GEOCHECK®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

14455 PENASQUITOS DRIVE
14455 PENASQUITOS DRIVE
SAN DIEGO, CA 92129

TARGET PROPERTY COORDINATES

Latitude (North):	32.982371 - 32° 58' 56.54"
Longitude (West):	117.090975 - 117° 5' 27.51"
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	491499.6
UTM Y (Meters):	3649145.2
Elevation:	681 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	5622836 POWAY, CA
Version Date:	2012
North Map:	5641298 ESCONDIDO, CA
Version Date:	2012

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 principal 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).

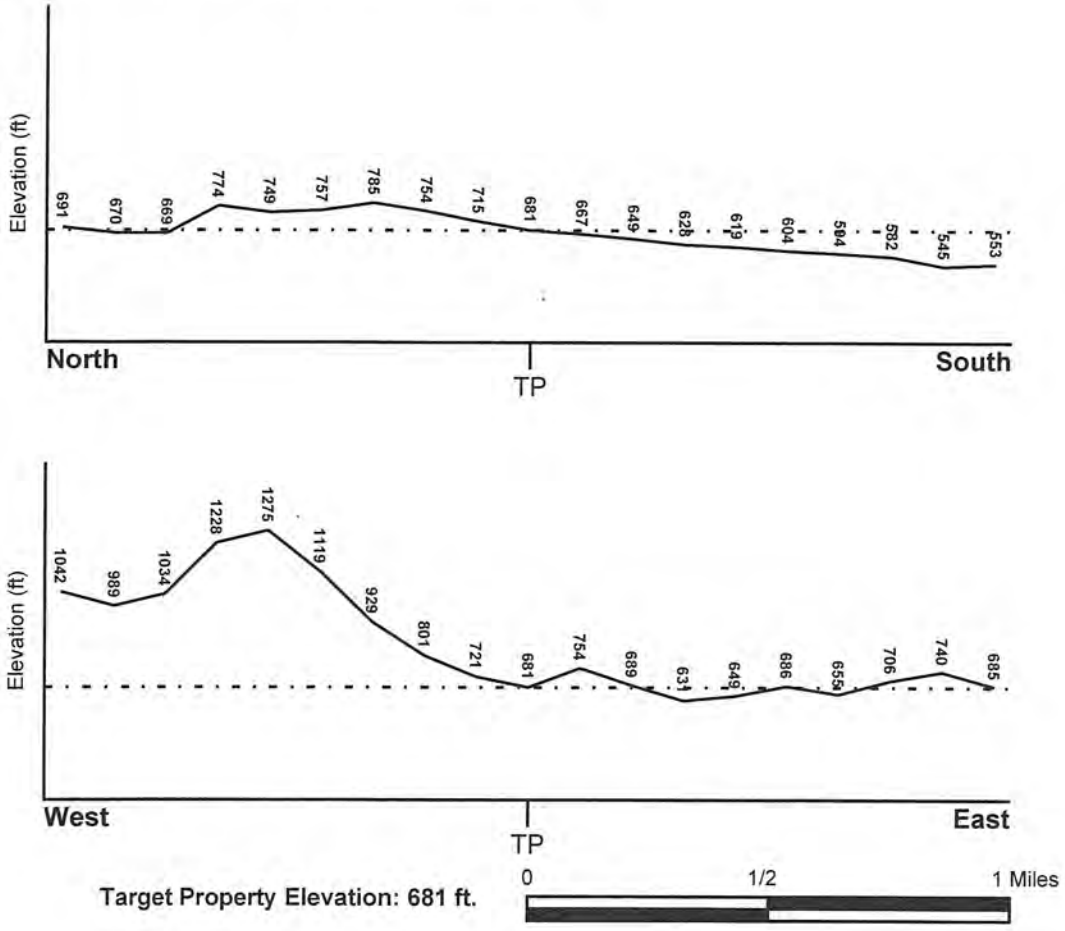
TOPOGRAPHIC INFORMATION

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 SE

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



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

Target Property County	FEMA Flood Electronic Data
SAN DIEGO, CA	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 06073C - FEMA DFIRM Flood data

Additional Panels in search area: Not Reported

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
POWAY	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

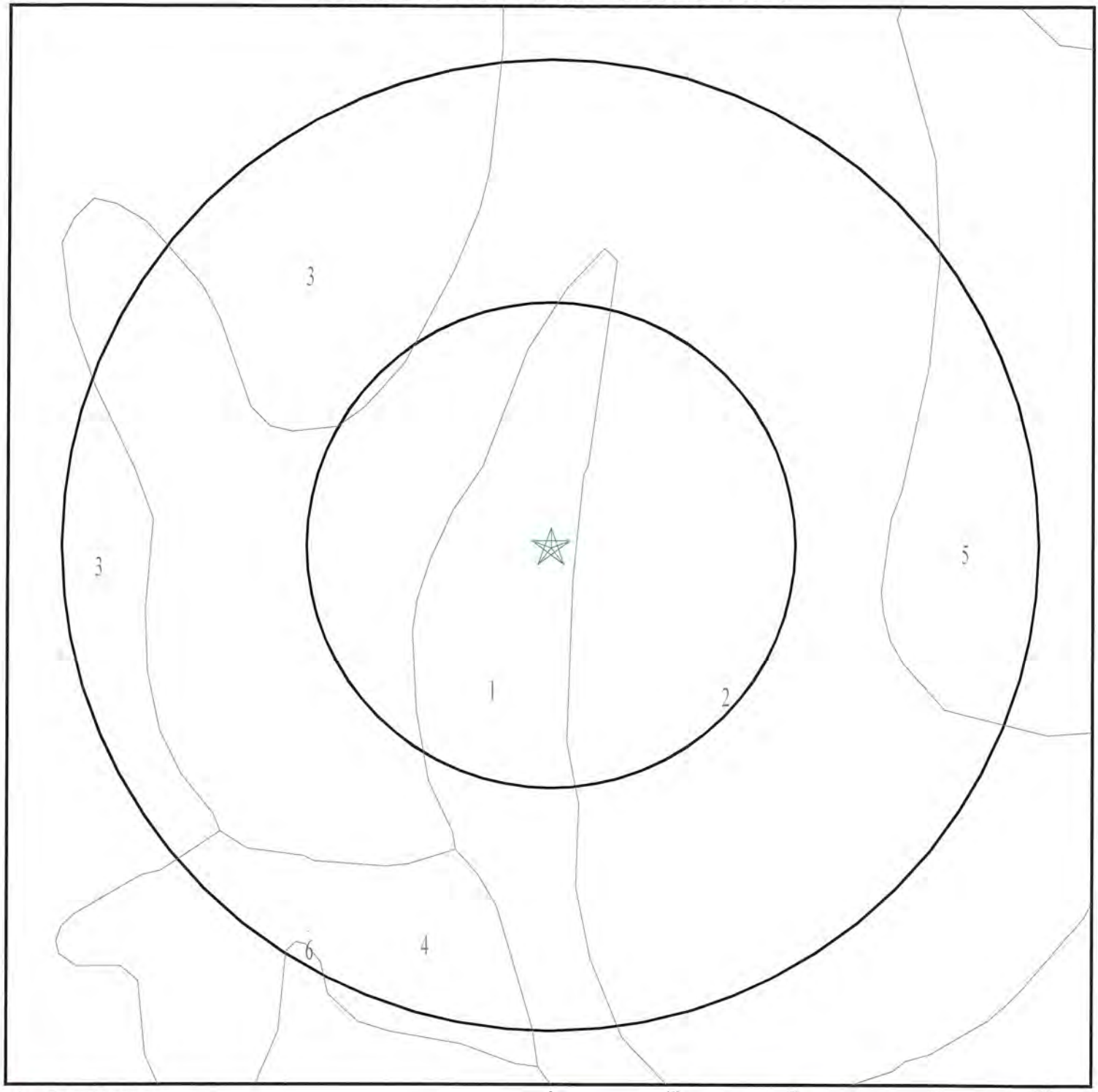
Era:	Mesozoic
System:	Cretaceous
Series:	Cretaceous granitic rocks
Code:	Kg *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Plutonic and Intrusive Rocks

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 - 04620301.2r



★ Target Property
SSURGO Soil
Water

SITE NAME: 14455 Penasquitos Drive ADDRESS: 14455 Penasquitos Drive San Diego CA 92129 LAT/LONG: 32.982371 / 117.090975	CLIENT: Hillmann Environmental Co. CONTACT: Kristine Savona INQUIRY #: 04620301.2r DATE: May 16, 2016 6:16 pm

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: ESCONDIDO

Soil Surface Texture: very fine sandy loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 86 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	7 inches	very fine sandy 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: 14 Min: 4	Max: 7.3 Min: 6.1
2	7 inches	33 inches	silt 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: 14 Min: 4	Max: 7.3 Min: 6.1
3	33 inches	38 inches	unweathered bedrock	Not reported	Not reported	Max: Min:	Max: Min:

Soil Map ID: 2

Soil Component Name: DIABLO

Soil Surface Texture: clay

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: Well drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

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	14 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 1.4 Min: 0.42	Max: 7.8 Min: 6.6
2	14 inches	31 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: 1.4 Min: 0.42	Max: 7.8 Min: 6.6
3	31 inches	35 inches	weathered bedrock	Not reported	Not reported	Max: Min:	Max: Min:

Soil Map ID: 3

Soil Component Name: SAN MIGUEL

Soil Surface Texture: silt 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: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 25 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

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	7 inches	silt 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: 14 Min: 4	Max: 6 Min: 5.1
2	7 inches	18 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 0.42 Min: 0.01	Max: 5.5 Min: 4.5
3	18 inches	22 inches	gravelly clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 0.42 Min: 0.01	Max: 5.5 Min: 4.5
4	22 inches	27 inches	unweathered bedrock	Not reported	Not reported	Max: Min:	Max: Min:

Soil Map ID: 4

Soil Component Name: ESCONDIDO

Soil Surface Texture: very fine sandy loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 74 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

