95060	HAZNET GEPAID: CAC001188584 HWTS	N/A
SANTA CRUZ CITY SCHO SWIFT STORAGE YARD 3 SANTA CRUZ, CA 95060	HWTS	N/A
SANTA CRUZ CITY SCHO 313 SWIFT ST SANTA CRUZ, CA 95060	HWTS	N/A
ARK/MONARCH SCHOOL E 313 SWIFT STREET SANTA CRUZ, CA 95060	CERS	N/A
ARK MONARCH SCHOOLS 313 SWIFT ST SANTA CRUZ, CA 95060	CIWQS	N/A
ARK/MONARCH SCHOOL E 313 SWIFT STREET SANTA CRUZ, CA 95060	ENVIROSTOR Facility Id: 44820001 Status: No Further Action SCH Facility Id: 44820001 Status: No Further Action	N/A
SANTA CRUZ CITY SCH/ 313 SWIFT ST SANTA CRUZ, CA 95060	HAZNET GEPAID: CAC002486887 HWTS	N/A

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal RCRA generators

RCRA-SQG: A review of the RCRA-SQG list, as provided by EDR, and dated 03/06/2023 has revealed that there are 4 RCRA-SQG sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
CEN-CON, INC. EPA ID:: CAR000323352	335 SWIFT ST.	ENE 0 - 1/8 (0.065 mi.)	B9	10
SANTA CRUZ INDUSTRIE EPA ID:: CAD009177650	***411 SWIFT ST***	***NNE 0 - 1/8 (0.123 mi.)***	***D15***	***11***
VI TEX PACKAGING INC EPA ID:: CAD057443269	***511 SWIFT ST.***	***N 1/8 - 1/4 (0.179 mi.)***	***E23***	***13***
MCM DIVERSIFIED EPA ID:: CAD981447725	***2200 DELAWARE AVE.***	***WNW 1/8 - 1/4 (0.212 mi.)***	***F38***	***16***

Lists of state- and tribal hazardous waste facilities

ENVIROSTOR: A review of the ENVIROSTOR list, as provided by EDR, and dated 10/24/2022 has revealed that there are 2 ENVIROSTOR sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
PERSYS ENGRG., INC. Facility Id: 71003357 Status: Inactive - Needs Evaluation	815 SWIFT STREET	N 1/4 - 1/2 (0.382 mi.)	47	19
SILICON SYSTEMS, INC Facility Id: 71003553 Status: Inactive - Needs Evaluation	***2300 DELAWARE AVENUE***	***W 1/4 - 1/2 (0.475 mi.)***	***52***	***21***

Lists of state and tribal leaking storage tanks

LUST: A review of the LUST list, as provided by EDR, has revealed that there are 8 LUST sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
LIPTON INC Database: LUST, Date of Government Version: 03/06/2023 Status: Completed - Case Closed Global Id: T0608700196	2200 DELAWARE AVE	WNW 1/8 - 1/4 (0.212 mi.)	F28	14
MISSION LINEN SERVIC Database: LUST REG 3, Date of Government Version: 05/19/2003 Database: LUST, Date of Government Version: 03/06/2023	***601 SWIFT ST***	***N 1/8 - 1/4 (0.213 mi.)***	***G41***	***17***

Status: Completed - Case Closed
Global Id: T0608700273
Global ID: T0608700273
Status: Case Closed

S.C. ARTICHOKE & SPR ***402 INGALLS ST*** ***NNE 1/4 - 1/2 (0.297 mi.)*** ***45*** ***18***
Database: LUST REG 3, Date of Government Version: 05/19/2003
Database: LUST, Date of Government Version: 03/06/2023
Status: Completed - Case Closed
Global Id: T0608700246
Global ID: T0608700246
Status: Case Closed

MARSHALL STEEL CLEAN ***1229 28TH ST E*** ***NW 1/4 - 1/2 (0.371 mi.)*** ***46*** ***19***
Database: LUST REG 2, Date of Government Version: 09/30/2004
Database: LUST REG 3, Date of Government Version: 05/19/2003
Facility Status: Case Closed
date9: 3/18/1998
Global ID: T0608700196
Facility Id: 01-0053
Status: Case Closed

ELYXIR DISTRIBUTING ***2521 MISSION ST*** ***N 1/4 - 1/2 (0.388 mi.)*** ***H48*** ***19***
Database: LUST REG 3, Date of Government Version: 05/19/2003
Global ID: T0608700071
Status: Case Closed

ELYXIR DISTRIBUTING ***2521 MISSION ST*** ***N 1/4 - 1/2 (0.388 mi.)*** ***H49*** ***20***
Database: LUST, Date of Government Version: 03/06/2023
Status: Completed - Case Closed
Global Id: T0608700071

RUDOLPH PROPERTY ***2429 MISSION ST*** ***N 1/4 - 1/2 (0.412 mi.)*** ***50*** ***20***
Database: LUST REG 3, Date of Government Version: 05/19/2003
Database: LUST, Date of Government Version: 03/06/2023
Status: Completed - Case Closed
Global Id: T0608700186
Global ID: T0608700186
Status: Post remedial action monitoring

E.V. MOCEO CO., INC. ***1206 FAIR AVE*** ***NNE 1/4 - 1/2 (0.440 mi.)*** ***51*** ***21***
Database: LUST REG 3, Date of Government Version: 05/19/2003
Database: LUST, Date of Government Version: 03/06/2023
Status: Completed - Case Closed
Global Id: T0608700241
Global ID: T0608700241
Status: Post remedial action monitoring

CPS-SLIC: A review of the CPS-SLIC list, as provided by EDR, has revealed that there is 1 CPS-SLIC site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
SANTA CRUZ INDUSTRIE	***411 SWIFT ST***	***NNE 0 - 1/8 (0.123 mi.)***	***D16***	***12***

Database: SLIC REG 3, Date of Government Version: 05/18/2006
Database: CPS-SLIC, Date of Government Version: 12/02/2022
Facility Status: Open - Remediation

EXECUTIVE SUMMARY

Facility Status: Post Remediation Action Monitoring
Global Id: SLT3S0011280

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Hazardous waste / Contaminated Sites

CERS HAZ WASTE: A review of the CERS HAZ WASTE list, as provided by EDR, and dated 01/05/2023 has revealed that there are 3 CERS HAZ WASTE sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
SANTA CRUZ BIOTECHNO	***2141-2145 DELAWARE A***	***WNW 0 - 1/8 (0.123 mi.)***	***C13***	***11***
SANTA CRUZ NUTRITION	***2200 DELAWARE AVE***	***WNW 1/8 - 1/4 (0.212 mi.)***	***F35***	***16***
MISSION LINEN SERVIC	***601 SWIFT ST***	***N 1/8 - 1/4 (0.213 mi.)***	***G41***	***17***

Local Lists of Registered Storage Tanks

SWEEPS UST: A review of the SWEEPS UST list, as provided by EDR, and dated 06/01/1994 has revealed that there are 2 SWEEPS UST sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
LIPTON Comp Number: 22024	***2200 DELAWARE AVE***	***WNW 1/8 - 1/4 (0.212 mi.)***	***F33***	***15***
MISSION LINON SUPPLY Comp Number: 1193	***601 SWIFT ST***	***N 1/8 - 1/4 (0.213 mi.)***	***G40***	***17***

HIST UST: A review of the HIST UST list, as provided by EDR, and dated 10/15/1990 has revealed that there are 3 HIST UST sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
LIPTON Facility Id: 00000022024	2200 DELAWARE AVE	WNW 1/8 - 1/4 (0.212 mi.)	F32	15
LIPTON	2200 DELAWARE AVENUE	WNW 1/8 - 1/4 (0.212 mi.)	F34	16
MISSION LINON SUPPLY Facility Id: 00000001193	601 SWIFT ST	N 1/8 - 1/4 (0.213 mi.)	G43	18

EXECUTIVE SUMMARY

CA FID UST: A review of the CA FID UST list, as provided by EDR, and dated 10/31/1994 has revealed that there are 2 CA FID UST sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
LIPTON Facility Id: 44000046 Status: I	***2200 DELAWARE AVE***	***WNW 1/8 - 1/4 (0.212 mi.)***	***F33***	***15***
MISSION LINON SUPPLY Facility Id: 44000069 Status: I	***601 SWIFT ST***	***N 1/8 - 1/4 (0.213 mi.)***	***G40***	***17***

Other Ascertainable Records

RCRA NonGen / NLR: A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 03/06/2023 has revealed that there are 17 RCRA NonGen / NLR sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
CABINET TOWN EPA ID:: CAL000292766	2117 DELAWARE AVE ST	N 0 - 1/8 (0.062 mi.)	8	10
CEN-CON, INC EPA ID:: CAL000282147	335 SWIFT ST	ENE 0 - 1/8 (0.065 mi.)	B10	10
EKLOF INC EPA ID:: CAC003058108	2100 DELAWARE AVE ST	NNE 0 - 1/8 (0.100 mi.)	12	11
SANTA CRUZ BIOTECHNO EPA ID:: CAL000208876	2141-2145 DELAWARE A	WNW 0 - 1/8 (0.123 mi.)	C14	11
TARIQ JONES EPA ID:: CAC003197196	212 HEATH STREET	NNE 1/8 - 1/4 (0.197 mi.)	26	14
HOLMES, ROY EPA ID:: CAC003022673	346 GETCHELL STREET	ENE 1/8 - 1/4 (0.208 mi.)	27	14
MCM DIVERSIFIED EPA ID:: CAC003094392	2200 DELAWARE AVE.	WNW 1/8 - 1/4 (0.212 mi.)	F30	15
MCM DIVERSIFIED EPA ID:: CAC003078419	2200 DELAWARE AVE.	WNW 1/8 - 1/4 (0.212 mi.)	F31	15
SANTA CRUZ NUTRITION EPA ID:: CAL000439640	2200 DELAWARE AVE	WNW 1/8 - 1/4 (0.212 mi.)	F36	16
PROMETHEUS FUELS, IN EPA ID:: CAC003104793 EPA ID:: CAC003092701 EPA ID:: CAC003119263 EPA ID:: CAC003176485 EPA ID:: CAC003148138 **Additional key fields are available in the Map Findings section*	601 SWIFT STREET	N 1/8 - 1/4 (0.213 mi.)	G39	17
PROMETHEUS FUELS INC EPA ID:: CAL000474453	601 SWIFT ST	N 1/8 - 1/4 (0.213 mi.)	G42	18

Lower Elevation	Address	Direction / Distance	Map ID	Page
SANTA CRUZ CITY SCHO	225 SWIFT ST	SSE 1/8 - 1/4 (0.148 mi.)	18	12

EPA ID:: CAC002985180				
BRAD LAMB EPA ID:: CAC003173329	220 SAN JOSE AVE	SSW 1/8 - 1/4 (0.168 mi.)	20	13
SHANA CHAMPION EPA ID:: CAC003190858	502 WOODLAND WAY	WSW 1/8 - 1/4 (0.174 mi.)	21	13
JANICE WALKER EPA ID:: CAC003068999	114 COALINGA WAY	SW 1/8 - 1/4 (0.176 mi.)	22	13
STEVE SVETE EPA ID:: CAC003104770	404 MODESTO AVE	SSE 1/8 - 1/4 (0.188 mi.)	25	14
ROSA RADICCHI EPA ID:: CAC003155091	730 MODESTO AVENUE	SW 1/8 - 1/4 (0.226 mi.)	44	18

PFAS ECHO: A review of the PFAS ECHO list, as provided by EDR, and dated 01/03/2022 has revealed that there is 1 PFAS ECHO site within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
VI TEX PACKAGING INC	36.95703/-122.04869	NNE 1/8 - 1/4 (0.183 mi.)	E24	14

Cortese: A review of the Cortese list, as provided by EDR, and dated 12/14/2022 has revealed that there are 6 Cortese sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
LIPTON INC Cleanup Status: COMPLETED - CASE CLOSED	2200 DELAWARE AVE	WNW 1/8 - 1/4 (0.212 mi.)	F29	15
MISSION LINEN SERVIC Cleanup Status: COMPLETED - CASE CLOSED	***601 SWIFT ST***	***N 1/8 - 1/4 (0.213 mi.)***	***G41***	***17***
S.C. ARTICHOKE & SPR Cleanup Status: COMPLETED - CASE CLOSED	***402 INGALLS ST***	***NNE 1/4 - 1/2 (0.297 mi.)***	***45***	***18***
ELYXIR DISTRIBUTING Cleanup Status: COMPLETED - CASE CLOSED	***2521 MISSION ST***	***N 1/4 - 1/2 (0.388 mi.)***	***H48***	***19***
RUDOLPH PROPERTY Cleanup Status: COMPLETED - CASE CLOSED	***2429 MISSION ST***	***N 1/4 - 1/2 (0.412 mi.)***	***50***	***20***
E.V. MOCEO CO., INC. Cleanup Status: COMPLETED - CASE CLOSED	***1206 FAIR AVE***	***NNE 1/4 - 1/2 (0.440 mi.)***	***51***	***21***

CUPA Listings: A review of the CUPA Listings list, as provided by EDR, has revealed that there are 4 CUPA Listings sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
SURFBOARDS BY HAUT Database: CUPA SANTA CRUZ, Date of Government Version: 01/21/2017 Facility Id: FA0002874	***345 SWIFT ST***	***NE 0 - 1/8 (0.068 mi.)***	***B11***	***11***
SANTA CRUZ BIOTECHNO Database: CUPA SANTA CRUZ, Date of Government Version: 01/21/2017	2145 DELAWARE AVE	WNW 1/8 - 1/4 (0.141 mi.)	C17	12

Facility Id: FA0003587

DALLAS ELECTRONICS I	2151 DELAWARE AVE	WNW 1/8 - 1/4 (0.166 mi.)	19	12
Database: CUPA SANTA CRUZ, Date of Government Version: 01/21/2017 Facility Id: FA0002993				
SANTA CRUZ NUTRITION	2200 DELAWARE AVE	WNW 1/8 - 1/4 (0.212 mi.)	F37	16
Database: CUPA SANTA CRUZ, Date of Government Version: 01/21/2017 Facility Id: FA0003629				

HIST CORTESE: A review of the HIST CORTESE list, as provided by EDR, and dated 04/01/2001 has revealed that there are 5 HIST CORTESE sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
MISSION LINEN SERVIC Reg Id: 683	***601 SWIFT ST***	***N 1/8 - 1/4 (0.213 mi.)***	***G41***	***17***
S.C. ARTICHOKE & SPR Reg Id: 616	***402 INGALLS ST***	***NNE 1/4 - 1/2 (0.297 mi.)***	***45***	***18***
MARSHALL STEEL CLEAN Reg Id: 354	***1229 28TH ST E***	***NW 1/4 - 1/2 (0.371 mi.)***	***46***	***19***
RUDOLPH PROPERTY Reg Id: 344	***2429 MISSION ST***	***N 1/4 - 1/2 (0.412 mi.)***	***50***	***20***
E.V. MOCEO CO., INC. Reg Id: 611	***1206 FAIR AVE***	***NNE 1/4 - 1/2 (0.440 mi.)***	***51***	***21***

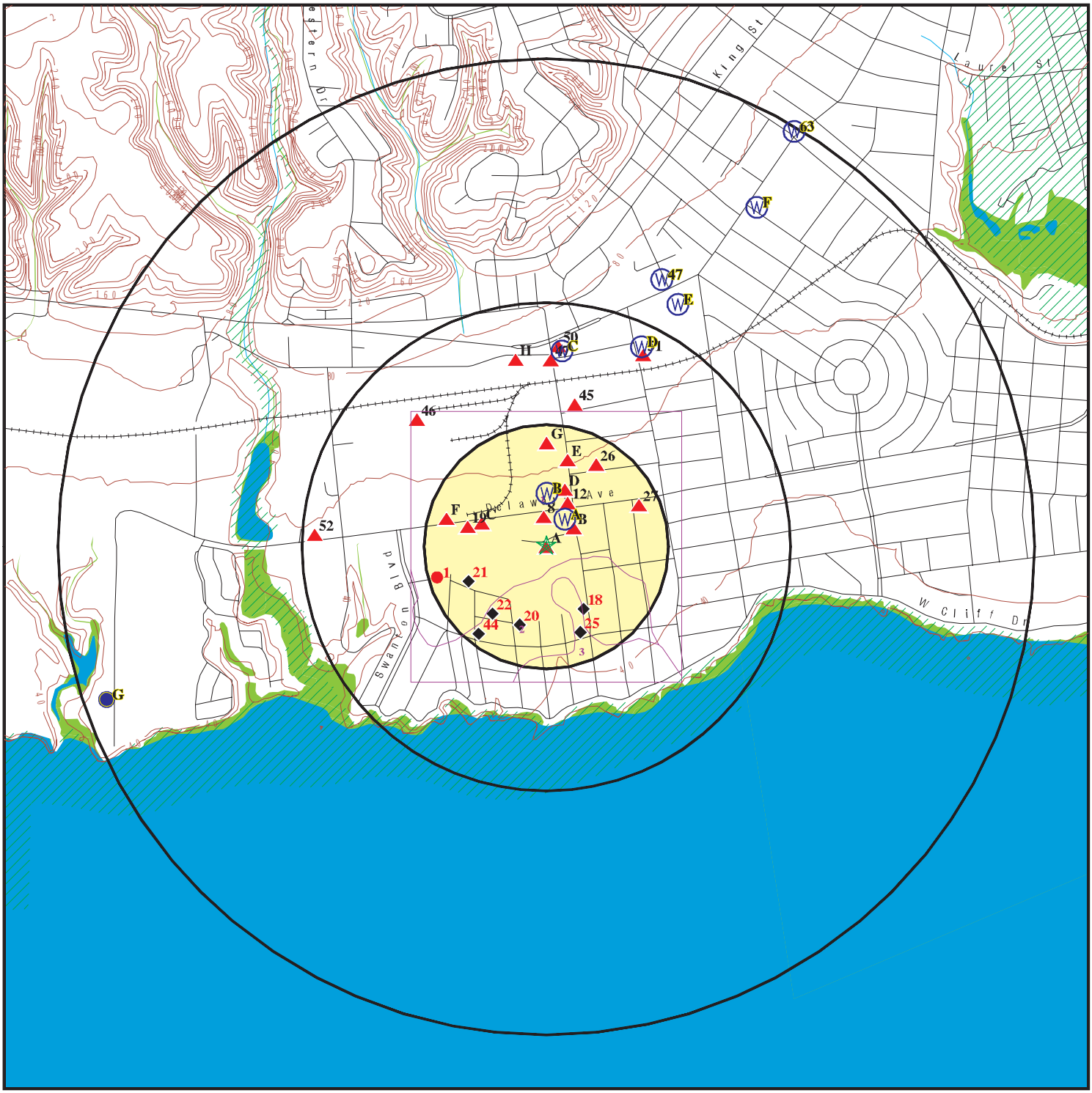
Notify 65: A review of the Notify 65 list, as provided by EDR, and dated 12/07/2022 has revealed that there is 1 Notify 65 site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
SANTA CRUZ INDUSTRIE	***411 SWIFT ST***	***NNE 0 - 1/8 (0.123 mi.)***	***D16***	***12***

Count: 3 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
APTOS	S103291480	SCCSD RIO DEL MAR PUMP STATION	END OF CLIFF DR	95060	LUST, Cortese
SANTA CRUZ	1026442581	SANTA CRUZ CITY SCHOOLS	SWIFT STORAGE YARD	95060	FINDS
SANTA CRUZ	1025879707	SANTA CRUZ CITY SCHOOLS	SWIFT STORAGE YARD	95060	RCRA-SQG

OVERVIEW MAP - 07295354.2R



0 1/4 1/2 1 Miles

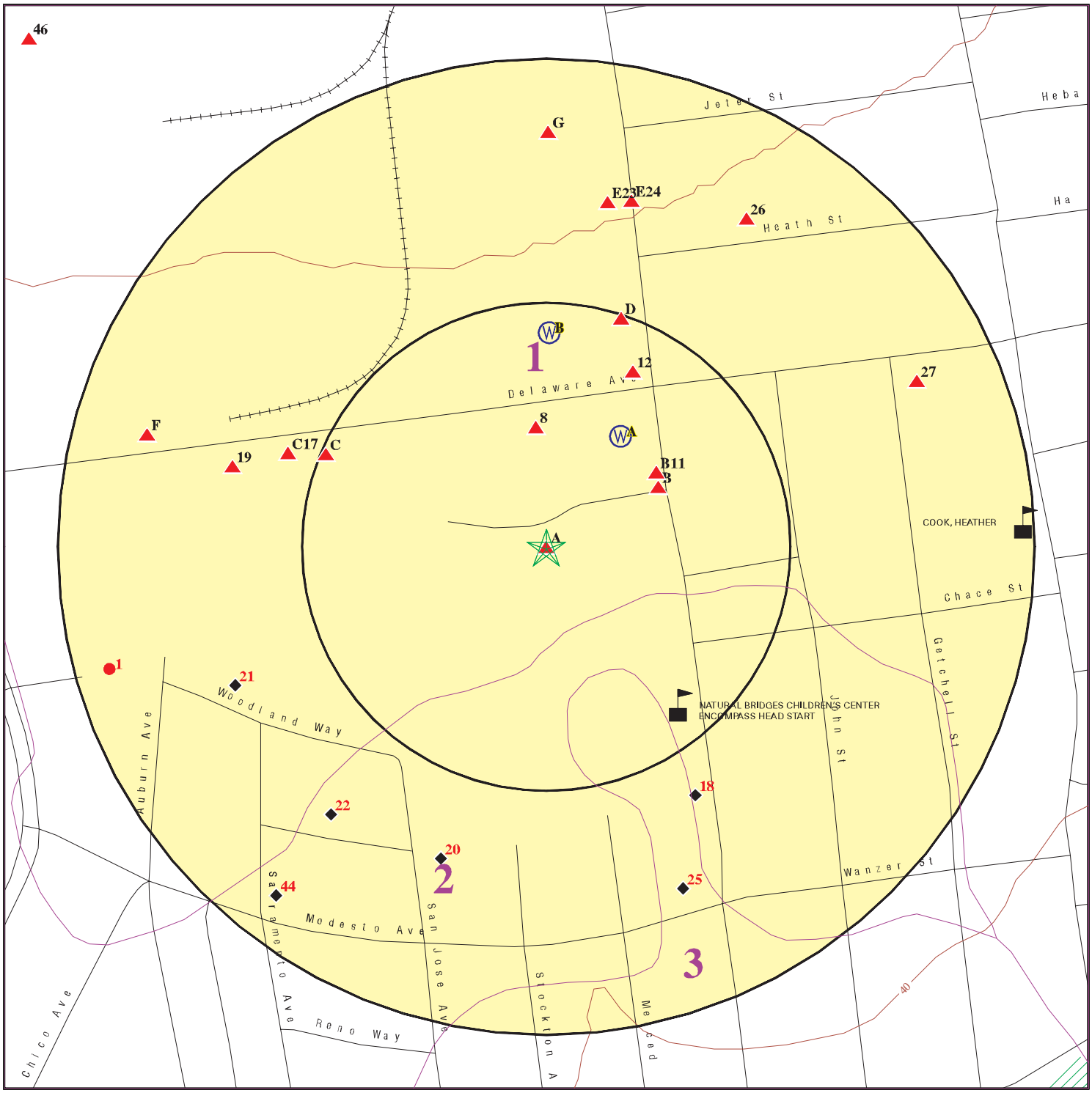
- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Special Flood Hazard Area (1%)
- 0.2% Annual Chance Flood Hazard
- National Wetland Inventory
- State Wetlands
- Areas of Concern

N

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Santa Cruz City Schools - Workforce Housing	CLIENT:	MooreTwining Associates, Inc.
ADDRESS:	313 Swift Street SANTA CRUZ CA 95060	CONTACT:	Sara Bloom
		INQUIRY #:	07295354.2r
LAT/LONG:	36.95446 / 122.049478	DATE:	March 31, 2023 9:59 am

DETAIL MAP - 07295354.2R



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

Sensitive Receptors

National Priority List Sites

Dept. Defense Sites

0 1/16 1/8 1/4 Miles

Indian Reservations BIA

Special Flood Hazard Area (1%)

0.2% Annual Chance Flood Hazard

Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Santa Cruz City Schools - Workforce Housing	CLIENT:	MooreTwining Associates, Inc.
ADDRESS:	313 Swift Street SANTA CRUZ CA 95060	CONTACT:	Sara Bloom
		INQUIRY #:	07295354.2r
LAT/LONG:	36.95446 / 122.049478	DATE:	March 31, 2023 10:02 am

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Lists of Federal NPL (Superfund) sites								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
Lists of Federal Delisted NPL sites								
Delisted NPL	1.000		0	0	0	0	NR	0
Lists of Federal sites subject to CERCLA removals and CERCLA orders								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Lists of Federal CERCLA sites with NFRAP								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Lists of Federal RCRA facilities undergoing Corrective Action								
CORRACTS	1.000		0	0	0	0	NR	0
Lists of Federal RCRA TSD facilities								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Lists of Federal RCRA generators								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		2	2	NR	NR	NR	4
RCRA-VSQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROLS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	TP		NR	NR	NR	NR	NR	0
Lists of state- and tribal (Superfund) equivalent sites								
RESPONSE	1.000		0	0	0	0	NR	0
Lists of state- and tribal hazardous waste facilities								
ENVIROSTOR	1.000	1	0	0	2	0	NR	3
Lists of state and tribal landfills and solid waste disposal facilities								
SWF/LF	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
Lists of state and tribal leaking storage tanks								
LUST	0.500		0	2	6	NR	NR	8
INDIAN LUST	0.500		0	0	0	NR	NR	0
CPS-SLIC	0.500		1	0	0	NR	NR	1
Lists of state and tribal registered storage tanks								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
Lists of state and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
Lists of state and tribal brownfield sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	TP		NR	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	TP		NR	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250	1	0	0	NR	NR	NR	1
CDL	TP		NR	NR	NR	NR	NR	0
CERS HAZ WASTE	0.250		1	2	NR	NR	NR	3
Toxic Pits	1.000		0	0	0	0	NR	0
US CDL	TP		NR	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250		0	2	NR	NR	NR	2
HIST UST	0.250		0	3	NR	NR	NR	3
CERS TANKS	0.250		0	0	NR	NR	NR	0
CA FID UST	0.250		0	2	NR	NR	NR	2
Local Land Records								
LIENS	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
LIENS 2	TP		NR	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
CHMIRS	TP		NR	NR	NR	NR	NR	0
LDS	TP		NR	NR	NR	NR	NR	0
MCS	TP		NR	NR	NR	NR	NR	0
SPILLS 90	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		4	13	NR	NR	NR	17
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
ECHO	TP		NR	NR	NR	NR	NR	0
DOCKET HWC	TP		NR	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
PFAS NPL	0.250		0	0	NR	NR	NR	0
PFAS FEDERAL SITES	0.250		0	0	NR	NR	NR	0
PFAS TSCA	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
PFAS RCRA MANIFEST	0.250		0	0	NR	NR	NR	0
PFAS ATSDR	0.250		0	0	NR	NR	NR	0
PFAS WQP	0.250		0	0	NR	NR	NR	0
PFAS NPDES	0.250		0	0	NR	NR	NR	0
PFAS ECHO	0.250		0	1	NR	NR	NR	1
PFAS ECHO FIRE TRAINING	0.250		0	0	NR	NR	NR	0
PFAS PART 139 AIRPORT	0.250		0	0	NR	NR	NR	0
AQUEOUS FOAM NRC	0.250		0	0	NR	NR	NR	0
PFAS	0.250		0	0	NR	NR	NR	0
AQUEOUS FOAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	2	4	NR	NR	6
CUPA Listings	0.250		1	3	NR	NR	NR	4
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	TP		NR	NR	NR	NR	NR	0
ENF	TP		NR	NR	NR	NR	NR	0
Financial Assurance	TP		NR	NR	NR	NR	NR	0
ICE	TP		NR	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	1	4	NR	NR	5
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
HAZNET	TP	2	NR	NR	NR	NR	NR	2
MINES	0.250		0	0	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	TP		NR	NR	NR	NR	NR	0
PEST LIC	TP		NR	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		1	0	0	0	NR	1
HAZMAT	0.250		0	0	NR	NR	NR	0
UIC	TP		NR	NR	NR	NR	NR	0
UIC GEO	TP		NR	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	TP		NR	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
MILITARY PRIV SITES	TP		NR	NR	NR	NR	NR	0
PROJECT	TP		NR	NR	NR	NR	NR	0
WDR	TP		NR	NR	NR	NR	NR	0
CIWQS	TP	1	NR	NR	NR	NR	NR	1
CERS	TP	1	NR	NR	NR	NR	NR	1
NON-CASE INFO	TP		NR	NR	NR	NR	NR	0
OTHER OIL GAS	TP		NR	NR	NR	NR	NR	0
PROD WATER PONDS	TP		NR	NR	NR	NR	NR	0
SAMPLING POINT	TP		NR	NR	NR	NR	NR	0
WELL STIM PROJ	TP		NR	NR	NR	NR	NR	0
PFAS TRIS	0.250		0	0	NR	NR	NR	0
HWTS	TP	4	NR	NR	NR	NR	NR	4
MINES MRDS	TP		NR	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	TP		NR	NR	NR	NR	NR	0
RGA LUST	TP		NR	NR	NR	NR	NR	0
- Totals --		10	10	33	16	0	0	69

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

A1
Target
Property

SANTA CRUZ CITY SCHOOLS/GROUNDS DEPT
313 SWIFT ST
SANTA CRUZ, CA 95060

HAZNET
HWTS

S112873036
N/A

Actual:
52 ft.

Click here for full text details

HAZNET
GEPAID CAC001188584

A2
Target
Property

SANTA CRUZ CITY SCHOOLS
SWIFT STORAGE YARD 313 SWIFT ST
SANTA CRUZ, CA 95060

HWTS

S124941544
N/A

Actual:
52 ft.

Click here for full text details

A3
Target
Property

SANTA CRUZ CITY SCHOOL MAINTENANCE GROUND
313 SWIFT ST
SANTA CRUZ, CA 95060

HWTS

S124603514
N/A

Actual:
52 ft.

Click here for full text details

A4
Target
Property

ARK/MONARCH SCHOOL E
313 SWIFT STREET
SANTA CRUZ, CA 95060

CERS

S121762649
N/A

Actual:
52 ft.

Click here for full text details

A5
Target
Property

ARK MONARCH SCHOOLS
313 SWIFT ST
SANTA CRUZ, CA 95060

CIWQS

S121621052
N/A

Actual:
52 ft.

Click here for full text details

A6
Target
Property

ARK/MONARCH SCHOOL EXPANSION
313 SWIFT STREET
SANTA CRUZ, CA 95060

ENVIROSTOR
SCH

S103651937
N/A

Actual:
52 ft.

Click here for full text details

ENVIROSTOR
Facility Id 44820001

ARK/MONARCH SCHOOL EXPANSION (Continued) **S103651937**

Status No Further Action

SCH
Facility Id 44820001
Status No Further Action

A7
Target Property
Actual: 52 ft.

SANTA CRUZ CITY SCH/SWIFT ST YARD **HAZNET** **S112920273**
313 SWIFT ST **HWTS** **N/A**
SANTA CRUZ, CA 95060

Click here for full text details

HAZNET
GEPAID CAC002486887

8
North
< 1/8
0.062 mi.
325 ft.
Relative: Higher

CABINET TOWN **RCRA NonGen / NLR** **1024811003**
2117 DELAWARE AVE STE C **CAL000292766**
SANTA CRUZ, CA 95060

Click here for full text details

RCRA NonGen / NLR
EPA Id CAL000292766

B9
ENE
< 1/8
0.065 mi.
343 ft.
Relative: Higher

CEN-CON, INC. **RCRA-SQG** **1026829957**
335 SWIFT ST. **CAR000323352**
SANTA CRUZ, CA 95060

Click here for full text details

RCRA-SQG
EPA Id CAR000323352

B10
ENE
< 1/8
0.065 mi.
343 ft.
Relative: Higher

CEN-CON, INC **RCRA NonGen / NLR** **1024808897**
335 SWIFT ST **CAL000282147**
SANTA CRUZ, CA 95060

Click here for full text details

RCRA NonGen / NLR
EPA Id CAL000282147

B11
NE
< 1/8
0.068 mi.
359 ft.

Relative:
Higher

SURFBOARDS BY HAUT
345 SWIFT ST
SANTA CRUZ, CA 95060

CUPA Listings **S110743166**
CERS **N/A**

Click here for full text details

CUPA Listings
Facility Id FA0002874

12
NNE
< 1/8
0.100 mi.
529 ft.

Relative:
Higher

EKLOF INC
2100 DELAWARE AVE STE F
SANTA CRUZ, CA 95060

RCRA NonGen / NLR **1026051236**
CAC003058108

Click here for full text details

RCRA NonGen / NLR
EPA Id CAC003058108

C13
WNW
< 1/8
0.123 mi.
647 ft.

Relative:
Higher

SANTA CRUZ BIOTECHNOLOGY INC.
2141-2145 DELAWARE AVE
SANTA CRUZ, CA 95060

CERS HAZ WASTE **S113106355**
HAZNET **N/A**
CERS
HWTS

Click here for full text details

HAZNET
GEPAID CAL000208876

C14
WNW
< 1/8
0.123 mi.
647 ft.

Relative:
Higher

SANTA CRUZ BIOTECHNOLOGY INC.
2141-2145 DELAWARE AVE
SANTA CRUZ, CA 95060

RCRA NonGen / NLR **1024799284**
CAL000208876

Click here for full text details

RCRA NonGen / NLR
EPA Id CAL000208876

D15
NNE
< 1/8
0.123 mi.
650 ft.

Relative:
Higher

SANTA CRUZ INDUSTRIES
411 SWIFT ST
SANTA CRUZ, CA 95060

RCRA-SQG **1000395001**
FINDS **CAD009177650**
ECHO

Click here for full text details

RCRA-SQG
EPA Id CAD009177650

FINDS
Registry ID: 110002635916

ECHO

SANTA CRUZ INDUSTRIES (Continued) **1000395001**

Registry ID 110002635916

D16
NNE
< 1/8
0.123 mi.
650 ft.

Relative:
Higher

SANTA CRUZ INDUSTRIES **CPS-SLIC** **S102858349**
411 SWIFT ST **Notify 65** **N/A**
SANTA CRUZ, CA **CERS**

Click here for full text details

CPS-SLIC
Facility Status Open - Remediation
Global Id SLT3S0011280
Facility Status Post Remediation Action Monitoring

Click here to access the California GeoTracker records for this facility

---

C17
WNW
1/8-1/4
0.141 mi.
743 ft.

Relative:
Higher

SANTA CRUZ BIOTECHNOLOGY INC. **CUPA Listings** **S110743230**
2145 DELAWARE AVE **N/A**
SANTA CRUZ, CA 95060

Click here for full text details

CUPA Listings
Facility Id FA0003587

18
SSE
1/8-1/4
0.148 mi.
783 ft.

Relative:
Lower

SANTA CRUZ CITY SCHOOLS **RCRA NonGen / NLR** **1024765311**
225 SWIFT ST **CAC002985180**
SANTA CRUZ, CA 95060

Click here for full text details

RCRA NonGen / NLR
EPA Id CAC002985180

19
WNW
1/8-1/4
0.166 mi.
875 ft.

Relative:
Higher

DALLAS ELECTRONICS INC **CUPA Listings** **S103642085**
2151 DELAWARE AVE **N/A**
SANTA CRUZ, CA 95060

Click here for full text details

CUPA Listings
Facility Id FA0002993

20
SSW
1/8-1/4
0.168 mi.
889 ft.

Relative:
Lower

BRAD LAMB
220 SAN JOSE AVE
CAPITOLA, CA 95060

RCRA NonGen / NLR **1027209045**
CAC003173329

Click here for full text details

RCRA NonGen / NLR
EPA Id CAC003173329

21
WSW
1/8-1/4
0.174 mi.
920 ft.

Relative:
Lower

SHANA CHAMPION
502 WOODLAND WAY
SANTA CRUZ, CA 95060

RCRA NonGen / NLR **1027452849**
CAC003190858

Click here for full text details

RCRA NonGen / NLR
EPA Id CAC003190858

22
SW
1/8-1/4
0.176 mi.
929 ft.

Relative:
Lower

JANICE WALKER
114 COALINGA WAY
SANTA CRUZ, CA 95060

RCRA NonGen / NLR **1026168951**
CAC003068999

Click here for full text details

RCRA NonGen / NLR
EPA Id CAC003068999

E23
North
1/8-1/4
0.179 mi.
947 ft.

Relative:
Higher

VI TEX PACKAGING INC
511 SWIFT ST.
SANTA CRUZ, CA 95060

RCRA-SQG **1000404142**
FINDS
ECHO **CAD057443269**

Click here for full text details

RCRA-SQG
EPA Id CAD057443269

FINDS
Registry ID: 110002147702

ECHO
Registry ID 110002147702

E24
NNE
1/8-1/4
0.183 mi.
964 ft.

Relative:
Higher

VI TEX PACKAGING INC
36.95703/-122.04869
SANTA CRUZ, CA

Database(s): **PFAS ECHO**
1027436445
N/A

Click here for full text details

25
SSE
1/8-1/4
0.188 mi.
995 ft.

Relative:
Lower

STEVE SVETE
404 MODESTO AVE
SANTA CRUZ, CA 95060

Database(s): **RCRA NonGen / NLR**
1026716298
CAC003104770

Click here for full text details

RCRA NonGen / NLR
EPA Id CAC003104770

26
NNE
1/8-1/4
0.197 mi.
1040 ft.

Relative:
Higher

TARIQ JONES
212 HEATH STREET
SANTA CRUZ, CA 95060

Database(s): **RCRA NonGen / NLR**
1027458841
CAC003197196

Click here for full text details

RCRA NonGen / NLR
EPA Id CAC003197196

27
ENE
1/8-1/4
0.208 mi.
1097 ft.

Relative:
Higher

HOLMES, ROY
346 GETCHELL STREET
SANTA CRUZ, CA 95060

Database(s): **RCRA NonGen / NLR**
1025843061
CAC003022673

Click here for full text details

RCRA NonGen / NLR
EPA Id CAC003022673

F28
WNW
1/8-1/4
0.212 mi.
1121 ft.

Relative:
Higher

LIPTON INC
2200 DELAWARE AVE
SANTA CRUZ, CA 95060

Database(s): **LUST**
S111760460
N/A

Click here for full text details

LUST
Status Completed - Case Closed
Global Id T0608700196

F29
WNW
1/8-1/4
0.212 mi.
1121 ft.

Relative:
Higher

LIPTON INC
2200 DELAWARE AVE
SANTA CRUZ, CA 95060

Database(s): Cortese
EDR ID Number: S125984400
EPA ID Number: N/A

Click here for full text details

Cortese
Cleanup Status COMPLETED - CASE CLOSED

F30
WNW
1/8-1/4
0.212 mi.
1121 ft.

Relative:
Higher

MCM DIVERSIFIED
2200 DELAWARE AVE.
SANTA CRUZ, CA 95060

Database(s): RCRA NonGen / NLR
EDR ID Number: 1026488186
EPA ID Number: CAC003094392

Click here for full text details

RCRA NonGen / NLR
EPA Id CAC003094392

F31
WNW
1/8-1/4
0.212 mi.
1121 ft.

Relative:
Higher

MCM DIVERSIFIED
2200 DELAWARE AVE.
SANTA CRUZ, CA 95060

Database(s): RCRA NonGen / NLR
EDR ID Number: 1026472772
EPA ID Number: CAC003078419

Click here for full text details

RCRA NonGen / NLR
EPA Id CAC003078419

F32
WNW
1/8-1/4
0.212 mi.
1121 ft.

Relative:
Higher

LIPTON
2200 DELAWARE AVE
SANTA CRUZ, CA 95060

Database(s): HIST UST
EDR ID Number: U001601967
EPA ID Number: N/A

Click here for full text details

HIST UST
Facility Id 00000022024

F33
WNW
1/8-1/4
0.212 mi.
1121 ft.

Relative:
Higher

LIPTON
2200 DELAWARE AVE
SANTA CRUZ, CA 95060

Database(s): SWEEPS UST, CA FID UST
EDR ID Number: S101625307
EPA ID Number: N/A

Click here for full text details

SWEEPS UST
Comp Number 22024

CA FID UST
Facility Id 44000046
Status I

F34
WNW
1/8-1/4
0.212 mi.
1121 ft.

Relative:
Higher

LIPTON
2200 DELAWARE AVENUE
SANTA CRUZ, CA 95060

Click here for full text details

HIST UST **S118412373**
N/A

F35
WNW
1/8-1/4
0.212 mi.
1121 ft.