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	5 inches	very fine sandy 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: 14 Min: 4	Max: 7.3 Min: 6.1
2	5 inches	29 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 7.3 Min: 6.1
3	29 inches	33 inches	unweathered bedrock	Not reported	Not reported	Max: Min:	Max: Min:

Soil Map ID: 5

Soil Component Name: DIABLO

Soil Surface Texture: clay

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: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

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	14 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 1.4 Min: 0.42	Max: 7.8 Min: 6.6

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
2	14 inches	31 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: 1.4 Min: 0.42	Max: 7.8 Min: 6.6
3	31 inches	35 inches	weathered bedrock	Not reported	Not reported	Max: Min:	Max: Min:

Soil Map ID: 6

Soil Component Name: ESCONDIDO

Soil Surface Texture: very fine sandy loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 140 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	very fine sandy 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: 14 Min: 4	Max: 7.3 Min: 6.1
2	20 inches	55 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 7.3 Min: 6.1

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
3	55 inches	59 inches	unweathered bedrock	Not reported	Not reported	Max: Min:	Max: Min:

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 0.001 miles
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

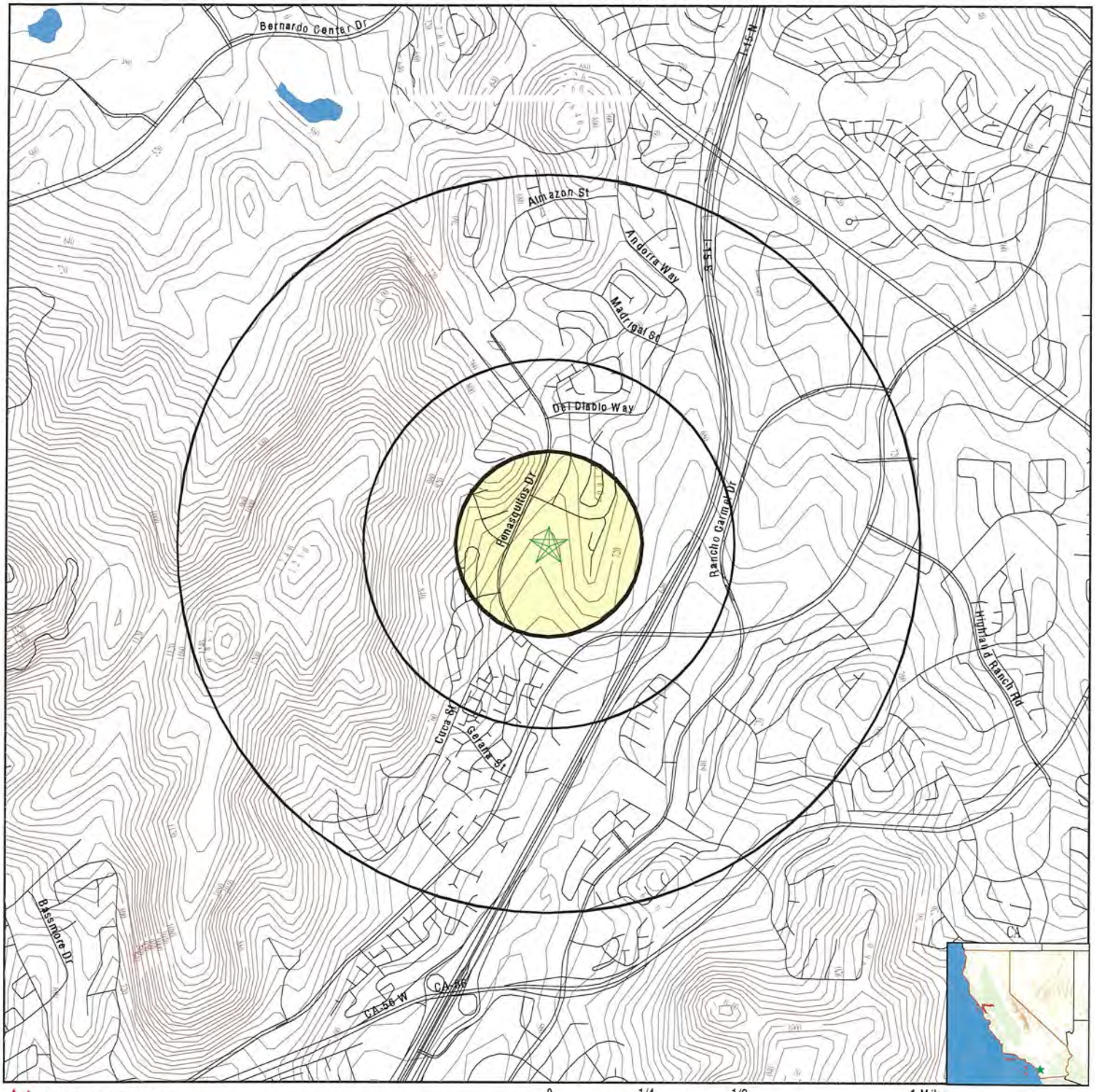
MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

PHYSICAL SETTING SOURCE MAP - 04620301.2r



- 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

0 1/4 1/2 1 Miles

- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

N

SITE NAME: 14455 Penasquitos Drive ADDRESS: 14455 Penasquitos Drive San Diego CA 92129 LAT/LONG: 32.982371 / 117.090975	CLIENT: Hillmann Environmental Co. CONTACT: Kristine Savona INQUIRY #: 04620301.2r DATE: May 16, 2016 6:16 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
92129	21	0

Federal EPA Radon Zone for SAN DIEGO County: 3

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 SAN DIEGO COUNTY, CA

Number of sites tested: 30

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.677 pCi/L	100%	0%	0%
Living Area - 2nd Floor	0.400 pCi/L	100%	0%	0%
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.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 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 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish & Game
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.

STATE RECORDS

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.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations
Source: Department of Conservation
Telephone: 916-323-1779
Oil and Gas well locations in the state.

RADON

State Database: CA Radon
Source: Department of Health Services
Telephone: 916-324-2208
Radon Database for California

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.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

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

APPENDIX F

OTHER DOCUMENTS
(where applicable)

HILLMANN
CONSULTING

May 16, 2016

City of San Diego Fire Department
1010 2nd Avenue
San Diego, CA 92101
Phone (619) 533-4400
Fax (619) 533-4426

RE: Underground Storage Tanks/Hazardous Materials Files:

14455 and 14499 Penasquitos Drive
APNs: 313-011-06-00, 313-011-07-00, 313-011-10-00
San Diego, CA 92129

Dear Sir/Madam:

Hillmann Consulting, LLC is conducting an environmental investigation of the above referenced property. Under the Freedom of Information Act, we would like to request any information your office has regarding this property. If any records are located, we would like to obtain copies or schedule a file review. If no records are available, please contact me to confirm. Thank you for your assistance.

Sincerely,

Kristine Savona
Office Manager
Hillmann Consulting, LLC
ksavona@hillmanngroup.com

HILLMANN
CONSULTING

May 18, 2016

San Diego Regional Water Quality Control Board
2375 Northside Drive, Suite 100
San Diego, CA 92108-2700
Phone (619) 516-1990
Fax (619) 516-1994
rb9_records@waterboards.ca.gov

RE: Environmental Files:

14455 and 14499 Penasquitos Drive
APNs: 313-011-06-00, 313-011-07-00, 313-011-10-00
San Diego, CA 92129

Dear Sir/Madam:

Hillmann Consulting, LLC is conducting an environmental investigation of the above referenced property. We would like to request any information your office has regarding this property such as environmental files (UST, groundwater, wells, etc.). If any records are located, we would like to obtain copies or schedule a file review. If no records are available, please contact me to confirm. Thank you for your assistance.

Sincerely,

Kristine Savona
Office Manager
Hillmann Consulting, LLC
ksavona@hillmanngroup.com

Kristine Savona

From: Lima, Lucas@Waterboards <Lucas.Lima@Waterboards.ca.gov> on behalf of RB9 _Records, WB@Waterboards <WB.RB9_Records@waterboards.ca.gov>
Sent: Wednesday, May 18, 2016 2:33 PM
To: Scott Alburn
Cc: Kristine Savona
Subject: RE: SDRWQCB Public Records Request

Good afternoon Scott.

We could find no records for the address requested.

Sincerely,

Lucas Lima | Public Records Coordinator
San Diego Regional Water Quality Control Board
2375 Northside Drive, Suite 100
San Diego, CA 92108
(619) 521-3377

From: Scott Alburn [mailto:salburn@hillmanngroup.com]
Sent: Wednesday, May 18, 2016 12:32 PM
To: RB9_Records, WB@Waterboards
Cc: Kristine Savona
Subject: SDRWQCB Public Records Request

Good Afternoon!

Please see the attached file for a public records request.

Best,

Scott Alburn
Environmental Technician Intern

Hillmann Consulting, LLC
1745 W. Orangewood Ave., Suite 110
Orange, CA 92686
Office: (714) 634-9500

salburn@hillmanngroup.com

www.HillmannConsulting.com

Request Confirmation

Request Information

Tracking Number : *EPA-R9-2016-006692*

Requester Name : Ms. Kristine Savona

Date Submitted : 05/16/2016

Request Status : Submitted

Description :

14455 Penasquitos Drive, San Diego, CA 92129, APNs: 313-011-06-00, 313-011-07-00, 313-011-10-00. Dear Sir/Madam: Hillmann Consulting, LLC is conducting an environmental investigation of the above referenced property. Under the Freedom of Information Act, we would like to request any information your office has regarding underground storage tanks (USTs), hazardous materials or other environmental concerns for this property. If any records are located, we would like to obtain copies or schedule a file review. If no records are available, please contact me to confirm. Thank you for your assistance.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

MAY 2 3 2016

Kristine Savona
Hillmann Consulting
1745 West Orangewood Avenue, Suite 110
Orange, California 92868

Re: Freedom of Information Act Request No. EPA-R9-2016-006692

Dear Kristine Savona:

This is in response to your Freedom of Information Act request regarding:

14455 Penasquitos Drive in San Diego, California

In order to make public access easier and reduce any potential fee for requests, responsive, releasable documents and invoice (if applicable) have been uploaded to EPA's FOIAOnline system, https://foiaonline.regulations.gov/foia/action/public/home. To access the documents, reference your FOIA request as EPA-R9-2016-006692.