Relative:
Higher

SANTA CRUZ NUTRITIONALS
2200 DELAWARE AVE
SANTA CRUZ, CA 95060

Click here for full text details

HAZNET
GEPAID CAL000439640

NPDES
Facility Status Active

CERS HAZ WASTE **S117348292**
HAZNET **N/A**
NPDES
CIWQS
CERS
HWTS

F36
WNW
1/8-1/4
0.212 mi.
1121 ft.

Relative:
Higher

SANTA CRUZ NUTRITIONALS
2200 DELAWARE AVE
SANTA CRUZ, CA 95060

Click here for full text details

RCRA NonGen / NLR
EPA Id CAL000439640

RCRA NonGen / NLR **1024870996**
CAL000439640

F37
WNW
1/8-1/4
0.212 mi.
1121 ft.

Relative:
Higher

SANTA CRUZ NUTRITIONALS
2200 DELAWARE AVE
SANTA CRUZ, CA 95060

Click here for full text details

CUPA Listings
Facility Id FA0003629

CUPA Listings **S111842167**
N/A

F38
WNW
1/8-1/4
0.212 mi.
1121 ft.

Relative:
Higher

MCM DIVERSIFIED
2200 DELAWARE AVE.
SANTA CRUZ, CA 95060

Click here for full text details

RCRA-SQG
EPA Id CAD981447725

ICIS

RCRA-SQG **1000296458**
ICIS **CAD981447725**
US AIRS
FINDS
ECHO

MCM DIVERSIFIED (Continued) **1000296458**

FRS ID: 110055679145

US AIRS
EPA plant ID: 110018862612

FINDS
Registry ID: 110055679145

ECHO
Registry ID 110055679145
Registry ID 110070856665

G39 **PROMETHEUS FUELS, INC.** **RCRA NonGen / NLR** **1026486540**
North **601 SWIFT STREET** **CAC003119263**
1/8-1/4 **SANTA CRUZ, CA 95060**
0.213 mi.
1122 ft.

Click here for full text details

Relative: Higher

RCRA NonGen / NLR
EPA Id CAC003104793
EPA Id CAC003092701
EPA Id CAC003119263
EPA Id CAC003176485
EPA Id CAC003148138
EPA Id CAC003161610
EPA Id CAC003134021

G40 **MISSION LINON SUPPLY #10** **SWEEPS UST** **S101625310**
North **601 SWIFT ST** **CA FID UST** **N/A**
1/8-1/4 **SANTA CRUZ, CA 95060**
0.213 mi.
1122 ft.

Click here for full text details

Relative: Higher

SWEEPS UST
Comp Number 1193

CA FID UST
Facility Id 44000069
Status I

G41 **MISSION LINEN SERVICE** **LUST** **S101304442**
North **601 SWIFT ST** **CERS HAZ WASTE** **N/A**
1/8-1/4 **SANTA CRUZ, CA 95060** **Cortese**
0.213 mi. **HIST CORTESE**
1122 ft. **CERS**

Click here for full text details

Relative: Higher

LUST
Status Case Closed

MISSION LINEN SERVICE (Continued) **S101304442**

Status Completed - Case Closed
Global Id T0608700273
Global ID T0608700273

Cortese
Cleanup Status COMPLETED - CASE CLOSED

HIST CORTESE
Reg Id 683

G42
North
1/8-1/4
0.213 mi.
1122 ft.

Relative:
Higher

PROMETHEUS FUELS INC **RCRA NonGen / NLR** **1027469996**
601 SWIFT ST **CAL000474453**
SANTA CRUZ, CA 95060

Click here for full text details

RCRA NonGen / NLR
EPA Id CAL000474453

G43
North
1/8-1/4
0.213 mi.
1122 ft.

Relative:
Higher

MISSION LINON SUPPLY 10 **HIST UST** **U001601972**
601 SWIFT ST **N/A**
SANTA CRUZ, CA 95060

Click here for full text details

HIST UST
Facility Id 00000001193

44
SW
1/8-1/4
0.226 mi.
1192 ft.

Relative:
Lower

ROSA RADICCHI **RCRA NonGen / NLR** **1027082959**
730 MODESTO AVENUE **CAC003155091**
SANTA CRUZ, CA 95060

Click here for full text details

RCRA NonGen / NLR
EPA Id CAC003155091

45
NNE
1/4-1/2
0.297 mi.
1569 ft.

Relative:
Higher

S.C. ARTICHOKE & SPROUT GROWER **LUST** **S102436170**
402 INGALLS ST **CHMIRS** **N/A**
SANTA CRUZ, CA 95061 **Cortese**
HIST CORTESE
CERS

Click here for full text details

LUST
Status Case Closed
Status Completed - Case Closed
Global Id T0608700246
Global ID T0608700246

S.C. ARTICHOKE & SPROUT GROWER (Continued) **S102436170**

CHMIRS
OES Incident Number 2-3366

Cortese
Cleanup Status COMPLETED - CASE CLOSED

HIST CORTESE
Reg Id 616

46
NW
1/4-1/2
0.371 mi.
1961 ft.

Relative:
Higher

MARSHALL STEEL CLEANERS **LUST** **S104162779**
1229 28TH ST E **HIST CORTESE** **N/A**
OAKLAND, CA 94610

Click here for full text details

LUST
Facility Status Case Closed
Status Case Closed
Facility Id 01-0053
date9 3/18/1998
Global ID T0608700196

HIST CORTESE
Reg Id 354

47
North
1/4-1/2
0.382 mi.
2018 ft.

Relative:
Higher

PERSYS ENGRG., INC. **ENVIROSTOR** **S103981572**
815 SWIFT STREET **N/A**
SANTA CRUZ, CA 95060

Click here for full text details

ENVIROSTOR
Facility Id 71003357
Status Inactive - Needs Evaluation

H48
North
1/4-1/2
0.388 mi.
2050 ft.

Relative:
Higher

ELYXIR DISTRIBUTING **LUST** **S101594724**
2521 MISSION ST **SWEEPS UST** **N/A**
SANTA CRUZ, CA 95060 **HIST UST**
CA FID UST
Cortese
CERS

Click here for full text details

LUST
Status Case Closed
Global ID T0608700071

SWEEPS UST

ELYXIR DISTRIBUTING (Continued) **S101594724**

Comp Number 24626

CA FID UST
Facility Id 44000333
Status I

Cortese
Cleanup Status COMPLETED - CASE CLOSED

H49
North
1/4-1/2
0.388 mi.
2050 ft.

Relative:
Higher

ELYXIR DISTRIBUTING **LUST** **U001601956**
2521 MISSION ST **HIST UST** **N/A**
SANTA CRUZ, CA 95060

Click here for full text details

LUST
Status Completed - Case Closed
Global Id T0608700071

HIST UST
Facility Id 00000010765

50
North
1/4-1/2
0.412 mi.
2175 ft.

Relative:
Higher

RUDOLPH PROPERTY **LUST** **S101309571**
2429 MISSION ST **Cortese** **N/A**
SANTA CRUZ, CA 95060 **CUPA Listings**
HIST CORTESE
HAZNET
CERS
HWTS

Click here for full text details

LUST
Status Post remedial action monitoring
Status Completed - Case Closed
Global Id T0608700186
Global ID T0608700186

Cortese
Cleanup Status COMPLETED - CASE CLOSED

CUPA Listings
Facility Id FA0007667

HIST CORTESE
Reg Id 344

HAZNET
GEPAID CAC002855027

51
NNE
1/4-1/2
0.440 mi.
2323 ft.

Relative:
Higher

E.V. MOCEO CO., INC.
1206 FAIR AVE
SANTA CRUZ, CA 95060

Click here for full text details

Database(s): LUST, SWEEPS UST, HIST UST, CA FID UST, Cortese, CUPA Listings, HIST CORTESE, CERS

EDR ID Number: 1000301008
EPA ID Number: N/A

LUST
Status Post remedial action monitoring
Status Completed - Case Closed
Global Id T0608700241
Global ID T0608700241

SWEEPS UST
Comp Number 64706

HIST UST
Facility Id 00000064706

CA FID UST
Facility Id 44000063
Status I

Cortese
Cleanup Status COMPLETED - CASE CLOSED

CUPA Listings
Facility Id FA0001990

HIST CORTESE
Reg Id 611

52
West
1/4-1/2
0.475 mi.
2506 ft.

Relative:
Higher

SILICON SYSTEMS, INC.
2300 DELAWARE AVENUE
SANTA CRUZ, CA 95060

Click here for full text details

Database(s): ENVIROSTOR, CERS HAZ WASTE, HIST UST, CHMIRS, CUPA Listings, HAZNET, CERS, HWTS

EDR ID Number: U001601940
EPA ID Number: N/A

ENVIROSTOR
Facility Id 71003553
Status Inactive - Needs Evaluation

HIST UST
Facility Id 00000019293

CHMIRS

SILICON SYSTEMS, INC. (Continued) **U001601940**

OES Incident Number 0531

CUPA Listings
Facility Id FA0005326

HAZNET
GEPAID CAT080034036

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
CA	AQUEOUS FOAM	Former Fire Training Facility Assessments Listing	State Water Resources Control Board	09/06/2022	09/06/2022	10/26/2022
CA	AST	Aboveground Petroleum Storage Tank Facilities	California Environmental Protection Agency	07/06/2016	07/12/2016	09/19/2016
CA	BROWNFIELDS	Considered Brownfieds Sites Listing	State Water Resources Control Board	12/14/2022	12/14/2022	03/07/2023
CA	CA BOND EXP. PLAN	Bond Expenditure Plan	Department of Health Services	01/01/1989	07/27/1994	08/02/1994
CA	CA FID UST	Facility Inventory Database	California Environmental Protection Agency	10/31/1994	09/05/1995	09/29/1995
CA	CDL	Clandestine Drug Labs	Department of Toxic Substances Control	12/31/2020	11/30/2022	02/09/2023
CA	CERS	CalEPA Regulated Site Portal Data	California Environmental Protection Agency	01/05/2023	01/06/2023	01/10/2023
CA	CERS HAZ WASTE	CERS HAZ WASTE	CalEPA	01/05/2023	01/06/2023	01/11/2023
CA	CERS TANKS	California Environmental Reporting System (CERS) Tanks	California Environmental Protection Agency	01/06/2023	01/06/2023	01/11/2023
CA	CHMIRS	California Hazardous Material Incident Report System	Office of Emergency Services	08/02/2022	10/17/2022	01/04/2023
CA	CIWQS	California Integrated Water Quality System	State Water Resources Control Board	11/28/2022	11/29/2022	02/13/2023
CA	CORTESE	"Cortese" Hazardous Waste & Substances Sites List	CAL EPA/Office of Emergency Information	12/14/2022	12/14/2022	03/07/2023
CA	CPS-SLIC	Statewide SLIC Cases (GEOTRACKER)	State Water Resources Control Board	12/02/2022	12/02/2022	02/22/2023
CA	CUPA LIVERMORE-PLEASANTON	CUPA Facility Listing	Livermore-Pleasanton Fire Department	12/07/2021	05/09/2022	05/17/2022
CA	DEED	Deed Restriction Listing	DTSC and SWRCB	11/28/2022	11/29/2022	02/13/2023
CA	DRYCLEAN AVAQMD	Antelope Valley Air Quality Management District Drycleaner L	Antelope Valley Air Quality Management Distri	11/14/2022	11/14/2022	02/01/2023
CA	DRYCLEAN SOUTH COAST	South Coast Air Quality Management District Drycleaner Listi	South Coast Air Quality Management District	11/17/2022	11/30/2022	02/14/2023
CA	DRYCLEANERS	Cleaner Facilities	Department of Toxic Substance Control	08/27/2021	09/01/2021	11/19/2021
CA	EMI	Emissions Inventory Data	California Air Resources Board	12/31/2020	06/13/2022	08/30/2022
CA	ENF	Enforcement Action Listing	State Water Resoruces Control Board	10/17/2022	10/19/2022	01/10/2023
CA	ENVIROSTOR	EnviroStor Database	Department of Toxic Substances Control	10/24/2022	10/24/2022	01/12/2023
CA	Financial Assurance 1	Financial Assurance Information Listing	Department of Toxic Substances Control	10/12/2022	10/12/2022	12/29/2022
CA	Financial Assurance 2	Financial Assurance Information Listing	California Integrated Waste Management Board	11/08/2022	11/23/2022	02/13/2023
CA	HAULERS	Registered Waste Tire Haulers Listing	Integrated Waste Management Board	11/16/2022	11/22/2022	02/13/2023
CA	HAZNET	Facility and Manifest Data	California Environmental Protection Agency	12/31/2021	07/05/2022	09/19/2022
CA	HIST CAL-SITES	Calsites Database	Department of Toxic Substance Control	08/08/2005	08/03/2006	08/24/2006
CA	HIST CORTESE	Hazardous Waste & Substance Site List	Department of Toxic Substances Control	04/01/2001	01/22/2009	04/08/2009
CA	HIST UST	Hazardous Substance Storage Container Database	State Water Resources Control Board	10/15/1990	01/25/1991	02/12/1991
CA	HWP	EnviroStor Permitted Facilities Listing	Department of Toxic Substances Control	11/10/2022	11/10/2022	02/01/2023
CA	HWT	Registered Hazardous Waste Transporter Database	Department of Toxic Substances Control	01/03/2023	01/04/2023	03/21/2023
CA	HWTS	Hazardous Waste Tracking System	Department of Toxic Substances Control	04/05/2022	04/05/2022	04/26/2022
CA	ICE	ICE	Department of Toxic Subsances Control	11/10/2022	11/10/2022	02/01/2023
CA	LDS	Land Disposal Sites Listing (GEOTRACKER)	State Water Qualilty Control Board	03/06/2023	03/07/2023	03/30/2023
CA	LIENS	Environmental Liens Listing	Department of Toxic Substances Control	02/23/2023	02/24/2023	03/23/2023
CA	LUST	Leaking Underground Fuel Tank Report (GEOTRACKER)	State Water Resources Control Board	03/06/2023	03/07/2023	03/30/2023
CA	LUST REG 1	Active Toxic Site Investigation	California Regional Water Quality Control Boa	02/01/2001	02/28/2001	03/29/2001
CA	LUST REG 2	Fuel Leak List	California Regional Water Quality Control Boa	09/30/2004	10/20/2004	11/19/2004
CA	LUST REG 3	Leaking Underground Storage Tank Database	California Regional Water Quality Control Boa	05/19/2003	05/19/2003	06/02/2003
CA	LUST REG 4	Underground Storage Tank Leak List	California Regional Water Quality Control Boa	09/07/2004	09/07/2004	10/12/2004
CA	LUST REG 5	Leaking Underground Storage Tank Database	California Regional Water Quality Control Boa	07/01/2008	07/22/2008	07/31/2008
CA	LUST REG 6L	Leaking Underground Storage Tank Case Listing	California Regional Water Quality Control Boa	09/09/2003	09/10/2003	10/07/2003
CA	LUST REG 6V	Leaking Underground Storage Tank Case Listing	California Regional Water Quality Control Boa	06/07/2005	06/07/2005	06/29/2005
CA	LUST REG 7	Leaking Underground Storage Tank Case Listing	California Regional Water Quality Control Boa	02/26/2004	02/26/2004	03/24/2004
CA	LUST REG 8	Leaking Underground Storage Tanks	California Regional Water Quality Control Boa	02/14/2005	02/15/2005	03/28/2005
CA	LUST REG 9	Leaking Underground Storage Tank Report	California Regional Water Quality Control Boa	03/01/2001	04/23/2001	05/21/2001
CA	MCS	Military Cleanup Sites Listing (GEOTRACKER)	State Water Resources Control Board	12/02/2022	12/02/2022	02/21/2023
CA	MILITARY PRIV SITES	Military Privatized Sites (GEOTRACKER)	State Water Resources Control Board	12/02/2022	12/02/2022	02/21/2023

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
CA	MILITARY UST SITES	Military UST Sites (GEOTRACKER)	State Water Resources Control Board	12/02/2022	12/02/2022	02/21/2023
CA	MINES	Mines Site Location Listing	Department of Conservation	12/02/2022	12/02/2022	02/22/2023
CA	MWMP	Medical Waste Management Program Listing	Department of Public Health	10/31/2022	11/29/2022	02/14/2023
CA	NON-CASE INFO	Non-Case Information Sites (GEOTRACKER)	State Water Resources Control Board	12/02/2022	12/02/2022	02/21/2023
CA	NOTIFY 65	Proposition 65 Records	State Water Resources Control Board	12/07/2022	12/07/2022	03/01/2023
CA	NPDES	NPDES Permits Listing	State Water Resources Control Board	11/03/2022	11/03/2022	01/25/2023
CA	OTHER OIL GAS	Other Oil & Gas Projects Sites (GEOTRACKER)	State Water Resources Control Board	12/02/2022	12/02/2022	02/21/2023
CA	PEST LIC	Pesticide Regulation Licenses Listing	Department of Pesticide Regulation	11/28/2022	11/29/2022	02/14/2023
CA	PFAS	PFAS Contamination Site Location Listing	State Water Resources Control Board	12/02/2022	12/02/2022	02/23/2023
CA	PROC	Certified Processors Database	Department of Conservation	12/02/2022	12/02/2022	02/22/2023
CA	PROD WATER PONDS	Produced Water Ponds Sites (GEOTRACKER)	State Water Resources Control Board	12/02/2022	12/02/2022	02/21/2023
CA	PROJECT	Project Sites (GEOTRACKER)	State Water Resources Control Board	12/02/2022	12/02/2022	02/21/2023
CA	RESPONSE	State Response Sites	Department of Toxic Substances Control	10/24/2022	10/24/2022	01/12/2023
CA	RGA LF	Recovered Government Archive Solid Waste Facilities List	Department of Resources Recycling and Recover		07/01/2013	01/13/2014
CA	RGA LUST	Recovered Government Archive Leaking Underground Storage Tan	State Water Resources Control Board		07/01/2013	12/30/2013
CA	SAMPLING POINT	Sampling Point ? Public Sites (GEOTRACKER)	State Water Resources Control Board	12/02/2022	12/02/2022	02/21/2023
CA	SAN FRANCISCO AST	Aboveground Storage Tank Site Listing	San Francisco County Department of Public Hea	11/03/2022	11/07/2022	01/24/2023
CA	SAN JOSE HAZMAT	Hazardous Material Facilities	City of San Jose Fire Department	11/03/2020	11/05/2020	01/26/2021
CA	SCH	School Property Evaluation Program	Department of Toxic Substances Control	10/24/2022	10/24/2022	01/12/2023
CA	SLIC REG 1	Active Toxic Site Investigations	California Regional Water Quality Control Boa	04/03/2003	04/07/2003	04/25/2003
CA	SLIC REG 2	Spills, Leaks, Investigation & Cleanup Cost Recovery Listing	Regional Water Quality Control Board San Fran	09/30/2004	10/20/2004	11/19/2004
CA	SLIC REG 3	Spills, Leaks, Investigation & Cleanup Cost Recovery Listing	California Regional Water Quality Control Boa	05/18/2006	05/18/2006	06/15/2006
CA	SLIC REG 4	Spills, Leaks, Investigation & Cleanup Cost Recovery Listing	Region Water Quality Control Board Los Angele	11/17/2004	11/18/2004	01/04/2005
CA	SLIC REG 5	Spills, Leaks, Investigation & Cleanup Cost Recovery Listing	Regional Water Quality Control Board Central	04/01/2005	04/05/2005	04/21/2005
CA	SLIC REG 6L	SLIC Sites	California Regional Water Quality Control Boa	09/07/2004	09/07/2004	10/12/2004
CA	SLIC REG 6V	Spills, Leaks, Investigation & Cleanup Cost Recovery Listing	Regional Water Quality Control Board, Victorv	05/24/2005	05/25/2005	06/16/2005
CA	SLIC REG 7	SLIC List	California Regional Quality Control Board, Co	11/24/2004	11/29/2004	01/04/2005
CA	SLIC REG 8	Spills, Leaks, Investigation & Cleanup Cost Recovery Listing	California Region Water Quality Control Board	04/03/2008	04/03/2008	04/14/2008
CA	SLIC REG 9	Spills, Leaks, Investigation & Cleanup Cost Recovery Listing	California Regional Water Quality Control Boa	09/10/2007	09/11/2007	09/28/2007
CA	SPILLS 90	SPILLS90 data from FirstSearch	FirstSearch	06/06/2012	01/03/2013	02/22/2013
CA	SWEEPS UST	SWEEPS UST Listing	State Water Resources Control Board	06/01/1994	07/07/2005	08/11/2005
CA	SWF/LF (SWIS)	Solid Waste Information System	Department of Resources Recycling and Recover	11/03/2022	11/03/2022	01/25/2023
CA	SWRCY	Recycler Database	Department of Conservation	12/02/2022	12/02/2022	02/22/2023
CA	TOXIC PITS	Toxic Pits Cleanup Act Sites	State Water Resources Control Board	07/01/1995	08/30/1995	09/26/1995
CA	UIC	UIC Listing	Deaprtment of Conservation	12/02/2022	12/02/2022	02/22/2023
CA	UIC GEO	Underground Injection Control Sites (GEOTRACKER)	State Water Resource Control Board	12/02/2022	12/02/2022	02/21/2023
CA	UST	Active UST Facilities	SWRCB	12/02/2022	12/02/2022	02/22/2023
CA	UST CLOSURE	Proposed Closure of Underground Storage Tank (UST) Cases	State Water Resources Control Board	11/28/2022	12/02/2022	02/23/2023
CA	VCP	Voluntary Cleanup Program Properties	Department of Toxic Substances Control	10/24/2022	10/24/2022	01/12/2023
CA	WASTEWATER PITS	Oil Wastewater Pits Listing	RWQCB, Central Valley Region	02/11/2021	07/01/2021	09/29/2021
CA	WDR	Waste Discharge Requirements Listing	State Water Resources Control Board	12/02/2022	12/02/2022	02/23/2023
CA	WDS	Waste Discharge System	State Water Resources Control Board	06/19/2007	06/20/2007	06/29/2007
CA	WELL STIM PROJ	Well Stimulation Project (GEOTRACKER)	State Water Resources Control Board	12/02/2022	12/02/2022	02/21/2023
CA	WIP	Well Investigation Program Case List	Los Angeles Water Quality Control Board	07/03/2009	07/21/2009	08/03/2009
CA	WMUDS/SWAT	Waste Management Unit Database	State Water Resources Control Board	04/01/2000	04/10/2000	05/10/2000
US	2020 COR ACTION	2020 Corrective Action Program List	Environmental Protection Agency	09/30/2017	05/08/2018	07/20/2018
US	ABANDONED MINES	Abandoned Mines	Department of Interior	12/20/2022	12/20/2022	03/10/2023

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
US	AQUEOUS FOAM NRC	Aqueous Foam Related Incidents Listing	Environmental Protection Agency	02/23/2022	03/31/2022	11/08/2022
US	BRS	Biennial Reporting System	EPA/NTIS	12/31/2021	03/09/2023	03/20/2023
US	COAL ASH DOE	Steam-Electric Plant Operation Data	Department of Energy	12/31/2020	11/30/2021	02/22/2022
US	COAL ASH EPA	Coal Combustion Residues Surface Impoundments List	Environmental Protection Agency	01/12/2017	03/05/2019	11/11/2019
US	CONSENT	Superfund (CERCLA) Consent Decrees	Department of Justice, Consent Decree Library	09/30/2022	10/21/2022	01/10/2023
US	CORRACTS	Corrective Action Report	EPA	03/06/2023	03/09/2023	03/20/2023
US	DEBRIS REGION 9	Torres Martinez Reservation Illegal Dump Site Locations	EPA, Region 9	01/12/2009	05/07/2009	09/21/2009
US	DOCKET HWC	Hazardous Waste Compliance Docket Listing	Environmental Protection Agency	05/06/2021	05/21/2021	08/11/2021
US	DOD	Department of Defense Sites	USGS	06/07/2021	07/13/2021	03/09/2022
US	DOT OPS	Incident and Accident Data	Department of Transporation, Office of Pipeli	01/02/2020	01/28/2020	04/17/2020
US	Delisted NPL	National Priority List Deletions	EPA	01/25/2023	02/02/2023	02/28/2023
US	ECHO	Enforcement & Compliance History Information	Environmental Protection Agency	09/25/2022	09/30/2022	12/22/2022
US	EDR Hist Auto	EDR Exclusive Historical Auto Stations	EDR, Inc.			
US	EDR Hist Cleaner	EDR Exclusive Historical Cleaners	EDR, Inc.			
US	EDR MGP	EDR Proprietary Manufactured Gas Plants	EDR, Inc.			
US	EPA WATCH LIST	EPA WATCH LIST	Environmental Protection Agency	08/30/2013	03/21/2014	06/17/2014
US	ERNS	Emergency Response Notification System	National Response Center, United States Coast	12/12/2022	12/14/2022	12/19/2022
US	FEDERAL FACILITY	Federal Facility Site Information listing	Environmental Protection Agency	12/20/2022	12/21/2022	03/10/2023
US	FEDLAND	Federal and Indian Lands	U.S. Geological Survey	04/02/2018	04/11/2018	11/06/2019
US	FEMA UST	Underground Storage Tank Listing	FEMA	10/14/2021	11/05/2021	02/01/2022
US	FINDS	Facility Index System/Facility Registry System	EPA	02/02/2023	02/28/2023	03/24/2023
US	FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fu	EPA/Office of Prevention, Pesticides and Toxi	04/09/2009	04/16/2009	05/11/2009
US	FTTS INSP	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fu	EPA	04/09/2009	04/16/2009	05/11/2009
US	FUDS	Formerly Used Defense Sites	U.S. Army Corps of Engineers	11/01/2022	11/10/2022	02/09/2023
US	FUELS PROGRAM	EPA Fuels Program Registered Listing	EPA	11/10/2022	11/10/2022	02/09/2023
US	FUSRAP	Formerly Utilized Sites Remedial Action Program	Department of Energy	07/26/2021	07/27/2021	10/22/2021
US	HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing	Environmental Protection Agency	10/19/2006	03/01/2007	04/10/2007
US	HIST FTTS INSP	FIFRA/TSCA Tracking System Inspection & Enforcement Case Lis	Environmental Protection Agency	10/19/2006	03/01/2007	04/10/2007
US	HMIRS	Hazardous Materials Information Reporting System	U.S. Department of Transportation	12/13/2022	12/14/2022	03/10/2023
US	ICIS	Integrated Compliance Information System	Environmental Protection Agency	11/18/2016	11/23/2016	02/10/2017
US	IHS OPEN DUMPS	Open Dumps on Indian Land	Department of Health & Human Serivces, Indian	04/01/2014	08/06/2014	01/29/2015
US	INDIAN LUST R1	Leaking Underground Storage Tanks on Indian Land	EPA Region 1	10/19/2022	12/06/2022	03/03/2023
US	INDIAN LUST R10	Leaking Underground Storage Tanks on Indian Land	EPA Region 10	04/20/2022	06/13/2022	08/16/2022
US	INDIAN LUST R4	Leaking Underground Storage Tanks on Indian Land	EPA Region 4	11/26/2022	12/06/2022	03/03/2023
US	INDIAN LUST R5	Leaking Underground Storage Tanks on Indian Land	EPA, Region 5	10/14/2022	12/06/2022	03/03/2023
US	INDIAN LUST R6	Leaking Underground Storage Tanks on Indian Land	EPA Region 6	11/23/2022	12/06/2022	03/03/2023
US	INDIAN LUST R7	Leaking Underground Storage Tanks on Indian Land	EPA Region 7	10/14/2022	12/06/2022	03/03/2023
US	INDIAN LUST R8	Leaking Underground Storage Tanks on Indian Land	EPA Region 8	11/23/2022	12/06/2022	03/03/2023
US	INDIAN LUST R9	Leaking Underground Storage Tanks on Indian Land	Environmental Protection Agency	11/23/2022	12/06/2022	03/03/2023
US	INDIAN ODI	Report on the Status of Open Dumps on Indian Lands	Environmental Protection Agency	12/31/1998	12/03/2007	01/24/2008
US	INDIAN RESERV	Indian Reservations	USGS	12/31/2014	07/14/2015	01/10/2017
US	INDIAN UST R1	Underground Storage Tanks on Indian Land	EPA, Region 1	10/19/2022	12/06/2022	03/03/2023
US	INDIAN UST R10	Underground Storage Tanks on Indian Land	EPA Region 10	04/20/2022	06/13/2022	08/16/2022
US	INDIAN UST R4	Underground Storage Tanks on Indian Land	EPA Region 4	11/23/2022	12/06/2022	03/03/2023
US	INDIAN UST R5	Underground Storage Tanks on Indian Land	EPA Region 5	10/14/2022	12/06/2022	03/03/2023
US	INDIAN UST R6	Underground Storage Tanks on Indian Land	EPA Region 6	11/23/2022	12/06/2022	03/03/2023
US	INDIAN UST R7	Underground Storage Tanks on Indian Land	EPA Region 7	10/14/2022	12/06/2022	03/03/2023

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
US	INDIAN UST R8	Underground Storage Tanks on Indian Land	EPA Region 8	11/23/2022	12/06/2022	03/03/2023
US	INDIAN UST R9	Underground Storage Tanks on Indian Land	EPA Region 9	11/23/2022	12/06/2022	03/03/2023
US	INDIAN VCP R1	Voluntary Cleanup Priority Listing	EPA, Region 1	07/27/2015	09/29/2015	02/18/2016
US	INDIAN VCP R7	Voluntary Cleanup Priority Lisitng	EPA, Region 7	03/20/2008	04/22/2008	05/19/2008
US	LEAD SMELTER 1	Lead Smelter Sites	Environmental Protection Agency	01/25/2023	02/02/2023	02/28/2023
US	LEAD SMELTER 2	Lead Smelter Sites	American Journal of Public Health	04/05/2001	10/27/2010	12/02/2010
US	LIENS 2	CERCLA Lien Information	Environmental Protection Agency	01/25/2023	02/02/2023	02/28/2023
US	LUCIS	Land Use Control Information System	Department of the Navy	11/02/2022	11/08/2022	01/10/2023
US	MINES MRDS	Mineral Resources Data System	USGS	08/23/2022	11/22/2022	02/28/2023
US	MINES VIOLATIONS	MSHA Violation Assessment Data	DOL, Mine Safety & Health Admi	02/27/2023	03/01/2023	03/24/2023
US	MLTS	Material Licensing Tracking System	Nuclear Regulatory Commission	10/26/2022	11/22/2022	12/05/2022
US	NPL	National Priority List	EPA	01/25/2023	02/03/2023	02/28/2023
US	NPL LIENS	Federal Superfund Liens	EPA	10/15/1991	02/02/1994	03/30/1994
US	ODI	Open Dump Inventory	Environmental Protection Agency	06/30/1985	08/09/2004	09/17/2004
US	PADS	PCB Activity Database System	EPA	01/20/2022	01/20/2022	03/25/2022
US	PCB TRANSFORMER	PCB Transformer Registration Database	Environmental Protection Agency	09/13/2019	11/06/2019	02/10/2020
US	PCS	Permit Compliance System	EPA, Office of Water	07/14/2011	08/05/2011	09/29/2011
US	PCS ENF	Enforcement data	EPA	12/31/2014	02/05/2015	03/06/2015
US	PCS INACTIVE	Listing of Inactive PCS Permits	EPA	11/05/2014	01/06/2015	05/06/2015
US	PFAS ATSDR	PFAS Contamination Site Location Listing	Department of Health & Human Services	06/24/2020	03/17/2021	11/08/2022
US	PFAS ECHO	Facilities in Industries that May Be Handling PFAS Listing	Environmental Protection Agency	01/03/2022	03/31/2022	11/08/2022
US	PFAS ECHO FIRE TRAINING	Facilities in Industries that May Be Handling PFAS Listing	Environmental Protection Agency	08/22/2018	03/31/2022	11/08/2022
US	PFAS FEDERAL SITES	Federal Sites PFAS Information	Environmental Protection Agency	02/23/2022	03/31/2022	11/08/2022
US	PFAS NPDES	Clean Water Act Discharge Monitoring Information	Environmental Protection Agency	01/03/2022	03/31/2022	11/08/2022
US	PFAS NPL	Superfund Sites with PFAS Detections Information	Environmental Protection Agency	02/23/2022	07/08/2022	11/08/2022
US	PFAS PART 139 AIRPORT	All Certified Part 139 Airports PFAS Information Listing	Environmental Protection Agency	08/22/2018	10/26/2022	11/08/2022
US	PFAS RCRA MANIFEST	PFAS Transfers Identified In the RCRA Database Listing	Environmental Protection Agency	01/03/2022	03/31/2022	11/08/2022
US	PFAS TRIS	List of PFAS Added to the TRI	Environmental Protection Agency	03/07/2023	03/07/2023	03/24/2023
US	PFAS TSCA	PFAS Manufacture and Imports Information	Environmental Protection Agency	01/03/2022	03/31/2022	11/08/2022
US	PFAS WQP	Ambient Environmental Sampling for PFAS	Environmental Protection Agency	01/03/2022	03/31/2022	11/08/2022
US	PRP	Potentially Responsible Parties	EPA	10/27/2022	11/01/2022	11/15/2022
US	Proposed NPL	Proposed National Priority List Sites	EPA	01/25/2023	02/02/2023	02/28/2023
US	RAATS	RCRA Administrative Action Tracking System	EPA	04/17/1995	07/03/1995	08/07/1995
US	RADINFO	Radiation Information Database	Environmental Protection Agency	07/01/2019	07/01/2019	09/23/2019
US	RCRA NonGen / NLR	RCRA - Non Generators / No Longer Regulated	Environmental Protection Agency	03/06/2023	03/09/2023	03/20/2023
US	RCRA-LQG	RCRA - Large Quantity Generators	Environmental Protection Agency	03/06/2023	03/09/2023	03/20/2023
US	RCRA-SQG	RCRA - Small Quantity Generators	Environmental Protection Agency	03/06/2023	03/09/2023	03/20/2023
US	RCRA-TSDF	RCRA - Treatment, Storage and Disposal	Environmental Protection Agency	03/06/2023	03/09/2023	03/20/2023
US	RCRA-VSQG	RCRA - Very Small Quantity Generators (Formerly Conditionall	Environmental Protection Agency	03/06/2023	03/09/2023	03/20/2023
US	RMP	Risk Management Plans	Environmental Protection Agency	04/27/2022	05/04/2022	05/10/2022
US	ROD	Records Of Decision	EPA	01/25/2023	02/02/2023	02/28/2023
US	SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing	Environmental Protection Agency	07/30/2021	02/03/2023	02/10/2023
US	SEMS	Superfund Enterprise Management System	EPA	01/25/2023	02/02/2023	02/28/2023
US	SEMS-ARCHIVE	Superfund Enterprise Management System Archive	EPA	01/25/2023	02/02/2023	02/28/2023
US	SSTS	Section 7 Tracking Systems	EPA	10/17/2022	10/18/2022	01/10/2023
US	TRIS	Toxic Chemical Release Inventory System	EPA	12/31/2021	11/01/2022	02/09/2023
US	TSCA	Toxic Substances Control Act	EPA	12/31/2020	06/14/2022	03/24/2023

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
US	UMTRA	Uranium Mill Tailings Sites	Department of Energy	08/30/2019	11/15/2019	01/28/2020
US	US AIRS (AFS)	Aerometric Information Retrieval System Facility Subsystem (	EPA	10/12/2016	10/26/2016	02/03/2017
US	US AIRS MINOR	Air Facility System Data	EPA	10/12/2016	10/26/2016	02/03/2017
US	US BROWNFIELDS	A Listing of Brownfields Sites	Environmental Protection Agency	02/23/2022	03/10/2022	03/10/2022
US	US CDL	Clandestine Drug Labs	Drug Enforcement Administration	01/06/2023	02/02/2023	02/10/2023
US	US ENG CONTROLS	Engineering Controls Sites List	Environmental Protection Agency	10/27/2022	11/16/2022	02/09/2023
US	US FIN ASSUR	Financial Assurance Information	Environmental Protection Agency	12/13/2022	12/14/2022	03/10/2023
US	US HIST CDL	National Clandestine Laboratory Register	Drug Enforcement Administration	01/06/2023	02/02/2023	02/10/2023
US	US INST CONTROLS	Institutional Controls Sites List	Environmental Protection Agency	10/27/2022	11/16/2022	02/09/2023
US	US MINES	Mines Master Index File	Department of Labor, Mine Safety and Health A	11/07/2022	11/17/2022	02/10/2023
US	US MINES 2	Ferrous and Nonferrous Metal Mines Database Listing	USGS	05/06/2020	05/27/2020	08/13/2020
US	US MINES 3	Active Mines & Mineral Plants Database Listing	USGS	04/14/2011	06/08/2011	09/13/2011
US	UXO	Unexploded Ordnance Sites	Department of Defense	11/09/2021	10/20/2022	01/10/2023
CT	CT MANIFEST	Hazardous Waste Manifest Data	Department of Energy & Environmental Protecti	11/16/2022	11/16/2022	02/06/2023
NJ	NJ MANIFEST	Manifest Information	Department of Environmental Protection	12/31/2018	04/10/2019	05/16/2019
NY	NY MANIFEST	Facility and Manifest Data	Department of Environmental Conservation	01/01/2019	10/29/2021	01/19/2022
PA	PA MANIFEST	Manifest Information	Department of Environmental Protection	06/30/2018	07/19/2019	09/10/2019
RI	RI MANIFEST	Manifest information	Department of Environmental Management	12/31/2020	11/30/2021	02/18/2022
WI	WI MANIFEST	Manifest Information	Department of Natural Resources	05/31/2018	06/19/2019	09/03/2019
US	AHA Hospitals	Sensitive Receptor: AHA Hospitals	American Hospital Association, Inc.			
US	Medical Centers	Sensitive Receptor: Medical Centers	Centers for Medicare & Medicaid Services			
US	Nursing Homes	Sensitive Receptor: Nursing Homes	National Institutes of Health			
US	Public Schools	Sensitive Receptor: Public Schools	National Center for Education Statistics			
US	Private Schools	Sensitive Receptor: Private Schools	National Center for Education Statistics			
CA	Daycare Centers	Sensitive Receptor: Licensed Facilities	Department of Social Services			
US	Flood Zones	100-year and 500-year flood zones	Emergency Management Agency (FEMA)			
US	NWI	National Wetlands Inventory	U.S. Fish and Wildlife Service			
CA	State Wetlands	Wetland Inventory	Department of Fish and Wildlife			
US	Topographic Map		U.S. Geological Survey			
US	Oil/Gas Pipelines		Endeavor Business Media			
US	Electric Power Transmission Line Data		Endeavor Business Media			

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date

STREET AND ADDRESS INFORMATION

GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

SANTA CRUZ CITY SCHOOLS - WORKFORCE HOUSING
313 SWIFT STREET
SANTA CRUZ, CA 95060

TARGET PROPERTY COORDINATES

Latitude (North):	36.95446 - 36° 57' 16.06''
Longitude (West):	122.049478 - 122° 2' 58.12''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	584627.2
UTM Y (Meters):	4090039.5
Elevation:	52 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	12007839 SANTA CRUZ, CA
Version Date:	2018

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

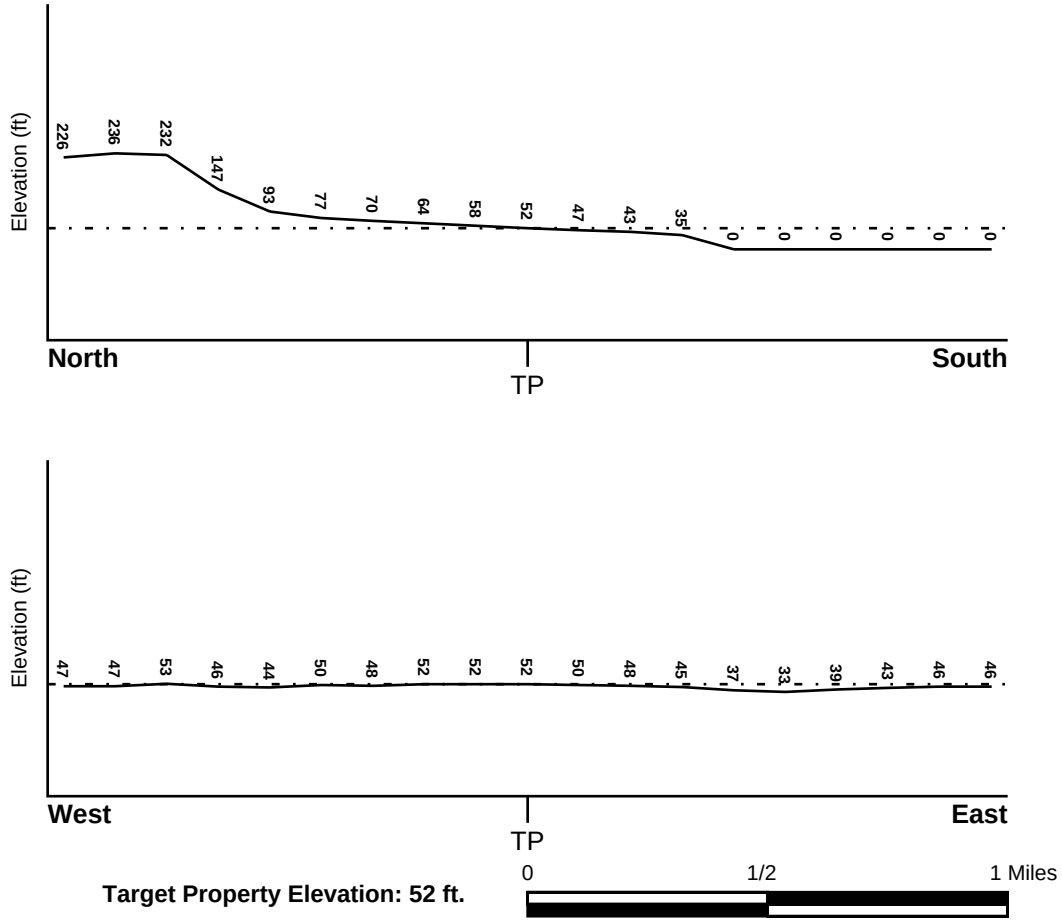
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General SSE

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Target Property Elevation: 52 ft.

Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
06087C0333E	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
06087C0331E	FEMA FIRM Flood data
06087C0329E	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
SANTA CRUZ	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

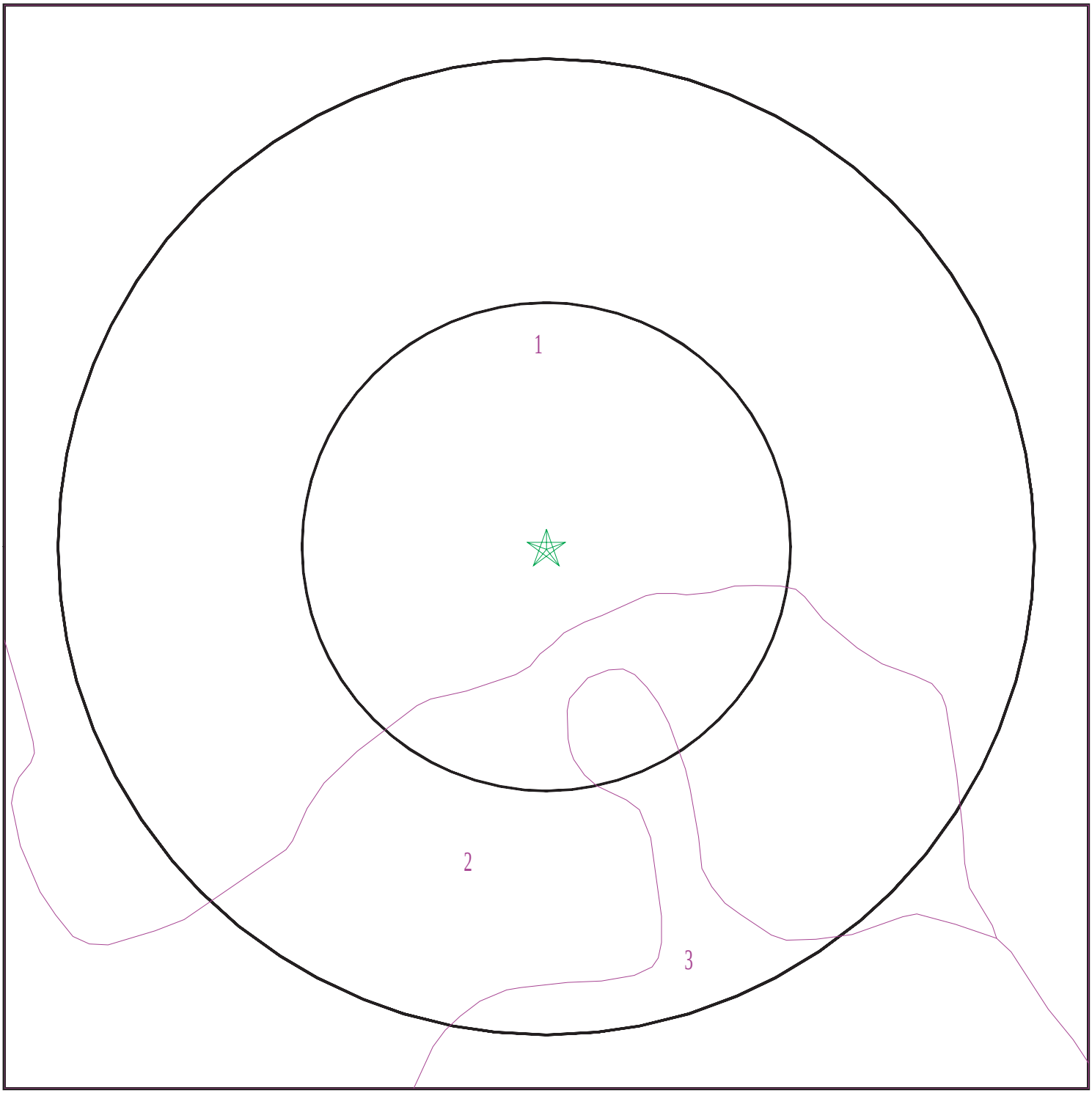
Era:	Cenozoic
System:	Tertiary
Series:	Miocene
Code:	Tm *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratified Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 07295354.2r



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	Santa Cruz City Schools - Workforce Housing	CLIENT:	MooreTwining Associates, Inc.
ADDRESS:	313 Swift Street SANTA CRUZ CA 95060	CONTACT:	Sara Bloom
LAT/LONG:	36.95446 / 122.049478	INQUIRY #:	07295354.2r
		DATE:	March 31, 2023 10:04 am

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: WATSONVILLE

Soil Surface Texture: loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Somewhat poorly drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 114 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	18 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 1.4 Min: 0.42	Max: 8.4 Min: 5.6
2	18 inches	38 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 1.4 Min: 0.42	Max: 8.4 Min: 5.6
3	38 inches	62 inches	sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 1.4 Min: 0.42	Max: 8.4 Min: 5.6

Soil Map ID: 2

Soil Component Name: ELKHORN

Soil Surface Texture: sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	20 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 7.8 Min: 5.6
2	20 inches	61 inches	sandy clay loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 7.8 Min: 5.6

Soil Map ID: 3

Soil Component Name: ELKHORN

Soil Surface Texture: sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	20 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 7.8 Min: 5.6
2	20 inches	61 inches	sandy clay loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 7.8 Min: 5.6

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
G62	USGS40000179807	1/2 - 1 Mile WSW

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A1	CAEDF0000143914	0 - 1/8 Mile NE
A2	CAEDF0000085128	0 - 1/8 Mile NE
A3	CAEDF0000012666	0 - 1/8 Mile ENE
A4	CAEDF0000010694	0 - 1/8 Mile ENE
A5	CAEDF0000096514	0 - 1/8 Mile NNE
A6	CAEDF0000070714	0 - 1/8 Mile North
A7	CAEDF0000069065	0 - 1/8 Mile NE
A8	CAEDF0000015669	0 - 1/8 Mile NE
A9	CAEDF0000031368	0 - 1/8 Mile NNE
A10	CAEDF0000096838	0 - 1/8 Mile North
B11	CAEDF0000118488	0 - 1/8 Mile North
B12	CAEDF0000015950	0 - 1/8 Mile North
B13	CAEDF0000013342	0 - 1/8 Mile North
B14	CAEDF0000121775	1/8 - 1/4 Mile North
C15	CAEDF0000004396	1/4 - 1/2 Mile North
C16	CAEDF0000106844	1/4 - 1/2 Mile North
C17	CAEDF0000123346	1/4 - 1/2 Mile North
C18	CAEDF0000086183	1/4 - 1/2 Mile North
C19	CAEDF0000108083	1/4 - 1/2 Mile North
C20	CAEDF0000102011	1/4 - 1/2 Mile North
C21	CAEDF0000010228	1/4 - 1/2 Mile North
C22	CAEDF0000083594	1/4 - 1/2 Mile North
C23	CAEDF0000097454	1/4 - 1/2 Mile North
C24	CAEDF0000102530	1/4 - 1/2 Mile North
C25	CAEDF0000059059	1/4 - 1/2 Mile North
C26	CAEDF0000118691	1/4 - 1/2 Mile North
C27	CAEDF0000118121	1/4 - 1/2 Mile North
D28	CAEDF0000105141	1/4 - 1/2 Mile NNE
D29	CAEDF0000119074	1/4 - 1/2 Mile NNE
D30	CAEDF0000060675	1/4 - 1/2 Mile NNE
D31	CAEDF0000046366	1/4 - 1/2 Mile NNE
D32	CAEDF0000113652	1/4 - 1/2 Mile NNE
D33	CAEDF0000122408	1/4 - 1/2 Mile NNE
D34	CAEDF0000062599	1/4 - 1/2 Mile NNE
D35	CAEDF0000023763	1/4 - 1/2 Mile NNE
E36	CAEDF0000102356	1/2 - 1 Mile NNE
E37	CAEDF0000053827	1/2 - 1 Mile NNE
E38	CAEDF0000032630	1/2 - 1 Mile NNE
E39	CAEDF0000052444	1/2 - 1 Mile NNE
E40	CAEDF0000064115	1/2 - 1 Mile NNE
E41	CAEDF0000093701	1/2 - 1 Mile NNE
E42	CAEDF0000116363	1/2 - 1 Mile NNE
E43	CAEDF0000128581	1/2 - 1 Mile NNE

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
E44	CAEDF0000006581	1/2 - 1 Mile NNE
E45	CAEDF0000017261	1/2 - 1 Mile NNE
E46	CAEDF0000039027	1/2 - 1 Mile NNE
47	CAEDF0000060593	1/2 - 1 Mile NNE
E48	CAEDF0000136747	1/2 - 1 Mile NNE
E49	CAEDF0000072824	1/2 - 1 Mile NNE
F50	CAEDF0000000143	1/2 - 1 Mile NNE
F51	CAEDF0000110539	1/2 - 1 Mile NNE
F52	CAEDF0000057296	1/2 - 1 Mile NNE
F53	CAEDF0000124555	1/2 - 1 Mile NNE
F54	CAEDF0000019674	1/2 - 1 Mile NNE
F55	CAEDF0000105458	1/2 - 1 Mile NNE
F56	CAEDF0000125109	1/2 - 1 Mile NNE
F57	CAEDF0000031604	1/2 - 1 Mile NNE
F58	CAEDF0000076017	1/2 - 1 Mile NNE
F59	CAEDF0000096607	1/2 - 1 Mile NNE
F60	CAEDF0000113954	1/2 - 1 Mile NNE
G61	CAUSGSN00010814	1/2 - 1 Mile WSW
63	CAEDF0000020166	1/2 - 1 Mile NNE

OTHER STATE DATABASE INFORMATION

STATE OIL/GAS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	CAOG15000006766	1/8 - 1/4 Mile WSW

PHYSICAL SETTING SOURCE MAP - 07295354.2r

- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME:	Santa Cruz City Schools - Workforce Housing	CLIENT:	MooreTwining Associates, Inc.
ADDRESS:	313 Swift Street SANTA CRUZ CA 95060	CONTACT:	Sara Bloom
LAT/LONG:	36.95446 / 122.049478	INQUIRY #:	07295354.2r
		DATE:	March 31, 2023 10:04 am

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation		Database	EDR ID Number
1 **WSW** **1/8 - 1/4 Mile**	Click here for full text details	**OIL_GAS**	**CAOG15000006766**
A1 **NE** **0 - 1/8 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000143914**
A2 **NE** **0 - 1/8 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000085128**
A3 **ENE** **0 - 1/8 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000012666**
A4 **ENE** **0 - 1/8 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000010694**
A5 **NNE** **0 - 1/8 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000096514**
A6 **North** **0 - 1/8 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000070714**
A7 **NE** **0 - 1/8 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000069065**
A8 **NE** **0 - 1/8 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000015669**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation		Database	EDR ID Number
A9 **NNE** **0 - 1/8 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000031368**
A10 **North** **0 - 1/8 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000096838**
B11 **North** **0 - 1/8 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000118488**
B12 **North** **0 - 1/8 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000015950**
B13 **North** **0 - 1/8 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000013342**
B14 **North** **1/8 - 1/4 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000121775**
C15 **North** **1/4 - 1/2 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000004396**
C16 **North** **1/4 - 1/2 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000106844**
C17 **North** **1/4 - 1/2 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000123346**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation		Database	EDR ID Number
C18 **North** **1/4 - 1/2 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000086183**
C19 **North** **1/4 - 1/2 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000108083**
C20 **North** **1/4 - 1/2 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000102011**
C21 **North** **1/4 - 1/2 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000010228**
C22 **North** **1/4 - 1/2 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000083594**
C23 **North** **1/4 - 1/2 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000097454**
C24 **North** **1/4 - 1/2 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000102530**
C25 **North** **1/4 - 1/2 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000059059**
C26 **North** **1/4 - 1/2 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000118691**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation		Database	EDR ID Number
C27 **North** **1/4 - 1/2 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000118121**
D28 **NNE** **1/4 - 1/2 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000105141**
D29 **NNE** **1/4 - 1/2 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000119074**
D30 **NNE** **1/4 - 1/2 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000060675**
D31 **NNE** **1/4 - 1/2 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000046366**
D32 **NNE** **1/4 - 1/2 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000113652**
D33 **NNE** **1/4 - 1/2 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000122408**
D34 **NNE** **1/4 - 1/2 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000062599**
D35 **NNE** **1/4 - 1/2 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000023763**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation		Database	EDR ID Number
E36 **NNE** **1/2 - 1 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000102356**
E37 **NNE** **1/2 - 1 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000053827**
E38 **NNE** **1/2 - 1 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000032630**
E39 **NNE** **1/2 - 1 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000052444**
E40 **NNE** **1/2 - 1 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000064115**
E41 **NNE** **1/2 - 1 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000093701**
E42 **NNE** **1/2 - 1 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000116363**
E43 **NNE** **1/2 - 1 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000128581**
E44 **NNE** **1/2 - 1 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000006581**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation		Database	EDR ID Number
E45 **NNE** **1/2 - 1 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000017261**
E46 **NNE** **1/2 - 1 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000039027**
47 **NNE** **1/2 - 1 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000060593**
E48 **NNE** **1/2 - 1 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000136747**
E49 **NNE** **1/2 - 1 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000072824**
F50 **NNE** **1/2 - 1 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000000143**
F51 **NNE** **1/2 - 1 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000110539**
F52 **NNE** **1/2 - 1 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000057296**
F53 **NNE** **1/2 - 1 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000124555**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation		Database	EDR ID Number
F54 **NNE** **1/2 - 1 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000019674**
F55 **NNE** **1/2 - 1 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000105458**
F56 **NNE** **1/2 - 1 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000125109**
F57 **NNE** **1/2 - 1 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000031604**
F58 **NNE** **1/2 - 1 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000076017**
F59 **NNE** **1/2 - 1 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000096607**
F60 **NNE** **1/2 - 1 Mile** **Higher**	Click here for full text details	**CA WELLS**	**CAEDF0000113954**
G61 **WSW** **1/2 - 1 Mile** **Lower**	Click here for full text details	**CA WELLS**	**CAUSGSN00010814**
G62 **WSW** **1/2 - 1 Mile** **Lower**	Click here for full text details	**FED USGS**	**USGS40000179807**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation		Database	EDR ID Number
63 NNE 1/2 - 1 Mile Higher	**Click here for full text details**	**CA WELLS**	**CAEDF0000020166**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
95060	489	29

Federal EPA Radon Zone for SANTA CRUZ County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 95060

Number of sites tested: 1

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	4.800 pCi/L	0%	100%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005, 2010 and 2015 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

OTHER STATE DATABASE INFORMATION

Groundwater Ambient Monitoring & Assessment Program
State Water Resources Control Board
Telephone: 916-341-5577
The GAMA Program is Californias comprehensive groundwater quality monitoring program. GAMA collects data by testing the untreated, raw water in different types of wells for naturally-occurring and man-made chemicals. The GAMA data includes Domestic, Monitoring and Municipal well types from the following sources, Department of Water Resources, Department of Heath Services, EDF, Agricultural Lands, Lawrence Livermore National Laboratory, Department of Pesticide Regulation, United States Geological Survey, Groundwater Ambient Monitoring and Assessment Program and Local Groundwater Projects.

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Public Health
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

California Oil and Gas Well Locations
Source: Dept of Conservation, Geologic Energy Management Division
Telephone: 916-323-1779
Oil and Gas well locations in the state.

California Earthquake Fault Lines
Source: California Division of Mines and Geology
The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

RADON

State Database: CA Radon
Source: Department of Public Health
Telephone: 916-210-8558
Radon Database for California

PHYSICAL SETTING SOURCE RECORDS SEARCHED

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

Santa Cruz City Schools - Workforce Housing

313 Swift Street

SANTA CRUZ, CA 95060

Inquiry Number: 7295354.11

March 31, 2023

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

03/31/23

Site Name:

Santa Cruz City Schools - Worl
313 Swift Street
SANTA CRUZ, CA 95060
EDR Inquiry # 7295354.11

Client Name:

MooreTwining Associates, Inc.
2527 Fresno Street
Fresno, CA 93721
Contact: Sara Bloom

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

Year	Scale	Details	Source
2020	1"=500'	Flight Year: 2020	USDA/NAIP
2016	1"=500'	Flight Year: 2016	USDA/NAIP
2012	1"=500'	Flight Year: 2012	USDA/NAIP
2009	1"=500'	Flight Year: 2009	USDA/NAIP
2005	1"=500'	Flight Year: 2005	USDA/NAIP
1993	1"=500'	Acquisition Date: June 14, 1993	USGS/DOQQ
1982	1"=500'	Flight Date: August 16, 1982	USDA
1974	1"=500'	Flight Date: June 07, 1974	USGS
1968	1"=500'	Flight Date: June 14, 1968	USGS
1956	1"=500'	Flight Date: June 05, 1956	USDA
1943	1"=500'	Flight Date: October 05, 1943	USDA
1940	1"=500'	Flight Date: June 17, 1940	FAIR
1931	1"=500'	Flight Date: April 01, 1931	FAIR
1928	1"=500'	Flight Date: January 01, 1928	CAJHD

When delivered electronically by EDR, the aerial photo images included with this report are for ONE TIME USE ONLY. Further reproduction of these aerial photo images is prohibited without permission from EDR. For more information contact your EDR Account Executive.


INQUIRY #: 7295354.11
YEAR: 2020
= 500'
N
EDR

INQUIRY #: 7295354.11

YEAR: 2016

= 500'

N

EDR

INQUIRY #: 7295354.11

YEAR: 2012

= 500'

N

EDR


INQUIRY #: 7295354.11
YEAR: 2009
= 500'
N
EDR

INQUIRY #: 7295354.11

YEAR: 2005

= 500'

N

EDR

INQUIRY #: 7295354.11

YEAR: 1993

= 500'

N

EDR

INQUIRY #: 7295354.11

YEAR: 1982

= 500'

N

EDR

INQUIRY #: 7295354.11

YEAR: 1974

= 500'

N

EDR

INQUIRY #: 7295354.11

YEAR: 1968

= 500'

N

EDR

INQUIRY #: 7295354.11

YEAR: 1956

= 500'

N

EDR

INQUIRY #: 7295354.11

YEAR: 1943

= 500'

N

EDR

INQUIRY #: 7295354.11

YEAR: 1940

= 500'

N

EDR

INQUIRY #: 7295354.11

YEAR: 1931

= 500'

N

EDR

INQUIRY #: 7295354.11

YEAR: 1928

= 500'

N

EDR

Santa Cruz City Schools - Workforce Housing

313 Swift Street

SANTA CRUZ, CA 95060

Inquiry Number: 7295354.4

March 30, 2023

EDR Historical Topo Map Report

with QuadMatch™

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topo Map Report

03/30/23

Site Name:	Client Name:
Santa Cruz City Schools - Worl	MooreTwining Associates, Inc.
313 Swift Street	2527 Fresno Street
SANTA CRUZ, CA 95060	Fresno, CA 93721
EDR Inquiry # 7295354.4	Contact: Sara Bloom

EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by MooreTwining Associates, Inc. were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

Search Results:		*Coordinates:*	
P.O.#	NA	**Latitude:**	36.95446 36° 57' 16" North
Project:	Santa Cruz City Schools	**Longitude:**	-122.049478 -122° 2' 58" West
		UTM Zone:	Zone 10 North
		UTM X Meters:	584625.21
		UTM Y Meters:	4090242.51
		Elevation:	51.83' above sea level

Maps Provided:

2018
2015
2012
1994
1981
1973
1968
1954

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

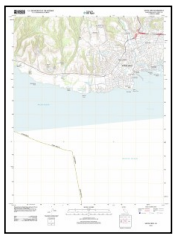
2018 Source Sheets

Santa Cruz
2018
7.5-minute, 24000

2015 Source Sheets

Santa Cruz
2015
7.5-minute, 24000

2012 Source Sheets



Santa Cruz
2012
7.5-minute, 24000

1994 Source Sheets

Santa Cruz
1994
7.5-minute, 24000
Aerial Photo Revised 1987

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1981 Source Sheets

Santa Cruz
1981
7.5-minute, 24000
Aerial Photo Revised 1978

1973 Source Sheets

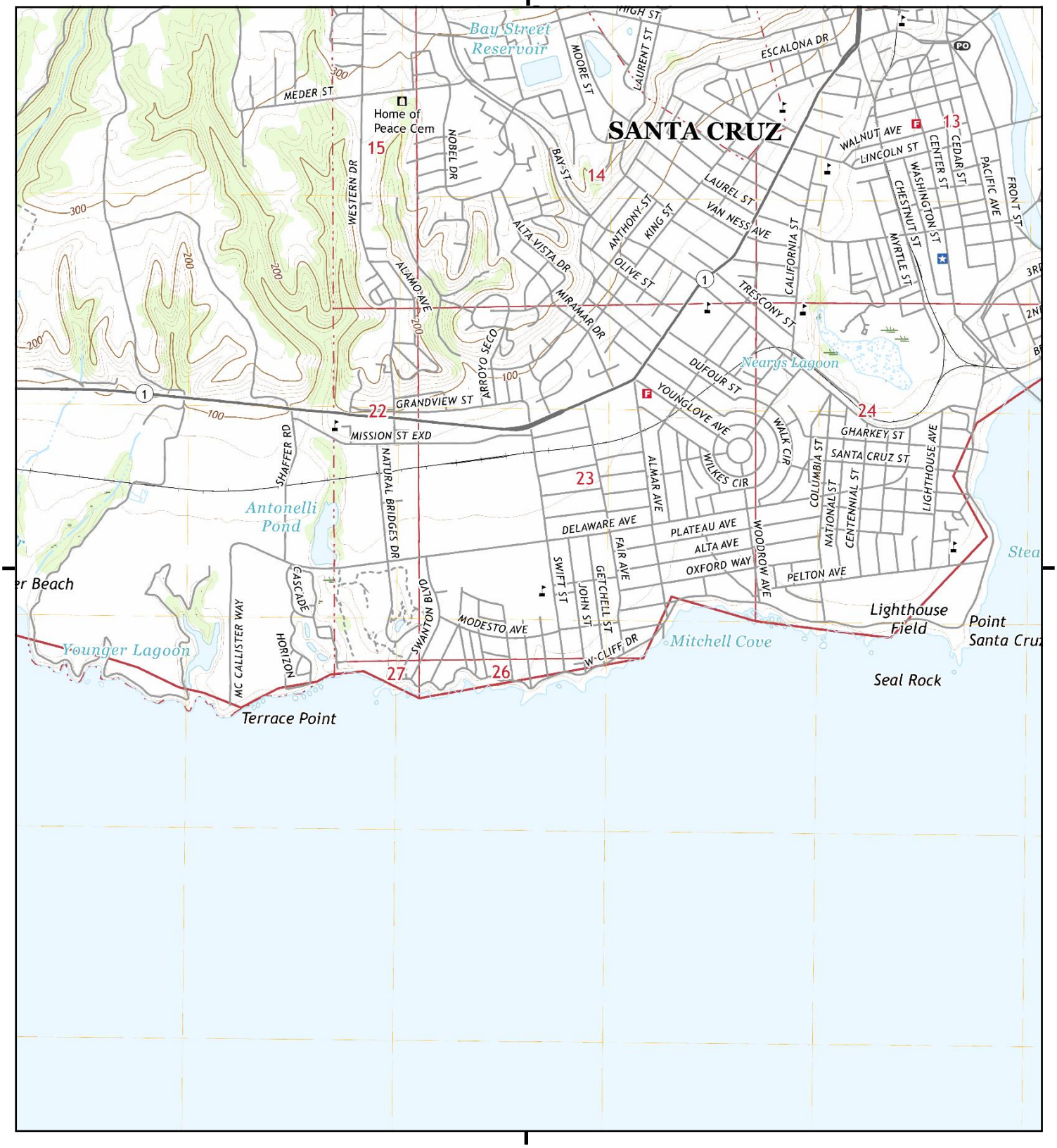
Santa Cruz
1973
7.5-minute, 24000
Aerial Photo Revised 1973

1968 Source Sheets

Santa Cruz
1968
7.5-minute, 24000
Aerial Photo Revised 1968

1954 Source Sheets

Santa Cruz
1954
7.5-minute, 24000
Aerial Photo Revised 1952



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

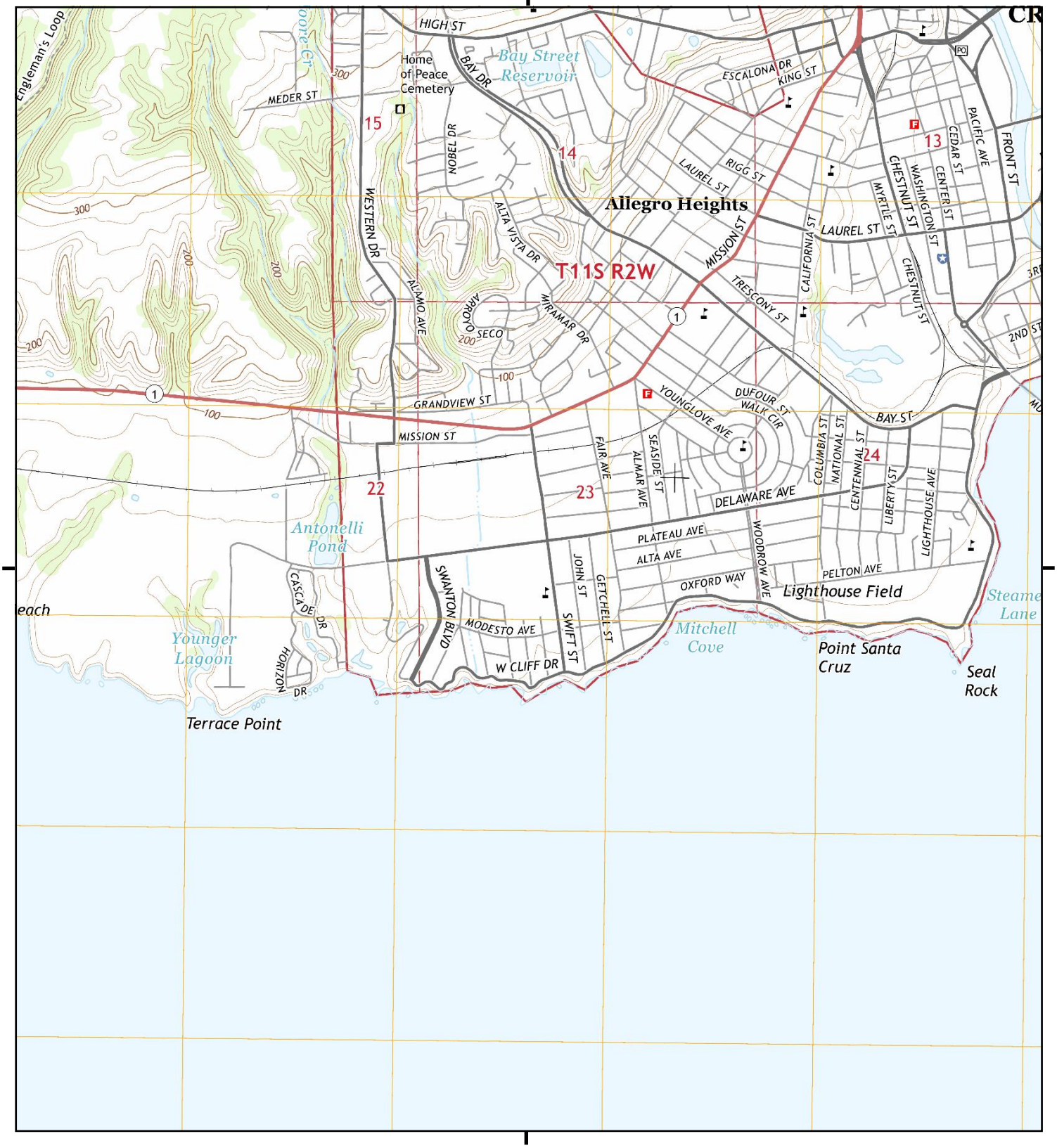
TP, Santa Cruz, 2018, 7.5-minute

SITE NAME: Santa Cruz City Schools - Workforce Hou
ADDRESS: 313 Swift Street
SANTA CRUZ, CA 95060
CLIENT: MooreTwining Associates, Inc.

N

Historical Topo Map

2015



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

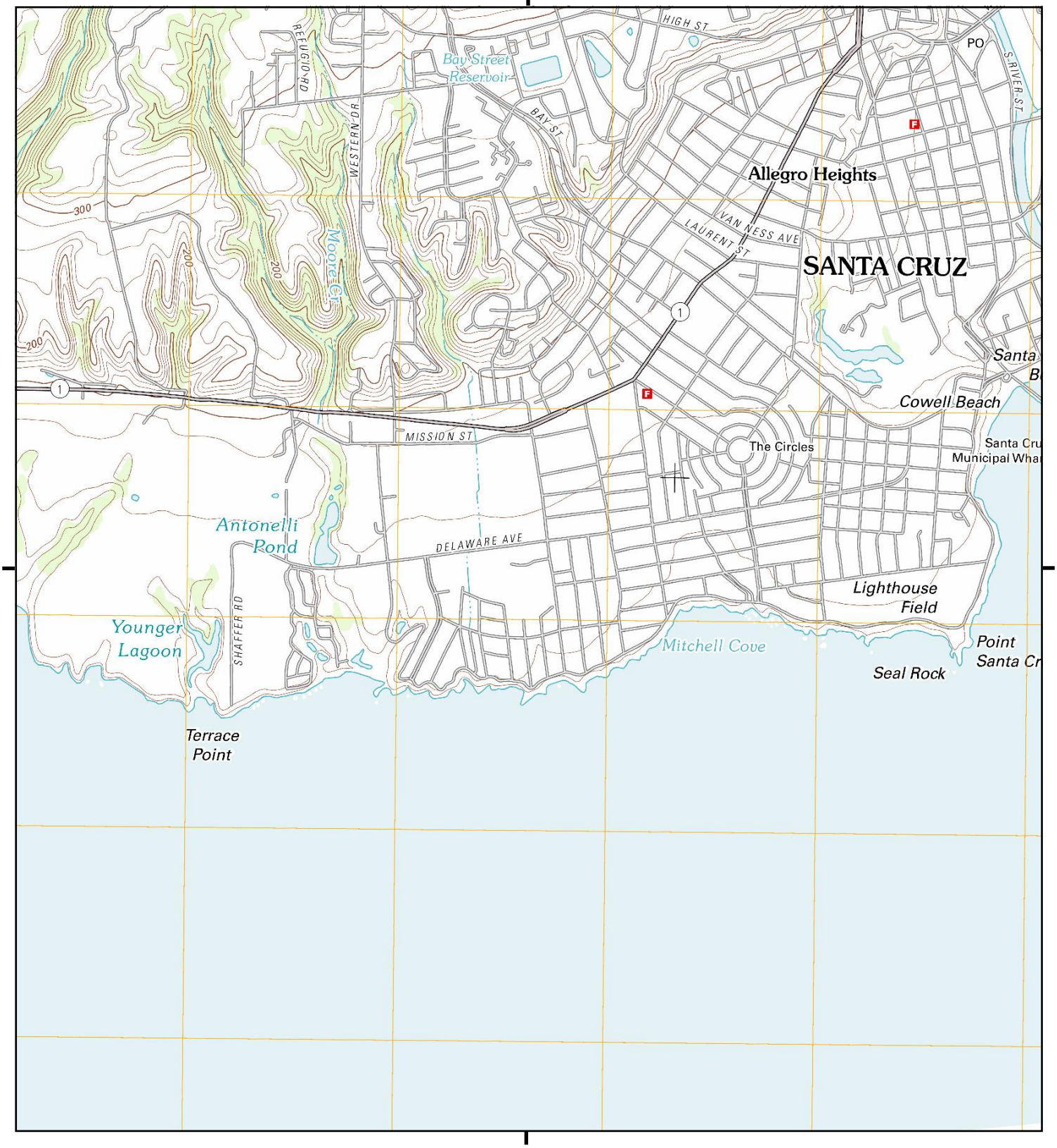
TP, Santa Cruz, 2015, 7.5-minute

SITE NAME: Santa Cruz City Schools - Workforce Hou
ADDRESS: 313 Swift Street
SANTA CRUZ, CA 95060
CLIENT: MooreTwining Associates, Inc.

N

Historical Topo Map

2012



This report includes information from the following map sheet(s).

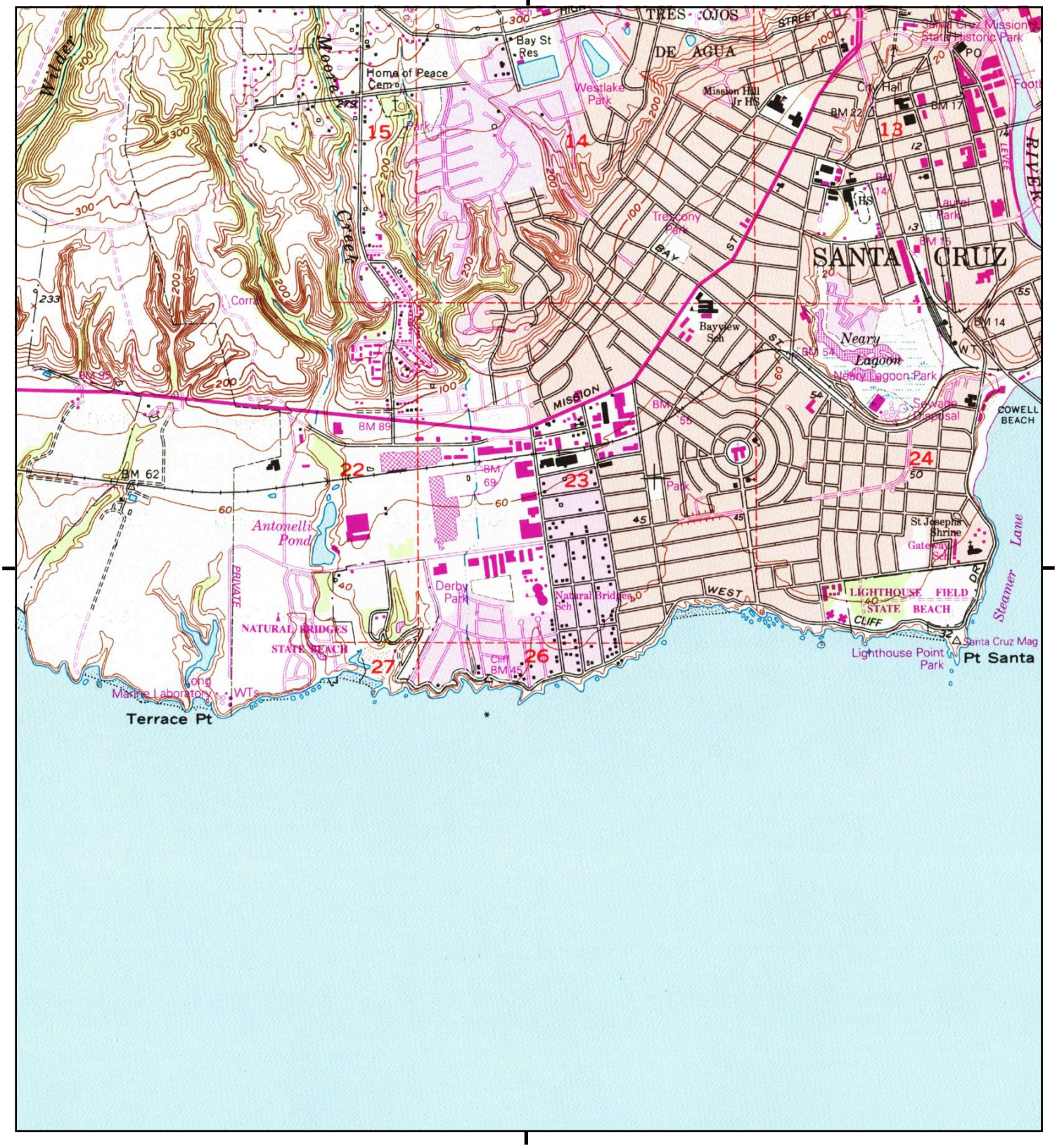
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Santa Cruz, 2012, 7.5-minute

SITE NAME: Santa Cruz City Schools - Workforce Hou
ADDRESS: 313 Swift Street
SANTA CRUZ, CA 95060
CLIENT: MooreTwining Associates, Inc.

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Santa Cruz, 1994, 7.5-minute

SITE NAME: Santa Cruz City Schools - Workforce Hou
ADDRESS: 313 Swift Street
SANTA CRUZ, CA 95060
CLIENT: MooreTwining Associates, Inc.

N

This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

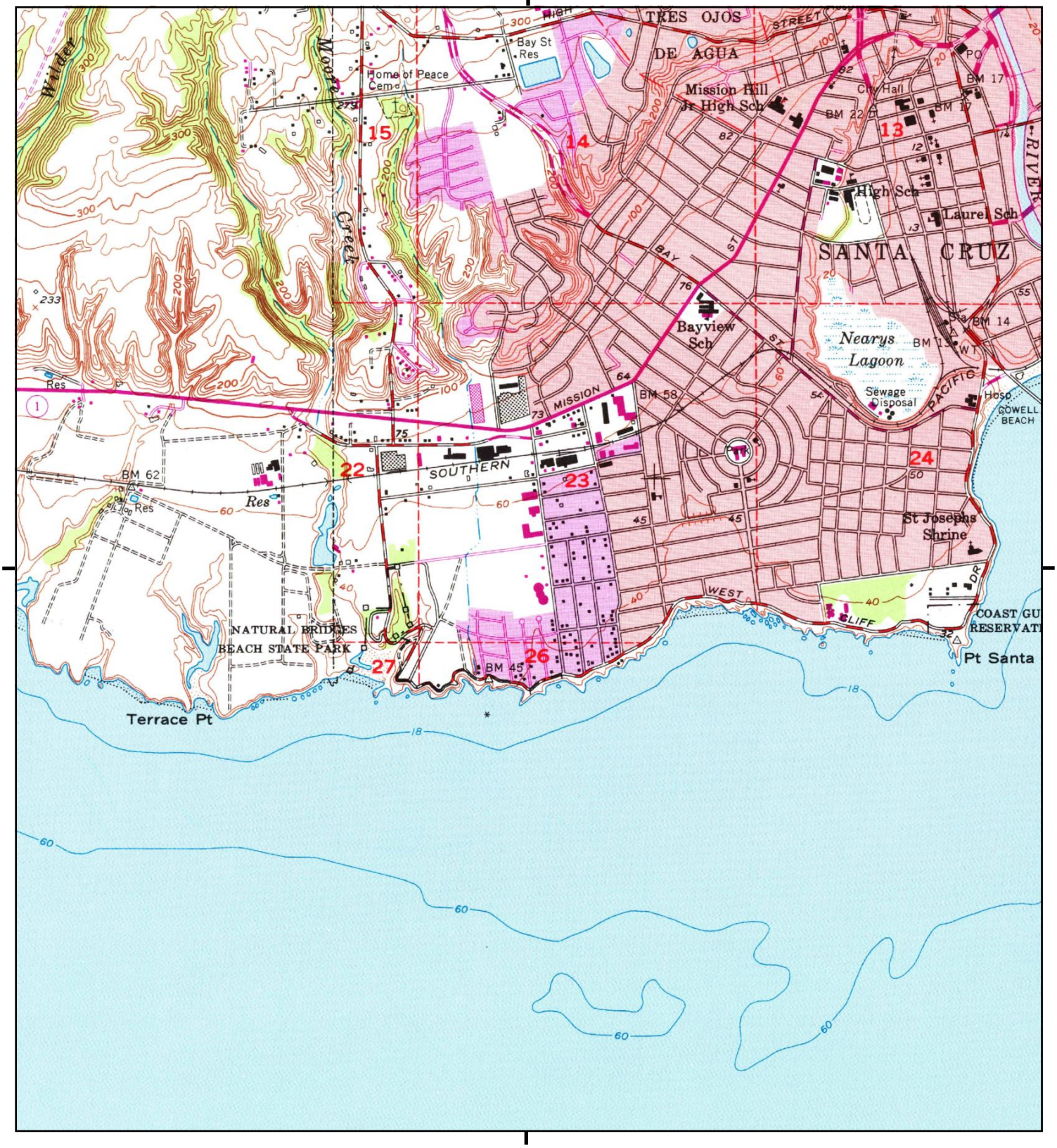
TP, Santa Cruz, 1981, 7.5-minute

SITE NAME: Santa Cruz City Schools - Workforce Hou
ADDRESS: 313 Swift Street
SANTA CRUZ, CA 95060
CLIENT: MooreTwining Associates, Inc.