I wish to advise you that Region 9 has no additional records responsive to your request.

You may appeal this no records determination to the National Freedom of Information Officer, U.S. EPA, FOIA and Privacy Branch, 1200 Pennsylvania Avenue, N.W. (2822T), Washington, DC 20460 (U.S. Postal Service Only), FAX: (202) 566-2147, E-mail: hq.foia@epa.gov. Only items mailed through the United States Postal Service may be delivered to 1200 Pennsylvania Avenue, NW. If you are submitting your appeal via hand delivery, courier service or overnight delivery, you must address your correspondence to 1301 Constitution Avenue, N.W., Room 6416J, Washington, DC 20004. Your appeal must be made in writing, and it must be submitted no later than 30 calendar days from the date of this letter. The Agency will not consider appeals received after the 30 calendar day limit. The appeal may include as much or as little related information as you wish, as long as it clearly identifies the determination being appealed (including the assigned FOIA request number - EPA-R9-2016-006692). For quickest possible handling, the appeal letter and its envelope should be marked "Freedom of Information Act Appeal."

The Land Division's RCRA Records Center is maintained by Toeroek Associates Inc., under contract to EPA Region 9. If you have any questions regarding the enclosed documents, please contact Ward Danner of Toeroek Associates Incorporated at 415-947-4596.

Sincerely,

Jeff Scott, Director
Land Division

FOIA Contact Information for State Offices
Region IX

Arizona

Rebecca Reed
Arizona Department of Environmental Quality
1110 W. Washington St.
Phoenix, AZ 85007
Phone: (602) 771-4380

California

California EPA
Department of Toxic Substances Control
1001 I Street
P.O. Box 806
Sacramento, CA 95812-0806
Phone: (916) 322-0476

Hawaii

Hawaii Department of Health
Solid and Hazardous Waste Branch
919 Ala Moana Boulevard, Room #212
Honolulu, HI 96814
Phone: (808) 586-4226

Nevada

Julie Maurer
Department of Conservation & Natural Resources
Division of Environmental Protection
Bureau of Waste Management
901 South Stewart Street, Suite 4001
Carson City, NV 89701
Phone: (775) 687-9459

Guam

GUAM EPA
P.O. Box 22439 GMF
Barrigada, GU 96921
Phone: +1 (671) 475-1658

HILLMANN
CONSULTING

May 16, 2016

Department of Toxic Substances Control
San Diego Field Office
2375 Northside Drive, Suite 100
San Diego, CA 92108-2700
Phone (619) 516-1982
Fax (619) 516-1963
PubReqAct@dtsc.ca.gov

RE: DTSC Files:

14455 and 14499 Penasquitos Drive
APNs: 313-011-06-00, 313-011-07-00, 313-011-10-00
San Diego, CA 92129

Dear Sir/Madam:

Hillmann Consulting, LLC is conducting an environmental investigation of the above referenced property. Under the Freedom of Information Act, we would like to request any information your office has regarding this property. If any records are located, we would like to obtain copies or schedule a file review. If no records are available, please contact me to confirm. Thank you for your assistance.

Sincerely,

Kristine Savona
Office Manager
Hillmann Consulting, LLC
ksavona@hillmanngroup.com

Department of Toxic Substances Control

Matthew Rodriquez
Secretary for
Environmental Protection

Barbara A. Lee, Director
8800 Cal Center Drive
Sacramento, California 95826-3200

Edmund G. Brown Jr.
Governor

May 19, 2016

Ms. Kristine Savona
Hillmann Consulting
1745 W. Orangewood Avenue, Suite 110
Orange, California 92868

14455 and 14499 Penasquitos Drive
APNs: 313-011-06-00, 313-011-07-00, 313-011-10-00
San Diego, California 92129

PR 1-051816-05

Dear Ms.Savona:

We have received your Public Records Act Request for records from the Department of Toxic Substances Control.

After a thorough review of our files we have found that no such records exist at this office pertaining to the sites/facilities referenced above.

We would like to inform you about Envirostor, a database that provides information and documents on over 5,000 DTSC cleanup sites. EnviroStor can be accessed at: http://www.envirostor.dtsc.ca.gov/public. Also, a computer is available in the Central Files of each DTSC Regional Office for use by community members to view EnviroStor.

If you have any questions, would like further information regarding your request or would like an appointment to visit Sacramento's Central Files, please contact me at (916) 255-3758.

Sincerely,

Jan Papararo
Regional Records Coordinator

OFFICE USE ONLY
Request # _____

JACK MILLER
DIRECTOR

DEPARTMENT OF ENVIRONMENTAL HEALTH
P.O. BOX 129261, SAN DIEGO, CA 92112-9261
(858) 505-6700 FAX (858) 505-6848
www.sdcdeh.org

ELIZABETH POZZEBON
ASSISTANT DIRECTOR

REQUEST TO REVIEW PUBLIC RECORDS FOR THE SITE ASSESSMENT AND MITIGATION (SAM) PROGRAM AND THE HAZARDOUS MATERIALS DIVISION (HMD)

Requestor Name: Kristine Savona **E-Mail:** ksavona@hillmanngroup.com

Phone: (714) 634-9500 **FAX:** (714) 634-9507

Company Name: Hillmann Consulting, Llc

Mailing Address: 1745 W. Orangewood Ave., Suite 110, Orange, CA 92868
(You may attach a business card/overprint with business card if preferred)

Additional information on public records may be accessed from the DEH website, www.sdcdeh.org. Fax your completed form to the Public Records Program at (858) 505-6848 or attach completed form and e-mail to deh.publicrecords@sdcounty.ca.gov. The following information is required so that our files may be accurately searched. Separate forms are needed for each address or parcel number.

14499 Penasquitos Drive, San Diego, California 92129 **or** _____
Exact Address (Street, City and Zip Code) Assessor's Parcel Number

Optional information (establishment permit number, business name, etc.):

If you indicate the purpose of your search, it will help us identify all the public records you may wish to review. If you know the program file you want to review, please check below:

☒ Contaminated Property Investigation(s) (SAM Cases)
☒ Hazardous Materials Permit & Underground Storage Tank Files (HMD/UST)
☒ SAM Closure Letter/Report
☐ Other:____ (specify)

DEH complies fully with the California Public Records Act and the Federal Freedom of Information Act. Every properly completed request will be processed in the order it is received. Some files are on line as indicated below. Photocopies of file items may be requested. **A fee of $.20 per page is charged to cover cost of copies.**

OFFICE USE ONLY BELOW THIS LINE

Files reviewed by: _____ of _____ Date: / /

Files copied for: _____ of _____ Date: / /

Request cancelled by: _____ Date: / /

Photocopies _____ Cost _____ Picked up/mailed on _____ By _____

A search for DEH records checked above has been conducted and the following apply:

☐ SAM files for the permit number(s) below are available. After the files you have requested are retrieved from storage, an appointment will be scheduled so that you may review SAM records in the DEH main office.

_____ # _____ # _____ # _____ # _____

☐ HMD/UST files for the permit number(s) below are available for review at: http://sdcounty.ca.gov/deh/doing_business/hmd_search.html

_____ # _____ # _____ # _____ # _____

☐ Original records were purged. Database-only records are available (at: http://sdcounty.ca.gov/deh/doing_business/hazmat_search.html) for the following permit number(s):

_____ # _____ # _____ # _____ # _____

☐ No SAM/HMD/UST records were found for the address/APN you requested.

_____ / /
Signature - DEH Representative Date

OFFICE USE ONLY

Request # _____

JACK MILLER
DIRECTOR

DEPARTMENT OF ENVIRONMENTAL HEALTH
P.O. BOX 129261, SAN DIEGO, CA 92112-9261
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ELIZABETH POZZEBON
ASSISTANT DIRECTOR

REQUEST TO REVIEW PUBLIC RECORDS FOR THE SITE ASSESSMENT AND MITIGATION (SAM) PROGRAM AND THE HAZARDOUS MATERIALS DIVISION (HMD)

Requestor Name: Kristine Savona **E-Mail:** ksavona@hillmanngroup.com

Phone: (714) 634-9500 **FAX:** (714) 634-9507

Company Name: Hillmann Consulting, Llc

Mailing Address: 1745 W. Orangewood Ave., Suite 110, Orange, CA 92868
(You may attach a business card/overprint with business card if preferred)

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Exact Address (Street, City and Zip Code) Assessor's Parcel Number

Optional information (establishment permit number, business name, etc.):

If you indicate the purpose of your search, it will help us identify all the public records you may wish to review. If you know the program file you want to review, please check below:

☒ Contaminated Property Investigation(s) (SAM Cases) ☒ SAM Closure Letter/Report
☒ Hazardous Materials Permit & Underground Storage Tank Files (HMD/UST) ☐ Other:____
(specify)

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Signature - DEH Representative Date

OFFICE USE ONLY
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ELIZABETH POZZEBON
ASSISTANT DIRECTOR

REQUEST TO REVIEW PUBLIC RECORDS FOR THE SITE ASSESSMENT AND MITIGATION (SAM) PROGRAM AND THE HAZARDOUS MATERIALS DIVISION (HMD)

Requestor Name: Kristine Savona **E-Mail:** ksavona@hillmanngroup.com

Phone: (714) 634-9500 **FAX:** (714) 634-9507

Company Name: Hillmann Consulting, Llc

Mailing Address: 1745 W. Orangewood Ave., Suite 110, Orange, CA 92868
(You may attach a business card/overprint with business card if preferred)

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_____ **or** 313-011-10-00
Exact Address (Street, City and Zip Code) Assessor's Parcel Number