N

Historical Topo Map

1973



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

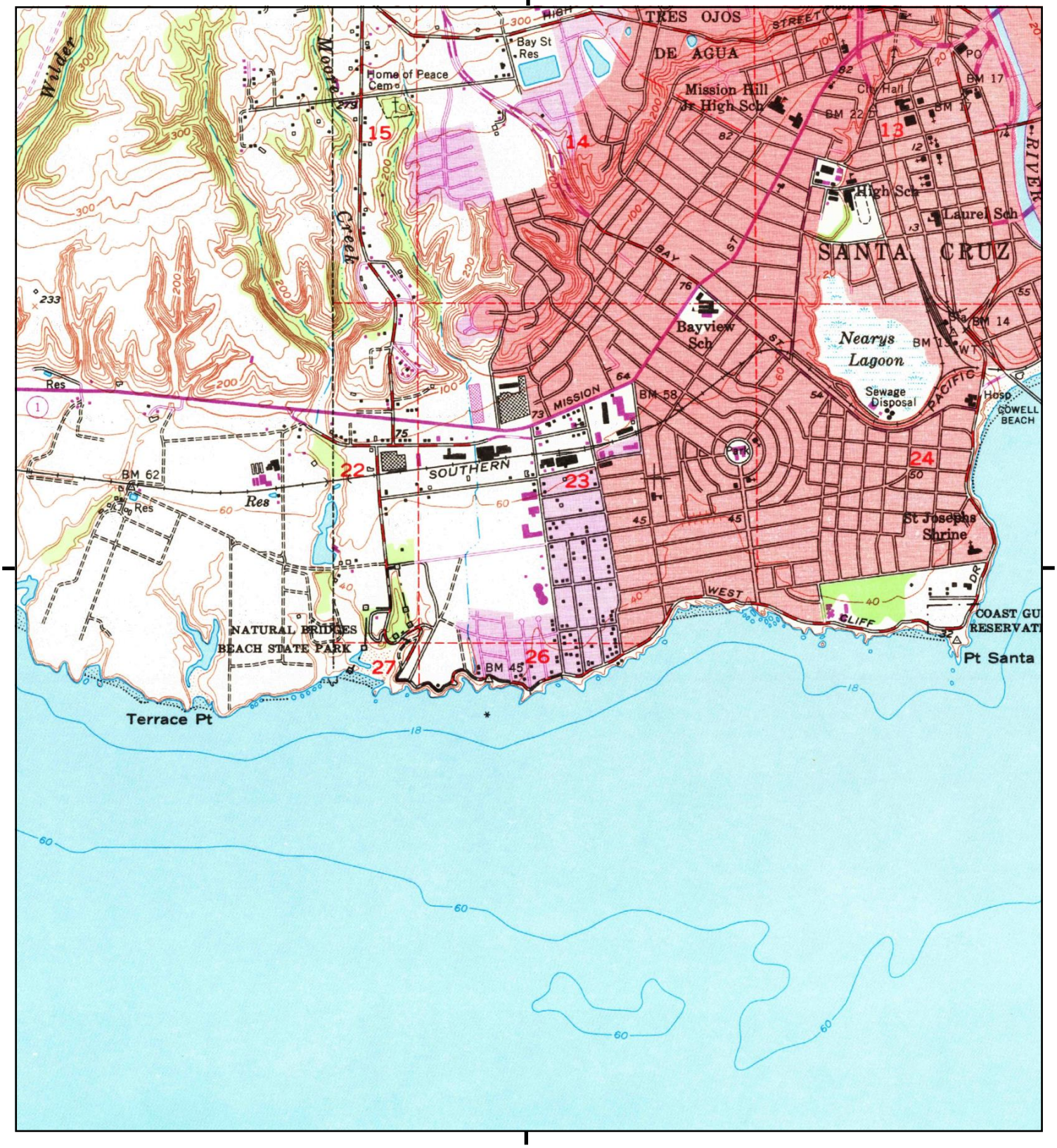
TP, Santa Cruz, 1973, 7.5-minute

SITE NAME: Santa Cruz City Schools - Workforce Hou
ADDRESS: 313 Swift Street
SANTA CRUZ, CA 95060
CLIENT: MooreTwining Associates, Inc.

N

Historical Topo Map

1968



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

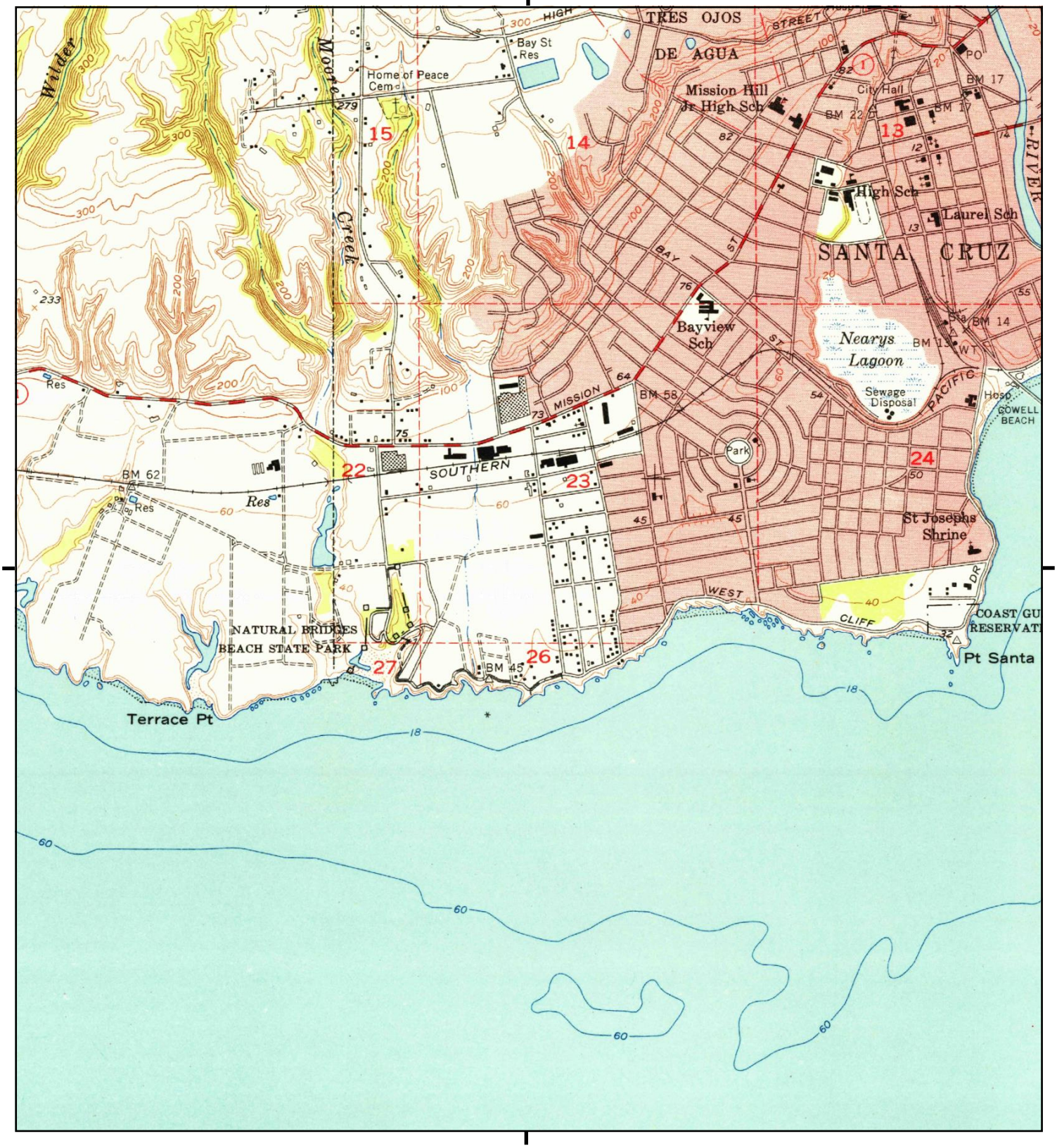
TP, Santa Cruz, 1968, 7.5-minute

SITE NAME: Santa Cruz City Schools - Workforce Hou
ADDRESS: 313 Swift Street
SANTA CRUZ, CA 95060
CLIENT: MooreTwining Associates, Inc.

N

Historical Topo Map

1954



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Santa Cruz, 1954, 7.5-minute

SITE NAME: Santa Cruz City Schools - Workforce Hou
ADDRESS: 313 Swift Street
SANTA CRUZ, CA 95060
CLIENT: MooreTwining Associates, Inc.

N

Santa Cruz City Schools - Workforce Housing
313 Swift Street
SANTA CRUZ, CA 95060

Inquiry Number: 7295354.5
March 31, 2023

The EDR-City Directory Image Report

EDR® Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available business directory data at approximately five year intervals.

RECORD SOURCES

The EDR City Directory Report accesses a variety of business directory sources, including Haines, InfoUSA, Polk, Cole, Bresser, and Stewart. Listings marked as EDR Digital Archive access Cole and InfoUSA records. The various directory sources enhance and complement each other to provide a more thorough and accurate report.

EDR is licensed to reproduce certain City Directory works by the copyright holders of those works. The purchaser of this EDR City Directory Report may include it in report(s) delivered to a customer.

RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

Year	*Target Street*	*Cross Street*	*Source*
2020	☑	☐	EDR Digital Archive
2017	☑	☐	Cole Information
2014	☑	☐	Cole Information
2010	☑	☐	Cole Information
2005	☑	☐	Cole Information
2000	☑	☐	Cole Information
1995	☑	☐	Cole Information
1992	☑	☐	Cole Information
1985	☑	☐	Polk's City Directory
1980	☑	☐	Polk's City Directory
1975	☑	☐	Polk's City Directory
1971	☑	☐	Polk's City Directory
1967	☑	☐	Polk's City Directory
1964	☑	☐	Polk's City Directory
1960	☑	☐	Polk's City Directory

FINDINGS

TARGET PROPERTY STREET

313 Swift Street
SANTA CRUZ, CA 95060

Year	*CD Image*	*Source*
SWIFT ST		
2020	pg A2	EDR Digital Archive
2017	pg A5	Cole Information
2014	pg A7	Cole Information
2010	pg A9	Cole Information
2005	pg A11	Cole Information
2000	pg A14	Cole Information
1995	pg A16	Cole Information
1992	pg A18	Cole Information
1985	pg A19	Polk's City Directory
1985	pg A20	Polk's City Directory
1980	pg A21	Polk's City Directory
1980	pg A22	Polk's City Directory
1975	pg A23	Polk's City Directory
1975	pg A24	Polk's City Directory
1971	pg A25	Polk's City Directory
1971	pg A26	Polk's City Directory
1967	pg A27	Polk's City Directory
1967	pg A28	Polk's City Directory
1964	pg A29	Polk's City Directory
1964	pg A30	Polk's City Directory
1960	pg A31	Polk's City Directory

FINDINGS

CROSS STREETS

No Cross Streets Identified

City Directory Images

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

SWIFT ST 2020

114	HENRY SEARLE
	JOSHUA SEARLE-WHITE
	SUZANNE SEARLE
119	DEBRA CASTRO
	LEVI CASTRO
	WEST COAST MOBILITY
	WILLIAM CASTRO
120	DANIEL HALPERIN
	DONNA BARR
	HARVEY HALPERIN
124	MISHA KELLY
	RICHARD BOYLE
126	HONG-GEN CHEN
	KE WU
127	JOELLA CONOVER
128	ESMERALDA NOVELLO
	JOSEPH NOVELLO
	RHONDA MARTYN
131	AMY BOSCH
135	NAVID REZVANI
136	CHERIE HANSON
	DANIEL HANSON
	FRED GEIGER
139	GREGORY SPRAGUE
	RHONDA SPRAGUE
	SEAN SPRAGUE
140	AREZOO SAKHTIANCHI
143	KYLE FOX
203	LOUISE WHITE
	STEVEN WHITE
209	MARY NIVEN
214	KATRINA COPE
	SEBON COPE
215	KRISTY AMORY
	SCOTT AMORY
216	KEVIN MURPHY
	SIQI MURPHY
222	ROBERT FISHER
	TERRYLYNN FISHER
224	JESUS CASTILLO
	LISA CASTILLO
	MARTHA CASTILLO
228	GUY COCHRANE
232	ALEXIA MARTINEZ
	MERRILEE MARTINEZ
	RICHARD MARTINEZ
236	ALISON COSTELLO
250	CHRISTOPHER RAY
	MAYA CRELAN
255	GATEWAY SCHOOL

SWIFT ST 2020 (Cont'd)

313	ARK
	NATURAL BRIDGES HIGH SCHOOL
314	COLT HANGEN
	TERRA HANGEN
	WILLIAM HANGEN
318	DAVID YANAGA
	MINA SPISAK
	TAMI YANAGA
320	LUCY HOSKING
	STEPHEN HOSKING
324	DIANE BROOKES
	DONALD BROOKES
330	CYNTHIA MORI
	DEREK MORI
	DYLAN MORI
	FREDRICK KERWIN
	KEITH MORI
334	TAMARA BALL
	TAMARA KING
335	CEN-CON
338	ELIZABETH MIER
	KENNETH APTEKAREV
	KONSTANTIN APTEKAREV
	LYUDMILA APTEKAREV
342	ARIELLE SUMITS
345	DOUGLAS HAUT
	HAUT SURF & SAILBOARDS
350	CAROL FORD
	CATHARINE GILL
	JAMES GILL
354	KHALIDA RAZ
	PENNY TENORIO
	RAZA HAMMAD
	TROY TENORIO
403	GARTH TAYLOR JIU JITSU-MARTIAL
	OM GAIA TREE LLC
	REAL COLOR
	SANTA CRUZ CUSTOM SCREEN PTG
407	FEEJAYS
	SUN SHOPS INC
408	DAVID ABRAMSON
409	SUN SHOPS
412	BEN DAVIS
	LOIS SONES
	MICHAEL SONES
	SIOBHAN KEEGAN
416	DAVID BARTLETT
	KAREN BARTLETT
420	DAVID TERRAZAS
	MONICA TERRAZAS

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

SWIFT ST 2020 (Cont'd)

426	EDNA BRAGA
427	EQUINOX CHAMPAGNE
	JOHN HOPE ELECTRIC CONTRACTORS
	VENUS SPIRITS LLC
505	HANNA HANNAH
507	JOBY
508	WALTER KOLASA
509	RADICAL MOVEMENT FACTORY
	WATERWAYS CONSULTING INC
511	ALISON HUNTER
	GORDON PUSSER REALTY
	JANE HARLOW
	MICHAEL PAVICH
	VICTOR SNODEY
512	KEVAN CHU
515	JONI L JANECKI & ASSOC INC
516	OMAR MUNIR
521	POLLOCK JANET LANDSCP ARCHTCT
	PRIMACK MARK
526	ALEJANDRO MENDOZA
	EILEEN WYATT
	MAX MENDOZA
623	WORTH DATA INC
719	AEROTEC CORP
	DOC'S PROPLUG
	EISENRING INC
	HABITAT FOR HUMANITY RESTORE
	HOTLINE HOTSUIS INC
	HOTLINE WETSUITS
	J D ALLEN-YOUNG INC
	ROCK LOBSTER CYCLES
	ST JOHN ORGANICS LLC
	TALISMAN RESTORATION INC
	VILLAGE MUSIC CIRCLES
	WILLIAM DE ESS STUDIOS
815	PERSYS ENGINEERING INC
817	AMERIGAS PROPANE EXCHANGE
	WESTSIDE FARM & FEED
820	BRUXO FOOD TRUCK
	CITY SIGNS
	HUMBLE SEA INC

Target Street	Cross Street	Source
✓	-	Cole Information

SWIFT ST 2017

114	SEARLE, HENRY R
119	WEST COAST MOBILITY
120	HALPERIN, HARVEY D
124	BINGHAM, SANFORD E
126	CHEN, HONG
127	CONOVER, JANE
128	NOVELLO, JOSEPH L
131	BOSCH, ROBERT D
132	LAZAGA, PAUL G
139	SPRAGUE, GREGORY J
140	SHARIF-KASHANI, MOHAMMAD A
203	WHITE, STEVEN J
209	NIVEN, MARY A
214	COPE, SEBON L
215	AMORY, SCOTT W
222	FISHER, LAURA A
224	CASTILLO, MARTHA L
228	COCHRANE, GUY R
232	MARTINEZ, RICHARD H
238	FRISCIA, ANNE B
250	RAY, CHRISTOPHER A
255	HEAD START
	NATURAL BRIDGES SPECIAL EDUCATION
	NORTH COUNTY EARLY HEAD START
	PACIFIC COLLEGIATE SCHOOL
314	HANGEN, WILLIAM D
320	HOSKING, STEVE G
324	BROOKES, DONALD H
330	MORI, KEITH S
334	KING, JASON B
335	CENCON
	LEGACY LONG DISTANCE
338	MIER, ELIZABETH A
342	MAZIN, DANIEL M
345	HAUT SURF & SAILBOARDS
350	FORD, CHESTER G
354	TENORIO, TROY G
403	KAIJIN MIXED MARTIAL ART
	REAL COLOR
408	ABRAMSON, DAVID L
409	SUN SHOPS
412	SONES, MICHAEL V
416	VICKERS, CHRISTEL R
420	TERRAZAS, DAVID J
426	BRAGA, JOEL C
427	VENUS SPIRITS
501	COSMIC DESIGN GROUP
503	AMBROSE, VANESSA
505	HANNAH, HANNA L
507	ARMSTRONG, JOHN R

Target Street	Cross Street	Source
✓	-	Cole Information

SWIFT ST 2017 (Cont'd)

508	KOLASA, WALTER Z
509	WATERWAYS CONSULTING INC
	WEST SIDE AEROBICS & MARTIAL ARTS
511	COSMIC DESIGN GROUP
	EHLERS, KAREN M
	GORDON PUSSER REALTY
	HARLOW, JANE
	JANES, FREDRICK
	JON, YOUNG
	NAKAZAWA, TAKASHI
	ROZENDAL KEITH PHD
	SCHULTZ, HANNA
	SNODEY, VICTOR
	STRAW, PAUL M
512	CHU, KEVAN U
515	JONI L JANECKI & ASSOCIATES INC
516	MUNIR, OMAR A
521	JANET LANDSCAPE POLLOCK ARCHITECT
	MARK PRIMACK ARCHITECT
526	BAHR, KYLE L
601	MISSION LINEN
623	WORTH DATA INC
719	AEROTEC CORP
	GREENSPACE
	HABITAT FOR HUMANITY
	HOTLINE WETSUITS
	HOTLINE WETSUITS OUTLET
	PHOENIX RESTORATIONS & FINISHING
	SHAW, WILLIAM
	SUNS UP SOLAR
	TALISMAN RESTORATION INC
815	PERSYS ENGINEERING
817	WESTSIDE FARM & FEED
820	ALIBERTI MIKE CONSTRUCTION INC
	CITY SIGNS

Target Street	Cross Street	Source
✓	-	Cole Information

SWIFT ST 2014

115 OCCUPANT UNKNOWN,
118 STONE, SOMCHITH I
119 CASTRO, WILLIAM T
WEST COAST MOBILITY
120 HALPERIN, HARVEY D
124 BINGHAM, SANFORD E
126 CHEN, HONG
128 NOVELLO, JOSEPH L
131 PERRY, LOUISE M
135 OCCUPANT UNKNOWN,
136 AMES, JADE E
139 SPRAGUE, GREGORY J
140 SHARIF-KASHANI, MOHAMMAD A
143 MEEK, DANIELLE S
203 WHITE, STEVEN J
209 MULLER, ALFRED J
214 OCCUPANT UNKNOWN,
215 AMORY, SCOTT W
216 TSUKAMAKI, JASON
220 BROWN, TINA R
222 SHERMAN, MEGAN
224 CASTILLO, JESUS R
228 COCHRANE, GUY R
232 MARTINEZ, RICHARD H
236 OCCUPANT UNKNOWN,
238 PRISCIA, ANNE B
242 OCCUPANT UNKNOWN,
250 RAY, CHRISTOPHER A
255 NATURAL BRIDGES SPECIAL EDUCATION
NORTH COUNTY EARLY HEAD START
PACIFIC COLLEGIATE CHARTER SCHOOL
314 HANGEN, WILLIAM D
320 OCCUPANT UNKNOWN,
324 BROOKES, DONALD H
330 KERWIN, FREDRICK T
334 BALL, TAMARA B
335 CEN CON
CENCON INC
LEGACY LONG DISTANCE
338 APTEKAREV, KONSTANTIN
342 SUMITS, BRAD
345 HAUT SURF & SAILBOARDS
350 FORD, CHESTER M
354 TENORIO, TROY G
358 OCCUPANT UNKNOWN,
403 REAL COLOR
408 ABRAMSON, DAVID L
409 SUN SHOPS
412 SONES, MICHAEL V
416 BARTLETT, DAVID C

Target Street	Cross Street	Source
✓	-	Cole Information

SWIFT ST 2014 (Cont'd)

420	MITCEL, JILL
426	BRAGA, HONISIMO S
427	EQUINOX CHAMPAGNE
	JOHN HOPE ELECTRIC INC
	VENUS SPIRITS
501	OCCUPANT UNKNOWN,
503	HOLLADAY STUDIO
	HOLLADAY, TED C
505	HANNAH, HANNA L
507	OCCUPANT UNKNOWN,
508	KOLASA, WALTER Z
509	WATERWAYS CONSULTING INC
	WEST SIDE AEROBICS & MARTIAL ARTS
511	COSMIC DESIGN GROUP
	EHLERS, KAREN M
	GORDON PUSSER REALTY
	HARLOW, JANE
	JANES, FREDRICK
	NAKAZAWA, TAKASHI
	SNODEY, VICTOR
	STEVENS, BRIAN
	WORMHOUDT INC
512	CHU, KEVAN U
515	JONI L JANECKI & ASSOCIATES INC
516	ALVAREZ, AMALIA S
521	POLLOCK JANET LANDSCAPE ARCHITECT
	PRIMACK MARK ARCHITECT
526	MEER, JONATHAN
601	MISSION LINEN
623	WORTH DATA INC
719	AEROTEC CORP
	DOCS PROPLUG
	GREENSPACE COMPANY INC
	HABITAT FOR HUMANITY SANTA CRUZ
	HOTLINE WETSUITE OUTLET
	HOTLINE WETSUITS
	PHOENIX RESTORATIONS & FINISHING
	SUNS UP SOLAR
	TALISMAN RESTORATION INC
815	PERSYS ENGINEERING INC
817	WESTSIDE FARM & FEED
820	CITY SIGNS
	JORDANA PAIGE

Target Street	Cross Street	Source
✓	-	Cole Information

SWIFT ST 2010

114	SEARLE, HENRY R
115	GILBERT, KAREN R
118	OCCUPANT UNKNOWN,
119	CASTRO, LEVI
	WEST COAST MOBILITY
120	HALPERIN, HARVEY D
124	OCCUPANT UNKNOWN,
127	OCCUPANT UNKNOWN,
128	NOVELLO, JOSEPH L
131	PERRY, LOUISE M
132	OCCUPANT UNKNOWN,
135	LAWSON, WARREN H
136	TAYLOR, JADE
139	SPRAGUE, GREGORY J
140	SHARIF-KASHANI, SHAHROM N
143	MILAN, LALEIA
147	OCCUPANT UNKNOWN,
203	OCCUPANT UNKNOWN,
209	MULLER, ALFRED J
214	COPE, SEBON L
215	FAULKNER, JULIAN J
216	RUSSELL, ANN T
222	OCCUPANT UNKNOWN,
224	CASTILLO, JESUS R
228	COCHRANE, GUY R
232	MARTINEZ, RICHARD H
236	CASKEY, BAILEY
238	OCCUPANT UNKNOWN,
242	OCCUPANT UNKNOWN,
250	WARNER, CAROL A
255	BRIGHT PATH SCHOOL
	HEAD START
	NATURAL BRIDGES SPECIAL EDU
	NORTH COUNTY EARLY HEAD START
313	INDEPENDENT STUDIES
314	HANGEN, WILLIAM D
318	BITOUN, MARK
324	BROOKES, DONALD H
330	KERWIN, FREDRICK T
334	BALL, TAMARA
335	CENCON
338	APTEKAREV, KENNETH
342	OCCUPANT UNKNOWN,
345	HAUT SURF & SAILBOARDS
350	NICHOLS, JON L
354	TENORIO, TROY
358	OCCUPANT UNKNOWN,
403	REAL COLOR
	WELLS, RICHARD
408	ABRAMSON, DAVID L

Target Street	Cross Street	Source
✓	-	Cole Information

SWIFT ST 2010 (Cont'd)

409	SUN SHOPS
412	SONES, MICHAEL V
416	BARTLETT, DAVID C
420	TERRAZAS, DAVID J
426	BRAGA, HONISIMO S
427	JOHN HOPE ELECTRIC CONTRACTORS
	SURF CITY CHAMPAGNE CELLARS
501	ROEHL, PAUL S
503	HUTCHISON, BRIANNE N
	STUDIO HOLLADAY INC
505	HANNAH, HANNA L
507	LEE, JESSICA P
	OCCUPANT UNKNOWN,
508	OCCUPANT UNKNOWN,
509	STEINMETZ BETTY
	WEST SIDE AEROBICS & MARTIAL
511	CORDERO, LIZ J
	DALLO GALLERY
	EVOLVE WELLNESS STUDIO
	GORDON PUSSER REALTY
	HARLOW, JANE
	J B ASSOC
	LAURENCE, B
	MAGANA, CARLOS
	NAKAZAWA, TAKASHI
	SEDA, DELVIS
	STITZ, MICHELLE S
512	CHU, KEVAN U
515	JONI L JANECKI & ASSOC INC
516	LINCOLN, HERBERT G
521	JANET POLLOCK LANDSCAPE ARCH
	PRIMACK MARK
526	MENDOZA, ALEJANDRO P
601	MISSION LINEN SUPPLY INC
623	WORTH DATA INC
719	AEROTEC CORP
	DOCS PROPLUG
	HOTLINE SHOWROOM
	HOTLINE WETSUITS
	MONTEREY BAY SPICE CO
	PHOENIX RESTORATIONFINISHING
	TALISMAN RESTORATION INC
	VILLAGE MUSIC CIRCLES
	WILLIAM DE ESS STUDIOS
815	PERSYS ENGINEERING INC
820	CANEPA PETER
	JORDANA PAIGE
	MIKE ALIBERTI CONSTRUCTION INC

Target Street	Cross Street	Source
✓	-	Cole Information

SWIFT ST 2005

114	SEARLE, HENRY R
115	OCCUPANT UNKNOWN,
118	FRANCAVILLA, MARK A
119	CASTRO, JULIANNE
	WEST COAST MOBILITY
120	BARR, HARVEY D
124	MCARTHUR, DAVID A
126	SHORE, DANIEL R
127	OCCUPANT UNKNOWN,
128	NOVELLO, JOSEPH L
131	PERRY, LOUISE M
132	OCCUPANT UNKNOWN,
135	LAWSON, WARREN H
136	TAYLOR, JADE
139	SPRAGUE, GREGORY J
140	SHARIF-KASHANI, SHAHROM
143	TOZIER, TOM N
147	WRIGHT, WILLIAM A
203	WHITE, STEVEN J
209	MULLER, CAMILLA H
214	COPE, SEBON L
215	FAULKNER, JULIAN J
216	COLLINS, JASON
220	BROWN, HERBERT D
222	RE, ENRICO
224	CASTILLO, JOSE L
228	COCHRANE, GUY R
232	MARTINEZ, RICHARD H
233	INTERGENERATIONAL CHILD CENTER
236	FITZHENRY, FRANK E
238	FRISCIA, ANNE B
242	MCCUMBER, CURTIS C
250	WARNER ARTHUR
	WARNER, ARTHUR L
255	PACIFIC COLLEGIATE SCHOOL
	SANTA CRUZ COUNTY HEAD START
	SWIFT STREET CHILD CARE CENTER
313	SANTA CRUZ CITY SCHOOLS
	TURNER CONSTRUCTION
314	HANGEN, WILLIAM D
318	SPISAK, ALBERT E
320	HOSKING, STEVE G
	LIQUID SYSTEMS DESIGN
324	BROOKES, DONALD H
330	MORI, KEITH S
334	STICKEL, STEPHEN C
335	CEN CON
338	BRITO, EFRAIN T
342	SUMITS, ARIELLE E
345	SANTA CRUZ CYBER DESIGNS

Target Street	Cross Street	Source
✓	-	Cole Information

SWIFT ST 2005 (Cont'd)

345	SURFBOARDS BY HAUT
350	OCCUPANT UNKNOWN,
354	NORTON, JENNIE M
358	CARREON, JOSEPH
403	SANTA CRUZ PET PARTNERS
408	YAMADA, TRACY T
412	SONES, MICHAEL V
416	BARTLETT, DAVID C
420	TERRAZAS, DAVID J
426	BRAGA, HONISIMO S
427	HOPE JOHN ELECTRIC INC
	JOHN HOPE ELECTRIC CONTRS
	SARTICIOUS SPIRITS INC
501	ROEHL, PAUL
503	SCHULTZ, WILLIAM
505	OCCUPANT UNKNOWN,
507	OCCUPANT UNKNOWN,
508	KOLASA, WALTER
511	GO MANUFACTURE CORP
	GORDON PUSSER
	STITZ, MICHELLE S
	SWIFT DESIGN
	THE CLAY DIGS
	WU, PETER
512	CHU, KEVAN U
515	JANECKI JONI L & ASSOCS
	JONI L JANECKI & ASSOCS INC
516	LINCOLN, HERBERT G
521	POLLOCK JANET LANDSCAPE ARCHITECT
526	MENDOZA, ALEJANDRO P
601	MISSION LINEN
623	BARCODEHQ COM
	WORTH DATA INC
719	AEROTEC CORP
	ARIA PRECISION MACHINING
	ATKINSON, MARTIN
	HOTLINE SHOWROOM
	HOTLINE WETSUITS
	HULL, DIANA
	INTERNATIONAL AQUATIC TRADES INC
	MONTEREY BAY SPICE CO
	VILLAGE MUSIC CIRCLES
	WEST END CONSULTING INC
	WILLIAM DE ESS STUDIOS
815	PERFORMANCE SYSTEMS
	PERSYS ENGINEERING INC
820	ALIBERTI MIKE CONSTRUCTION INC
	ALIBERTI, JOSEPH B
	BK ROCKS
	BRIGHTMAN DESIGN

Target Street	Cross Street	Source
✓	-	Cole Information

SWIFT ST 2005 (Cont'd)

820 CANNON & CANEPA INTR DESIGN
JOHN GILHAM CO
PETER ANTHONY COLLECTION

Target Street	Cross Street	Source
✓	-	Cole Information

SWIFT ST 2000

114	SEARLE, H R
115	WEBSTER, DOROTHY
118	FRANCAVILLA, MARK A
119	OCCUPANT UNKNOWN,
120	HALPERIN, HARVEY D
124	OCCUPANT UNKNOWN,
126	OCCUPANT UNKNOWN,
127	CONOVER, JOELLA
131	PERRY, L
132	HAMMOND, SHERIE L
135	LAWSON, WARREN
136	PETERSON, MADHURI
139	SPRAGUE, RHONDA
140	LOCHNER, AL
143	RODRIGUES, ANTONIO P
147	LOUV, DONALD C
209	MULLER, ALFRED H
214	OCCUPANT UNKNOWN,
215	FAULKNER, ANGELA M
216	MCELROY, SOMMER N
220	OCCUPANT UNKNOWN,
222	RE, ENRICO
224	OCCUPANT UNKNOWN,
228	JONES, JOANNE E
232	MARTINEZ, M K
236	NEW, JUDITH
238	FRISCIA, ANNE B
242	OCCUPANT UNKNOWN,
255	HEAD START
	HEAD START HOME BASE PROGRAM
	HEAD START SANTA CRUZ AREA
	NATURAL BRIDGES ELEMENTARY SCHOOL
	NORTH COUNTY HOME BASE PROGRAM
	SANTA CRUZ CITY SCHOOLS SCHOOLS
	SWIFT STREET CHILD CARE CENTER
313	INDEPENDENT STUDIES
	MONARCH ALTERNATIVE ELEMENTARY SCHOOL
	SANTA CRUZ CITY SCHOOLS DISTRICT OFFICE
	SANTA CRUZ CITY SCHOOLS SCHOOLS
314	HANGEN, WILLIAM
318	SPISAK, NICOLE
320	OCCUPANT UNKNOWN,
324	BROOKES, DONALD H
330	KERWIN, F T
334	STICKEL, STEPHEN C
335	JAYS CUSTOM CLUBS
	NOVADYNE GOLF WHSLE & MANUFACTURER DEPARTMENT
338	RANGEL, L
342	OCCUPANT UNKNOWN,
345	HAUT SURF & SAILBOARDS

Target Street	Cross Street	Source
✓	-	Cole Information

SWIFT ST 2000 (Cont'd)

350	OCCUPANT UNKNOWN,
351	FIBERGLASS FABRICATORS
354	TATARSKY, PAUL S
358	RAZAQI, S
408	AITKEN, NAOMI
411	SANTA CRUZ INDUSTRIES INCORPORATED
412	SONES, MICHAEL
416	BARTLETT, DAVID
420	SIMS, VERN
426	BRAGA, H
508	JORDAN, JOY
511	COMM SERVICE
	COWLES MELISSA
	DALLO GALLERY
	EDDY CAROL
	FRITZ, DONALD C
	GORDON PUSSER REALITY
	KAJON ART
	LALOR, DENNIS
	LESTER GERALD
512	CHU, KEVAN L
516	LINCOLN, HERBERT G
521	POLLOCK JANET LANDSCAPE ARCHITECT
	PRIMACK MARK ARCHITECT
601	MISSION LINEN
719	AEROTEC CORPORATION
	AUROVILLE INTERNATIONAL
	CONTINUING EDUCATION CENTERS OF AMERICA INCORPORATED
	DOCS PROPLUG
	GRANITE CONSTRUCTION COMPANY
	INTERNATIONAL AQUATIC TRADES INCORPORATED
	JACKLICH JOHN DDS
	SPECIAL PRODUCTS INCORPORATED
	TALISMAN RESTORATION INCORPORATED
815	PERSYS ENGINEERING
820	AARON COMPANY
	ALIBERTI CONSTRUCTION INCORPORATED
	ANTHONY PETER COLLECTION
	BRIGHTMAN DESIGN
	CANNON & CANEPA INTERIOR DESIGN
	CONTRACT INTERIORS
	PETER ANTHONY COLLECTION FAX LINE

Target Street	Cross Street	Source
✓	-	Cole Information

SWIFT ST 1995

114	SEARLE, H R
115	OCCUPANT UNKNOWNN
118	ALLEN DE GRANGE
	OCCUPANT UNKNOWNN
124	OCCUPANT UNKNOWNN
126	LOEFFLER, K
127	OCCUPANT UNKNOWNN
128	OCCUPANT UNKNOWNN
131	PERRY, L
132	OCCUPANT UNKNOWNN
136	MERCHANT, JASON R
139	SPRAGUE, RHONDA L
140	LOCHNER, AL
143	RODRIGUES, ANTONIO P
147	HURLEY, DAVID
	VEROFF, DANIEL L
203	WHITE, STEVEN
209	OCCUPANT UNKNOWNN
214	COPE, STEVE
215	OCCUPANT UNKNOWNN
216	TANG, DUC
222	RE, ENRICO
228	JONES, JOANNE E
232	MORRILL, J P
233	INTERGENERATIONAL CHILD CARE
236	OCCUPANT UNKNOWNN
238	HILLHOUSE, CAREY
242	OCCUPANT UNKNOWNN
250	ALVES, CAROL A
255	HEAD START
	INTERGENERATONAL CHILD CARE
	NATURAL BRIDGES ELEMENTARY
	NATURAL BRIDGES PARENT CO OP
313	ARK ALTERNATIVE SCHOOL
314	HANGEN, WILLIAM
318	OCCUPANT UNKNOWNN
320	OCCUPANT UNKNOWNN
330	MORI, KEITH S
334	STICKEL, STEPHEN
335	NOVADYNE GOLF
338	BRITO, EFRAIN
342	BOLANOS, PEDRO U
345	COFFEY WARD SHAPES
	HAUT SURFBOARDS
351	BEST FIBERGLASS
411	SANTA CRUZ INDUSTRIES INC
416	BARTLETT, DAVID
420	SIMS, VERN
426	BRAGA, OMY
508	OCCUPANT UNKNOWNN

Target Street	Cross Street	Source
✓	-	Cole Information

SWIFT ST 1995 (Cont'd)

511	VI TEX PACKAGING INC
512	OCCUPANT UNKNOWNN
516	LINCOLN, HERBERT G
601	MISSION LINEN
719	AEROTEC CORP
	TALISMAN
820	ALIBERTI CONSTRUCTION INC
	CANNON & CANEPA INTERIOR DSGN
	CONTRACT INTERIORS BY LINDA
	PETER ANTHONY COLLECTION

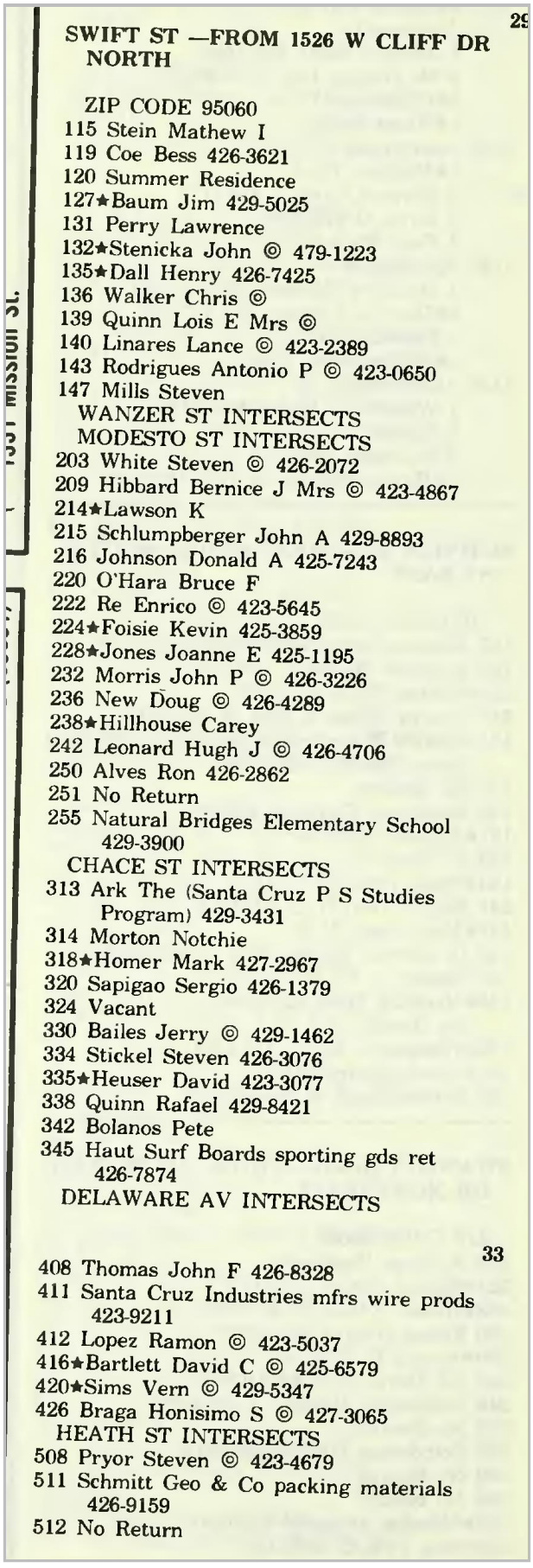
Target Street	Cross Street	Source
✓	-	Cole Information