Optional information (establishment permit number, business name, etc.):

If you indicate the purpose of your search, it will help us identify all the public records you may wish to review. If you know the program file you want to review, please check below:

☒ Contaminated Property Investigation(s) (SAM Cases)
☒ Hazardous Materials Permit & Underground Storage Tank Files (HMD/UST)
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Signature - DEH Representative Date

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ELIZABETH POZZEBON
ASSISTANT DIRECTOR

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Requestor Name: Kristine Savona **E-Mail:** ksavona@hillmanngroup.com

Phone: (714) 634-9500 **FAX:** (714) 634-9507

Company Name: Hillmann Consulting, Llc

Mailing Address: 1745 W. Orangewood Ave., Suite 110, Orange, CA 92868
(You may attach a business card/overprint with business card if preferred)

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_____ **or** 313-011-07-00
Exact Address (Street, City and Zip Code) Assessor's Parcel Number

Optional information (establishment permit number, business name, etc.):

If you indicate the purpose of your search, it will help us identify all the public records you may wish to review. If you know the program file you want to review, please check below:

☒ Contaminated Property Investigation(s) (SAM Cases)
☒ Hazardous Materials Permit & Underground Storage Tank Files (HMD/UST)
☒ SAM Closure Letter/Report
☐ Other:____ (specify)

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Signature - DEH Representative Date

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JACK MILLER
DIRECTOR

DEPARTMENT OF ENVIRONMENTAL HEALTH
P.O. BOX 129261, SAN DIEGO, CA 92112-9261
(858) 505-6700 FAX (858) 505-6848
www.sdcdeh.org

ELIZABETH POZZEBON
ASSISTANT DIRECTOR

REQUEST TO REVIEW PUBLIC RECORDS FOR THE SITE ASSESSMENT AND MITIGATION (SAM) PROGRAM AND THE HAZARDOUS MATERIALS DIVISION (HMD)

Requestor Name: Kristine Savona **E-Mail:** ksavona@hillmanngroup.com

Phone: (714) 634-9500 **FAX:** (714) 634-9507

Company Name: Hillmann Consulting, Llc

Mailing Address: 1745 W. Orangewood Ave., Suite 110, Orange, CA 92868
(You may attach a business card/overprint with business card if preferred)

Additional information on public records may be accessed from the DEH website, www.sdcdeh.org. Fax your completed form to the Public Records Program at (858) 505-6848 or attach completed form and e-mail to deh.publicrecords@sdcounty.ca.gov. The following information is required so that our files may be accurately searched. Separate forms are needed for each address or parcel number.

_____ or 313-011-06-00
Exact Address (Street, City and Zip Code) Assessor's Parcel Number

Optional information (establishment permit number, business name, etc.):

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☒ Contaminated Property Investigation(s) (SAM Cases)
☒ Hazardous Materials Permit & Underground Storage Tank Files (HMD/UST)
☒ SAM Closure Letter/Report
☐ Other:____ (specify)

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_____ / /
Signature - DEH Representative Date

HILLMANN
CONSULTING

May 18, 2016

San Diego County Air Pollution Control District
Attn: Public Records
10124 Old Grove Road
San Diego, CA 92131
Phone (858) 586-2600
Fax (858) 586-2601
apcdpermits@sdcounty.ca.gov

RE: Environmental Information/Files:

14455 and 14499 Penasquitos Drive
APNs: 313-011-06-00, 313-011-07-00, 313-011-10-00
San Diego, CA 92129

Dear Sir/Madam:

Hillmann Consulting, LLC is conducting an environmental investigation of the above referenced property. Under the Freedom of Information Act, we would like to request any information your office has regarding this property. If any records are located, we would like to obtain copies or schedule a file review. If no records are available, please contact me to confirm. Thank you for your assistance.

Sincerely,

Kristine Savona
Office Manager
Hillmann Consulting, LLC
ksavona@hillmanngroup.com

Detailed Description:

Record Status: Active

Contacts

APCD Invoice Mailing	Carmel Highland Golf Resort	14455 Penasquitos Dr	San Diego, CA	92129	858-485-4144
APCD Equipment Owner	SD Carmel Land Partners LLC	1880 Century Park East Suite 1016	Los Angeles, CA	90067	310-277-8600
APCD PTO Mailing	SD Carmel Land Partners LLC	1880 Century Park East Ste 1016	Los Angeles, CA	90067	310-277-8600
APCD ATC Mailing	Carmel Highland Golf Resort	14455 Penasquitos Drive	San Diego, CA	92129	858-485-4144
APCD Equipment Location	Carmel Highland Golf Resort	14455 Penasquitos Drive	San Diego, CA	92129	858-485-4144

Military Base	No	Type Ownership:	Partnership	
Military Activity	No	Name of Legal Owner:	SD Golf Resort Partners LLC	
PERP	No	TPY:	No	
Title V	No	Inspection Sectors:	APCD-Inspection-Site-Sector-F	**Parcel #:** -
SIC:	713910	VAX Site ID:	3225 A	
Inspection Month:	1	Source Test Alias:		
Renewal Month:	0	Expiration Month:	4/2015	
Frequency:	-	Delinquent Month:		
Site Status:	A			

Open Applications:	0	Active Permits:	0	Breakdowns:	0	Notices of Violation:	4
Approved Applications:	3	Approved Permits:	0	Corrective Actions:	0	Notices to Comply:	0
Cancelled Applications:	0	Retired Permits:	1	Complaints:	0	Notices to Repair:	0
Denied Applications:	0			Hearing Board Items:	0	Title V:	0
				Jobs:	0	Vapor Recovery Test:	4

Parent: APCD1992-APP-911512 **Equipment Type:** [26C] Phase I **Units:** 1 **Status:** Retired

Stationary **BEC: APCD2013-CON-000693** **LEGACY BEC:** APCD2009-CON-000032 **Opened:**07/31/2009

Permit Description: Gasoline Dispensing Facility (Non-Retail):
Phase II EVR: not subject per Rule 61.4 (b)(4)(ii);
Phase I EVR: Two Point Morrison Brothers per ARB E.O. VR-402-B;
Standing Loss EVR: per ARB E.O. VR-301-E;
Tank: One (1) 1,000 gallon Convault aboveground gasoline storage tank per ARB E.O. VR-301-E;
Serial Number: 637011;
Paint Finish: exempt from certified coatings specified in ARB E.O. VR-301-E.

Notes:

Inspection Frequency: 1 **Expiration:** 1/31/2016 **Expiration Status:**Inactive

Source Test: - **Source Test Frequency:**

Conditions

#	Name	Description
1	C29161	The combined volume of all gasoline grades dispensed at this facility shall not exceed 2,000 gallons in any calendar month. (Rule 61.4.1)
2	C28628	The permittee shall record the combined volume of all gasoline grades dispensed at this facility. Attachment C, "Monthly Gasoline Throughput", or an equivalent form, shall be used for this purpose. Monthly gasoline throughput records shall be maintained on site for at least three (3) years and made available to the District upon request. (Rules 21, 61.3/61.3.1 and/or 61.4/61.4.1)
3	C40405	The Standing Loss and Phase I vapor recovery systems specified in the equipment description of this permit, shall be installed, operated and maintained in accordance with the most recent applicable California Air Resources Board Executive Orders (EO), Installation, Operation and Maintenance Manuals (IOM), if applicable, and District Rules and Regulations. (Rules 21, 61.3 and 61.8)
4	C40157	A copy of the California Air Resources Board Executive Orders (EO) specified in the equipment description, including the Installation, Operation and Maintenance Manuals (IOM), if applicable, or the most recent version of these EO and IOM shall be maintained onsite at all times and made available to the District upon request. (Rules 21 and 61.8)
5	C40406	Only components certified by the California Air Resources Board (CARB) for use with the particular Standing Loss or Phase I vapor control system specified in the equipment description shall be installed at this facility. (Rules 21 and 61.8)
6	C40407	All Standing Loss and Phase I vapor recovery components certified by CARB and installed at this facility shall be clearly identified by a permanent identification showing the manufacturer's name and model number, unless the component is specifically exempted from this requirement by CARB in writing. In addition, all Standing Loss vapor recovery components certified by CARB and installed at this facility shall also be clearly identified by a permanent identification showing the serial number, unless the components is specifically exempted from this requirement by CARB in writing. (Rule 21)
7	C27379	All liquid transfer lines, piping, and associated fittings shall be maintained so that there are no fugitive liquid leaks as defined by Rule 61.0(k) or fugitive vapor leaks as defined by Rule 61.0(l). (Rule 21)
8	C29439	There shall be no spillage of gasoline as defined by Rule 61.0(w). (Rule 61.7)