SWIFT ST 1992

118	DEGRANGE, ALLEN
119	COE, BESS
	FIGURELLI, NEIL
136	BRUNDAGE, BEN
140	LOCHNER, ALVIN V
143	RODRIGUES, ANTONIO P
147	UTTALVEROFF, DAN
209	HIBBARD, BERNICE J
214	COPE, STEVE
215	FAULKNER, JOHN
222	RE, ENRICO
224	ANAYA, ROMAN
	OLVERA, JESUS
228	JONES, JOANNE E
232	MORRIS, JOHN P
233	INTERGENERATIONAL
238	HILLHOUSE, CAREY
242	LEONARD, HUGH B
255	MONARCH CMNTY SCHL
	NATURAL BRDG EL SCH
313	A R K SCHOOL
	INDEP STUDIES
314	HANGEN, WILLIAM
320	HOSKING, STEVE
335	NOVADYNE GOLF
	TRIPP, TED
338	BRITO, EFRAIN
345	COFFEY WARD SHAPES
	HAUT SAILBOARDS
351	BEST FIBERGLASS
411	SANTA CRZ INDS INC
416	BARTLETT, DAVID
420	SIMS, VERN
426	BRAGA, OMY
511	VI TEX PACKAGNG INC
516	LINCOLN, HERBERT G
526	MEKURIA, ABRAHAM
601	MISSION LINEN
719	AEROTEC CORP
	CONTINUING ED CT AM
	GILCO HARMONY FOODS
	JACKLICH, JOHN
	SPECIAL PRDCTS INC
	TALISMAN
820	ALIBERTI CONSTR
	ANTHONY P COLLECTN
	CANNON&CANEPA INTR
	CONTRACT INTERIORS
	PETER ANTHONY CLCTN

Target Street	Cross Street	Source
✓	-	Polk's City Directory

SWIFT ST 1985



29

SWIFT ST —FROM 1526 W CLIFF DR NORTH

ZIP CODE 95060
115 Stein Mathew I
119 Coe Bess 426-3621
120 Summer Residence
127★Baum Jim 429-5025
131 Perry Lawrence
132★Stenicka John ◎ 479-1223
135★Dall Henry 426-7425
136 Walker Chris ◎
139 Quinn Lois E Mrs ◎
140 Linares Lance ◎ 423-2389
143 Rodrigues Antonio P ◎ 423-0650
147 Mills Steven
WANZER ST INTERSECTS
MODESTO ST INTERSECTS
203 White Steven ◎ 426-2072
209 Hibbard Bernice J Mrs ◎ 423-4867
214★Lawson K
215 Schlumpberger John A 429-8893
216 Johnson Donald A 425-7243
220 O'Hara Bruce F
222 Re Enrico ◎ 423-5645
224★Foisie Kevin 425-3859
228★Jones Joanne E 425-1195
232 Morris John P ◎ 426-3226
236 New Doug ◎ 426-4289
238★Hillhouse Carey
242 Leonard Hugh J ◎ 426-4706
250 Alves Ron 426-2862
251 No Return
255 Natural Bridges Elementary School 429-3900
CHACE ST INTERSECTS
313 Ark The (Santa Cruz P S Studies Program) 429-3431
314 Morton Notchie
318★Homer Mark 427-2967
320 Sapigao Sergio 426-1379
324 Vacant
330 Bailes Jerry ◎ 429-1462
334 Stickel Steven 426-3076
335★Heuser David 423-3077
338 Quinn Rafael 429-8421
342 Bolanos Pete
345 Haut Surf Boards sporting gds ret 426-7874
DELAWARE AV INTERSECTS

33

408 Thomas John F 426-8328
411 Santa Cruz Industries mfrs wire prods 423-9211
412 Lopez Ramon ◎ 423-5037
416★Bartlett David C ◎ 425-6579
420★Sims Vern ◎ 429-5347
426 Braga Honisimo S ◎ 427-3065
HEATH ST INTERSECTS
508 Pryor Steven ◎ 423-4679
511 Schmitt Geo & Co packing materials 426-9159
512 No Return

516 Lincoln Herbert G © 423-4738
526 Milligan Bud W 425-0312
JETER ST INTERSECTS
601 Mission Linen Supply 423-1630
INGALLS ST INTERSECTS
719 Building
9 ROOMS
1 Berry Electronics (Communication Sys Inc) 429-1857
2 Rabco mfr christmas craft kits 423-4030
3 Rabco sub ofc
4 Jacklich John (Stge)
5 Harmony Foods (Ofcs)
6 Harmony Foods (Ofc)
7 Harmony Foods Ofc
8 Harmony Foods (Ofc)
9 Harmony Foods (Ofc)
10 Harmony Foods (Ofc)
11 Berry Electronics (Ofcs)
12 Harmony Foods (Ofcs)
15 Aerotec Corporation 423-3911
STREET CONTINUED
815 Ebright Ideas Inc gift mfrs 429-9404
820 Contract Interiors By Linda carpet & rug ret 426-3081
820a Aliberti Joe Construction Inc 426-8030
820b Anthony Fine Furniture 423-7816

ZIP CODE 95060
MISSION ST INTERSECTS
CRESPI CT INTERSECTS
GRANDVIEW ST INTERSECTS

Target Street	Cross Street	Source
✓	-	Polk's City Directory

SWIFT ST 1980

29

SWIFT ST —FROM 1526 W CLIFF DR NORTH

ZIP CODE 95060

114 Vacant
115★Bizzarri Michelle 426-0730
119 Mc Cuyrk Dorien
120 Summer Res
127 Jay Paul ◎ 426-6251
131★Perry Lawrence
132 Artemoff Gregory A ◎ 426-2381
136 Martin David 426-0846
139 Quinn Lois E Mrs ◎
140 Linares Lance ◎ 423-2389

Target Street	Cross Street	Source
✓	-	Polk's City Directory

SWIFT ST 1980

143 Rodrigues Antonio P Rev ◎ 423-0650
147 Summer Res
WANZER ST INTERSECTS
MODESTO ST INTERSECTS
203 White Steven ◎ 426-2072
209 Hibbard Bernice J Mrs ◎ 423-4867
214 Vacant
215★Schlumpberger John 429-8893
216 Williams Chris 425-1543
220 Wendy Bruce 423-1967
222 Re Enrico ◎ 423-5645
224★Jordan Cindy 426-9673
228 Castillo Faustino ◎
232 Morris John P ◎ 426-3226
236 New Judith Mrs ◎ 426-4289
238 Lamb Earl G ◎ 426-2940
242 Leonard Hugh J ◎ 426-4706
250★Alves Ron 426-2862
251 Development Center (Supt 7 Schs)
255 Natural Bridges Elementary School 429-3900
CHACE ST INTERSECTS
313 US Army Reserve 382d Military Police Dept
314 No Return
318★Bryant John 423-2803
320 No Return
324 Sloniker April M 426-3231
330 Bailes Jerry ◎ 429-1462
334 No Return
335 N-K Products Inc physiotherapy tables mfrs 423-0487
338 Quinn Rafael
342 Bolanos Pete
345 Haut Surf Boards & Skate Boards sporting gds ret 426-7874
DELAWARE AV INTERSECTS

33

408 Robertson Clyde L ◎
411 Santa Cruz Wire & Manufacturing Co 423-9211
412 Lopez Ramon ◎ 423-5037
416 Fernandez Andres 425-5591
420 Douglas James D
426 Braga Honisimo 427-3065
HEATH ST INTERSECTS
508 Pryor Steven
511 Schmitt Geo & Co packing materials 426-9159
512 Sizemore Patricia Mrs 423-2282
516 Lincoln Herbert G ◎ 423-4738
526 Milligan Edw L 423-3706
JETER ST INTERSECTS
601 Mission Linen Supply 423-1630
INGALLS ST INTERSECTS
719 Westside Imported Car Repair 427-3610
820a Aliberti Joe Construction Inc 426-8030
820b Anthony Fine Furn 423-7816

41

ZIP CODE 95060
MISSION ST INTERSECTS
CRESPI CT INTERSECTS
GRANDVIEW ST INTERSECTS

Target Street	Cross Street	Source
✓	-	Polk's City Directory

SWIFT ST 1975

29

SWIFT ST —FROM 1526 W CLIFF DR NORTH

ZIP CODE 95060
114 Byerne Joan M
115★Walker Susan
119★Gripenstraw Kurt H 427-1469
120 Summer Res
127 Vacant
131 Perry Lawrence R ◎ 426-2951
132 Artemoff Gregory A ◎
136 Mayer David
139 Quinn Walter E ◎ 423-0353
140 Magas Dallas O ◎ 427-0173
143 Rodrigues Antonio P Rev ◎ 423-0650
147★Hile A D 426-1310
WANZER ST INTERSECTS
MODESTO ST INTERSECTS
203 Jones Robt
209 Hibbard Bernice J Mrs ◎ 423-4867
214★O'Donley Jack L 427-2671
215 Delbono Gary A ◎ 423-8820
216★Adams Danl C ◎ 423-9397
220 Franklin H K
222 Re Enrico ◎ 423-5645
224 No Return
228 Castillo Faustino ◎
232 Avila Betty Mrs ◎ 426-3226
236 New Duane K ◎ 426-4289
238 Lamb Earl G ◎ 426-2940
242 Leonard Hugh J ◎ 426-4706
250★Ray Carol
255 Natural Bridges Elementary School 426-6000
CHACE ST INTERSECTS
313 US Army Reserve Center 427-3666
US Army Reserve 382d Military Police Dept
314 Morton Notchie M ◎ 426-3978
318 Reyes Danl ◎ 426-3921
320 Mello Anthony R 426-8442
330 No Return
335 N-K Products Inc physiotherapy tables mfrs 423-0487
338 Bolanos Pedro ◎ 423-3796
342 Bolanos Pedro Jr
345 Haut Surf Boards 426-7874
DELAWARE AV INTERSECTS

33

408 Robertson Clyde L ◎
411 Santa Cruz Wire & Manufacturing Co 423-9211
412 Lopez Ramon ◎ 423-5037
416 Vacant
420 Douglas Richd D
426 Vacant
HEATH ST INTERSECTS
508 No Return
511 Schmitt Geo & Co prntrs book & coml 426-9159
512 Ingram Patricia 423-2282
516 Lincoln Herbert ◎
526 Barnes Charlene E Mrs ◎ 426-3598
JETER ST INTERSECTS
601 Mission Linen Supply 423-1630
INGALLS ST INTERSECTS
719 Chuck's Auto Repair 423-0278
755 Vacant

Target Street	Cross Street	Source
✓	-	Polk's City Directory

SWIFT ST 1975

SWIFT ST—Contd

820 Vacant

Target Street	Cross Street	Source
✓	-	Polk's City Directory

SWIFT ST 1971

SWIFT ST —FROM 1526 W CLIFF DR NORTH

ZIP CODE 95060

114 Vacant 423-8879

115 Webster Ray C ◎ 426-2320

119 Burkart Fred J ◎ 423-5465

Target Street	Cross Street	Source
✓	-	Polk's City Directory

SWIFT ST 1971

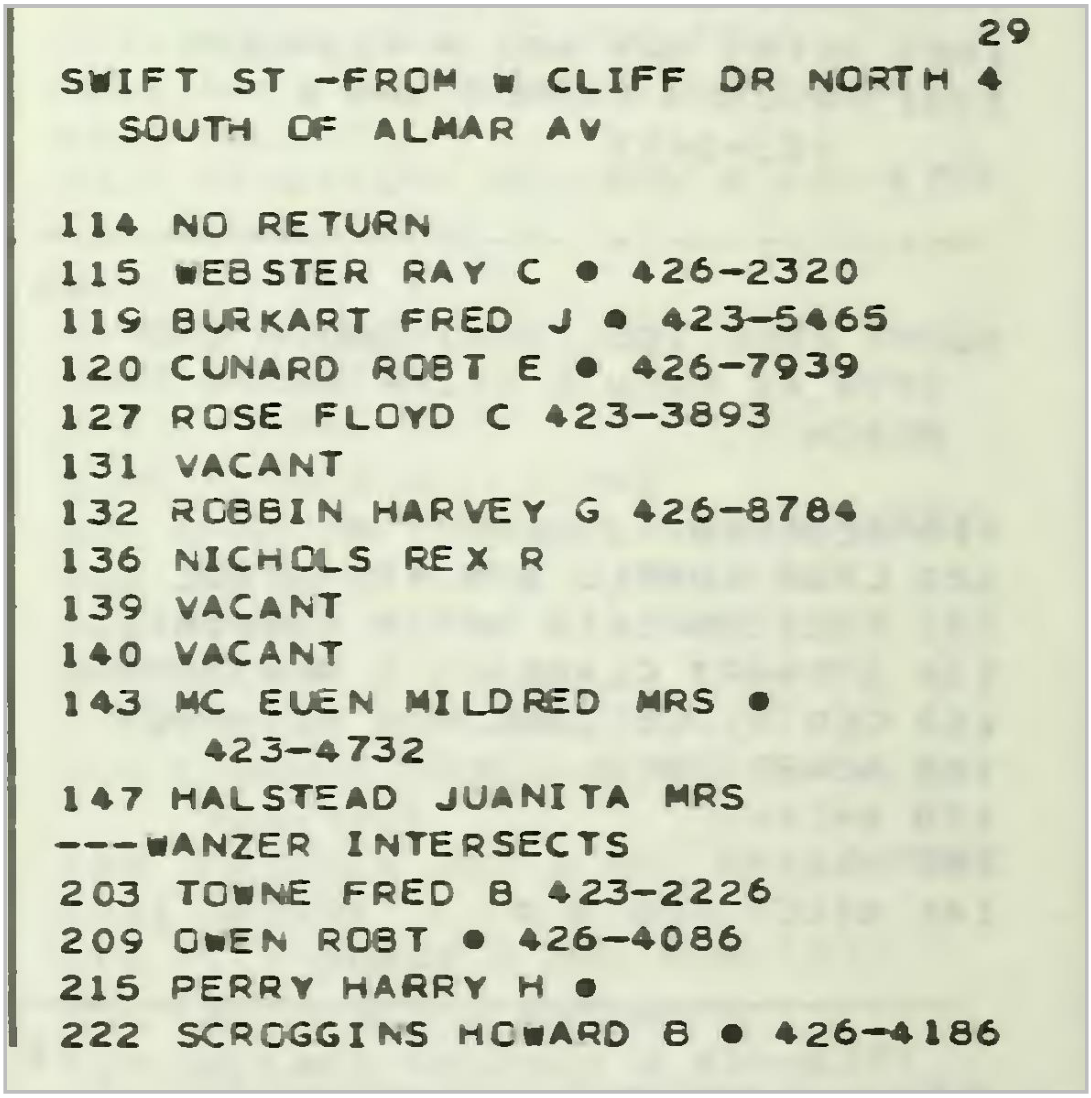
SWIFT ST—Contd
120 Vacant
127 Rose Floyd C ◎
131 Perry Lawrence ◎ 426-2951
132 Rinn Chris
136 Robinson Bessie Mrs
139 Quinn Walter E ◎ 423-0353
140 Whitesell Merle E ◎ 423-1375
143 Locks Norman
147 Vacant
WANZER ST INTERSECTS
203 Tiegs Curtis 426-6529
209 Hibbard Harry A ◎ 423-4867
215 Vacant
222 Re Enrico ◎ 423-5645
224 No Return
228 Castillo Faustino ◎
232 Avila Betty Mrs ◎ 426-3226
236 New Duane K ◎ 426-4289
238 Lamb Earl G ◎ 426-2940
242 Leonard Hugh J ◎ 426-4706
250 Lewes Gene 423-3316
255 Natural Bridges Elementary School 426-6000
CHACE ST INTERSECTS
313 US Dept Of Defense-Dept Of Army Reserve Center 423-6648
314 Beckner Jerry J ◎ 426-3673
318 Reyes Danl ◎
320 Spooner Delia E Mrs ◎ 426-8999
335 N-K Products Inc physiotherapy tables mfrs 423-0487
338 Bolanos Pedro ◎
345 Haut Surf Boards 426-7874
351 Overlin Jim Surf Boards 426-6366

3

DELAWARE ST INTERSECTS
408 Hayes Gary 426-3667
411 Santa Cruz Wire & Manufacturing Co 423-9211
412 Lopez Ramon ◎ 423-5037
416 Thompson Raymond E
508 Sills Louis W 423-6172
511 I V Ometer Inc mfg intravenius sets 423-0111
512 Santa Cruz Patrol business protection 423-7681
Ingram J Wm P 423-7681
526 Barnes Charlene E Mrs ◎ 426-3598
601 Mission Linen Supply 423-1630
755 Swift Lumber Service 423-0363
820 Precision Shop wldr & machs 426-5098

Target Street	Cross Street	Source
✓	-	Polk's City Directory

SWIFT ST 1967



29

SWIFT ST -FROM W CLIFF DR NORTH 4
SOUTH OF ALMAR AV

114 NO RETURN
115 WEBSTER RAY C • 426-2320
119 BURKART FRED J • 423-5465
120 CUNARD ROBT E • 426-7939
127 ROSE FLOYD C 423-3893
131 VACANT
132 ROBBIN HARVEY G 426-8784
136 NICHOLS REX R
139 VACANT
140 VACANT
143 MC EUEN MILDRED MRS •
423-4732
147 HALSTEAD JUANITA MRS
---WANZER INTERSECTS
203 TOWNE FRED B 423-2226
209 OWEN ROBT • 426-4086
215 PERRY HARRY H •
222 SCROGGINS HOWARD B • 426-4186

Target Street	Cross Street	Source
✓	-	Polk's City Directory

SWIFT ST 1967

SWIFT ST—Contd

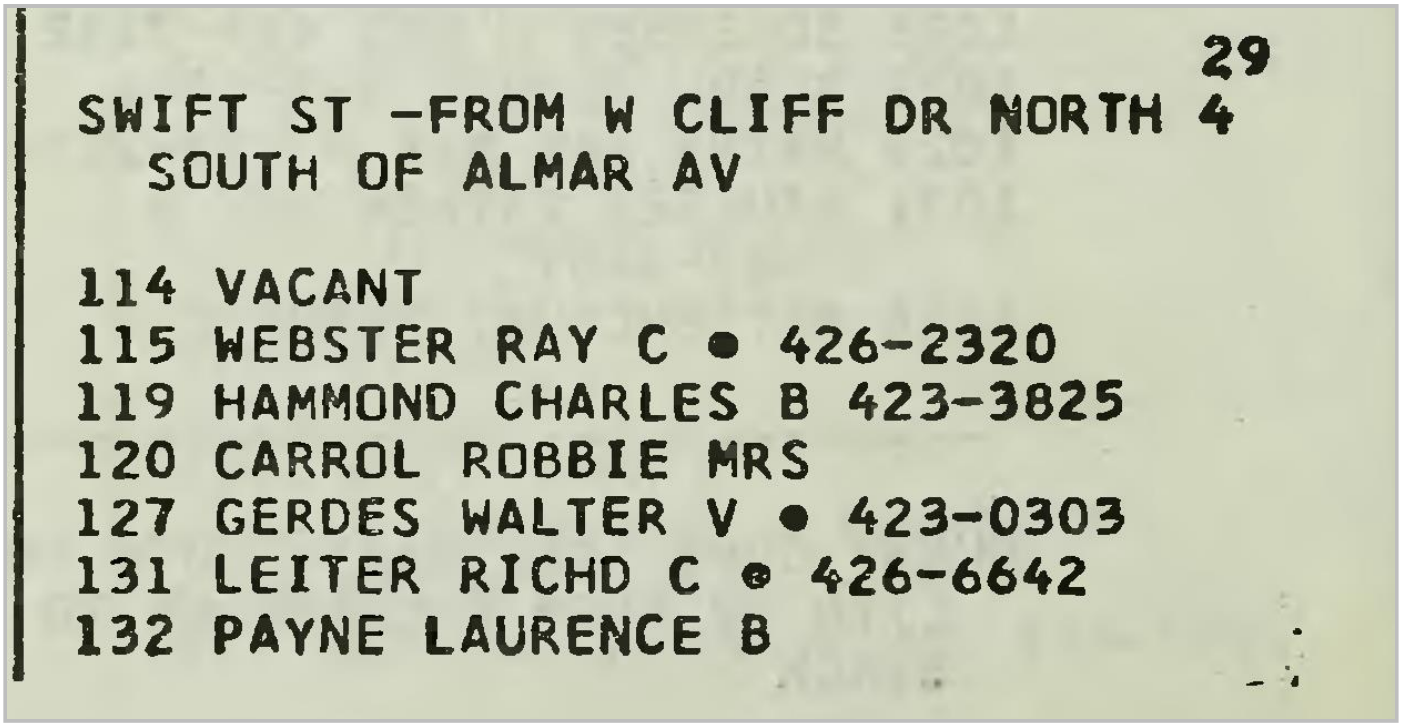
224 WALLACE ROBT R ● 426-5829
228 VACANT
232 NEW DUANE K ● 426-4289
236 WORRELL LEO E ● 426-7035
238 LAMB EARL G ● 426-2940
242 LEONARD HUGH J ● 426-4706
250 MUTTER VICTORIA M MRS ●
423-9074
255 NATURAL BRIDGES ELEMENTARY
SCHOOL
---CHACE INTERSECTS
313 US DEPT OF DEFENSE-DEPT OF
ARMY RESERVE CENTER 423-6648
314 VACANT
320 SPOONER DELIA E MRS ●
426-8999
335 N-K PRODUCTS INC
PHYSIOTHERAPY TABLES MFRS
423-0487
338 GUERRERO RAUL S
345 PEERLESS PORTABLE METAL
BUILDING MFRS 426-6868

33

---DELAWARE INTERSECTS
408 GANDY LLOYD H
411 SANTA CRUZ WIRE &
MANUFACTURING CO 423-9211
416 VACANT
511 SYLVANIA ELECTRONIC SYSTEM
(WHSE)
601 MISSION LINEN SUPPLY 423-1630
820 VACANT

Target Street	Cross Street	Source
✓	-	Polk's City Directory

SWIFT ST 1964



29

SWIFT ST -FROM W CLIFF DR NORTH 4
SOUTH OF ALMAR AV

114 VACANT
115 WEBSTER RAY C • 426-2320
119 HAMMOND CHARLES B 423-3825
120 CARROL ROBBIE MRS
127 GERDES WALTER V • 423-0303
131 LEITER RICHD C • 426-6642
132 PAYNE LAURENCE B

Target Street	Cross Street	Source
✓	-	Polk's City Directory

SWIFT ST 1964

SWIFT ST--CONTD.

136 SCHULTZ FLOYD C 426-5833
139 CORDER E CHARLES @ 426-3799
140 EDMONDSON LOLA A MRS ●
426-1355
143 MAX LOUIE C ● 426-4641
147 MAC MILLAN FRANK J ● 423-7715
---WANZER INTERSECTS
203 TOWNE FRED B 423-2226
209 OWEN ROBT ● 426-4086
215 MC NEAL JERRY W 423-5260
224 WALLACE ROBERT R 426-5829
228 BARNARD DONALD E ● 426-5584
232 WILLIAMS KENNETH M ● 423-3896
236 VACANT
238 LAMB EARL G ● 426-2940
242 LEONARD HUGH J ● 426-4706
250 MUTTER JACK P ● 423-9074
---CHACE INTERSECTS
313 GOVT DEPT OF DEFENSE-DEPT OF
ARMY RESERVE CENTER 423-6648
335 N-K PRODUCTS INC
PHYSIOTHERAPY TABLES MFRS
423-0487
338 GARLAND CLAUDE N ● 426-2626
340 UNDER CONSTN
345 PEERLESS PORTABLE METAL
BUILDING MFRS 426-6868

33

---DELAWARE INTERSECTS
408 GANDY LLOYD H
411 SANTA CRUZ WIRE &
MANUFACTURING CO WIRE
PRODUCTS 423-9211
416 KOCH MATHEW B 426-5679
511 SYLVANIA ELECTRONIC SYSTEM
ELECTRONIC EQUIP MFR
601 MISSION LINEN SUPPLY 423-1630
820 VACANT

Target Street	Cross Street	Source
✓	-	Polk's City Directory

SWIFT ST 1960

29

SWIFT—From W Cliff dr north, 4 south of Almar

115 Webster Ray C ◎
△GA6-2320
119 No Return
120 Hunt Bernice ◎
136 Edmondson Eleanor M ◎
△GA6-1355
143 No Return
147 MacMillan Frank J ◎
△GA3-7715

Wanzer intersects

203 King Alma Mrs ◎
△GA6-3933
209 Fenn Cecil H ◎
△GA6-1656
215 Bayford Roy A ◎
△GA6-1751
234 Peterson Hans ◎

Chase intersects

328 Baselio Thos ◎
△GA6-0572
338 McCullah Mary G Mrs ◎
△GA3-7205
345 N&K Products Inc mfrs
△GA3-0487

33

Delaware av intersects

411 Santa Cruz Wire & Mfg Co △GA3-9211
416 Vacant
511 Artistic Creations novelty mfrs △GA6-2313
815 Ybarra Louis M
820 Vacant

19

Santa Cruz City Schools - Workforce Housing

313 Swift Street

SANTA CRUZ, CA 95060

Inquiry Number: 7295354.3

March 31, 2023

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

03/31/23

Site Name:

Santa Cruz City Schools - Worl
313 Swift Street
SANTA CRUZ, CA 95060
EDR Inquiry # 7295354.3

Client Name:

MooreTwining Associates, Inc.
2527 Fresno Street
Fresno, CA 93721
Contact: Sara Bloom

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by MooreTwining Associates, Inc. were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # ED74-4AB3-B901

PO # NA

Project Santa Cruz City Schools

Maps Provided:

1988
1950
1928

Sanborn® Library search results

Certification #: ED74-4AB3-B901

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

The Sanborn Library LLC Since 1866™

Limited Permission To Make Copies

MooreTwining Associates, Inc. (the client) is permitted to make up to FIVE photocopies of this Sanborn Map transmittal and each fire insurance map accompanying this report solely for the limited use of its customer. No one other than the client is authorized to make copies. Upon request made directly to an EDR Account Executive, the client may be permitted to make a limited number of additional photocopies. This permission is conditioned upon compliance by the client, its customer and their agents with EDR's copyright policy; a copy of which is available upon request.

Sanborn Sheet Key

This Certified Sanborn Map Report is based upon the following Sanborn Fire Insurance map sheets.

1988 Source Sheets

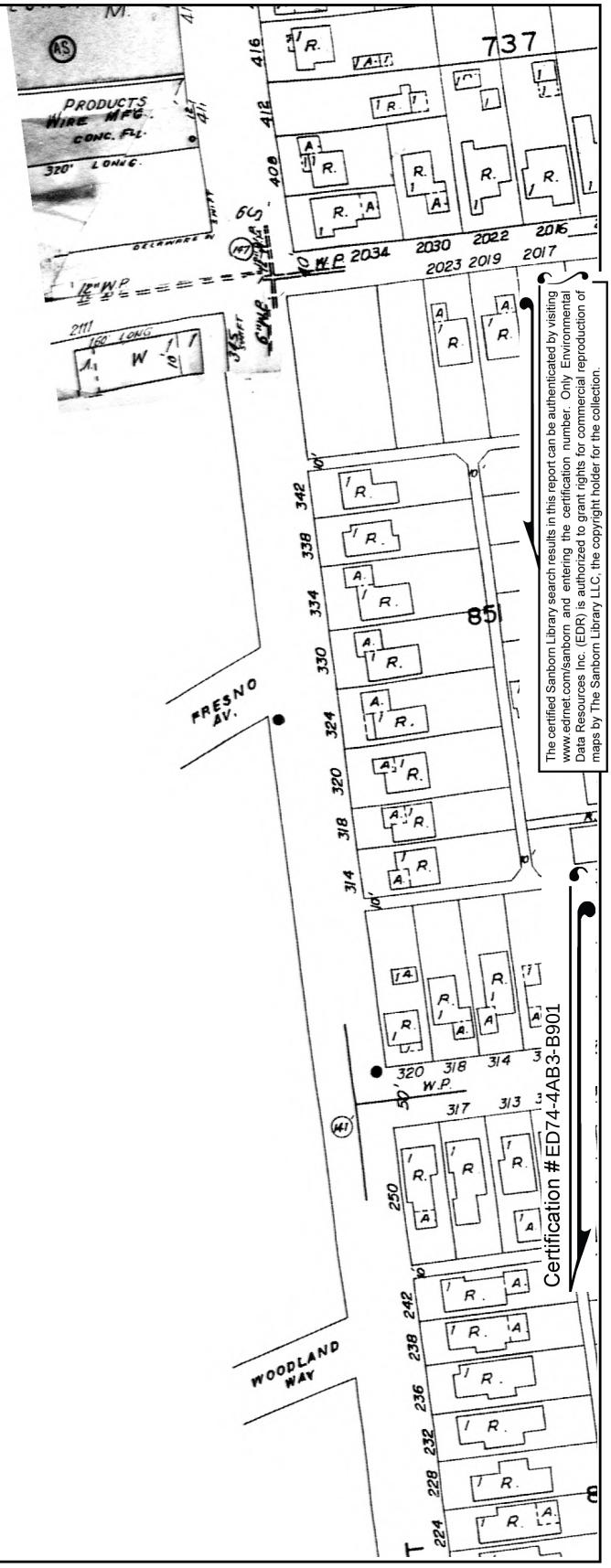
Volume 1, Sheet 170
1988

1950 Source Sheets

Volume 1, Sheet 170
1950

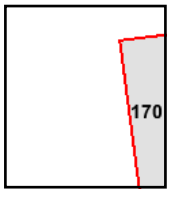
1928 Source Sheets

Volume 1, Sheet 170
1928



Site Name: Santa Cruz City Schools - Workforce Housing
Address: 313 Swift Street
City, ST, ZIP: SANTA CRUZ, CA 95060
Client: MooreTwining Associates, Inc.
EDR Inquiry: 7295354.3
Order Date: 03/31/2023
Certification #: ED74-4AB3-B901
Copyright: 1988

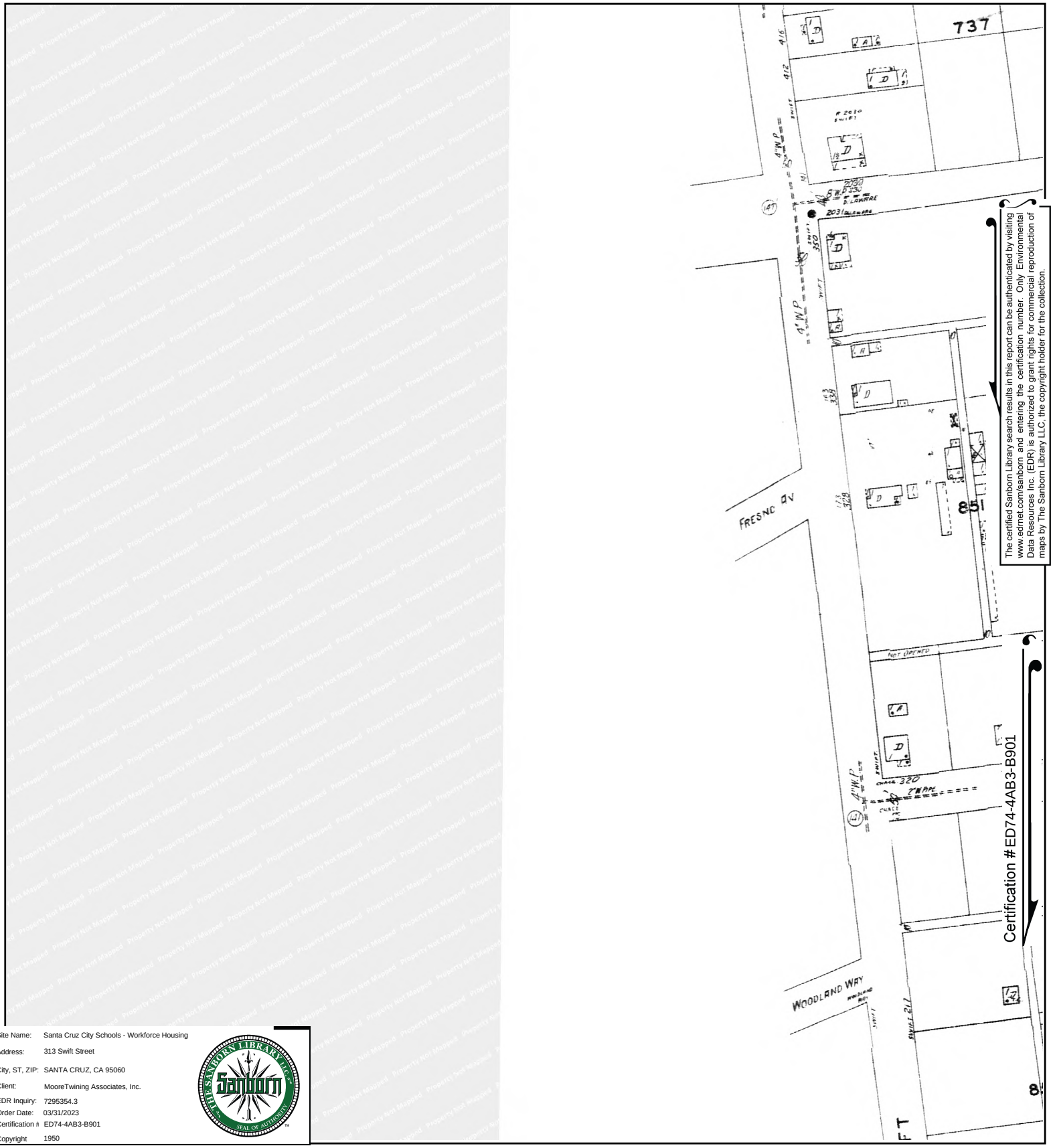
This Certified Sanborn Map combines the following sheets. Outlined areas indicate map sheets within the collection.



Volume 1, Sheet 170

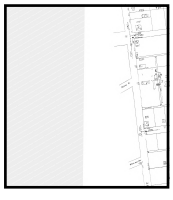
0 Feet 150 300 600

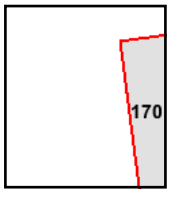
N



Site Name: Santa Cruz City Schools - Workforce Housing
Address: 313 Swift Street
City, ST, ZIP: SANTA CRUZ, CA 95060
Client: MooreTwining Associates, Inc.
EDR Inquiry: 7295354.3
Order Date: 03/31/2023
Certification #: ED74-4AB3-B901
Copyright: 1950

This Certified Sanborn Map combines the following sheets.
Outlined areas indicate map sheets within the collection.

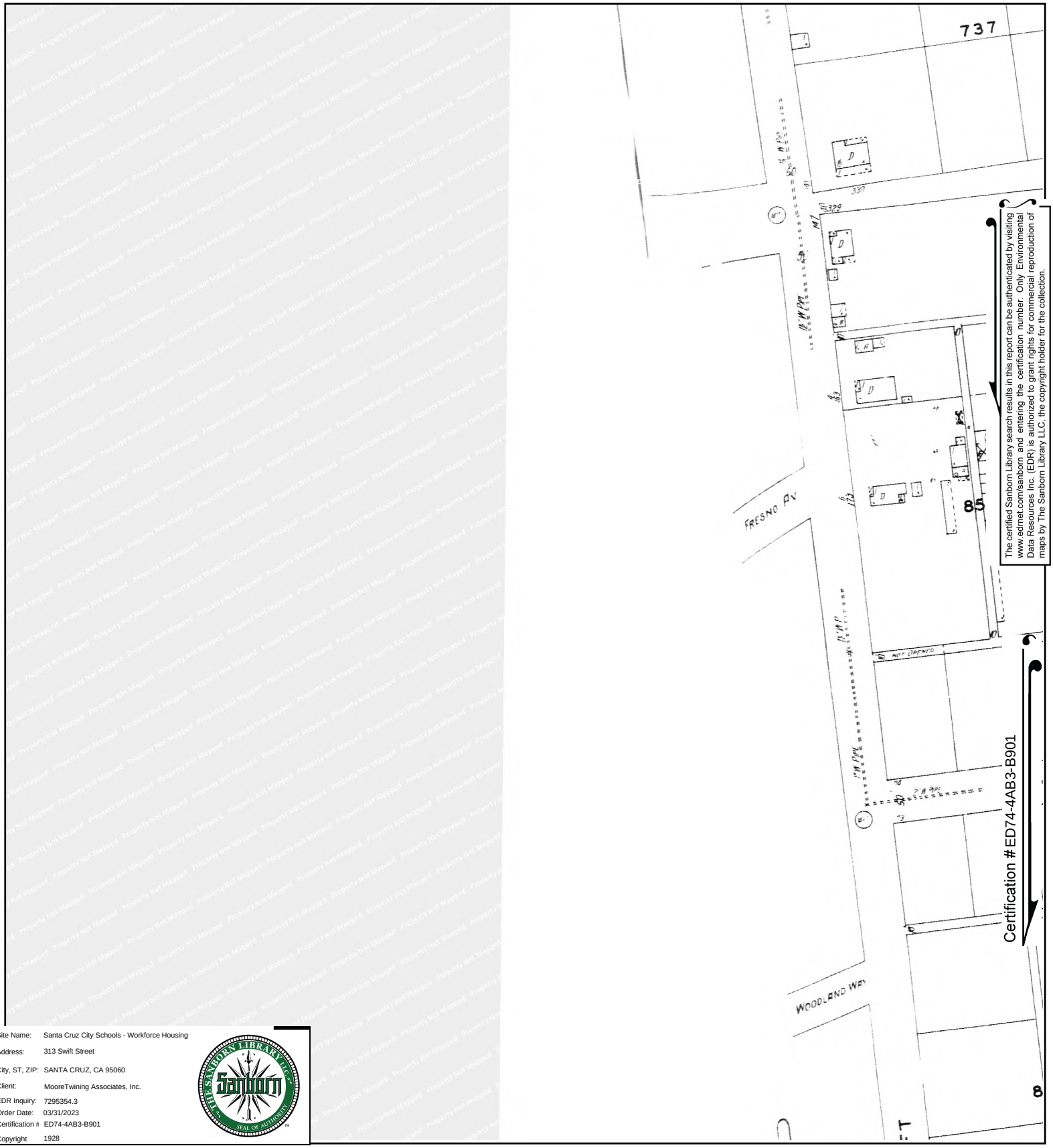




Volume 1, Sheet 170

0 Feet 150 300 600

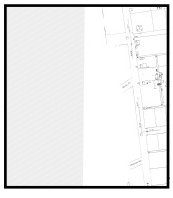
N

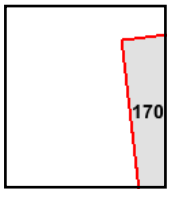


Certification #ED74-4AB3-B901

Site Name:	Santa Cruz City Schools - Workforce Housing
Address:	313 Swift Street
City, ST, ZIP:	SANTA CRUZ, CA 95060
Client:	MooreTwining Associates, Inc.
EDR Inquiry:	7295354.3
Order Date:	03/31/2023
Certification #:	ED74-4AB3-B901
Copyright	1928

This Certified Sanborn Map combines the following sheets. Outlined areas indicate map sheets within the collection.





Volume 1, Sheet 170

0 Feet 150 300 600

N

SANTA CRUZ CITY SCHOOLS - WORKFORCE HOUSING
313 SWIFT STREET
SANTA CRUZ, CA 95060

Inquiry Number: 07295354.7R
APRIL 2, 2023

EDR Environmental Lien and AUL Search

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Environmental Lien and AUL Search

The EDR Environmental Lien Search Report provides results from a search of available current land title records for environmental cleanup liens and other activity and use limitations, such as engineering controls and institutional controls.

A network of professional, trained researchers, following established procedures, uses client supplied address information to:

- search for parcel information and/or legal description;
- search for ownership information;
- research official land title documents recorded at jurisdictional agencies such as recorders' offices, registries of deeds, county clerks' offices, etc.;
- access a copy of the deed;
- search for environmental encumbering instrument(s) associated with the deed;
- provide a copy of any environmental encumbrance(s) based upon a review of key words in the instrument(s) (title, parties involved, and description); and
- provide a copy of the deed or cite documents reviewed.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EDR Environmental Lien and AUL Search

TARGET PROPERTY INFORMATION

ADDRESS

SANTA CRUZ CITY SCHOOLS - WORKFORCE HOUSING

313 SWIFT STREET

SANTA CRUZ, CA 95060

RESEARCH SOURCE

JUDICIAL RECORDS ***NOT*** SEARCHED. BASED ON AVAILABLE INFORMATION EVALUATED BY THE TITLE SEARCH PROFESSIONAL, THE JURISDICTION ***DOES NOT*** REQUIRE A SEARCH OF JUDICIAL RECORDS IN ORDER TO IDENTIFY ENVIRONMENTAL LIENS.

Source 1: SANTA CRUZ COUNTY RECORDER'S OFFICE

Source 2: CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

Source 3: UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

PROPERTY INFORMATION

Legal Description:	AS RECORDED IN THE DEED ATTACHED.
Current Owner:	SANTA CRUZ CITY SCHOOLS DISTRICT
Property Identifiers:	003-161-32-000
Comments:	NA

Deed 1

Type of Deed:	QUIT CLAIM DEED
Title is vested in:	SANTA CRUZ CITY SCHOOLS DISTRICT
Title received from:	UNITED STATES OF AMERICA
Date Executed:	09/16/1988
Date Recorded:	10/13/1988
Book:	4401
Page:	290
Volume:	NA
Instrument#:	NA
Docket:	NA
Land Record Comments:	NA
Miscellaneous Comments:	NA

EDR Environmental Lien and AUL Search

ENVIRONMENTAL LIEN

Environmental Lien: Found ☐ Not Found ☒

Comments: NONE IDENTIFIED.

OTHER ACTIVITY AND USE LIMITATIONS (AULS)

Other AUL's: Found ☐ Not Found ☒

Comments: NONE IDENTIFIED.

EDR Environmental Lien and AUL Search

MISCELLANEOUS

Comments: NONE IDENTIFIED.

Tom Walter,
133 Mission St
Santa Cruz, Ca 95060

VOL. 4401 PAGE 290

062059

RECORDED AT THE REQUEST OF
S.C City Schools
OCT 13 1988
1:25 pm
RICHARD H. BEDAL, Recorder
SANTA CRUZ COUNTY, Official Records

DH

QUITCLAIM DEED

PREAMBLE

1. This DEED is made this 16th day of September, 1988, between the UNITED STATES OF AMERICA, acting through the Secretary of Education, acting by Gary Rasmussen, Acting Administrator for Management Services, pursuant to Section 203(k) of the Federal Property and Administrative Services Act of 1949, as amended ("Act"), [Pub. L. 81-152, 63 Stat. 377, 40 U.S.C. Section 484(k)], Reorganization Plan No. 1 of 1953, the Department of Education Organization Act of 1979, [Pub. L. No. 96-88, 93 Stat. 668, 20 U.S.C. Section 3401 et seq.] ("GRANTOR") and the SANTA CRUZ CITY SCHOOLS DISTRICT, a tax supported public school district under the laws of the State of California, ("GRANTEE").

I. RECITALS

1. By letter dated July 13, 1988 from the General Services Administration, certain Federal surplus real property located at 313 Swift Street, Santa Cruz, California, and known as the the former U.S. Army Reserve Center consisting of 4.09 acres and 2 buildings ("Property"), was assigned to GRANTOR for disposal upon the recommendation of GRANTOR that the Property is needed for educational purposes in accordance with the provisions of the Act.

2. GRANTEE has made a firm offer to purchase the Property under the provisions of the Act and has made application for public benefit allowance, and proposes to use the Property for

educational purposes as detailed in its application to GRANTOR dated May 3, 1988 ("Application").

3. The General Services Administration has notified GRANTOR that no objection will be interposed to the transfer of the Property to GRANTEE, and GRANTOR has accepted the offer of GRANTEE.

II. AGREEMENT

4. GRANTOR, in consideration of the foregoing, one dollar, the performance by the GRANTEE of the covenants, conditions and restrictions hereinafter contained and other good and valuable consideration, the receipt of which is hereby acknowledged, has remised, released and quitclaimed and does remise, release and quitclaim to the GRANTEE, its successors and assigns, all rights, title, interest, claim, and demand, reserving such rights as may arise from the operation of the conditions subsequent and covenants of this Deed, which the UNITED STATES OF AMERICA has in and to the following described real property:

U.S. ARMY RESERVE CENTER
SANTA CRUZ, CA
Disposal Tract 100

All that certain parcel of land described in Grant Deed from the City of Santa Cruz, a Municipal Corporation to the United States of America dated December 23, 1959, recorded March 31, 1960 in Book 1309 at page 581, Official Records of Santa Cruz County, more particularly described as follows:

BEING a portion of the Swanton Beach Park Subdivision, as said subdivision is more particularly designated and delineated on that certain map entitled "Swanton Beach Park, Santa Cruz, California" filed for record June 23, 1909 in Map Book 17, at page 6, Santa Cruz County Records, and being more particularly bounded and described as follows, to wit:

BEGINNING at an iron pipe 10.00 feet distant westerly at right angles from the present west line of Swift Street (1958) and from which point of beginning a station at the northeastern corner of Lot 9, Block 32 of said Swanton Beach Park bears the following courses and distances: North 83 degrees 31' 52" East 10.00 feet, and North 6 degrees 24' 08" West 187.85 feet distant and from which point of beginning U.S.C. & G.S. station "Crowell" bears the following courses and distances: South 6 degrees 24' 08" East 226.82 feet to an iron pipe and North 26 degrees 41' 41" West 3503.87 feet and North 3 degrees 23' 55" East 10,944.65 feet distant; thence from said point of beginning and along a line 10.00 feet distant Westerly at right angles from and parallel to said present West line of Swift Street South 6 degrees 24' 08" East 276.82 feet to an iron pipe on the Northern boundary of Lot 16, Block 33 of said Swanton Beach Park; thence along the Northern boundary of said Lot 16 and the Westerly projection thereof, South 73 degrees 16' 52" West 208.59 feet to a station on the East line of Merced Avenue as shown on said map of Swanton Beach Park; thence North 6 degrees 24' 08" West 45.10 feet to a station on the Eastern projection of the Northern boundary of Lots 10 and 13, Block 30, of said Swanton Beach Park; thence leaving said Eastern line of Merced Avenue Westerly along said Eastern projection of the Northern boundary line of Lots 10 and 13, Block 30 of said Swanton Beach Park and the Northern line of said Lots 13 and 10 South 83 degrees 00' 52" West 275.02 feet to the Northwestern corner of said Lot 10, said corner being a station on the East line of Stockton Avenue as shown on said map of Swanton Beach Park; thence leaving said East line of Stockton Avenue South 80 degrees 43' 33" West 60.08 feet to a station on the West line of Stockton Avenue at the Northeastern corner of Lot 13, Block 25 of said Swanton Beach Park; thence leaving said West line of Stockton Avenue and along the Northern boundary of said Lot 13, Block 25, of said Swanton Beach Park North 88 degrees 16' 08" West 101.02 feet to an iron pipe on the East line of a 15 foot alley; said iron pipe also being the Northwest corner of said Lot 13, Block 25 of said Swanton Beach Park; thence leaving said Northwest corner of Lot 13, Block 25 of said Swanton Beach Park and along the East line of said alley North 6 degrees 24' 08" West 259.89 feet to an iron pipe; thence North 83 degrees 31' 52" East 640.22 feet to the point of beginning.

Containing 4.09 acres of land, a little more or less.

Basis of bearing is Lambert Co-ordinates, Zone III.

SUBJECT TO existing easements for public roads and highways, public utilities, railroads and pipelines, and other easements and encumbrances, if any, of record.

III. CONDITIONS SUBSEQUENT

5. TO HAVE AND TO HOLD the Property subject, however, to each of the following Conditions Subsequent, which are for the sole benefit of the UNITED STATES OF AMERICA and which shall be binding upon and enforceable against GRANTEE, its successors and assigns, as follows:

1) For a period of thirty (30) years from the date of this Deed, the Property will be used continuously for educational purposes in accordance with the proposed program and plan of GRANTEE as set forth in its Application and for no other purpose. GRANTOR reserves the right to enter and inspect the Property during said period.

2) During the above period of thirty (30) years GRANTEE will not sell, resell, lease, rent, mortgage, encumber, or otherwise transfer any interest in any part of the Property except as GRANTOR may authorize in advance in writing.

3) One year from the date of this Deed and annually thereafter for the period of thirty (30) years, unless GRANTOR directs otherwise, GRANTEE will file with GRANTOR a report on the operation and maintenance of the Property and will furnish, as requested by GRANTOR, such other pertinent information evidencing its continuous use of the Property as required by Condition

Subsequent number 1.

4) During the above period of thirty (30) years GRANTEE will at all times be and remain a tax supported institution or a nonprofit institution, organization, or association exempt from taxation under section 501(c)(3) of the Internal Revenue Code of 1954.

5) For the period during which the Property is used for the purpose for which the Federal assistance is hereby extended by GRANTOR or for another purpose involving the provision of similar services or benefits, GRANTEE hereby agrees that it will comply with the requirements of Title VI of the Civil Rights Act of 1964 (P.L. 88-352), 42 U.S.C. Section 2000(d)(1) et seq.; Title IX of the Education Amendments of 1972 (P.L. 92-318),20 U.S.C. Section 1681 et seq.; Section 504 of the Rehabilitation Act of 1973 (P.L. 93-112), 29 U.S.C. Section 794 et seq.; and all requirements imposed by the Regulations (34 C.F.R. Parts 12, 100, 104 and 106) issued pursuant thereto and now in effect, to the end that, in accordance with said Acts and Regulations, no person in the United States shall, on the ground of race, color, national origin, sex, or handicap, be excluded from participation in, be denied the benefits of, or otherwise be subjected to discrimination under the program and plan referred to in Condition Subsequent number 1 above or under any other program or activity of

the GRANTEE, its successors or assigns, to which such Acts and Regulations apply by reason of this conveyance.

6. In the event of a breach of any of the Conditions Subsequent set forth above or in the event of a breach of any other terms and covenants of this Deed, whether caused by the legal or other inability of GRANTEE, its successors and assigns, to perform any of the terms and conditions of this Deed, GRANTOR will, at its option, have an immediate right of reentry to the Property, and to cause all right, title, and interest in and to the Property to revert to the UNITED STATES OF AMERICA and GRANTEE, its successors and assigns, shall forfeit all right, title, and interest in and to the Property and in and to any and all of the tenements, hereditaments, and appurtenances thereto.

7. The failure of GRANTOR to insist in any one or more instances, upon complete performance of the Conditions Subsequent, terms, or covenants of this Deed shall not be construed as a waiver of, or a relinquishment of GRANTOR's right to the future performance of any of those Conditions Subsequent, terms and covenants and the GRANTEE's obligations with respect to such future performance shall continue in full force and effect.

8. In the event GRANTOR fails to exercise its options to reenter the Property or to revert title thereto for any breach of Conditions Subsequent numbered 1, 2, 3, and 4 of this Deed enumerated at Paragraph 5 within thirty-one (31) years from the date of this conveyance, these Conditions Subsequent, together

with all rights to reenter and revert title for breach of those conditions, will, as of that date, terminate and be extinguished.

9. The expiration of Conditions Subsequent numbered 1, 2, 3, and 4, and the right to reenter and revert title for breach thereof, will not affect the obligation of GRANTEE, its successors and assigns, with respect to that Condition Subsequent number 5 or the right reserved to GRANTOR to reenter and revert title for breach of Condition Subsequent number 5.

IV. COVENANTS

10. GRANTEE, by the acceptance of this Deed, covenants and agrees for itself and its successors and assigns that in the event GRANTOR exercises its option to revert all right, title, and interest in and to the Property to GRANTOR, or GRANTEE voluntarily returns title to the Property in lieu of a reverter, then GRANTEE shall provide protection to and maintenance of the Property at all times until such time as the title is actually reverted or returned to and accepted by GRANTOR. Such protection and maintenance shall, at a minimum, conform to the standards prescribed by the General Services Administration in FPMR 101-47.4913 (41 C.F.R. Part 101) now in effect, a copy of which is referenced in the GRANTEE's Application.

11. GRANTEE, by acceptance of this Deed, covenants that, at all times during that period that title to the Property is vested in GRANTEE, its successors or assigns, subject to Conditions Subsequent 1, 2, 3, and 4 of Paragraph 5 of this

Deed, it will comply with all provisions of the following: the National Environmental Policy Act of 1969, as amended, 42 U.S.C. Section 4332, including the preparation of environmental impact statements, as required; the National Historic Preservation Act of 1966, as amended, (Pub. L. 89-665); Executive Order No. 11988, 44 Fed. Reg. 4329 (1979) reprinted in 42 U.S.C.A. Section 4321 app. at 199-189 (1987), governing floodplain management; Executive Order No. 11990, 42 Fed. Reg. 26961 (1977) reprinted in 42 U.S.C.A Section 4321 app. at 197-198 (1987), governing protection of wetlands; and other appropriate guidelines, laws, regulations or executive orders, federal, state or local, pertaining to floodplains, wetlands or the future use of this property.

12. GRANTEE, by acceptance of this Deed, covenants and agrees for itself, its successors and assigns, and every successor in interest to the Property herein conveyed or any part thereof--which covenant shall attach to and run with the land for so long as the Property is used for a purpose for which Federal assistance is hereby extended by GRANTOR or for another purpose involving the provision of similar services or benefits, and which covenant shall in any event, and without regard to technical classification or designation, legal or otherwise, be binding to the fullest extent permitted by law and equity, for the benefit of and in favor of and enforceable by GRANTOR against GRANTEE, its successors and assigns for the Property, or any part thereof--that it will comply with Title VI of the Civil

Rights Act of 1964 (P.L. 88-352), 42 U.S.C. Section 2000(d)(1) et seq.; Title IX of the Education Amendments of 1972 (P.L. 92-318), 20 U.S.C. Section 1681 et seq.; Section 504 of the Rehabilitation Act of 1973 (P.L. 93-112), 29 U.S.C. Section 794 et seq.; and with all requirements imposed by the Regulations (34 C.F.R. Parts 12, 100, 104 and 106) issued pursuant thereto and now in effect, to the end that, in accordance with said Acts and Regulations, no person in the United States shall, on the ground of race, color, national origin, sex, or handicap, be excluded from participation in, be denied the benefits of, or otherwise be subjected to discrimination under the program and plan referred to in Condition Subsequent number 1 above or under any other program or activity of GRANTEE's, its successors or assigns, to which said Acts and Regulations apply by reason of this conveyance. In the event of a breach of this covenant by GRANTEE or by its successors or assigns, GRANTOR, may, in addition to any right or remedy set forth in this agreement, avail itself of any remedy authorized by the violated statute or regulation.

13. In the event title to the Property or any part thereof is reverted to the United States of America for noncompliance or is voluntarily reconveyed in lieu of reverter, GRANTEE, its successors or assigns, shall at the option of GRANTOR, be responsible for and shall be required to reimburse the United States of America for the decreased value thereof that is not the result of reasonable wear and tear, an act of God, or alterations and conversions made by the GRANTEE and approved by

the GRANTOR, to adapt the Property to the educational use for which the Property was transferred. GRANTEE shall, in addition thereto, reimburse GRANTOR for such damage as it may sustain as a result of such noncompliance, including such costs as may be incurred in recovering title to or possession of the Property.

14. GRANTEE may seek abrogation of the Conditions Subsequent numbered 1, 2, 3, and 4 of Paragraph 5 herein by:

a. Obtaining the advance written consent of the GRANTOR; and

b. Payment to the United States of America of 1/360th of the percentage public benefit allowance granted of the fair market value, as of the date of such requested abrogation, of that portion of the Property to be released for each month or portion of a month of the period to be abrogated.

15. GRANTEE, by acceptance of this Deed, further covenants and agrees for itself, its successors and assigns, that in the event the Property or any part or interest thereof is, at any time within the period of thirty (30) years from the date of this conveyance, sold, leased, mortgaged, encumbered or otherwise disposed of or used for purposes other than those designated in Condition Subsequent numbered 1 above without the consent of GRANTOR, all revenues therefrom and the reasonable value, as determined by GRANTOR, or its successor in function, of any other benefits to GRANTEE, deriving directly or indirectly from such sale, lease, mortgage, encumbrance,

disposal, or use, shall be considered to have been received and held in trust by GRANTEE for the United States of America and shall be subject to the direction and control of GRANTOR, or its successor in function; but the provisions of this paragraph shall not impair or affect the rights reserved to GRANTOR under any other provision of this Deed.

16. GRANTEE, by the acceptance of this Deed, further covenants and agrees for itself, its successors or assigns, that at all times during the period that title to the Property is vested in GRANTEE subject to Conditions Subsequent numbered 1, 2, 3, and 4 set forth in Paragraph 5 of this Deed, GRANTEE shall at its own sole cost and expense keep and maintain the Property and the improvements thereon, including all buildings, structures and equipment at any time situate upon the Property, in good order, condition and repair, and free from any waste whatsoever; and in the event any thereof shall need restoration or repair, or shall become lost, damaged or destroyed by any cause other than ordinary wear and tear, acts of God or alterations or conversions made by GRANTEE to adapt the Property to the use for which it is acquired, the GRANTEE will promptly repair and restore the Property or improvements to their former condition and use or, in the case of improvements, will replace them with equivalent or more suitable improvements.

17. If the GRANTEE, its successors or assigns, shall cause any of said improvements to be insured against loss, damage or destruction and any such loss, damage or destruction shall occur during the period GRANTEE holds title to the Property subject

to Conditions Subsequent numbered 1, 2, 3, and 4 set forth in Paragraph 5 of this Deed, said insurance and all moneys payable to GRANTEE, its successors or assigns, thereunder shall be held in trust by the GRANTEE, its successors or assigns, and shall be promptly used by GRANTEE for the purpose of repairing such improvements and restoring the same to their former condition and use or for the purpose of replacing said improvements with equivalent or more suitable improvements, or, if not so used, shall be paid over to the Treasurer of the United States in an amount not exceeding the unamortized public benefit allowance of the improvements lost, damaged or destroyed. If the Property is located in a floodplain, GRANTEE will, during the period it holds title subject to Conditions Subsequent 1, 2, 3, and 4, insure the Property and any machinery, equipment, fixtures, and furnishings contained therein against loss, damage, or destruction from flood, to the maximum limit of coverage made available with respect to the Property under Section 102 of the Flood Disaster Protection Act of 1973 (P.L. No. 93-234). Any proceeds of such insurance will be used as set forth above.

18. GRANTEE, by the acceptance of this Deed, further covenants and agrees for itself, its successors and assigns, that during the period it holds title subject to Conditions Subsequent 1, 2, 3, and 4 of this Deed, it shall not engage in, authorize, permit or suffer the extraction or production of any minerals from the Property without the written consent of GRANTOR. GRANTEE, by the acceptance of this Deed, further

covenants and agrees for itself, its successors and assigns, that should an extraction or production of minerals on or under the described Property occur during the period that it holds title to the Property subject to Conditions Subsequent numbered 1, 2, 3, and 4, (i) it will hold all payments, bonuses, delayed rentals, or royalties in trust for GRANTOR and (ii) that all net revenues and proceeds resulting from the extraction or production of any minerals including, but not limited to, oil, gas, lignite, coal, uranium, or sulphur, by GRANTEE, its successors and assigns, will be held in trust for and promptly paid to GRANTOR. The listing of certain minerals shall not cause the doctrine of ejusdem generis to apply. Nothing herein shall be construed as authorizing the GRANTEE to engage in the extraction or production of minerals in or on the Property.

19. GRANTEE, by the acceptance of this Deed, covenants that upon receipt of a notice of reverter and, on demand of the United States of America to quit possession of the Property, it will immediately quit possession and execute a deed reconveying the Property to the UNITED STATES OF AMERICA, conveying all right, title and interest conveyed to it by GRANTOR except for encumbrances approved by GRANTOR as provided by Condition Subsequent number 2 in Paragraph 5 of this Deed.

20. GRANTEE further covenants to pay damages for any time period held over beyond the time period provided in a demand to quit possession of the Property at the fair market rental value plus reasonable attorneys fees and costs of the GRANTOR in securing the return of the Property.

21. All covenants, Conditions Subsequent and restrictions contained in this Deed shall run with the land and be binding upon GRANTEE, its successors and assigns, to all or any part of the Property. All rights and powers reserved to GRANTOR by this Deed may be exercised by any successor in function to GRANTOR, and all references to GRANTOR shall include its successor in function. All covenants and Conditions Subsequent contained herein are for the sole benefit of GRANTOR and may be modified or abrogated by it as provided by the Act.

V. SIGNATURES

22. To indicate its agreement, GRANTOR has executed this document this 16th day of September, 1988.

UNITED STATES OF AMERICA
Acting by and through the Secretary
of Education,
GRANTOR

By: _____
Gary Rasmussen, Acting
Administrator for Management Services
United States Department of Education

ACKNOWLEDGMENT

WASHINGTON)
DISTRICT OF COLUMBIA)

Before me a Notary Public, in and for Washington, District of Columbia, personally appeared Gary Rasmussen, Acting Administrator for Management Services, United States Department of Education, and acknowledged to me that he executed the foregoing instrument on behalf of the Secretary of Education for

the UNITED STATES OF AMERICA and acknowledged to me that he executed the same on the date hereof as his free and voluntary act and deed for the purposes and consideration therein expressed and with full authority and as the act and deed of the UNITED STATES OF AMERICA and the Secretary of Education.

IN WITNESS WHEREOF, I have set my hand and seal at Washington, D. C., this 16th day of September 1988.

Nancy Kidd-man
Notary Public
My Commission Expires: August 31, 1993

ACCEPTANCE

The Santa Cruz City Schools District, acting through its Board of Education, GRANTEE, hereby accepts this Deed and accepts and agrees to all the terms, covenants, Conditions Subsequent and restrictions contained therein.

SANTA CRUZ CITY SCHOOLS DISTRICT
Acting by and through its Board of Education
GRANTEE:

Date: Oct 11, 1988 By: Thomas E Walters
Thomas E. Walters
Assistant Superintendent of Schools

ACKNOWLEDGMENT

STATE OF CALIFORNIA)
)ss
CITY AND COUNTY OF SANTA CRUZ)

On this 11th day of October, 1988, personally appeared before me, Dawna L. Cooper, a Notary Public in and for the State of California, Thomas E. Walters, Assistant

Superintendent of Schools, Santa Cruz Public Schools District, acting for the Board of Education, Santa Cruz City Schools District, to me known (or proved to me on the basis of satisfactory evidence) to be the identical person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same on the date hereof as his free and voluntary act and deed for the purposes and consideration therein expressed and with full authority and as the act and deed of the Santa Cruz City Schools District and its Board of Education.

WITNESS my hand and official seal, this 11th day of October, 1988.

OFFICIAL SEAL
DIANNA L. COOPER
NOTARY PUBLIC - CALIFORNIA
SANTA CRUZ COUNTY
My Comm. Expires Jan. 6, 1989

Dianna L Cooper
Notary Public
Residing at Santa Cruz, Ca
My Commission Expires: 1-6-89

Santa Cruz City Schools - Workforce Housing
313 Swift Street
SANTA CRUZ, CA 95060

Inquiry Number: 7295354.8
March 30, 2023

EDR Building Permit Report

Target Property and Adjoining Properties

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EDR BUILDING PERMIT REPORT

About This Report

The EDR Building Permit Report provides a practical and efficient method to search building department records for indications of environmental conditions. Generated via a search of municipal building permit records gathered from more than 1,600 cities nationwide, this report will assist you in meeting the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

Building permit data can be used to identify current and/or former operations and structures/features of environmental concern. The data can provide information on a target property and adjoining properties such as the presence of underground storage tanks, pump islands, sumps, drywells, etc., as well as information regarding water, sewer, natural gas, electrical connection dates, and current/former septic tanks.

ASTM and EPA Requirements

ASTM E 1527-13 lists building department records as a "standard historical source," as detailed in § 8.3.4.7: "Building Department Records - The term building department records means those records of the local government in which the property is located indicating permission of the local government to construct, alter, or demolish improvements on the property." ASTM also states that "Uses in the area surrounding the property shall be identified in the report, but this task is required only to the extent that this information is revealed in the course of researching the property itself."

EPA's Standards and Practices for All Appropriate Inquires (AAI) states: "§312.24: Reviews of historical sources of information. (a) Historical documents and records must be reviewed for the purposes of achieving the objectives and performance factors of §312.20(e) and (f). Historical documents and records may include, but are not limited to, aerial photographs, fire insurance maps, building department records, chain of title documents, and land use records."

Methodology

EDR has developed the EDR Building Permit Report through our partnership with BuildFax, the nation's largest repository of building department records. BuildFax collects, updates, and manages building department records from local municipal governments. The database now includes 30 million permits, on more than 10 million properties across 1,600 cities in the United States.

The EDR Building Permit Report comprises local municipal building permit records, gathered directly from local jurisdictions, including both target property and adjoining properties. Years of coverage vary by municipality. Data reported includes (where available): date of permit, permit type, permit number, status, valuation, contractor company, contractor name, and description.

Incoming permit data is checked at seven stages in a regimented quality control process, from initial data source interview, to data preparation, through final auditing. To ensure the building department is accurate, each of the seven quality control stages contains, on average, 15 additional quality checks, resulting in a process of approximately 105 quality control "touch points."

For more information about the EDR Building Permit Report, please contact your EDR Account Executive at (800) 352-0050.

EDR® Environmental Data Resources Inc

BUILD FAX PROPERTY HISTORY

EXECUTIVE SUMMARY: SEARCH DOCUMENTATION

A search of building department records was conducted by Environmental Data Resources, Inc (EDR) on behalf of MooreTwining Associates, Inc. on Mar 30, 2023.

TARGET PROPERTY

313 Swift Street
SANTA CRUZ, CA 95060

SEARCH METHODS

EDR searches available lists for both the Target Property and Surrounding Properties.

RESEARCH SUMMARY

Building permits identified: **YES**

The following research sources were consulted in the preparation of this report. An "X" indicates where information was identified in the source and provided in this report.

Santa Cruz

Year	*Source*	*TP*	*Adjoining*
2023	City of Santa Cruz - Planning and community Develop		X
2022	City of Santa Cruz - Planning and community Develop		X
2021	City of Santa Cruz - Planning and community Develop		X
2020	City of Santa Cruz - Planning and community Develop		X
	City of Santa Cruz - Planning and community Develop	X	
2019	City of Santa Cruz - Planning and community Develop		X
2018	City of Santa Cruz - Planning and community Develop		X
2017	City of Santa Cruz - Planning and community Develop		X
2016	City of Santa Cruz - Planning and community Develop		X
2015	City of Santa Cruz - Planning and community Develop		X
2014	City of Santa Cruz - Planning and community Develop		X
2013	City of Santa Cruz - Planning and community Develop		X
2012	City of Santa Cruz - Planning and community Develop		X
2011	City of Santa Cruz - Planning and community Develop		X
2010	City of Santa Cruz - Planning and community Develop		X
2009	City of Santa Cruz - Planning and community Develop		X
2008	City of Santa Cruz - Planning and community Develop		X
2007	City of Santa Cruz - Planning and community Develop		X
2006	City of Santa Cruz - Planning and community Develop		X
2005	City of Santa Cruz - Planning and community Develop		X
2004	City of Santa Cruz - Planning and community Develop		X
2003	City of Santa Cruz - Planning and community Develop		X
2002	City of Santa Cruz - Planning and community Develop		X
2001	City of Santa Cruz - Planning and community Develop		X
2000	City of Santa Cruz - Planning and community Develop		X
1999	City of Santa Cruz - Planning and community Develop		X
1998	City of Santa Cruz - Planning and community Develop		X
1997	City of Santa Cruz - Planning and community Develop		X

EXECUTIVE SUMMARY: SEARCH DOCUMENTATION

Year	Source	TP	Adjoining
1996	City of Santa Cruz - Planning and community Develop		X
1995	City of Santa Cruz - Planning and community Develop		X
1994	City of Santa Cruz - Planning and community Develop		X
1993	City of Santa Cruz - Planning and community Develop		X
1992	City of Santa Cruz - Planning and community Develop		X
1991	City of Santa Cruz - Planning and community Develop		
1990	City of Santa Cruz - Planning and community Develop		
1989	City of Santa Cruz - Planning and community Develop		
1988	City of Santa Cruz - Planning and community Develop		
1987	City of Santa Cruz - Planning and community Develop		
1986	City of Santa Cruz - Planning and community Develop		
1985	City of Santa Cruz - Planning and community Develop		
1984	City of Santa Cruz - Planning and community Develop		
1983	City of Santa Cruz - Planning and community Develop		
1982	City of Santa Cruz - Planning and community Develop		
1981	City of Santa Cruz - Planning and community Develop		
1980	City of Santa Cruz - Planning and community Develop		
1979	City of Santa Cruz - Planning and community Develop		
1978	City of Santa Cruz - Planning and community Develop		
1977	City of Santa Cruz - Planning and community Develop		
1976	City of Santa Cruz - Planning and community Develop		

Scotts Valley

Year	Source	TP	Adjoining
2016	City of Scotts Valley, Building Department		
2015	City of Scotts Valley, Building Department		
2014	City of Scotts Valley, Building Department		
2013	City of Scotts Valley, Building Department		
2012	City of Scotts Valley, Building Department		
2011	City of Scotts Valley, Building Department		
2010	City of Scotts Valley, Building Department		
2009	City of Scotts Valley, Building Department		
2008	City of Scotts Valley, Building Department		
2007	City of Scotts Valley, Building Department		
2006	City of Scotts Valley, Building Department		
2005	City of Scotts Valley, Building Department		
2004	City of Scotts Valley, Building Department		
2003	City of Scotts Valley, Building Department		
2002	City of Scotts Valley, Building Department		
2001	City of Scotts Valley, Building Department		
2000	City of Scotts Valley, Building Department		
1999	City of Scotts Valley, Building Department		
1998	City of Scotts Valley, Building Department		
1997	City of Scotts Valley, Building Department		

EXECUTIVE SUMMARY: SEARCH DOCUMENTATION

Year	Source	TP	Adjoining
1996	City of Scotts Valley, Building Department		
1995	City of Scotts Valley, Building Department		
1994	City of Scotts Valley, Building Department		
1993	City of Scotts Valley, Building Department		
1992	City of Scotts Valley, Building Department		
1991	City of Scotts Valley, Building Department		
1990	City of Scotts Valley, Building Department		
1989	City of Scotts Valley, Building Department		
1988	City of Scotts Valley, Building Department		
1987	City of Scotts Valley, Building Department		
1986	City of Scotts Valley, Building Department		
1985	City of Scotts Valley, Building Department		
1984	City of Scotts Valley, Building Department		
1983	City of Scotts Valley, Building Department		
1982	City of Scotts Valley, Building Department		
1981	City of Scotts Valley, Building Department		
1980	City of Scotts Valley, Building Department		
1979	City of Scotts Valley, Building Department		
1978	City of Scotts Valley, Building Department		
1977	City of Scotts Valley, Building Department		
1976	City of Scotts Valley, Building Department		
1975	City of Scotts Valley, Building Department		
1974	City of Scotts Valley, Building Department		
1973	City of Scotts Valley, Building Department		
1972	City of Scotts Valley, Building Department		
1971	City of Scotts Valley, Building Department		
1970	City of Scotts Valley, Building Department		
1969	City of Scotts Valley, Building Department		
1968	City of Scotts Valley, Building Department		
1967	City of Scotts Valley, Building Department		
1966	City of Scotts Valley, Building Department		

Name: JurisdictionName
Years: Years
Source: Source
Phone: Phone

BUILDING DEPARTMENT RECORDS SEARCHED

Name: Scotts Valley
Years: 1966-2016
Source: City of Scotts Valley, Building Department, SANTA CRUZ, CA
Phone: (831) 440-5630

Name: Santa Cruz
Years: 1976-2023
Source: City of Santa Cruz - Planning and community Development, Santa Cruz, CA
Phone: City Clerk - 831-420

Name: Santa Cruz County Unincorporated Area
Years: 1976-2021
Source: Santa Cruz County, Planning Department, SANTA CRUZ, CA
Phone: (831) 454-3137

TARGET PROPERTY FINDINGS

TARGET PROPERTY DETAIL

313 Swift Street
SANTA CRUZ, CA 95060

313 SWIFT STREET

Date:	**2/13/2020**
Permit Type:	**B**
Description:	**New 84 Unit Apartment Building**
Permit Description:	**Building**
Work Class:	MULTI-RES
Proposed Use:	
Permit Number:	B20-0085
Status:	UNDER REVIEW
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

ADJOINING PROPERTY FINDINGS

ADJOINING PROPERTY DETAIL

The following Adjoining Property addresses were researched for this report. Detailed findings are provided for each address.

CHACE ST

203 CHACE ST

Date:	**8/20/2013**
Permit Type:	**B**
Description:	**convert existing garage into an A.D.U**
Permit Description:	**Building**
Work Class:	MULTI-RES, NEW ADU ATTACHED
Proposed Use:	
Permit Number:	B13-0246
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	JOHN HOFACRE

206 CHACE ST

Date:	**6/18/2020**
Permit Type:	**R**
Description:	**Reroof**
Permit Description:	**Roofing**
Work Class:	ROOFING
Proposed Use:	
Permit Number:	R20-0123
Status:	ISSUED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	SHAW ROBERT H/W JT ETAL

ADJOINING PROPERTY FINDINGS

Date: **12/28/1992**
Permit Type: **B**
Description: **FIREPLACE CHASE, FIREPLACE CHASE CHANGE TO 92-283**

Permit Description: **Building**
Work Class: REMODEL/TI
Proposed Use:
Permit Number: B920283
Status:
Valuation:
Contractor Company:
Contractor Name:

211 CHACE ST

Date: **10/29/1999**
Permit Type: **B**
Description: **CONSTRUCT FENCE**

Permit Description: **Building**
Work Class:
Proposed Use:
Permit Number: B991359
Status: FINALED
Valuation: $0.00
Contractor Company:
Contractor Name: LESTER CONSTRUCTION

Date: **3/25/1996**
Permit Type: **B**
Description: **RESIDENTIAL SWIM POOL**

Permit Description: **Building**
Work Class:
Proposed Use:
Permit Number: B960189
Status: FINALED
Valuation: $0.00
Contractor Company:
Contractor Name: LIFETIME POOLS INC

ADJOINING PROPERTY FINDINGS

212 CHACE ST

Date:	**3/15/2021**
Permit Type:	**E**
Description:	**Upgrade 100 amp main service panel with (N) main service panel being relocated to the right of the existing panel per PG&E approval.**
Permit Description:	**Electrical**
Work Class:	ELECTRICAL
Proposed Use:	
Permit Number:	E21-0110
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	PHIL ALLEGRI

Date:	**3/8/2011**
Permit Type:	**R**
Description:	**tear off 20 year comp and install 40 year com, tear off 20 year comp and install 40 year comp**
Permit Description:	**Roofing**
Work Class:	RES GARAGE/SHED, ROOFING
Proposed Use:	
Permit Number:	R11-0049
Status:	ISSUED
Valuation:	
Contractor Company:	
Contractor Name:	AFFORDABLE ROOFING

ADJOINING PROPERTY FINDINGS

Date:	**7/17/2007**
Permit Type:	**B**
Description:	**KITCHEN/BATHROOM REMODEL, KITCHEN/BATHROOM REMODEL 280 SQFT IN MAIN HOUSE AND NEW BATHROOM IN ACCESSORY STRUCTURE 35SQFT**
Permit Description:	**Building**
Work Class:	REMODEL/TI
Proposed Use:	
Permit Number:	B070716
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	A D CONSTRUCTION 780397

Date:	**1/19/1994**
Permit Type:	**B**
Description:	**LEGALIZE ACCESSORY STRUCTURE, LEGALIZE ACCESSORY STRUCTURE LEGALIZE ACCESSORY STRUCTURE**
Permit Description:	**Building**
Work Class:	ACCESSORY STRUCTURE
Proposed Use:	
Permit Number:	B931623
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	

ADJOINING PROPERTY FINDINGS

215 CHACE ST

Date:	**1/27/2015**
Permit Type:	**E**
Description:	**2.08 KW PV Roof Mounted System**
Permit Description:	**Electrical**
Work Class:	ELECTRICAL
Proposed Use:	
Permit Number:	E15-0011
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	solar city 888104

Date:	**8/4/2014**
Permit Type:	**E**
Description:	**electric service upgrade**
Permit Description:	**Electrical**
Work Class:	ELECTRICAL
Proposed Use:	
Permit Number:	E14-0246
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	EVAN ELECTRIC (DALE MORIN

Date:	**6/30/2014**
Permit Type:	**R**
Description:	**re-roof w/ comp. shingle**
Permit Description:	**Roofing**
Work Class:	ROOFING
Proposed Use:	
Permit Number:	R14-0097
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	DADDARIO ROOFING 430739

ADJOINING PROPERTY FINDINGS

216 CHACE ST

Date:	**7/1/2021**
Permit Type:	**E**
Description:	**4.07 Kw ROOF MOUNTED GRID TIED PV SYSTEM w/ NEW 200 AMP MAIN ELECTRICAL SERVICE**
Permit Description:	**Electrical**
Work Class:	SOLAR ELECTRIC
Proposed Use:	
Permit Number:	E21-0322
Status:	ISSUED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	Sandbar

Date:	**5/18/2004**
Permit Type:	**B**
Description:	**ADDITION TO SFD, ADDITION TO SFD EXTEND TWO EXISTING BEDROOMS REROOF ALL SFD SCOPE OF WORK TO BE DOWNSIZED TO EXTEND MASTER BEDROOM ONLY 07/27/04**
Permit Description:	**Building**
Work Class:	ADDITION
Proposed Use:	
Permit Number:	B040448
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	DESIGNS & STRUCTURES

ADJOINING PROPERTY FINDINGS

219 CHACE ST

Date:	**11/20/2018**
Permit Type:	**R**
Description:	**Tear off comp roof, install new comp roof.**
Permit Description:	**Roofing**
Work Class:	TEAR OFF EXISTING ROOF
Proposed Use:	
Permit Number:	R18-0290
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	DADDARIO ROOFING

Date:	**11/19/1992**
Permit Type:	**B**
Description:	**GARAGE CONVERSION/ NEW CARPORT, GARAGE CONVERSION/ NEW CARPORT CONVERT GARAGE TO HABITABLE MEDITATION ROOM CONSTRUCT NEW CARPORT ON LOT WHERE SFD EXISTS**
Permit Description:	**Building**
Work Class:	GARAGE/CARPORT
Proposed Use:	
Permit Number:	B920888
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	

ADJOINING PROPERTY FINDINGS

302 CHACE ST

Date:	**12/8/2004**
Permit Type:	**B**
Description:	**NEW DETACHED GARAGE RES.**
Permit Description:	**Building**
Work Class:	GARAGE/CARPORT
Proposed Use:	
Permit Number:	B041396
Status:	
Valuation:	
Contractor Company:	
Contractor Name:	

Date:	**4/21/2000**
Permit Type:	**B**
Description:	**RESIDENTIAL REPAIRS, RESIDENTIAL REPAIRS INTERIOR RESIDENTIAL REPAIRS,REPLACE BATHROOM FIXTURES, REPLACE WALL FURNANCES, SUBFLOOR REPAIRS AND WIRING IN KITCHEN. NEW SIDING 2 STORY 3 BRM, 2 BATH SFD W/ ATTACHED GARAGE**
Permit Description:	**Building**
Work Class:	REPAIRS
Proposed Use:	
Permit Number:	B000502
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	

ADJOINING PROPERTY FINDINGS

305 CHACE ST

Date:	**9/26/2011**
Permit Type:	**B**
Description:	**Convert 400 SQFT garage to family room an, Convert 400 SQFT garage to family room and add 190 SQFT car, Convert 400 SQFT garage to family room and add 190 SQFT car port.**
Permit Description:	**Building**
Work Class:	ADDITION
Proposed Use:	
Permit Number:	B11-0159
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	John Pain