9	C40408	Any repair or replacement of the Standing Loss Control and Phase I vapor recovery equipment authorized herein shall be conducted in accordance with the CARB approved Executive Order and Installation, Operation and Maintenance Manual for the Standing Loss Vapor Recovery system specified in the equipment description of this permit. (Rules 21 and 61.8)
10	C41001	Any installation, repair, replacement or testing of the Phase I system or components specified in the equipment description shall be performed by a technician certified as specified in Attachment K, "Certification Requirements for Technicians." These certification requirements are also applicable for removal and installation of the Phase I components in the course of any required performance test. Proof of certification shall be made available to the District upon request. (Rule 61.3.1)
11	C40411	Any Standing Loss Control and/or Phase I component, device or system identified and recorded by the permittee as not being in good condition, based on testing and/or visual inspections, or not operating properly shall be repaired, replaced, or adjusted within seven (7) calendar days of detection in a manner that will bring the facility into compliance with the applicable District Rules and Regulations and the most recent applicable CARB Executive Orders. Any Standing Loss Control and/or Phase I component or affected portion of the system that is determined to have a defect as set forth in the California Code of Regulations, Title 17, Section 94006, shall not be operated and shall be removed from service immediately. The defective component or affected portion of the system shall not be operated until the defect has been repaired or the defective component replaced such that the defect no longer exists. (Rules 21, 61.3, 61.4 and 61.8)
12	C40412	The permittee shall comply with the following requirements when painting the aboveground storage tank(AST) specified above (Rules 21 and 61.8): a. use only paints and application methods that comply with CARB Executive Order and Installation, Operation and Maintenance Manual specified in the equipment description of this permit; b. record in Attachment M, "Inspection, Maintenance and Repair Log for ASTs," date of application, list the paint manufacturer, application method, and name of the paint that was applied and; c. maintain all records on site and make all records available to the District upon request.
13	C40163	Manufacturer's scheduled maintenance for the Standing Loss Control and Phase I vapor recovery system, which includes periodic inspections and/or tests, shall be performed in accordance with CARB Executive Order and Installation, Operation and Maintenance Manual, if applicable, specified in the equipment description of this permit. (Rules 21 and 61.8)
14	C40164	A maintenance log for the periodic manufacturer scheduled maintenance, including any repairs performed, shall be kept onsite for at least three (3) years and made available to the District upon request. Attachment M, "Inspection, Maintenance and Repair Log for ASTs," is attached as an example and can be used for this purpose. The maintenance log shall itemize at a minimum: the date of each inspection and test, any defect, damage, loose connections, or leaks found during the inspections or tests, any test failure, the make and model number of any component that is replaced, maintained or repaired as a result of these inspections or tests, the date of repair/replacement, and the affiliation and name of the person performing the inspections, tests, and repair/replacement. (Rules 21 and 61.8)
15	C26822	All storage tanks containing gasoline shall be equipped with a permanent submerged fill pipe, which has a discharge opening entirely submerged when the liquid level is six (6.0) inches above the bottom of the tank.
16	C26835	If installed, containment boxes shall be maintained free of standing gasoline.
17	C40410	All gasoline storage tank fill pipes shall be equipped with a dust cap and a functional gasketed seal when not in use. (Rule 21)
18	C40409	The Standing Loss Control and Phase I vapor recovery equipment and associated components, except for components with an allowable leak rate as specified by the most recent applicable CARB Executive Order and certification procedure, shall be maintained free of liquid leaks and shall be vapor tight. Components with an allowable leak rate shall operate within such rate. For the purpose of this condition, vapor tight means an absence of soap bubbles as indicated by a leak detection solution or no expansion or collapse when bagging for a component without an allowable leak rate. (Rules 61.3.1/61.3/61.8)
19	C219	The permittee shall ensure that the Phase I tank truck and trailer vapor recovery system are utilized during each transfer of gasoline and that product and vapor (poppet) caps are securely replaced and remain in place following each such transfer.
20	C222	During liquid transfers involving tank trucks and trailers, the vapor return hose and gasoline hose connections shall be made in the following order: 1. Connect the vapor return hose to the fuel delivery truck drybreak, 2. Connect the vapor return hose to facility storage tank drybreak, 3. Connect the gasoline hose to the facility storage tank fill pipe adaptor, and 4. Connect the gasoline hose to the fuel delivery truck product fitting. At the end of the fuel dump, the disconnections shall be made in reverse order of the connections, i.e., (4), (3), (2), and (1), wherein the gasoline transfer hose shall be connected or disconnected only while the vapor return hose is connected and functional.
21	C41637	A coupler listed in Exhibit 1 of the E.O. specified in the equipment description of this permit shall be used with the Phase I product adaptor during fuel deliveries. (Rule 61.3)

22	C28879	The tests referenced in Attachment B shall be conducted and passed at least once every calendar year within forty-five (45) calendar days prior to the first day of the permit expiration month. The permittee and/or their designated testing agent shall report all test results completely and accurately to the District Compliance Division within fifteen (15) calendar days of conducting these annual tests in a format approved by the District Compliance Division. (Rules 21, 61.3, 61.4, and 61.8)
23	C29212	The permittee and/or the designated testing agent shall notify the District's Compliance Division, in writing, fifteen (15) calendar days prior to conducting the required annual tests and shall include the date and the time in a format approved by the District Compliance Division. (Rules 21, 61.3, 61.3.1, 61.4, and 61.4.1)
24	C28877	Copies of all tests shall be maintained on site for three (3) years and made immediately available to the District upon request. (Rules 21, 61.3,61.3.1, 61.4 and 61.4.1)
25	C28129	In the event of any failed test, which does not constitute a defect, the permittee shall make all necessary repairs, reschedule and retest within seven (7) calendar days of the failed test. In the event of any failed test, which does constitute a defect, the permittee shall remove all of the affected components from service until they are successfully retested. Notice of any retest, including the date, time and nature of repairs made, conducted on a subsequent date after the initial test date shall be provided to the District's Compliance Division in writing (e-mail or facsimile are acceptable) as soon as possible and prior to the retest. All retest results shall be reported completely and accurately and submitted to the District Compliance Division within fifteen (15) calendar days of conducting the retest in a format approved by the District Compliance Division. (Rules 61.3, 61.3.1, 61.4 and 61.4.1)

Inspection	Date	Inspector	Status
Routine	6/11/2014	Richard Brey	Completed
NOV Follow Up Inspection	10/30/2013	Richard Brey	Completed
Routine	5/1/2013	Richard Brey	Completed
Annual	10/12/2011	Paul Jarman	Completed

Version History

Version Number	Revision Date	Application	Site	Reason
1	9/29/2010	APCD1992-APP-911512	APCD1980-SITE-01861	Renewal
2	4/5/2011	APCD1992-APP-911512	APCD1980-SITE-01861	Renewal
3	2/21/2012	APCD1992-APP-911512	APCD1980-SITE-01861	Renewal
4	7/25/2013	APCD2013-OWC-000608	APCD1980-SITE-01861	Ownership Change
5	12/31/2013	APCD2013-APP-002974	APCD1980-SITE-01861	Modification Application
6	8/7/2014	APCD2014-APP-003405	APCD1980-SITE-01861	Modification Application

Parent: APCD2004-PTO-911512

Status: Approved

Record Type: LUEG-APCD/Permit App/Vapor Recovery/EVR Phase II Exempt

VAX ID: -

Source Category: 26C - GDF with Phase I only

Additional Information : -

Assigned to: Michael Beto (858) 586-2727

Time & Material: -

Addresss: 14455 Penasquitos.Drive, San Diego 92129
Date Submitted: 3/19/2014
Reason for Submittal: Modification of Existing Permitted Equipment
Expedited Application: -

Inspection	Date	Inspector	Status

Workflow

Task	Status	Date	Action By:
Application Acceptance	Complete	3/20/2014	Cynthia Gould
Completeness Determination	Complete	3/20/2014	Justin Ferron
Approve Authority to Construct	Complete	3/20/2014	Justin Ferron
Issue Authority to Construct	Complete	3/20/2014	Justin Ferron
Issue Startup Authorization	Complete	6/11/2014	Richard Brey
Issue Permit to Operate	Complete	8/18/2014	Elizabeth Davis

Parent: APCD2004-PTO-911512

Status: Approved

Record Type: LUEG-APCD/Permit App/Vapor Recovery/EVR Phase II Exempt

VAX ID: -

Source Category: 26C - Phase II exempt

Additional Information : -

Assigned to: Justin Ferron 858-586-2724

Time & Material: -

Addresss: 14455 Penasquitos Drive, San Diego 92129
Date Submitted: 7/25/2013
Reason for Submittal: Modification of Existing Permitted Equipment
Expedited Application: -

Inspection	Date	Inspector	Status

Workflow

Task	Status	Date	Action By:
Application Acceptance	Complete	7/25/2013	Virginia Fox
Completeness Determination	Complete	8/9/2013	Justin Ferron
Approve Authority to Construct	Complete	9/18/2013	Mahiany Luther
Issue Authority to Construct	Complete	9/18/2013	Justin Ferron
Issue Startup Authorization	Complete	12/10/2013	Justin Ferron
Issue Permit to Operate	Complete	1/15/2014	Karen Campbell

Parent: APCD1980-SITE-01861

Status: Approved

Record Type: LUEG-APCD/Permit App/Vapor Recovery/NA

VAX ID: -

Source Category:

Additional Information : -

Assigned to: -

Time & Material: No

Addresss: 14455 Penasquitos Drive, San Diego 92129
Date Submitted: 7/28/1992
Reason for Submittal: N
Expedited Application: -

Inspection	Date	Inspector	Status

Workflow

Task	Status	Date	Action By:
Application Acceptance		9/22/1993	
Completeness Determination		9/22/1993	
Approve Authority to Construct		9/22/1993	
Issue Authority to Construct		9/22/1993	
Issue Startup Authorization		9/22/1993	
Issue Permit to Operate		9/22/1993	

Parent: APCD2004-PTO-911512 **Recieved by:** **Title:**

Status: Closed - Paid **Date Issued:** 5/1/2013

Short Notes:

Assigned to: Joseph Zechman (858) 586-2658 **Compliance Date:** 10/30/2013 **Disposition:** -

Violation Began: 4/1/2013 **Violation Ends:** - **Statute of Limitations:** -

Pollutant in Violation: - **Pollutant that makes TV/SM:** - **Variance:** -

Count	Law Type	Category	Section	Rule	Description	Permit Cond#
1	District Rules	Permit to Operate	10(b)	Permits Required	For operating and/or installing a standing loss vapor recovery system without authority from the District.	