306 CHACE ST

Date:	**3/15/2006**
Permit Type:	**E**
Description:	**ELECT.SERVICE UPGRADE, ELECT.SERVICE UPGRADE TO 200AMP**
Permit Description:	**Electrical**
Work Class:	REPAIRS
Proposed Use:	
Permit Number:	E060260
Status:	
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

ADJOINING PROPERTY FINDINGS

307 CHACE ST

Date:	**4/26/2022**
Permit Type:	**R**
Description:	**REROOF COMP TO COMP**
Permit Description:	**Roofing**
Work Class:	ROOFING
Proposed Use:	
Permit Number:	R22-0088
Status:	ISSUED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	TURK THE ROOFER

Date:	**10/1/1993**
Permit Type:	**B**
Description:	**CHIMNEY REBUILD, CHIMNEY REBUILD CHIMNEY REBUILD 101493 REVISION TO PERMIT BRACE AT CHIMNEY OPTIONAL**
Permit Description:	**Building**
Work Class:	REPAIRS
Proposed Use:	
Permit Number:	B931380
Status:	
Valuation:	
Contractor Company:	
Contractor Name:	GRAFFIX PLEASURE

ADJOINING PROPERTY FINDINGS

312 CHACE ST

Date:	**4/17/2017**
Permit Type:	**B**
Description:	**Remodel/addition (2/21/2017 8:43 AM MHH)Addion of master bedroom, two existing bedrooms**
Permit Description:	**Building**
Work Class:	REMODEL
Proposed Use:	
Permit Number:	B17-0096
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

Date:	**2/10/2004**
Permit Type:	**B**
Description:	**CONSTRUCT NEW DETACHED ADU, CONSTRUCT NEW DETACHED ADU CONSTRUCT NEW DETACHED ADU GABLE END WINDOW APPROVED 03/-4/04**
Permit Description:	**Building**
Work Class:	ACCESSORY DWELLING
Proposed Use:	
Permit Number:	B031586
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	ETHAN EDGAR

ADJOINING PROPERTY FINDINGS

Date:	**8/15/2002**
Permit Type:	**B**
Description:	**INTERIOR REMODEL, INTERIOR REMODEL REMODEL KITCHEN TO INCLUDE ELECTRICAL AS NOTED-CHANGE INTERIOR CEILING PITCH IN THE KITCHEN & LIVING ROOM AREAS NEW FORCED-AIR FURNACE**
Permit Description:	**Building**
Work Class:	REMODEL/TI
Proposed Use:	
Permit Number:	B020888
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	EDGAR CONSTRUCTION, ETHANINTERIOR REMODEL

313 CHACE ST

Date:	**7/12/2005**
Permit Type:	**B**
Description:	**RESIDENTIAL ADDITION/REMODEL, RESIDENTIAL ADDITION/REMODEL ADD ENTRY, ENLARGE DINING ROOM, REMODEL KITCHEN, REMODEL BATH AND ADD WINDOW SEAT TO 1 STORY 3 BRM 2 BATH W/ DETACHED GARAGE**
Permit Description:	**Building**
Work Class:	REMODEL/TI
Proposed Use:	
Permit Number:	B050662
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	BLUMBERG CONSTRUCTION, MRESIDENTIAL ADDITION/REMODEL

ADJOINING PROPERTY FINDINGS

Date:	**1/19/1999**
Permit Type:	**B**
Description:	**REPAIR MASONRY FIREPLACE, REPAIR MASONRY FIREPLACE REPAIR MASONRY FIREPLACE**
Permit Description:	**Building**
Work Class:	REPAIRS
Proposed Use:	
Permit Number:	B990056
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	SOTERO MASONRY

314 CHACE ST

Date:	**5/28/2020**
Permit Type:	**B**
Description:	**Addition/Remodel SFD**
Permit Description:	**Building**
Work Class:	ADDITION
Proposed Use:	
Permit Number:	B20-0124
Status:	ISSUED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	Santa Cruz Green B

ADJOINING PROPERTY FINDINGS

Date: **9/23/2010**
Permit Type: **E**
Description: **a**

Permit Description: **Electrical**
Work Class: DEMO INTERIOR, ELECTRICAL
Proposed Use:
Permit Number: E10-0175
Status: FINALED
Valuation: $0.00
Contractor Company:
Contractor Name: TOR STARK

317 CHACE ST

Date: **7/22/2021**
Permit Type: **P**
Description: **Remove & Replace 40 Gal water heater in ourdoor closet**

Permit Description: **Plumbing**
Work Class: PLUMBING
Proposed Use:
Permit Number: P21-0094
Status: UNDER REVIEW
Valuation: $0.00
Contractor Company:
Contractor Name: BELLOWS PLUMBING

Date: **5/8/2020**
Permit Type: **E**
Description: **Upgrade Main Service Panel 100amp to 200amp**

Permit Description: **Electrical**
Work Class: ELECTRICAL
Proposed Use:
Permit Number: E20-0149
Status: FINALED
Valuation: $0.00
Contractor Company:
Contractor Name: J P ELECTRIC

ADJOINING PROPERTY FINDINGS

Date: **11/21/1995**
Permit Type: **B**
Description: **FIRE PLACE REPAIR, FIRE PLACE REPAIR FIRE PLACE REPAIR**

Permit Description: **Building**
Work Class: REPAIRS
Proposed Use:
Permit Number: B951366
Status:
Valuation:
Contractor Company:
Contractor Name: STUMPF CONSTRUCTION, VAUGFIRE PLACE REPAIR

DELAWARE AVE

1907 DELAWARE AVE

Date: **12/3/2001**
Permit Type: **B**
Description: **ADDITION OF BATH IN GARAGE**

Permit Description: **Building**
Work Class: ALTER/CONVERSION
Proposed Use:
Permit Number: B010696
Status: FINALED
Valuation:
Contractor Company:
Contractor Name:

ADJOINING PROPERTY FINDINGS

1913 DELAWARE AVE

Date:	**1/7/2022**
Permit Type:	**E**
Description:	**3.70 kW ROOF MOUNTED GRID TIED PV SYSTEM w/ A NEW 125 AMP SUBPANEL**
Permit Description:	**Electrical**
Work Class:	SOLAR ELECTRIC
Proposed Use:	
Permit Number:	E22-0006
Status:	UNDER REVIEW
Valuation:	$0.00
Contractor Company:	
Contractor Name:	ALLTERRA SOLAR

Date:	**9/30/2019**
Permit Type:	**R**
Description:	**Tear off comp roof, install new comp roof.**
Permit Description:	**Roofing**
Work Class:	TEAR OFF EXISTING ROOF
Proposed Use:	
Permit Number:	R19-0310
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	DADDARIO ROOFING

ADJOINING PROPERTY FINDINGS

Date:	**7/15/2019**
Permit Type:	**B**
Description:	**New Detached Art Studio Quilting Studio with Electricity(10/1/2019 10:30 AM 4CB) CHANGE MAIN SERVICE PANEL ON HOUSE TO 200 AMP**
Permit Description:	**Building**
Work Class:	ADDITION
Proposed Use:	
Permit Number:	B18-0689
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

Date:	**11/16/2000**
Permit Type:	**B**
Description:	**SFD ADDITION, SFD ADDITION ADD MASTER BRM AND BATH, EXPAND KITCHEN 1 STORY SFD TO BECOME 1 STORY 3 BRM, 2 BATH W/ ATTACHED GARAGE**
Permit Description:	**Building**
Work Class:	ADDITION
Proposed Use:	
Permit Number:	B001307
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	ERICKSON DESIGN

ADJOINING PROPERTY FINDINGS

1917 DELAWARE AVE

Date:	**1/14/2014**
Permit Type:	**E**
Description:	**100 amp service replacement (5/19/2014 8:42 AM MH)add new feeder to the existing sub-panel, add 4 new lights & 7 plugs in garage damaged by a fire.**
Permit Description:	**Electrical**
Work Class:	ELECTRICAL
Proposed Use:	
Permit Number:	E14-0012
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	EMB ELETRIC 889183

Date:	**2/22/2011**
Permit Type:	**B**
Description:	**Add 60 feet conditioned space and 44 sqft of deck and stairs**
Permit Description:	**Building**
Work Class:	ADDITION
Proposed Use:	
Permit Number:	B11-0052
Status:	EXPIRED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	Doug Silveira

ADJOINING PROPERTY FINDINGS

1921 DELAWARE AVE

Date:	**3/19/2009**
Permit Type:	**B**
Description:	**RESIDENTIAL ADDITION AND REMOD, RESIDENTIAL ADDITION AND REMOD CONVERT GARAGE TO HABITABLE AND CONSTRUCT NEW GARAGE/ADU ADD SECOND STORY ABOVE EXISTING GARAGE-CONVERT FAMILY RM. TO KITCHEN EXSITING SFD TO 2 ST0RY,4 BEDRM.4 BATH,W/OFFICE & DETACHED GARAGE**
Permit Description:	**Building**
Work Class:	NEW ADU DETACHED
Proposed Use:	
Permit Number:	B090084
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	MACKESSY CONSTRUCTION CO, DONA

2004 DELAWARE AVE

Date:	**10/20/2021**
Permit Type:	**E**
Description:	**13.5 kW ENERGY STORAGE SYSTEM**
Permit Description:	**Electrical**
Work Class:	ELECTRICAL
Proposed Use:	
Permit Number:	E21-0559
Status:	APPLICATION INCOMPLE
Valuation:	$0.00
Contractor Company:	
Contractor Name:	SEMPER SOLARIS CONST

ADJOINING PROPERTY FINDINGS

Date:	**4/9/2018**
Permit Type:	**E**
Description:	**3.24KW PV Roof Mounted Grid tied system**
Permit Description:	**Electrical**
Work Class:	SOLAR ELECTRIC
Proposed Use:	
Permit Number:	E18-0075
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	SEMPER SOLARIS CONST

Date:	**7/13/2005**
Permit Type:	**B**
Description:	**RESIDENTIAL ADDITION, RESIDENTIAL ADDITION RESIDENTIAL REMODEL AND ADDITION**
Permit Description:	**Building**
Work Class:	ADDITION
Proposed Use:	
Permit Number:	B050589
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	SHERRY HRABKO

ADJOINING PROPERTY FINDINGS

Date:	**11/24/1993**
Permit Type:	**B**
Description:	**CARPORT & GARAGE TO BRM CONV., CARPORT & GARAGE TO BRM CONV. CONSTRUCT CARPORT AND CONVERT GARAGE TO BRM EXISTING 2 BRMS 2 BATHS SINGLE STORY SFD**
Permit Description:	**Building**
Work Class:	ALTER/CONVERSION
Proposed Use:	
Permit Number:	B931533
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	TO BID

2010 DELAWARE AVE

Date:	**7/6/2010**
Permit Type:	**M**
Description:	**Install fireplace insert into existing fireplace., Install fireplace insert into existing fireplace. (7/6/2010 10:12 AM DJ) Model # I2400**
Permit Description:	**Mechanical**
Work Class:	
Proposed Use:	
Permit Number:	M10-0035
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	GABE ROSELAND CONSTRUCTI

ADJOINING PROPERTY FINDINGS

Date:	**11/8/1999**
Permit Type:	**B**
Description:	**BREEZEWAY ADDITION**
Permit Description:	**Building**
Work Class:	
Proposed Use:	
Permit Number:	B991362
Status:	
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

2012 DELAWARE AVE

Date:	**11/4/2002**
Permit Type:	**B**
Description:	**INTERIOR REMODEL, INTERIOR REMODEL REMODEL A (4) BEDROOM HOUSE PREVIOUSLY CONCERTED INTO A (3) BEDROOM HO HOUSE BACK INTO A (4) BEDROOM HOUSE**
Permit Description:	**Building**
Work Class:	REMODEL/TI
Proposed Use:	
Permit Number:	B021351
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	

ADJOINING PROPERTY FINDINGS

2019 DELAWARE AVE

Date:	**9/23/2014**
Permit Type:	**P**
Description:	**water main street to sfd**
Permit Description:	**Plumbing**
Work Class:	PLUMBING
Proposed Use:	
Permit Number:	P14-0163
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	MC PLUMBING #832285

Date:	**8/30/2010**
Permit Type:	**R**
Description:	**Tear off shake and install plywood and comp**
Permit Description:	**Roofing**
Work Class:	REPAIR
Proposed Use:	
Permit Number:	R10-0164
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	SONNYS ROOFING

ADJOINING PROPERTY FINDINGS

2022 DELAWARE AVE

Date:	**2/22/2016**
Permit Type:	**R**
Description:	**Tear off existing roof and install A GAF roofing system**
Permit Description:	**Roofing**
Work Class:	ROOFING
Proposed Use:	
Permit Number:	R16-0068
Status:	NOT FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

2023 DELAWARE AVE

Date:	**9/10/2015**
Permit Type:	**E**
Description:	**6.16 KW PV Roof Mounted Grid tied system**
Permit Description:	**Electrical**
Work Class:	SOLAR ELECTRIC
Proposed Use:	
Permit Number:	E15-0311
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	ALLTERRA ENVIROMENTAL 847973

ADJOINING PROPERTY FINDINGS

Date:	**10/13/2008**
Permit Type:	**B**
Description:	**ADDITION REMODEL OF SFD, ADDITION REMODEL OF SFD ADDITION REMODEL OF SFD NEW 2ND STORY W/2-BEDROOM AND BATH AND LAUNDRY AND STAIR REMODEL DOWNSTAIRS**
Permit Description:	**Building**
Work Class:	ADDITION
Proposed Use:	
Permit Number:	B071458
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	ETHAN EDGAR

2030 DELAWARE AVE

Date:	**11/29/2016**
Permit Type:	**E**
Description:	**7.9KW PV Roof Mounted Grid tied system**
Permit Description:	**Electrical**
Work Class:	SOLAR ELECTRIC
Proposed Use:	
Permit Number:	E16-0396
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

ADJOINING PROPERTY FINDINGS

Date:	**6/3/1999**
Permit Type:	**B**
Description:	**RESIDENTIAL ADDITION, RESIDENTIAL ADDITION ADD SECOND STORY AND ENLARGE DINING ROOM SFD TO BECOME 2 STORY 3 BRM 2 BATH SFD W/ ATTACHED 2 CAR GARAGE**
Permit Description:	**Building**
Work Class:	ADDITION
Proposed Use:	
Permit Number:	B990517
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	D.D.M. CONSULTANTS

2034 DELAWARE AVE

Date:	**2/28/2023**
Permit Type:	**B**
Description:	**Replace window with door (2/28/2023 9:12 AM 4DS)Electrical upgrades (new outlets, flood light, sub panel with car-charging outlet)**
Permit Description:	**Building**
Work Class:	REMODEL
Proposed Use:	
Permit Number:	B23-0065
Status:	UNDER REVIEW
Valuation:	$0.00
Contractor Company:	
Contractor Name:	TALMADGE CONST

ADJOINING PROPERTY FINDINGS

Date:	**6/20/2019**
Permit Type:	**E**
Description:	**4.07 KW PV Roof Mounted Grid Tled System**
Permit Description:	**Electrical**
Work Class:	SOLAR ELECTRIC
Proposed Use:	
Permit Number:	E19-0187
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	Solar Technologies - Sunlogic

Date:	**2/27/2017**
Permit Type:	**R**
Description:	**Tear off replace with comp**
Permit Description:	**Roofing**
Work Class:	ROOFING
Proposed Use:	
Permit Number:	R17-0029
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

Date:	**6/22/2011**
Permit Type:	**B**
Description:	**Remodel 63 SQFT**
Permit Description:	**Building**
Work Class:	POOL/SPA, REMODEL
Proposed Use:	
Permit Number:	B11-0231
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	TALMADGE CONSTRUCTION INC #458

ADJOINING PROPERTY FINDINGS

Date:	**4/24/1998**
Permit Type:	**B**
Description:	**REMODEL / ADDITION, REMODEL / ADDITION BEDROOM & BATHROOM ADDITION OVER GARAGE**
Permit Description:	**Building**
Work Class:	REMODEL/TI
Proposed Use:	
Permit Number:	B980040
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	TALMADGE CONSTRUCTION INREMODEL / ADDITION

2100 DELAWARE AVE

Date:	**4/1/2022**
Permit Type:	**P**
Description:	**Sink Rough In. & Trench Drain and Ejection System**
Permit Description:	**Plumbing**
Work Class:	PLUMBING
Proposed Use:	
Permit Number:	P22-0056
Status:	APPLICATION INCOMPLE
Valuation:	$0.00
Contractor Company:	
Contractor Name:	BELLOWS PLUMBING

ADJOINING PROPERTY FINDINGS

Date:	**3/10/2022**
Permit Type:	**P**
Description:	**Overhead 2" Water Service w/(9)Drops**
Permit Description:	**Plumbing**
Work Class:	PLUMBING
Proposed Use:	
Permit Number:	P22-0033
Status:	APPLICATION INCOMPLE
Valuation:	$0.00
Contractor Company:	
Contractor Name:	BELLOWS PLUMBING

Date:	**10/24/2018**
Permit Type:	**P**
Description:	**pressure test for new gas meter**
Permit Description:	**Plumbing**
Work Class:	PLUMBING
Proposed Use:	
Permit Number:	P18-0181
Status:	ISSUED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	PACIFIC PLUMBING

Date:	**5/1/2012**
Permit Type:	**B**
Description:	**Platform for mechanical unit to be applied s, Platform for mechanical unit to be applied seperately**
Permit Description:	**Building**
Work Class:	OTHER
Proposed Use:	
Permit Number:	B12-0120
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	Castle refrigeration

ADJOINING PROPERTY FINDINGS

Date:	**5/1/2012**
Permit Type:	**E**
Description:	**Add new 200 amp service panel and wiring, Add new 200 amp service panel and wiring for new equiptment.**
Permit Description:	**Electrical**
Work Class:	DEMO INTERIOR, ELECTRICAL
Proposed Use:	
Permit Number:	E12-0086
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	SWEDBERG E

Date:	**4/7/2005**
Permit Type:	**B**
Description:	**COMMERCIAL REMODEL, COMMERCIAL REMODEL EXTERIOR ALTERATIONS, ACCESS RAMP & TRASH ENCLOSURE**
Permit Description:	**Building**
Work Class:	REMODEL/TI
Proposed Use:	
Permit Number:	B041260
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	

ADJOINING PROPERTY FINDINGS

Date:	**7/26/2001**
Permit Type:	**B**
Description:	**TENNANT IMPROVEMENT, TENNANT IMPROVEMENT WHOLESALE KITCHEN REMODEL TO BE AUNT NETTIES KITCHEN CONTRACTOR WITHDRAWN FROM PROJECT AS OF 5/14/02**
Permit Description:	**Building**
Work Class:	REMODEL/TI
Proposed Use:	
Permit Number:	B010817
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	ROBERT MATHEWS CONSTRUCTION

Date:	**2/13/2001**
Permit Type:	**B**
Description:	**TENANT IMPROVEMENT, TENANT IMPROVEMENT TENANT IMPROVEMENT, SPACE #1 TO BECOME AUDIO VISUAL NOW**
Permit Description:	**Building**
Work Class:	REMODEL/TI
Proposed Use:	
Permit Number:	B001691
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	

ADJOINING PROPERTY FINDINGS

2117 DELAWARE AVE

Date:	**12/20/2018**
Permit Type:	**R**
Description:	**Overlay roof with TPO**
Permit Description:	**Roofing**
Work Class:	ROOFING
Proposed Use:	
Permit Number:	R18-0308
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	BAY QUALITY CONSTR

Date:	**1/30/2008**
Permit Type:	**B**
Description:	**NEW SIGN, NEW SIGN NON-ILLUMINATED FREESTANDING SIGN**
Permit Description:	**Building**
Work Class:	MULTI DWELLING, NEW BUILDING, NEW BUILDIN
Proposed Use:	
Permit Number:	B071372
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	NORTHWEST SIGNS

Date:	**2/9/2005**
Permit Type:	**B**
Description:	**COMMERCIAL T.I., COMMERCIAL T.I. OFFICE AND SHOWROOM REMODEL**
Permit Description:	**Building**
Work Class:	REMODEL/TI
Proposed Use:	
Permit Number:	B050077
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	CABINET TOWN

ADJOINING PROPERTY FINDINGS

Date:	**10/12/1993**
Permit Type:	**B**
Description:	**REROOF AND REPAIR WALL, REROOF AND REPAIR WALL REPAIRS TO WALL NEW SHEETROCK AND REROOF ALL OF STRUCTURE BUILT-UP ROOFING**
Permit Description:	**Building**
Work Class:	REPAIRS
Proposed Use:	
Permit Number:	B931427
Status:	
Valuation:	
Contractor Company:	
Contractor Name:	HACKBARTH CONSTRUCTION #REROOF AND REPAIR WALL

2125 DELAWARE AVE

Date:	**3/31/2010**
Permit Type:	**B**
Description:	**Construct coffee bar in existing space*-**
Permit Description:	**Building**
Work Class:	
Proposed Use:	
Permit Number:	B09-1052
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	

ADJOINING PROPERTY FINDINGS

Date: **1/14/2010**
Permit Type: **B**
Description: **Install 12' X 3' awning at store front**

Permit Description: **Building**
Work Class:
Proposed Use:
Permit Number: B09-1120
Status: EXPIRED
Valuation:
Contractor Company:
Contractor Name: KEVINS AWNINGS INC #798364

Date: **10/12/2009**
Permit Type: **P**
Description: **PLUMBING T.I.'S FOR COFFEE SHOP**

Permit Description: **Plumbing**
Work Class:
Proposed Use:
Permit Number: P09-1013
Status: ISSUED
Valuation: $0.00
Contractor Company:
Contractor Name: Scotts Valley Plumbing

Date: **10/5/2009**
Permit Type: **E**
Description: **Construct coffee bar in existing space**

Permit Description: **Electrical**
Work Class:
Proposed Use:
Permit Number: E09-1043
Status: ISSUED
Valuation: $0.00
Contractor Company:
Contractor Name: GIANT ELECT

ADJOINING PROPERTY FINDINGS

Date:	**7/6/2009**
Permit Type:	**S**
Description:	**NEW SIGNS (no longer exists), NEW SIGNS (no longer exists) ONE SET OF HALO LT LETTERS MOUNTED TO BUILDING, AND ONE SET OF NON-ILLUMNIATED SIGN**
Permit Description:	
Work Class:	SIGNS/AWNINGS, SIGNS/AWNIN
Proposed Use:	
Permit Number:	S090527
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	NORTHWEST SIGNS

Date:	**12/7/2000**
Permit Type:	**B**
Description:	**COMM. INTERIOR ALTERATIONS, COMM. INTERIOR ALTERATIONS SUITE B TOSK BIO-TECH INTERNATIONAL BREAK ROOM SINK ISSUED 121900**
Permit Description:	**Building**
Work Class:	ALTER/CONVERSION, ALTER/CONV
Proposed Use:	
Permit Number:	B001470
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	SCHNAIBLE CONSTRUCTION, S

ADJOINING PROPERTY FINDINGS

Date:	**1/26/2000**
Permit Type:	**B**
Description:	**TENANT IMPROVEMENT, TENANT IMPROVEMENT SUITES A AND B SUITE A TO BE UNIVERSAL AUDIO SUITE B TO BE TASK **BUILDING PERMIT ONLY****
Permit Description:	**Building**
Work Class:	REMODEL/TI
Proposed Use:	
Permit Number:	B000037
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	SCHNAIBLE CONSTRUCTION, S

Date:	**2/19/1999**
Permit Type:	**B**
Description:	**TENANT IMPROVEMENT OFFICE, TENANT IMPROVEMENT OFFICE TENANT IMPROVEMENTS, HERTZ TRUCK RENTAL OFFICE & WILLIAM HENRY KNIFES MANF. OFFICE AND STORAGE MECH,PLBG & ELECT. PERMITS O.K. TO ISSUE**
Permit Description:	**Building**
Work Class:	REMODEL/TI
Proposed Use:	
Permit Number:	B990037
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	SCHNAIBLE CONSTRUCTION, S

ADJOINING PROPERTY FINDINGS

Date:	**9/1/1998**
Permit Type:	**B**
Description:	**TENANT IMPROVEMENT, TENANT IMPROVEMENT EXISTING TILT-UP/CUTTING IN 13 WINDOWS/CONVERTING 2 ROLL-UP DOORS TO WINDOWS/TRELLIS AND LANDSCAPE/ AND SERVICE UP-GRADE TO 1000AMP INCLUDES SHELL AND OFFICE FOR ANADIZA T-SHIRTS**
Permit Description:	**Building**
Work Class:	REMODEL/TI
Proposed Use:	
Permit Number:	B980915
Status:	
Valuation:	
Contractor Company:	
Contractor Name:	SCHNAIBLE CONSTRUCTION, S

GETCHELL ST

311 GETCHELL ST

Date:	**9/22/2016**
Permit Type:	**B**
Description:	**Remodel 1251 SF (E) house, 169 SF additions Convert (E) 386 SF garage to habitable space, Construct (N) 290.5 SF Garage, Reroof all remaining roofs, Not added to valuation - please assess during feeing, New Curb Gutter/driveway (Type C) Not added to valuation - PW to assess & add fees**
Permit Description:	**Building**
Work Class:	ADDITION
Proposed Use:	
Permit Number:	B16-0392
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

ADJOINING PROPERTY FINDINGS

Date:	**7/28/2016**
Permit Type:	**B**
Description:	**Replace window PANES, repair dry rot at window panes as need (7/28/2016 11:29 AM MN)replace interior cieling sheetrock as needed at windows**
Permit Description:	**Building**
Work Class:	CHURCH/RELIGION
Proposed Use:	
Permit Number:	B16-0393
Status:	VOID
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

315 GETCHELL ST

Date:	**12/4/2017**
Permit Type:	**R**
Description:	**remove existing comp shingles & replace with 30 year class A**
Permit Description:	**Roofing**
Work Class:	TEAR OFF EXISTING ROOF
Proposed Use:	
Permit Number:	R17-0374
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

ADJOINING PROPERTY FINDINGS

Date: **11/21/2017**
Permit Type: **E**
Description: **Electirc Panel Upgrade 100 to 200 AMPs**

Permit Description: **Electrical**
Work Class: ELECTRICAL
Proposed Use:
Permit Number: E17-0345
Status: FINALED
Valuation: $0.00
Contractor Company:
Contractor Name:

Date: **11/15/2017**
Permit Type: **E**
Description: **4.8 KW PV Roof Mounted Grid Tied System**

Permit Description: **Electrical**
Work Class: SOLAR ELECTRIC
Proposed Use:
Permit Number: E17-0332
Status: FINALED
Valuation: $0.00
Contractor Company:
Contractor Name:

Date: **4/26/2002**
Permit Type: **B**
Description: **RESIDENTIAL ADDITION TO SFD, RESIDENTIAL ADDITION TO SFD ADDITION OF NEW MUSIC ROOM TO REAR OF EXISTING RESIDENCE 1 STORY 3 BRM 2 BATH SFD W/ ATTACHED GARAGE**

Permit Description: **Building**
Work Class: ADDITION
Proposed Use:
Permit Number: B020363
Status: FINALED
Valuation:
Contractor Company:
Contractor Name: JONES, DANA

ADJOINING PROPERTY FINDINGS

Date:	**4/15/1998**
Permit Type:	**B**
Description:	**KIT.,BATH, & GARAGE REMODEL, KIT.,BATH, & GARAGE REMODEL MOVE GARAGE DOOR FROM LEFT SIDE TO FRONT OF GARAGE REMODEL KITCHEN & BOTH BATHROOMS DBA RECEIPT SEEN 04/15/98 BY J.C.**
Permit Description:	**Building**
Work Class:	REMODEL/TI
Proposed Use:	
Permit Number:	B980201
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	THOMAS R. CRENSHAW

319 GETCHELL ST

Date:	**6/24/2019**
Permit Type:	**R**
Description:	**install class A comp roofing**
Permit Description:	**Roofing**
Work Class:	TEAR OFF EXISTING ROOF
Proposed Use:	
Permit Number:	R19-0172
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	HEBER ROOFING

ADJOINING PROPERTY FINDINGS

Date:	**3/24/2008**
Permit Type:	**B**
Description:	**RESIDENTIAL BATHROOM REMODEL, RESIDENTIAL BATHROOM REMODEL REMODEL EXISTING BATHROOM INCLUDES NEW FIXTURES,FINISHES,WIRING AND PLUMBING UPGRADES FOR EXISTING 1 STORY 3BRM 1 BATH SFD W/ATTACHED GARAGE**
Permit Description:	**Building**
Work Class:	REMODEL/TI
Proposed Use:	
Permit Number:	B080233
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	

327 GETCHELL ST

Date:	**8/11/2014**
Permit Type:	**E**
Description:	**Install rooftop PVA: 7.2 kw**
Permit Description:	**Electrical**
Work Class:	SOLAR ELECTRIC
Proposed Use:	
Permit Number:	E14-0250
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	Solar Tech 932914

ADJOINING PROPERTY FINDINGS

Date:	**5/21/2014**
Permit Type:	**E**
Description:	**Electrical panel upgrade to 200 AMPS and replace circuit to**
Permit Description:	**Electrical**
Work Class:	ELECTRICAL
Proposed Use:	
Permit Number:	E14-0157
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	Johnty Electric 861626

Date:	**10/29/2009**
Permit Type:	**M**
Description:	**install 70k btu change out**
Permit Description:	**Mechanical**
Work Class:	
Proposed Use:	
Permit Number:	M09-1016
Status:	ISSUED
Valuation:	
Contractor Company:	
Contractor Name:	FURNACE ROOM INC #371600

Date:	**12/15/2003**
Permit Type:	**B**
Description:	**PATIO ENCLOSURE, PATIO ENCLOSURE 249 SQ.FT. PATIO ENCLOSURE NON-HEATED NON-HABITABLE**
Permit Description:	**Building**
Work Class:	OTHER
Proposed Use:	
Permit Number:	B031638
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	DAY CONSTRUCTION #336439

ADJOINING PROPERTY FINDINGS

Date:	**10/29/2002**
Permit Type:	**P**
Description:	**SEWER REPLACEMENT, SEWER REPLACEMENT REPLACE DAMAGED BUILDING SEWER AND RELATE CLEANOUTS**
Permit Description:	**Plumbing**
Work Class:	REPAIRS
Proposed Use:	
Permit Number:	P021430
Status:	
Valuation:	$0.00
Contractor Company:	
Contractor Name:	ARS OF CA INC DBA RESCUE ROSEWER REPLACEMENT

341 GETCHELL ST

Date:	**8/7/2017**
Permit Type:	**E**
Description:	**5.94 KW PV Roof Mounted Grid tied system**
Permit Description:	**Electrical**
Work Class:	SOLAR ELECTRIC
Proposed Use:	
Permit Number:	E17-0197
Status:	ISSUED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

ADJOINING PROPERTY FINDINGS

Date:	**4/12/2017**
Permit Type:	**E**
Description:	**6.175 KW PV Roof Mounted Grid Tied System 19 panels**
Permit Description:	**Electrical**
Work Class:	SOLAR ELECTRIC
Proposed Use:	
Permit Number:	E17-0103
Status:	UNDER REVIEW
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

Date:	**2/12/2008**
Permit Type:	**B**
Description:	**CONSTRUCT RESIDENTIAL SUNROOM, CONSTRUCT RESIDENTIAL SUNROOM NEW NON-HEATED SUNROOM ATTACHED TO EXISTING DWELLING**
Permit Description:	**Building**
Work Class:	ADDITION
Proposed Use:	
Permit Number:	B071450
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	AMERICAN BRANDS CONST #38CONSTRUCT RESIDENTIAL SUNROOM

ADJOINING PROPERTY FINDINGS

JOHN ST

235 JOHN ST

Date:	**4/27/2015**
Permit Type:	**R**
Description:	**re-roof w/ comp. shingle**
Permit Description:	**Roofing**
Work Class:	ROOFING
Proposed Use:	
Permit Number:	R15-0072
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	KENT ROOFING 957398

Date:	**9/9/1992**
Permit Type:	**B**
Description:	**FAMILY ROOM GARAGE ADDITION**
Permit Description:	**Building**
Work Class:	ADDITION
Proposed Use:	
Permit Number:	B920433
Status:	
Valuation:	
Contractor Company:	
Contractor Name:	BOB STOMBS

ADJOINING PROPERTY FINDINGS

239 JOHN ST

Date:	**6/21/2019**
Permit Type:	**R**
Description:	**Remove existing shake roof & replace with new Comp Shingles**
Permit Description:	**Roofing**
Work Class:	TEAR OFF EXISTING ROOF
Proposed Use:	
Permit Number:	R19-0166
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	PREMO ROOFING

Date:	
Permit Type:	
Description:	
Permit Description:	
Work Class:	
Proposed Use:	
Permit Number:	USE PERMIT
Status:	
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

ADJOINING PROPERTY FINDINGS

306 JOHN ST

Date:	**9/25/2018**
Permit Type:	**M**
Description:	**Replace Furnace**
Permit Description:	**Mechanical**
Work Class:	MECHANICAL
Proposed Use:	
Permit Number:	M18-0112
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	BELLOWS PLUMBING

Date:	**8/30/2004**
Permit Type:	**B**
Description:	**CARPORT, GARAGE REMODEL, CARPORT, GARAGE REMODEL ERECT 228 SQ. FT. CARPORT, AND LEGALIZE BEDROOM IN GARAGE. PERMIT EXTENDED 0303050 1/2 FEES PAID AW**
Permit Description:	**Building**
Work Class:	GARAGE/CARPORT
Proposed Use:	
Permit Number:	B040115
Status:	
Valuation:	
Contractor Company:	
Contractor Name:	

ADJOINING PROPERTY FINDINGS

315 JOHN ST

Date:	**1/22/2019**
Permit Type:	**P**
Description:	**Replace Sewer Line**
Permit Description:	**Plumbing**
Work Class:	PLUMBING
Proposed Use:	
Permit Number:	P19-0017
Status:	ISSUED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	E Street Plumbing

Date:	**12/5/2013**
Permit Type:	**P**
Description:	**sewer line repair from house to street**
Permit Description:	**Plumbing**
Work Class:	PERMIT RENEWAL, PLUMBING, PLUMBING
Proposed Use:	
Permit Number:	P13-0188
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	BELLOWS PLUMBING, GREG #483881

Date:	**7/11/2011**
Permit Type:	**P**
Description:	
Permit Description:	**Plumbing**
Work Class:	ROOFING
Proposed Use:	
Permit Number:	P11-0064
Status:	APPROVED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

ADJOINING PROPERTY FINDINGS

Date:	**7/11/2011**
Permit Type:	**R**
Description:	**remove and replace comp roof**
Permit Description:	**Roofing**
Work Class:	RES GARAGE/SHED, ROOFING
Proposed Use:	
Permit Number:	R11-0129
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	MORIARTY ROOFING 815638

316 JOHN ST

Date:	**4/19/2016**
Permit Type:	**E**
Description:	**3 kw roof mount PV**
Permit Description:	**Electrical**
Work Class:	ELECTRICAL
Proposed Use:	
Permit Number:	E16-0104
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

ADJOINING PROPERTY FINDINGS

Date:	**10/22/2001**
Permit Type:	**B**
Description:	**SFD TO BE ENLARGED 272 SQ FT, SFD TO BE ENLARGED 272 SQ FT KITCHEN AND DINING TO BE REMODELED AND BE COME LARGER NO NEW BED OR BATH**
Permit Description:	**Building**
Work Class:	ADDITION
Proposed Use:	
Permit Number:	B011034
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	SALLY BUSER

Date:	**11/1/2000**
Permit Type:	**R**
Description:	**RE-ROOF W/ COMP. SHINGLE, RE-ROOF W/ COMP. SHINGLE RE-ROOF W/ COMP. SHINGLE**
Permit Description:	**Roofing**
Work Class:	RES GARAGE/SHED, ROOFING
Proposed Use:	
Permit Number:	R006162
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	KNOX ROOFING, WARREN

Date:	**11/8/1993**
Permit Type:	**B**
Description:	**SFD ADDITION, SFD ADDITION NEW SUNROOM AND BATHROOM**
Permit Description:	**Building**
Work Class:	ADDITION
Proposed Use:	
Permit Number:	B931271
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	RICHARD SIMON

ADJOINING PROPERTY FINDINGS

319 JOHN ST

Date:	**2/16/2021**
Permit Type:	**P**
Description:	**see SB21-0003 - REMOVE AND REPLACE 50 GAL WATER HEATER FOR 50 GAL WATER HEATER**
Permit Description:	**Plumbing**
Work Class:	PLUMBING
Proposed Use:	
Permit Number:	P21-0009
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	BELLOWS PLUMBING

Date:	**8/21/2012**
Permit Type:	**B**
Description:	**add 2 new sun rooms, add 2 new sun rooms (7/10/2012 11:41 AM MH) 1) 325 sq.ft. unheated sun room & 1) 96 sq ft unheated sunroom**
Permit Description:	**Building**
Work Class:	ADDITION
Proposed Use:	
Permit Number:	B12-0260
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	SOLARTECTURE

ADJOINING PROPERTY FINDINGS

Date:	**6/7/2012**
Permit Type:	**B**
Description:	**General remodel of 2 bathrooms and kitchen.**
Permit Description:	**Building**
Work Class:	POOL/SPA, REMODEL
Proposed Use:	
Permit Number:	B12-0207
Status:	ISSUED
Valuation:	
Contractor Company:	
Contractor Name:	PACIFIC CONSTRUCTION & RESTORA

320 JOHN ST

Date:	**10/5/2016**
Permit Type:	**R**
Description:	**Remove and replace roof with comp.**
Permit Description:	**Roofing**
Work Class:	ROOFING
Proposed Use:	
Permit Number:	R16-0259
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

ADJOINING PROPERTY FINDINGS

325 JOHN ST

Date:	**2/23/2012**
Permit Type:	**E**
Description:	**Install roof mounted, grid tied 9.88 KW solar, Install roof mounted, grid tied 9.88 KW solar electric.**
Permit Description:	**Electrical**
Work Class:	SINGLE FAMILY, SOLAR ELECTRIC
Proposed Use:	
Permit Number:	E12-0035
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	SOLCON SOLAR CONSTRUCTION 5846

Date:	**2/16/2012**
Permit Type:	**P**
Description:	**new gray water system**
Permit Description:	**Plumbing**
Work Class:	PERMIT RENEWAL, PLUMBING
Proposed Use:	
Permit Number:	P12-0031
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	TESTORFF CONSTRUCTION 698

ADJOINING PROPERTY FINDINGS

Date:	**8/8/2011**
Permit Type:	**F**
Description:	**Construct new ADU**
Permit Description:	**Fire Protection**
Work Class:	
Proposed Use:	
Permit Number:	F11-0057
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

Date:	**5/10/2011**
Permit Type:	**B**
Description:	**Construct new ADU**
Permit Description:	**Building**
Work Class:	NEW ADU DETACHED
Proposed Use:	
Permit Number:	B11-0024
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	Fulcrum Structural

Date:	**5/2/2011**
Permit Type:	**F**
Description:	**new 2 story s.f.d.**
Permit Description:	**Fire Protection**
Work Class:	
Proposed Use:	
Permit Number:	F11-0034
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

ADJOINING PROPERTY FINDINGS

Date:	**12/15/2010**
Permit Type:	**B**
Description:	**new 2 story s.f.d., new 2 story s.f.d. (2/1/2011 4:09 PM MH) demo existing 1593 sq.ft. dwelling . and construct a new 2 story 4 bedroom , 3 bath house with attached 2 car garage**
Permit Description:	**Building**
Work Class:	NEW SFD DET ADU, NEW SINGLE FAMILY
Proposed Use:	
Permit Number:	B10-0328
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	Steve Graves

326 JOHN ST

Date:	**12/20/2022**
Permit Type:	**E**
Description:	**1.44kW Roof Mounted Grid Tied PV System**
Permit Description:	**Electrical**
Work Class:	SOLAR ELECTRIC
Proposed Use:	
Permit Number:	E22-0604
Status:	PAID
Valuation:	$0.00
Contractor Company:	
Contractor Name:	ALLTERRA SOLAR

ADJOINING PROPERTY FINDINGS

Date:	**9/7/2022**
Permit Type:	**R**
Description:	**TEAROFF COMP TO COMP**
Permit Description:	**Roofing**
Work Class:	ROOFING
Proposed Use:	
Permit Number:	R22-0221
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	Santa Cruz Roofing