Inspection	Date	Inspector	Status

APCD1980-SITE-01861

APCD2006-NOV-217707

Parent: APCD2004-PTO-911512

Recieved by:

Title:

Status: Closed

Date Issued: 2/10/2006

Short Notes:

Assigned to: Joseph Zechman (858) 586-2658

Compliance Date: 2/10/2006

Disposition: MS

Violation Began: 2/1/2006

Violation Ends: -

Statute of Limitations: -

Pollutant in Violation: -

Pollutant that makes TV/SM: -

Variance: -

Count	Law Type	Category	Section	Rule	Description	Permit Cond#

Inspection	Date	Inspector	Status

APCD1980-SITE-01861

APCD2005-NOV-216533

Parent: APCD2004-PTO-911512
Recieved by:
Title:
Status: Closed
Date Issued: 2/4/2005
Short Notes:

Assigned to: -
Compliance Date: 3/3/2005
Disposition: MS
Violation Began: 1/1/2005
Violation Ends: -
Statute of Limitations: -
Pollutant in Violation: -
Pollutant that makes TV/SM: -
Variance: -

Count	Law Type	Category	Section	Rule	Description	Permit Cond#

Inspection	Date	Inspector	Status

Parent: APCD1980-SITE-01861
Recieved by:
Title:
Status: Closed
Date Issued: 1/24/2003
Short Notes:

Assigned to: -
Compliance Date: 6/20/2003
Disposition: MS
Violation Began: 1/24/2003
Violation Ends: -
Statute of Limitations: -
Pollutant in Violation: -
Pollutant that makes TV/SM: -
Variance: -

Count	Law Type	Category	Section	Rule	Description	Permit Cond#

Inspection	Date	Inspector	Status

SCS ENGINEERS

Semiannual Groundwater Monitoring Report (November 2011)

11040 Rancho Carmel Drive
San Diego, California

Facility Global ID: SL607392765

Presented to:

Mr. Vicente Rodriquez
WRC Engineer C
Central San Diego County Ground Water Unit
California Regional Water Quality Control Board
San Diego Region
9174 Sky Park Court, Suite 100
San Diego, California 92123-4340

Presented by:

SCS ENGINEERS
8799 Balboa Avenue, Suite 290
San Diego, California 92123
(858) 571-5500

February 20, 2012
Project No. 11011963.08

February 20, 2012
Project No. 11011963.08

Mr. Vicente Rodriquez
WRC Engineer C
Central San Diego County Ground Water Unit
California Regional Water Quality Control Board
San Diego Region
9174 Sky Park Court, Suite 100
San Diego, California 92123-4340

Subject: **Semiannual Groundwater Monitoring Report (November 2011)**

Site: **Former Marston's Cleaners**
11040 Rancho Carmel Drive
San Diego, California

Dear Mr. Rodriquez:

SCS Engineers (SCS) is pleased to present this report (Report) documenting the completion of groundwater monitoring (Assessment) conducted pursuant to the requirements of the San Diego Region of the California Regional Water Quality Control Board (RWQCB) at the above-referenced Site (Figures 1 and 2). This Assessment was conducted at the request of the RWQCB and in accordance with Exhibit 8 to the Contract between SCS and PSS Partners (Client).

I certify under penalty of perjury that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information; I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Should you have any questions regarding this Report, please do not hesitate to call the undersigned at (858) 571-5500.

Sincerely,

Keith L. Etchells, P.G. 8028
Senior Project Geologist
SCS ENGINEERS

Daniel E. Johnson
Vice President
SCS ENGINEERS

KLE
cc: PSS Partners c/o Mr. Bruce Sanders
Enclosures

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Appendices

1 BACKGROUND

This Report is intended to document the semiannual groundwater monitoring and sampling of all 11 wells (MW1, MW3 through MW9, and NM-MW1 through NM-MW3) at 11040 Rancho Carmel Drive, San Diego (Site) (Figure 1) on November 7 and 8, 2011.

2 OBJECTIVES

The objectives of the scope of services described in this Report were to:

- Further assess concentrations of chlorinated solvents in groundwater at the Site.
- Further assess the elevation and hydraulic gradient of groundwater in the subsurface of the Site.
- Assess the natural attenuation of chlorinated solvents in groundwater at the Site.

3 SCOPE OF SERVICES

GROUNDWATER MONITORING (NOVEMBER 2011)

Purging and Sampling of Groundwater Monitoring Wells

On November 7 and 8, 2011, wells MW1, MW3 through MW9, NM-MW1, NM-MW2, and NM-MW3 were monitored and sampled. Depth-to-groundwater measurements were taken in all the on-Site wells as well as off-Site wells NM-MW1, NM-MW2, and NM-MW3 using an interphase probe with the manufacturers reported accuracy of 0.01 foot. No dense non-aqueous phase liquids (DNAPL) (i.e., "free product") were observed in any of the wells. Please refer to Table 1 for a tabular depiction of the groundwater elevation data and Figure 4 for a graphical depiction of this data.

In an effort to obtain groundwater samples more representative of aquifer conditions, low-flow sampling in general accordance with American Society for Testing and Materials (ASTM) designation D6771-02 methodology was performed on all the wells. Water was removed from each well with the use of a bladder pump in conjunction with dedicated, non-reactive, polyethylene tubing and bladders. The tubing intake was positioned at approximately the lower third of the wetted screen. Water was pumped through a flow cell with an approximate operating volume of 350 milliliters (mL), containing a calibrated water quality meter capable of measuring pH, dissolved oxygen, conductivity, salinity, total dissolved solids, temperature, turbidity, and oxidation reduction potential. The water quality meter and associated low-flow cell were decontaminated before purging each well.

The following table summarizes the Site Assessment and Mitigation (SAM) Manual stabilization criteria that were used as guidance during the groundwater sampling event.

Parameter	SAM Manual stabilization criteria (units)
pH	± 0.2 of reading
Dissolved Oxygen	± 0.2 mg/L
Conductivity	± 3 - 5% of reading
Temperature	± 3°C reading
Turbidity	± 10 % & < 50 NTU
Oxidation Reduction Potential	± 20 mV

Notes:
mg/L = milligrams per liter
°C = degrees Celsius
NTU = Nephelometric Turbidity Units
mV = millivolts

Water quality measurements were obtained from the water quality meter each time that an approximate new flow-cell volume of purged groundwater was purged from the well. Copies of field parameter groundwater sampling forms are provided in Appendix A. This length of time was deduced in the field by dividing the approximate operating flow-cell volume (350 mL) by the current flow rate of the pump. After three consecutive stabilized water quality measurements, a groundwater sample was collected from each well by bypassing the flow cell and pumping the sample directly into appropriate, laboratory-supplied containers. The samples were labeled and placed in an ice-packed cooler for transport under chain of custody to the laboratory. Purge water was stored on Site in labeled drums for later disposal under manifest.

Groundwater Sample Analysis

The groundwater samples were submitted to H&P Mobile Geochemistry (H&P) of Carlsbad, California, a laboratory current under the California Environmental Laboratory Accreditation Program (CA ELAP Numbers 2579, 2740 through 2743, 2745, and 2754) for organics analysis.

Groundwater sample analytical reports are provided in Appendix B. The groundwater samples were analyzed for volatile organic compounds (VOCs) and fuel oxygenates in accordance with Environmental Protection Agency (EPA) Method 8260B.

Disposal of Drummed Waste

SCS submitted the necessary documentation to a waste disposal contractor for the disposal of water generated during the sampling activities and stored in a labeled, 55-gallon drum. However, the waste drum was not in the secured storage area when pickup for disposal was attempted and has been assumed to have been stolen.

4 FINDINGS

HYDROGEOLOGY

The Site is interpreted to be located within the Poway Hydrologic Area (906.20) of the Penasquitos Hydrologic Unit (906.00). According to the Regional Water Quality Control Board (RWQCB), groundwater within this hydrologic subarea has been designated as having existing beneficial uses for municipal and agricultural purposes and having potential beneficial use for

industrial purposes. The hydrologic areas and water use designations were presented in the RWQCB's "Comprehensive Water Quality Plan" (Plan), originally adopted in 1974. Amendments to the Plan, adopted in May 1998 by the RWQCB, were reviewed and used in the preparation of this Report.

Groundwater was observed in the monitoring wells during the November 2011 sampling event from approximately 10.12 to 35.79 feet below grade (Table 1). The measured groundwater elevations indicated an approximate hydraulic gradient of 0.01 foot per foot (ft/ft) across the Site (Figure 4). Hydraulic gradient direction for the November 2011 sampling event has been interpreted to be toward the south/southwest which is consistent with historical interpretations. Groundwater elevation measurements collected from wells MW4, MW5, MW8, and NM-MW1 during the November 2011 groundwater monitoring event were not correlative with measurements made at the other Site wells and, therefore, were not included in the groundwater elevation map prepared for this sampling event. Regionally, groundwater in the Site vicinity is anticipated to generally flow to the west.

The existence of a relatively low hydraulic gradient (approximately 0.01 foot per foot) coupled with the average hydraulic conductivity of the silt and silty, very fine-grained sand in which the dissolved-phase impacts occur (approximately 0.003 feet per day [ft/day] to 0.00003 ft/day) suggests that groundwater flow velocities beneath the Site may range from 0.01 ft/year to 1.0 ft/year. However, the presence of dissolved-phase chlorinated solvents in a well (NM-MW2) approximately 200 feet from the planter source zone also suggests that the interpreted average flow velocity of the shallow groundwater beneath the Site may be an underestimate.

GROUNDWATER ANALYTICAL RESULTS (NOVEMBER 2011)

Volatile Organic Compounds (VOCs)

The following table summarizes the reported VOC analytical results for the groundwater samples collected from MW1, MW3 through MW9, and NM-MW1 through NM-MW3 on November 7 and 8, 2011. Please refer to Table 2 and Figure 2 for more complete tabular and graphical depictions of the reported VOC groundwater analytical results. The groundwater sample laboratory analytical reports have been provided in Appendix B.

Well	PCE	TCE	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride
MW1	**6,300**	**1,000**	<100	**380**	<100	<100
MW3	**35**	**62**	<1.0	**130**	**18**	<1.0
MW4	**390**	**1,600**	<100	**2,000**	**560**	<100
MW5	**680**	**29**	<1.0	**21**	<1.0	<1.0
MW6	**3.7**	<1.0	<1.0	<1.0	<1.0	<1.0
MW7	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW8	**16**	**21**	<1.0	**5.4**	<1.0	<1.0
MW9	**270**	<10	<10	<10	<10	<10
NM-MW1	**420**	**27**	<10	**10**	<10	<10
NM-MW2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
NM-MW3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

Notes:
Groundwater samples were analyzed in accordance with EPA Method 8260B.
Analytical results reported in units of micrograms per liter (µg/L)

PCE = tetrachloroethene, TCE = trichloroethene, 1,1-DCE = 1,1-Dichloroethene, cis-1,2-dichloroethene, trans-1,2-dichloroethene
< indicates concentration not reported above indicated detection limit for relevant analyte and analytical method.
Results in **bold** font indicate detection above the respective reporting limit.