Date:	**9/17/2015**
Permit Type:	**E**
Description:	**3.36kw roof mounted grid tied pva**
Permit Description:	**Electrical**
Work Class:	SOLAR ELECTRIC
Proposed Use:	
Permit Number:	E15-0321
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	ALLTERRA ENVIROMENTAL 847973

Date:	**9/8/2015**
Permit Type:	**B**
Description:	**MASTER BEDROOM ADDITION WITH WALK IN CLOSET AND BATH. MUDROO @ . CONVERT FIRST STORY BEDROOM 1 TO FAMILY ROOM AND DOWNSTAIRS ROOM TO HALF bath PARTITION UPPER STORY PER PLAN**
Permit Description:	**Building**
Work Class:	ADDITION
Proposed Use:	
Permit Number:	B15-0204
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	HOWLAND GENERAL BUIL 8537MASTER BEDROOM ADDITION WITH W

ADJOINING PROPERTY FINDINGS

327 JOHN ST

Date:	**7/21/2021**
Permit Type:	**F**
Description:	**New Detached ADU**
Permit Description:	**Fire Protection**
Work Class:	
Proposed Use:	
Permit Number:	F21-0044
Status:	ISSUED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	NORCAL CONSTRUCTION

Date:	**2/25/2021**
Permit Type:	**B**
Description:	**New Detached ADU**
Permit Description:	**Building**
Work Class:	NEW ADU DETACHED
Proposed Use:	
Permit Number:	B20-0485
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	NORCAL CONSTRUCTION

Date:	**9/24/2015**
Permit Type:	**E**
Description:	**3.15 KW PV Roof Mounted Grid tied system**
Permit Description:	**Electrical**
Work Class:	SOLAR ELECTRIC
Proposed Use:	
Permit Number:	E15-0326
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	Day One Solar 987896

ADJOINING PROPERTY FINDINGS

Date: **8/17/2015**
Permit Type: **F**
Description: **2234 sq ft New SFD with 533 Sq Ft attached Garage on vacant**

Permit Description: **Fire Protection**
Work Class:
Proposed Use:
Permit Number: F15-0078
Status: FINALED
Valuation: $0.00
Contractor Company:
Contractor Name:

Date: **4/14/2015**
Permit Type: **B**
Description: **2234 sq ft New SFD with 533 Sq Ft attached Garage on vacant**

Permit Description: **Building**
Work Class: NEW SINGLE FAMILY
Proposed Use:
Permit Number: B15-0056
Status: FINALED
Valuation:
Contractor Company:
Contractor Name: NORCAL CONSTRUCTION 398562234 sq ft New SFD with 533 Sq Ft attached

328 JOHN ST

Date: **10/19/2011**
Permit Type: **R**
Description: **reroof w/comp 27sqs,remove(E)**

Permit Description: **Roofing**
Work Class: RES GARAGE/SHED, ROOFING
Proposed Use:
Permit Number: R11-0245
Status: FINALED
Valuation:
Contractor Company:
Contractor Name: HEBER ROOFING #679066

ADJOINING PROPERTY FINDINGS

334 JOHN ST

Date:	**1/18/2017**
Permit Type:	**B**
Description:	**addition of 411 sqft, remodel 47 sqft**
Permit Description:	**Building**
Work Class:	ADDITION
Proposed Use:	
Permit Number:	B16-0569
Status:	ISSUED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

Date:	**5/21/2012**
Permit Type:	**M**
Description:	**replace existing f.a.u.**
Permit Description:	**Mechanical**
Work Class:	GRADING, MECHANICAL
Proposed Use:	
Permit Number:	M12-0054
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	FURNACE ROOM INC #371600

ADJOINING PROPERTY FINDINGS

Date:	**12/2/2008**
Permit Type:	**B**
Description:	**INTERIOR REMODEL, INTERIOR REMODEL CHANGE OUT WINDOWS NEW TEXTURE ADD CIRCUITS FOR KITCHEN AND BATH REPLACE 100 AMP WITH 200 AMP MAIN PANEL VERIFY NO BOAT IN FRONT YARD**
Permit Description:	**Building**
Work Class:	REMODEL/TI
Proposed Use:	
Permit Number:	B081185
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	CYPRESS CONSTRUCTION SERVINTERIOR REMODEL

337 JOHN ST

Date:	**2/27/2017**
Permit Type:	**R**
Description:	**Tear off replace with comp**
Permit Description:	**Roofing**
Work Class:	ROOFING
Proposed Use:	
Permit Number:	R17-0028
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

ADJOINING PROPERTY FINDINGS

341 JOHN ST

Date:	**4/26/2021**
Permit Type:	**R**
Description:	**TEAR OFF SHINGLE & INSTALL LANDMARK SHINGLE**
Permit Description:	**Roofing**
Work Class:	ROOFING
Proposed Use:	
Permit Number:	R21-0105
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	MORENO ROOFING

Date:	**8/5/2015**
Permit Type:	**E**
Description:	**4.32KW PV Roof Mounted Grid tied system and add electric service upgrade to 200 A**
Permit Description:	**Electrical**
Work Class:	SOLAR ELECTRIC
Proposed Use:	
Permit Number:	E15-0214
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	AMERICAN SOLAR 941069

ADJOINING PROPERTY FINDINGS

342 JOHN ST

Date:	**9/16/2019**
Permit Type:	**E**
Description:	**4.06KW PV Roof Mounted Grid tied system New Subpanel Energy Storage System**
Permit Description:	**Electrical**
Work Class:	SOLAR ELECTRIC
Proposed Use:	
Permit Number:	E19-0296
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	Sunrun

Date:	**11/25/2008**
Permit Type:	**B**
Description:	**SFD REMODEL / ADDITION, SFD REMODEL / ADDITION ONE STORY ADDITION TO INCLUDE-ENLARGE LIVING RM,KITCHEN,MASTER BEDROOM AND ADD MASTER BATHROOM**
Permit Description:	**Building**
Work Class:	ADDITION
Proposed Use:	
Permit Number:	B081024
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	FUCHS CONSTRUCTION, JOHN 4SFD REMODEL / ADDITION

ADJOINING PROPERTY FINDINGS

348 JOHN ST

Date:
Permit Type:
Description:

Permit Description:
Work Class:
Proposed Use:
Permit Number:
Status:
Valuation: $0.00
Contractor Company:
Contractor Name:

349 JOHN ST

Date: **4/19/2022**
Permit Type: **P**
Description: **Replace Water Heater Tank to Tank**

Permit Description: **Plumbing**
Work Class: PLUMBING
Proposed Use:
Permit Number: P22-0066
Status: PAYMENT AUTHORIZED
Valuation: $0.00
Contractor Company:
Contractor Name: GEO H WILSON MECHANICAL CONTRACTORS 9504

ADJOINING PROPERTY FINDINGS

Date:	**2/10/2021**
Permit Type:	**R**
Description:	**REMOVE COMP ROOF INSTALL COMP ROOF**
Permit Description:	**Roofing**
Work Class:	ROOFING
Proposed Use:	
Permit Number:	R21-0032
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	AANGELOS ROOFING COMPANY

Date:	**5/14/2012**
Permit Type:	**P**
Description:	**Re-pipe dwelling and install new water main, Re-pipe dwelling and install new water main.**
Permit Description:	**Plumbing**
Work Class:	PERMIT RENEWAL, PLUMBING
Proposed Use:	
Permit Number:	P12-0072
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	SURF CITY PLUMBING INC

Date:	**4/30/2012**
Permit Type:	**M**
Description:	**Replace furance and ducting with 96%.**
Permit Description:	**Mechanical**
Work Class:	GRADING, MECHANICAL
Proposed Use:	
Permit Number:	M12-0048
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	FURNACE ROOM INC #371600

ADJOINING PROPERTY FINDINGS

SWIFT ST

228 SWIFT ST

Date:	**6/20/2005**
Permit Type:	**B**
Description:	**NEW DECK AND BLOCK WALL SFD**
Permit Description:	**Building**
Work Class:	
Proposed Use:	
Permit Number:	B050072
Status:	
Valuation:	$0.00
Contractor Company:	
Contractor Name:	TO BE DETERMINED

232 SWIFT ST

Date:	**5/21/2020**
Permit Type:	**R**
Description:	**Remove and Replace Comp to Comp**
Permit Description:	**Roofing**
Work Class:	ROOFING
Proposed Use:	
Permit Number:	R20-0114
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	ALAMEDA ROOFING

ADJOINING PROPERTY FINDINGS

Date: **3/23/2016**
Permit Type: **P**
Description: **sewr line repair**

Permit Description: **Plumbing**
Work Class: PLUMBING
Proposed Use:
Permit Number: P16-0050
Status: FINALED
Valuation: $0.00
Contractor Company:
Contractor Name:

238 SWIFT ST

Date: **7/10/2018**
Permit Type: **M**
Description: **REplace E Furnace adding A/C Unit**

Permit Description: **Mechanical**
Work Class: MECHANICAL
Proposed Use:
Permit Number: M18-0070
Status: FINALED
Valuation: $0.00
Contractor Company:
Contractor Name: FRISCIA ANNE BROOKS TRUSTEE

Date: **4/29/2015**
Permit Type: **E**
Description: **3.92 KW PV roof mounted grid tied pva**

Permit Description: **Electrical**
Work Class: SOLAR ELECTRIC
Proposed Use:
Permit Number: E15-0127
Status: FINALED
Valuation:
Contractor Company:
Contractor Name: ALLTERRA ENVIROMENTAL 847973

ADJOINING PROPERTY FINDINGS

Date:	**1/22/1999**
Permit Type:	**B**
Description:	**RESIDENTIAL REMODEL, RESIDENTIAL REMODEL ADD 2ND BATH TO EXISTING 1 STORY 3 RM SFD, TO BECOME 3 BRM 2 BATH PORTION OF BRM TO BE ENCLOSED FOR BATH NO EXTERIOR CHANGE**
Permit Description:	**Building**
Work Class:	REMODEL/TI
Proposed Use:	
Permit Number:	B990069
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	

242 SWIFT ST

Date:	**8/27/2015**
Permit Type:	**B**
Description:	**remodel kit bath liv 800 sq ft**
Permit Description:	**Building**
Work Class:	REMODEL
Proposed Use:	
Permit Number:	B15-0319
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	ericks construction inc

ADJOINING PROPERTY FINDINGS

Date: **3/18/2014**
Permit Type: **R**
Description: **overlay comp over 1 layer comp**

Permit Description: **Roofing**
Work Class: ROOFING
Proposed Use:
Permit Number: R14-0033
Status: FINALED
Valuation: $0.00
Contractor Company:
Contractor Name: DADDARIO ROOFING 430739

250 SWIFT ST

Date: **5/10/2016**
Permit Type: **R**
Description: **T/O COMP RPLC / 22 SQS COMP**

Permit Description: **Roofing**
Work Class: ROOFING
Proposed Use:
Permit Number: R16-0110
Status: FINALED
Valuation: $0.00
Contractor Company:
Contractor Name:

ADJOINING PROPERTY FINDINGS

320 SWIFT ST

Date:	**9/26/2011**
Permit Type:	**R**
Description:	**re-roof w/ comp. shingle, re-roof w/ comp. shingle (9/26/2011 8:15 AM MH) tear-off comp. & re-roofcomp. shingle**
Permit Description:	**Roofing**
Work Class:	
Proposed Use:	
Permit Number:	R11-0216
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	robert kilpatrick const.

324 SWIFT ST

Date:	**12/3/2013**
Permit Type:	**E**
Description:	**5.0 KW ROOF MOUNTED grid tied pva**
Permit Description:	**Electrical**
Work Class:	DEMO INTERIOR, ELECTRICAL, ELECTRICAL
Proposed Use:	
Permit Number:	E13-0260
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	SANTA CRUZ SOLAR 464505

ADJOINING PROPERTY FINDINGS

Date:	**3/24/2008**
Permit Type:	**B**
Description:	**REMODEL INTERIOR, REMODEL INTERIOR ADD LAUNDRY ROOM-RELOCATE WATER HEATER-REPLACE ATTIC FURNACE-ADD BATHROOM & KITCHEN BRANCH CIRCUTS & KITCHEN LIGHTING**
Permit Description:	**Building**
Work Class:	REMODEL/TI
Proposed Use:	
Permit Number:	B080115
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	HOBBS CONSTRUCTION

Date:	**8/23/1999**
Permit Type:	**B**
Description:	**REPLACE GARAGE DOOR HEADER, REPLACE GARAGE DOOR HEADER REMOVE EXISTING HEADER AND REPLACE WITH 4/14 # 1 DF**
Permit Description:	**Building**
Work Class:	REPAIRS
Proposed Use:	
Permit Number:	B991105
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	

ADJOINING PROPERTY FINDINGS

330 SWIFT ST

Date:	**12/20/2022**
Permit Type:	**E**
Description:	**5.6 kW Roof Mounted Grid Tied PV System + (N) 200A MPU**
Permit Description:	**Electrical**
Work Class:	SOLAR ELECTRIC
Proposed Use:	
Permit Number:	E22-0616
Status:	PAID
Valuation:	$0.00
Contractor Company:	
Contractor Name:	Day One Solar

Date:	**3/1/2004**
Permit Type:	**B**
Description:	**SECOND STORY ADDITION, SECOND STORY ADDITION 2ND STORY WILL BE 2 BDRMS-MEDIA RM-1 BATHROOM FIRST FLOOR WILL BE MASTER BDRM-OFFICE/DEN-2 BATHROOMS TO BECOME 2-STORY 3-BDRM-3 BATH W/ATTACHED GARAGE**
Permit Description:	**Building**
Work Class:	ADDITION
Proposed Use:	
Permit Number:	B031460
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	ANDREW PETERSON

ADJOINING PROPERTY FINDINGS

332 SWIFT ST

Date:	**11/28/2022**
Permit Type:	**R**
Description:	**TEAROFF COMP TO COMP**
Permit Description:	**Roofing**
Work Class:	ROOFING
Proposed Use:	
Permit Number:	R22-0285
Status:	PAYMENT AUTHORIZED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	HEBER ROOFING

Date:	**3/10/1999**
Permit Type:	**B**
Description:	**ACCESSORY DWELLING UNIT, ACCESSORY DWELLING UNIT CONSTRUCT 1 STORY ACCESSORY UNIT FEES WAIVER CERTIFCATE ON FILE W/ HOUSING**
Permit Description:	**Building**
Work Class:	ACCESSORY DWELLING
Proposed Use:	
Permit Number:	B990125
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	JALAPENOS TAQUERIA

ADJOINING PROPERTY FINDINGS

342 SWIFT ST

Date:	**1/19/2016**
Permit Type:	**R**
Description:	**re-roof w/ comp. shingle**
Permit Description:	**Roofing**
Work Class:	ROOFING
Proposed Use:	
Permit Number:	R16-0005
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

Date:	**2/19/2014**
Permit Type:	**P**
Description:	**Repipe house**
Permit Description:	**Plumbing**
Work Class:	PLUMBING
Proposed Use:	
Permit Number:	P14-0038
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	DEMPSTER PLUMBING

ADJOINING PROPERTY FINDINGS

Date:	**11/14/2007**
Permit Type:	**B**
Description:	**REPAIR EXISTING CHIMNEY, REPAIR EXISTING CHIMNEY REPAIR EXISTING CHIMNEY**
Permit Description:	**Building**
Work Class:	REPAIRS
Proposed Use:	
Permit Number:	B071292
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	MP3 MASONARY CONT

350 SWIFT ST

Date:	**5/25/1995**
Permit Type:	**B**
Description:	**NEW SFD WITH DETACHED GARAGE, NEW SFD WITH DETACHED GARAGE CONSTRUCT NEW 3 BEDROOM, 2 BATH SFD WITH ATTACHED GARAGE**
Permit Description:	**Building**
Work Class:	NEW SFD
Proposed Use:	
Permit Number:	B950233
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	PACIFIC COAST CONSTRUCTIONNEW SFD WITH DETACHED GARAGE

ADJOINING PROPERTY FINDINGS

354 SWIFT ST

Date:	**5/25/1995**
Permit Type:	**B**
Description:	**NEW SFD WITH DETACHED GARAGE, NEW SFD WITH DETACHED GARAGE CONSTRUCT NEW 3 BEDROOM, 2 BATH SFD WITH ATTACHED GARAGE**
Permit Description:	**Building**
Work Class:	NEW SFD
Proposed Use:	
Permit Number:	B950232
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	PACIFIC COAST CONSTRUCTIONNEW SFD WITH DETACHED GARAGE

358 SWIFT ST

Date:	**4/16/2021**
Permit Type:	**B**
Description:	**CE19-0287 Interior Remodel**
Permit Description:	**Building**
Work Class:	REMODEL
Proposed Use:	
Permit Number:	B21-0169
Status:	UNDER REVIEW
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

ADJOINING PROPERTY FINDINGS

Date:	**8/11/2020**
Permit Type:	**B**
Description:	**Replace Siding with Stucco House and Garage, Tear off Inspection required**
Permit Description:	**Building**
Work Class:	REPAIR
Proposed Use:	
Permit Number:	B20-0337
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	LANDAVASO #

Date:	**5/25/1995**
Permit Type:	**B**
Description:	**CONSTRUCT NEW 1-STORY SFD, CONSTRUCT NEW 1-STORY SFD ONE STORY 3 BEDROOM 2 BATH WITH DETACHED GARAGE 2031 DELAWARE LOT #3 TO BE 358 SWIFT ST**
Permit Description:	**Building**
Work Class:	NEW SFD
Proposed Use:	
Permit Number:	B950231
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	PACIFIC COAST CONSTRUCTIONCONSTRUCT NEW 1-STORY SFD

ADJOINING PROPERTY FINDINGS

407 SWIFT ST

Date:	**4/5/2006**
Permit Type:	**M**
Description:	**REPLACE ROOFTOP HEATING UNIT, REPLACE ROOFTOP HEATING UNIT REPLACE ROOFTOP HEATING UNIT**
Permit Description:	**Mechanical**
Work Class:	REPAIRS
Proposed Use:	
Permit Number:	M060350
Status:	
Valuation:	
Contractor Company:	
Contractor Name:	STALEYS HEATING

Date:	**3/14/2006**
Permit Type:	**B**
Description:	**TENANT IMPROVEMENTS, TENANT IMPROVEMENTS WAREHOUSE & OFFICE SPACE**
Permit Description:	**Building**
Work Class:	REMODEL/TI
Proposed Use:	
Permit Number:	B060059
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	

ADJOINING PROPERTY FINDINGS

408 SWIFT ST

Date:	**2/5/2008**
Permit Type:	**B**
Description:	**REMODEL SFD/ELECT,PLUMB,MECH, REMODEL SFD/ELECT,PLUMB,MECH NEW ATTIC FAU,NEW W/H,10 NEW LITES,1 NEW PLUG**
Permit Description:	**Building**
Work Class:	OTHER
Proposed Use:	
Permit Number:	B080095
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	

Date:	**10/10/1997**
Permit Type:	**B**
Description:	**RESIDENTIAL BATH UPGRADE, RESIDENTIAL BATH UPGRADE NEW TUB/LAVE AND W.C. UPGRADE BATH 1 STORY 1 BATH 2 BRM SFD W/ ATTACHED 1 CAR GARGAE**
Permit Description:	**Building**
Work Class:	REPAIRS
Proposed Use:	
Permit Number:	B971528
Status:	
Valuation:	
Contractor Company:	
Contractor Name:	

ADJOINING PROPERTY FINDINGS

411 SWIFT ST

Date:	**11/21/2016**
Permit Type:	**F**
Description:	**FIRE ALARM**
Permit Description:	**Fire Protection**
Work Class:	
Proposed Use:	
Permit Number:	F16-0128
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

Date:	**10/20/2010**
Permit Type:	**B**
Description:	**add demising wall**
Permit Description:	**Building**
Work Class:	REMODEL/TI
Proposed Use:	
Permit Number:	B10-0322
Status:	EXPIRED
Valuation:	
Contractor Company:	
Contractor Name:	

ADJOINING PROPERTY FINDINGS

Date:	**10/14/2004**
Permit Type:	**B**
Description:	**COMMERCIAL REMODEL, COMMERCIAL REMODEL EXPANSION OF B.C. TECH (2100 DELAWARE)**
Permit Description:	**Building**
Work Class:	REMODEL/TI
Proposed Use:	
Permit Number:	B040827
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	

Date:	**12/11/2003**
Permit Type:	**P**
Description:	**EXTEND SEWER FOR NEW SPACES, EXTEND SEWER FOR NEW SPACES EXTEND SEWER FOR NEW SPACES EXTEND SEWER LINE FOR NEW TENANT SPACE**
Permit Description:	**Plumbing**
Work Class:	MULTI DWELLING, NEW BUILDING, NEW BUILDIN
Proposed Use:	
Permit Number:	P031726
Status:	
Valuation:	$0.00
Contractor Company:	
Contractor Name:	MILLER PAVI

ADJOINING PROPERTY FINDINGS

Date:	**8/13/2003**
Permit Type:	**B**
Description:	**TENANT IMPROVEMENT, TENANT IMPROVEMENT CREATE 3 SPACES FROM 1 SPACE 10400 SQ FT **INTERIOR PARTITIONS & OCCUPANCY SEPARATION WALLS ONLY** DOES NOT INCLUDE ELEC., PLMB., OR EXTERIOR OPENINGS**
Permit Description:	**Building**
Work Class:	REMODEL/TI
Proposed Use:	
Permit Number:	B030935
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	

Date:	**8/6/2003**
Permit Type:	**B**
Description:	**COMMERCIAL TI, COMMERCIAL TI CREATE 2 NEW SPACES OUT OF ONE EXISTING 3000 SQ FT SPACE SHELL ONLY-NO TENNANTS**
Permit Description:	**Building**
Work Class:	MULTI DWELLING, NEW BUILDING, NEW BUILDIN
Proposed Use:	
Permit Number:	B030936
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	

ADJOINING PROPERTY FINDINGS

Date:	**4/22/2002**
Permit Type:	**E**
Description:	**ELECTRICAL T.I'S, ELECTRICAL T.I'S ELECTRICAL TENANT IMPROVEMENTS FOR BC TECH ORIGINAL B.P.# 02-0361**
Permit Description:	**Electrical**
Work Class:	REMODEL/TI
Proposed Use:	
Permit Number:	E020457
Status:	
Valuation:	$0.00
Contractor Company:	
Contractor Name:	AGNELLO ELE

Date:	**4/16/2002**
Permit Type:	**B**
Description:	**COMMERCIAL REMODEL/IMPROVEM, COMMERCIAL REMODEL/IMPROVEMENT, COMMERCIAL REMODEL/IMPROVEMENT REMODEL AND DIVIDE EXISTING WAREHOUSE SPACE INTO OFFICE AND WAREHOUSE INSTALL H/C SHOWER **ELEC., PLMB., MECH. ARE DEFERRED SUBMITTALS****
Permit Description:	**Building**
Work Class:	REMODEL/TI
Proposed Use:	
Permit Number:	B020361
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	MANNING DEVELOPMENT INC

ADJOINING PROPERTY FINDINGS

Date:	**5/11/2001**
Permit Type:	**B**
Description:	**TENANT IMPROVEMENT, TENANT IMPROVEMENT MARIANNES ICE CREAM MANUFACTURING INTO SHELL SPACE SEPERATE MECH. PLBG. & ELEC. PERMITS REQUIRED**
Permit Description:	**Building**
Work Class:	REMODEL/TI
Proposed Use:	
Permit Number:	B010526
Status:	
Valuation:	
Contractor Company:	
Contractor Name:	FUSARI CONS

Date:	**3/19/2001**
Permit Type:	**B**
Description:	**COMMERCIAL STORAGE RACKS, COMMERCIAL STORAGE RACKS INSTALL COMMERCIAL STORAGE RACKS AND SHELVING CONTACT SCOTT SIMS AT 510-774-2301**
Permit Description:	**Building**
Work Class:	ALTER/CONVERSION, ALTER/CONV
Proposed Use:	
Permit Number:	B010085
Status:	
Valuation:	
Contractor Company:	
Contractor Name:	RACK & ROLL

ADJOINING PROPERTY FINDINGS

Date:	**12/26/2000**
Permit Type:	**B**
Description:	**TENANT IMPROVEMENT, TENANT IMPROVEMENT CONSTRUCT INTERIOR NON-BEARING WALL SPACE 5 FOR KIDS NATURE T.I.**
Permit Description:	**Building**
Work Class:	ALTER/CONVERSION, ALTER/CONV
Proposed Use:	
Permit Number:	B001608
Status:	
Valuation:	
Contractor Company:	
Contractor Name:	SLATTER CONSTRUCTION INC

Date:	**11/27/2000**
Permit Type:	**B**
Description:	**TENANT IMPROVEMENTS, TENANT IMPROVEMENTS TENANT IMPROVEMENTS FOR TIGER LILY-OFFICE,& WAREHOUSE & (5) SEPARATE LIGHT INDUSTRAIL SPACES** F-1 OCCUPANCY**
Permit Description:	**Building**
Work Class:	REMODEL/TI
Proposed Use:	
Permit Number:	B001124
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	SLATTER CONSTRUCTION INC

ADJOINING PROPERTY FINDINGS

412 SWIFT ST

Date:	**4/14/2021**
Permit Type:	**E**
Description:	**REPLACE 125 AMP MAIN PANEL W/ 125 AMP MAIN PANEL**
Permit Description:	**Electrical**
Work Class:	ELECTRICAL
Proposed Use:	
Permit Number:	E21-0052
Status:	ISSUED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

Date:	**4/18/2001**
Permit Type:	**B**
Description:	**ADDITION AND REMODEL TO SFD, ADDITION AND REMODEL TO SFD ADDITION OF MATER BEDROOM BATH AND LIVING ROOM. ADD BATH TO EXISTING AREA AND REMODEL BATH. TO BECOME 3 BEDROOM 2 BATH WITH DETACHED GARAGE**
Permit Description:	**Building**
Work Class:	ADDITION
Proposed Use:	
Permit Number:	B010197
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	GOLDEN VISIONS DESIGN

ADJOINING PROPERTY FINDINGS

Date:	**6/25/1998**
Permit Type:	**B**
Description:	**NEW GARAGE, NEW GARAGE NEW DETACHED GARAGE AMEND PERMIT TO INCLUDE ELECTRICAL REWIRE OF RESIDENCE JOHN A. 7/22/99**
Permit Description:	**Building**
Work Class:	GARAGE/CARPORT
Proposed Use:	
Permit Number:	B980616
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	

420 SWIFT ST

Date:	**4/26/2021**
Permit Type:	**B**
Description:	**Addition and Remodel**
Permit Description:	**Building**
Work Class:	ADDITION
Proposed Use:	
Permit Number:	B21-0161
Status:	APPROVED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

ADJOINING PROPERTY FINDINGS

Date: **11/28/2006**
Permit Type: **B**
Description: **CONCRETE PATIO & 6FT FENCE**

Permit Description: **Building**
Work Class:
Proposed Use:
Permit Number: B061225
Status: EXPIRED
Valuation: $0.00
Contractor Company:
Contractor Name: WHITLOW CONCRETE INC

427 SWIFT ST

Date: **1/17/2023**
Permit Type: **M**
Description: **Replace Gas Line on Roof**

Permit Description: **Mechanical**
Work Class: MECHANICAL
Proposed Use:
Permit Number: M23-0003
Status: APPROVED
Valuation: $0.00
Contractor Company:
Contractor Name: BELLOWS PLUMBING HEATING & AIR

ADJOINING PROPERTY FINDINGS

Date:	**6/3/2022**
Permit Type:	**B**
Description:	**TI for "EQUINOX" Champagne Manufacturaing Relocation of Equinox Winery from Tenant Space C to Space B. Accessibility improvements, moving equipment, racking and tanksUmbrella Permit for: E22-0146, P22-0033, P22-0056.**
Permit Description:	**Building**
Work Class:	REMODEL/TI
Proposed Use:	
Permit Number:	B22-0250
Status:	PAID
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

Date:	**3/15/2022**
Permit Type:	**E**
Description:	**Add (N) Receptacles & Additional (N) High Bay Lighting**
Permit Description:	**Electrical**
Work Class:	ELECTRICAL
Proposed Use:	
Permit Number:	E22-0146
Status:	UNDER REVIEW
Valuation:	$0.00
Contractor Company:	
Contractor Name:	HOPE ELECTRIC, JOHN

Date:	**10/24/2018**
Permit Type:	**P**
Description:	**pressure test for new gas meter**
Permit Description:	**Plumbing**
Work Class:	PLUMBING
Proposed Use:	
Permit Number:	P18-0180
Status:	ISSUED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	PACIFIC PLUMBING

ADJOINING PROPERTY FINDINGS

Date:	**3/30/2015**
Permit Type:	**F**
Description:	**T.I for tasting room for "Venus Spirits"**
Permit Description:	**Fire Protection**
Work Class:	TENANT IMPROVEMENT
Proposed Use:	
Permit Number:	F15-0034
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

Date:	**2/3/2015**
Permit Type:	**B**
Description:	**T.I for tasting room for "Venus Spirits"**
Permit Description:	**Building**
Work Class:	REMODEL/TI
Proposed Use:	
Permit Number:	B14-0514
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	geoffrey b norri

Date:	**4/30/2014**
Permit Type:	**P**
Description:	**TI of existing distillery, new equip.,Plumbing,electrical an (3/5/2014 11:21 AM SCM) and Mechanical**
Permit Description:	**Plumbing**
Work Class:	PLUMBING
Proposed Use:	
Permit Number:	P14-0092
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	L S L PLUMBI

ADJOINING PROPERTY FINDINGS

Date:	**4/15/2014**
Permit Type:	**B**
Description:	**TI of existing distillery, new equip.,Plumbing,electrical an (3/5/2014 11:21 AM SCM) and Mechanical**
Permit Description:	**Building**
Work Class:	REMODEL/TI
Proposed Use:	
Permit Number:	B14-0068
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	MESCHI CON

Date:	**11/14/2013**
Permit Type:	**P**
Description:	**GAs pressure test, 3 lbs on a guage with 1/1, GAs pressure test, 3 lbs on a guage with 1/10 pound incramen, GAs pressure test, 3 lbs on a guage with 1/10 pound incramen**
Permit Description:	**Plumbing**
Work Class:	PARKING GARAGE, PLUMBING, PLUMBING
Proposed Use:	
Permit Number:	P13-0174
Status:	ISSUED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	RIPTIDE PLUMBING 792412

ADJOINING PROPERTY FINDINGS

Date:	**9/27/2006**
Permit Type:	**P**
Description:	**NEW GAS LINE, NEW GAS LINE NEW GAS LINE**
Permit Description:	**Plumbing**
Work Class:	PARKING GARAGE, PLUMBING
Proposed Use:	
Permit Number:	P061192
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	PACIFIC PLUM

Date:	**7/8/2004**
Permit Type:	**B**
Description:	**NEW MECHANICAL ROOM COMMERC, NEW MECHANICAL ROOM COMMERCIAL, NEW MECHANICAL ROOM COMMERCIAL CONSTRUCT NEW MECHANICAL ROOM TO ENCLOSE BOILER,WATER HEATER AND AIR COMPRESSOR RELATIVE TO ALCOHOL DISTILLATION-SARTICOUS SPIRITS SEE PERMITS 03-0935-04-0039**
Permit Description:	**Building**
Work Class:	ALTER/CONVERSION, ALTER/CONV
Proposed Use:	
Permit Number:	B040700
Status:	FINALED
Valuation:	
Contractor Company:	
Contractor Name:	

GLOSSARY

General Building Department concepts

- **ICC:** The International Code Council. The governing body for the building/development codes used by all jurisdictions who've adopted the ICC guidelines. MOST of the US has done this. Canada, Mexico, and other countries use ICC codes books and guides as well. There are a few states who have added guidelines to the ICC codes to better fit their needs. For example, California has added seismic retrofit requirements for most commercial structures.
- **Building Department (Permitting Authority, Building Codes, Inspections Department, Building and Inspections):** This is the department in a jurisdiction where an owner or contractor goes to obtain permits and inspections for building, tearing down, remodeling, adding to, re-roofing, moving or otherwise making changes to any structure, Residential or Commercial.
- **Jurisdiction:** This is the geographic area representing the properties over which a Permitting Authority has responsibility.
- **GC:** General Contractor. Usually the primary contractor hired for any Residential or Commercial construction work.
- **Sub:** Subordinate contracting companies or subcontractors. Usually a "trades" contractor working for the GC. These contractors generally have an area of expertise in which they are licensed like Plumbing, Electrical, Heating and Air systems, Gas Systems, Pools etc. (called "trades").
- **Journeymen:** Sub contractors who have their own personal licenses in one or more trades and work for different contracting companies, wherever they are needed or there is work.
- **HVAC (Mechanical, Heating & Air companies):** HVAC = Heating, Ventilation, and Air Conditioning.
- **ELEC (Electrical, TempPole, TPole, TPower, Temporary Power, Panel, AMP Change, Power Release):** Electrical permits can be pulled for many reasons. The most common reason is to increase the AMPs of power in an electrical power panel. This requires a permit in almost every jurisdiction. Other commons reason for Electrical permits is to insert a temporary power pole at a new construction site. Construction requires electricity, and in a new development, power has yet to be run to the lot. The temporary power pole is usually the very first permit pulled for new development. The power is released to the home owner when construction is complete and this sometimes takes the form of a Power Release permit or inspection.
- **"Pull" a permit:** To obtain and pay for a building permit.
- **CBO:** Chief Building Official
- **Planning Department:** The department in the development process where the building /structural plans are reviewed for their completeness and compliance with building codes
- **Zoning Department:** The department in the development process where the site plans are reviewed for their compliance with the regulations associated with the zoning district in which they are situated.
- **Zoning District:** A pre-determined geographic boundary within a jurisdiction where certain types of structures are permitted / prohibited. Examples are Residential structure, Commercial/Retail structures, Industrial/Manufacturing structures etc. Each zoning district has regulations associated with it like the sizes of the lots, the density of the structures on the lots, the number of parking spaces required for certain types of structures on the lots etc.
- **PIN (TMS, GIS ID, Parcel#):** Property Identification Number and Tax Map System number.
- **State Card (Business license):** A license card issued to a contractor to conduct business.
- **Building Inspector (Inspector):** The inspector is a building department employee that inspects building construction for compliance to codes.
- **C.O.:** Certificate of Occupancy. This is the end of the construction process and designates that the owners now have permission to occupy a structure after its building is complete. Sometimes also referred to as a Certificate of Compliance.

GLOSSARY

Permit Content Definitions

- Permit Number: The alphanumerical designation assigned to a permit for tracking within the building department system. Sometimes the permit number gives clues to its role, e.g. a "PL" prefix may designate a plumbing permit.
- Description: A field on the permit form that allows the building department to give a brief description of the work being done. More often than not, this is the most important field for EP's to find clues to the prior use (s) of the property.
- Permit Type: Generally a brief designation of the type of job being done. For example BLDG-RES, BLDG-COM, ELEC, MECH etc.

Sample Building Permit Data

Date: Nov 09, 2000
Permit Type: Bldg -
New Permit Number: 101000000405
Status: Valuation: $1,000,000.00
Contractor Company: OWNER-BUILDER
Contractor Name:

Description: New one store retail (SAV-ON) with drive-thru pharmacy. Certificate of Occupancy.

Santa Cruz City Schools - Workforce Housing
313 Swift Street
SANTA CRUZ, CA 95060

Inquiry Number: 7295354.6
March 30, 2023

The EDR Property Tax Map Report

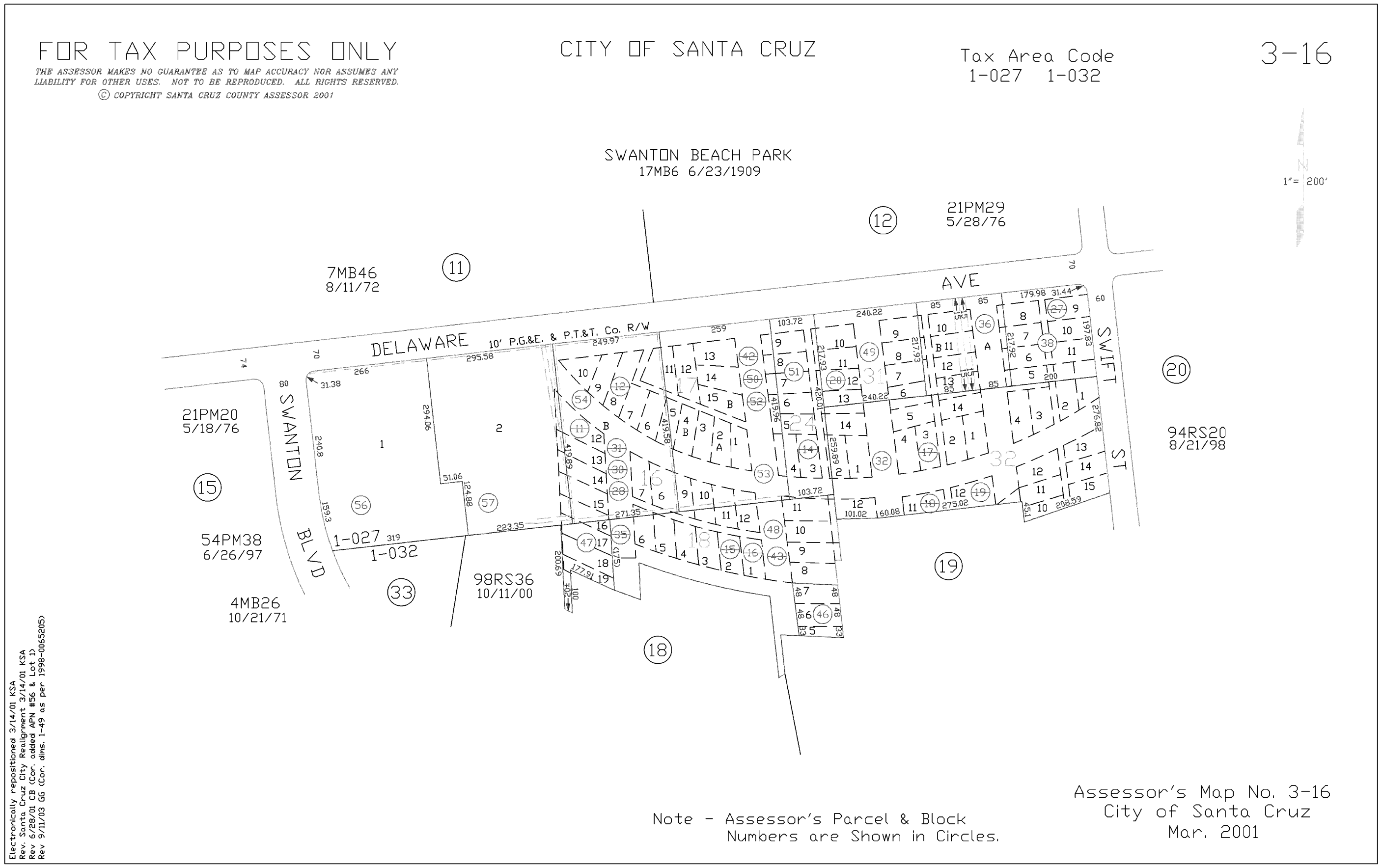
Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

EDR Property Tax Map Report

Environmental Data Resources, Inc.'s EDR Property Tax Map Report is designed to assist environmental professionals in evaluating potential environmental conditions on a target property by understanding property boundaries and other characteristics. The report includes a search of available property tax maps, which include information on boundaries for the target property and neighboring properties, addresses, parcel identification numbers, as well as other data typically used in property location and identification.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.



FOR TAX PURPOSES ONLY
THE ASSESSOR MAKES NO GUARANTEE AS TO MAP ACCURACY NOR ASSUMES ANY LIABILITY FOR OTHER USES. NOT TO BE REPRODUCED. ALL RIGHTS RESERVED.
© COPYRIGHT SANTA CRUZ COUNTY ASSESSOR 2001
CITY OF SANTA CRUZ
Tax Area Code
1-027 1-032
3-16
1"= 200'
SWANTON BEACH PARK
17MB6 6/23/1909
21PM29
5/28/76
7MB46
8/11/72
DELAWARE
AVE
10' P.G.&E. & P.T.&T. Co. R/W
SWANTON
BLVD
SWIFT
ST
21PM20
5/18/76
94RS20
8/21/98
54PM38
6/26/97
4MB26
10/21/71
98RS36
10/11/00
1-027
1-032
Note - Assessor's Parcel & Block
Numbers are Shown in Circles.
Assessor's Map No. 3-16
City of Santa Cruz
Mar. 2001

APPENDIX E

DOCUMENTS PROVIDED BY CLIENT