Natural Attenuation (NA) Parameters

The only natural attenuation parameters collected during the November 2011 sampling event were observations of dissolved oxygen (DO) and oxidation reduction potential (ORP) during purging activities. The collection of groundwater samples for purposes of off-Site laboratory analyses were temporarily discontinued after the May 2011 sampling event until further remedial activities are executed at the Site. This decision was based on the adequacy of the existing dataset for purposes of defining the existing degree to which natural attenuation is taking place in the subsurface of the Site. The following table summarizes the dissolved oxygen and oxidation reduction potential observations collected immediately prior to groundwater sample collection initiation. Field observations made during the November 2011 sampling event suggest that current Site conditions in the saturated zone are in general aerobic.

Well	D.O. (mg/L)	ORP (mV)
MW1	3.86	200
MW3	0.69	183
MW4	0.73	168
MW5	0.76	172
MW6	1.16	153
MW7	1.07	187
MW8	0.51	-45
MW9	3.62	119
NM-MW1	1.13	191
NM-MW2	0.66	125
NM-MW3	0.78	-30

Notes:
Results reported in units of milligrams per liter (mg/L) and millivolts (mV)
D.O. = dissolved oxygen, ORP = oxidation reduction potential

5 DISCUSSION

Groundwater Concentration Trends

To determine the statistical distribution of the groundwater sample data sets (e.g., normal, non-parametric, etc.), all available analytical results generated with correlative sampling procedures for the four major detected halogenated volatile organic compounds (HVOCs) at the Site (PCE, TCE, cis-1,2-DCE, and trans-1,2-DCE), including nondetects, from wells MW1 through MW6 were input into the EPA's ProUCL (ProUCL) software (version 4.1). ProUCL is a statistical software package for environmental applications for data sets with and without nondetect observations.

The statistical distributions of the selected HVOC data sets based on ProUCL outputs are included in the table below, along with linear-regression concentration trends and associated R^2 values, and Mann-Kendall statistical trend analysis based on analytical data collected between April 2006 and November 2009. Copies of the ProUCL statistical analyses outputs are included

in Appendix C, copies of time-series plots with linear regression trend lines are included in Appendix D, and copies of the Mann-Kendall statistical analysis outputs are included in Appendix E.

PCE Statistical Analyses Summary Table					
Well	Linear Regression Concentration Trend	Linear Trend R^2 Value	Correlation of HVOCs with GW Elevation	MK Concentration Trend	*Data Distribution
MW1	Stable	0.08	Weak to Moderate Positive	Stable/No Trend Discernible	Normal (Parametric)
MW3	Stable to Increasing	0.01	Strong Positive	Increasing	Lognormal (Parametric)
MW4	Decreasing	0.73	Weak to Moderate Positive	Stable/No Trend Discernible	Gamma (Nonparametric)
MW5	Stable to Decreasing	0.72	None	Decreasing	Normal (Parametric)
MW6	Decreasing	0.85	None	Decreasing	Normal (Parametric)

Notes:
R^2 = Square of the sample correlation coefficient rounded to the nearest hundredth.
* Indicates data distribution based on analysis of PCE data set for each well according to ProUCL.
GW = Groundwater
MK = Mann-Kendall statistical method.
PCE = Tetrachloroethene

As shown in the table above, the PCE data sets for wells MW1, MW3, MW5, and MW6 appear to have normally and log normally distributed sample populations, while the PCE data sets for well MW4 appear to have a non-parametric sample population.

Time-series concentration graphs depicting significant detections of chlorinated hydrocarbons and groundwater elevations from 2005 through the November 2011 sampling event were produced for wells MW1, MW3, MW4, MW5, and MW6 (Appendix D). The purpose of these graphs is to illustrate trends in analytical data that can be useful in interpreting the degree to which remediation has influenced groundwater conditions, whether natural attenuation is taking place in the subsurface, or whether groundwater elevation fluctuations are influencing constituents of concern (CoC) concentration trends.

Additionally, linear-regression trendlines of the detected VOC concentrations are depicted on each graph, as appropriate, with the calculated square of the sample correlation coefficient (R^2). The R^2 value indicates the *goodness-of-fit* of the trendline to the dataset. In general, an R^2 value between 0.7 and 1 would be a *good* fit, between 0.4 and 0.7 a *moderate* fit, and below 0.4 would be a *poor* fit. For illustration purposes, samples with no detectable concentrations were plotted at half the reporting limit for the respective analyte.

While it appears that there has been some concentration reduction of dissolved-phase PCE, the R^2 value reflects the statistical validity of a trend. Using linear regression and associated R^2 values to determine PCE-concentration trends may be applicable for wells MW1, MW3, MW5, and MW6 based on these wells having parametric sample populations. The PCE linear-regression R^2 value for MW1 indicates a poor fit with a stable to decreasing trend; the PCE linear-regression R^2 value for MW3 indicates a poor fit with an stable trend; and the PCE linear-regression R^2 values for MW5 and MW6 indicate a moderate to good fit, respectively, with stable to decreasing trends.

The above-referenced regression analysis, including goodness-of-fit and slope of the trend line, is based on standard ordinary least squared (OLS) analysis for a parametric sample population. Environmental and, in particular, hydrologic data are often characterized as nonparametric and commonly have statistical properties such as outliers and skewness that may lead to misinterpretation or bias, do not meet the criteria for the theoretical underpinnings of OLS, and are not ideal for parametric methods.

Groundwater analytical data characterized as nonparametric can be further analyzed using the Mann-Kendall[1] statistical test. The nonparametric statistical test procedure starts by simply comparing the most recent round of water quality datum with the results of all earlier rounds. A score of +1 is awarded if the most recent concentration is larger, or a score of -1 is awarded if it is smaller. The total score for the time-series data is the Mann-Kendall statistic, which is then compared to a critical value, to test whether the trend in concentration is increasing, decreasing, or indeterminate and to assess the degree of confidence associated with the trend evaluation.

Mann-Kendall statistical analysis was performed on wells MW1 through MW6 for dissolved-phase PCE and TCE concentrations collected between June 2005 and November 2011 (Appendix E). Using Mann-Kendall statistical analysis to determine PCE-concentration trends is applicable for well MW4, based on this well having a non-parametric sample population. Decreasing trends for both PCE and TCE concentrations are indicated for MW4 based on Mann-Kendall statistical analysis.

Groundwater elevations were observed to decrease from the May 2011 to November 2011 groundwater sampling events[2] with elevation decreases ranging from 0.43 of a foot in MW5 to 1.52 feet in NM-MW3. Also, there appears to be a weak to moderate positive correlation between dissolved-phase concentrations and groundwater elevations in monitoring wells MW1 and MW4 and a strong positive correlation in MW3 for the historical groundwater sampling events. This phenomenon is most likely caused when groundwater elevation increases facilitate the partitioning of residual sorbed-phase chlorinated solvents to dissolved-phase solvents in the vicinity of the planter source zone as VOCs in the capillary fringe become saturated subsequent to periods of elevated precipitation and infiltration.

Increased concentrations of PCE breakdown daughter products (TCE, cis-DCE, and trans-DCE) measured in wells in the immediate vicinity of the interpreted source zone and former remedial excavation (MW1, MW3, and MW4), the historical detections of vinyl chloride (0.5 to 3.2 µg/L) in MW4, and the detection of ethene (produced from the reductive dechlorination of chlorinated ethenes) are all evidence that the existing microbiological fauna in the subsurface of the Site contains species capable of complete biotic reduction of chlorinated solvents. The findings of a previously completed subsurface molecular ecology assessment that included the deployment of two biotraps for the purposes of identifying and quantifying beneficial microbes in the subsurface of the Site were documented in the *Subsurface Assessment and Groundwater Monitoring Report (November 2010)*, dated February 18, 2011.

[1] U.S. EPA Practical Methods for Data Analysis, U.S. EPA QA/G-9 QA00 UPDATE, July 2000

[2] Except in monitoring well MW8 in which groundwater elevation was observed to increase 0.16 of a foot from the May 2011 to November 2011 sampling events.

The results of the microbial genetic assessment indicate that current Site conditions in the saturated zone are aerobic with evidence of dechlorination potential. The reported presence of critical dechlorinators suggests that the application of an electron donor to the saturated subsurface could produce or enhance a reducing environment sufficient to support the proliferation of important anaerobes, such as fermentors and dechlorinators, which, in turn, accelerates the rate of bioremediation.

EXTENT OF DISSOLVED-PHASE CHLORINATED SOLVENTS

Based on the analytical data from all the subsurface assessments performed by SCS coupled with the crossgradient and downgradient control provided by the newly installed MW8, MW9, and NM-MW3, the lateral extent of chlorinated hydrocarbons, both in soil and dissolved in groundwater, has been established by mathematical interpolation to the west, southwest, southeast, and northwest. Lateral control of chlorinated hydrocarbons in groundwater has been established to the north and south.

6 CONCLUSIONS

Based on the data obtained and reviewed as part of this investigation, laboratory results, and current regulatory guidelines, it is SCS's professional opinion that:

- Groundwater was observed in the monitoring wells during the November 2011 sampling event from approximately 10.12 to 35.79 feet below grade (Table 1). The measured groundwater elevations indicated an approximate hydraulic gradient ranging of 0.01 foot per foot (ft/ft) (Figure 4). Hydraulic gradient direction for the November 2011 sampling event has been interpreted to be toward the south/southwest, which is consistent with historical interpretations.

- Groundwater elevations were observed to generally decrease from the May 2011 to November 2011 groundwater sampling events with elevation decreases ranging from 0.43 of a foot in MW5 to 1.52 feet in NM-MW3. Also, there appears to be a weak to moderate positive correlation between dissolved-phase concentrations and groundwater elevations in monitoring wells MW1 and MW4 and a strong positive correlation in MW3 for the historical groundwater sampling events.

- Statistical analysis of the existing analytical dataset was performed using the most recent version of the EPA software program ProUCL 4.1. The findings of this analysis suggest that the PCE data sets for wells MW1, MW3, MW5, and MW6 appear to have normally and log normally distributed sample populations, while the PCE data sets for well MW4 appear to have a non-parametric sample population.

- While it appears that there has been some concentration reduction of dissolved-phase PCE, the R^2 value reflects the statistical validity of a trend. Using linear-regression and associated R^2 values to determine PCE-concentration trends may be applicable for wells MW1, MW3, MW5, and MW6 based on these wells having parametric sample populations. The PCE linear-regression R^2 value for MW1 indicates a poor fit with a stable to decreasing trend; the PCE linear-regression R^2 value for MW3 indicates a poor

fit with an increasing trend; and the PCE linear-regression R^2 values for MW5 and MW6 indicate a moderate to good fit, respectively, with decreasing trends.

- Based on the analytical data from all the subsurface assessments performed by SCS coupled with the crossgradient and downgradient control provided by the newly installed MW8, MW9, and NM-MW3, the lateral extent of chlorinated hydrocarbons, both in soil and dissolved in groundwater, has been established by mathematical interpolation to the west, southwest, southeast, and northwest. Lateral control of chlorinated hydrocarbons in groundwater has been established to the north and south.

- Using Mann-Kendall statistical analysis to determine PCE- and TCE-concentration trends is applicable for well MW4, based on this well having non-parametric sample population. Decreasing PCE and TCE trends are indicated for MW4 based on Mann-Kendall statistical analysis.

- Because elemental hydrogen is essentially no longer being released from the hydrogen-releasing compound amended to the subsurface of the Site in May 2007, the rate at which chlorinated solvents in the subsurface of the Site are biologically dechlorinated will or has decreased to reflect premitigation conditions.

- Historical groundwater concentrations show that parent/daughter ratios are remaining similar both in the areas of higher concentration in the plume as well as other locations within the plume. This suggests that the rate of natural attenuation is extremely slow and unlikely to lead to significant changes in contaminant concentrations in the short term. This conclusion is also supported by the lack of daughter products, such as end-stage vinyl chloride (VC), which is strongly supported in previously collected microbial data.

7 RECOMMENDATIONS

Based on the data obtained during this Assessment and our conclusions, SCS recommends the following:

- Implementation of the Revised Remedial Action Plan dated November 9, 2011 to address residual chlorinated volatile organic compound mass in the subsurface of the Site.

- Continuation of the semiannual groundwater monitoring program subsequent to the implementation of the Revised Remedial Action Plan dated November 9, 2011.

8 REPORT USAGE AND FUTURE SITE CONDITIONS

This Report is intended for the sole usage of the Client and parties designated by SCS. Use of this Report is subject to the provisions of the fully executed Contract between the Client and SCS. Any third party usage of this Report shall be subject to the provisions of the Contract, and any unauthorized misuse of or reliance upon the Report shall be without risk or liability to SCS.

The conclusions of this Report are judged to be relevant at the time the work described in this Report was conducted. Future conditions may differ and this Report should not be relied upon to represent future Site conditions unless a qualified consultant familiar with the practice of Phase

II environmental assessments in the County of San Diego is consulted to assess the necessity of updating this Report.

Although this Assessment has attempted to assess the likelihood that the Site has been impacted by a hazardous material/waste release, potential sources of impact may have escaped detection for reasons that include, but are not limited to: 1) inadequate or inaccurate information rightfully provided to SCS by third parties, such as public agencies and other outside sources; 2) the limited scope of this Assessment; and 3) the presence of undetected, unknown, or unreported environmental releases.

9 LIKELIHOOD STATEMENTS

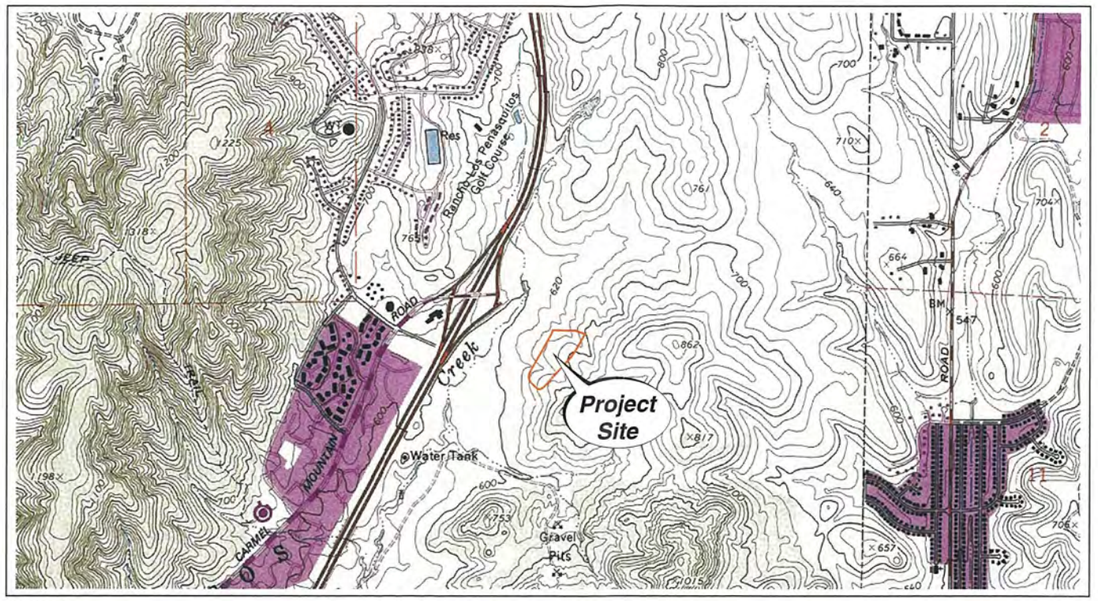
Statements of "likelihood" have been made in this report. Likelihood statements are based on professional judgments of SCS. The term "likelihood," as used herein, pertains to the probability of a match between the prediction for an event and its actual occurrence. The likelihood statement assigns a measure for a "degree of belief" for the match between the prediction for the event and the actual occurrence of the event.

The likelihood statements in this Report are made qualitatively (expressed in words). The qualitative terms can be approximately related to quantitative percentages. The term "low likelihood" is used by SCS to approximate a percentage range of 10 to 20 percent; the term "moderate likelihood" refers to an approximate percentage range of 40 to 60 percent; and the term "high likelihood" refers to an approximate percentage range of 80 to 90 percent.

FIGURES

North (Not to scale)

REGIONAL SITE LOCATION



North

Reference:
U.S.G.S. 7.5 Minute Quadrangle map
Poway, California - 1977. Photo revised 1982.

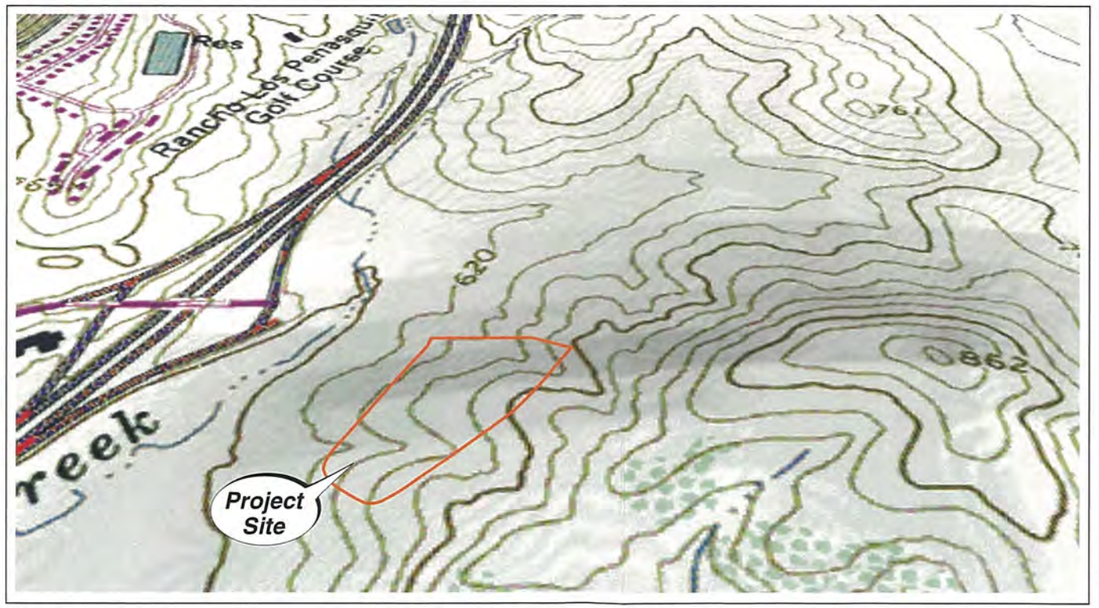
2-DIMENSIONAL SITE LOCATION

0 500 1,000 1,500
Approximate Graphic Scale in Feet

North (Not to scale)

Reference:
Google Earth Aerial Photograph
San Diego, California - August 2010

SITE AERIAL PHOTOGRAPH



North (Not to scale)

Reference:
U.S.G.S. 7.5 Minute Quadrangle map
Poway, California - 1977. Photo revised 1982.

3-DIMENSIONAL SITE LOCATION

Disclaimer: This figure is based on available data. Actual conditions may differ. All locations and dimensions are approximate.

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4-WAY SITE LOCATION MAP
PSS Partners
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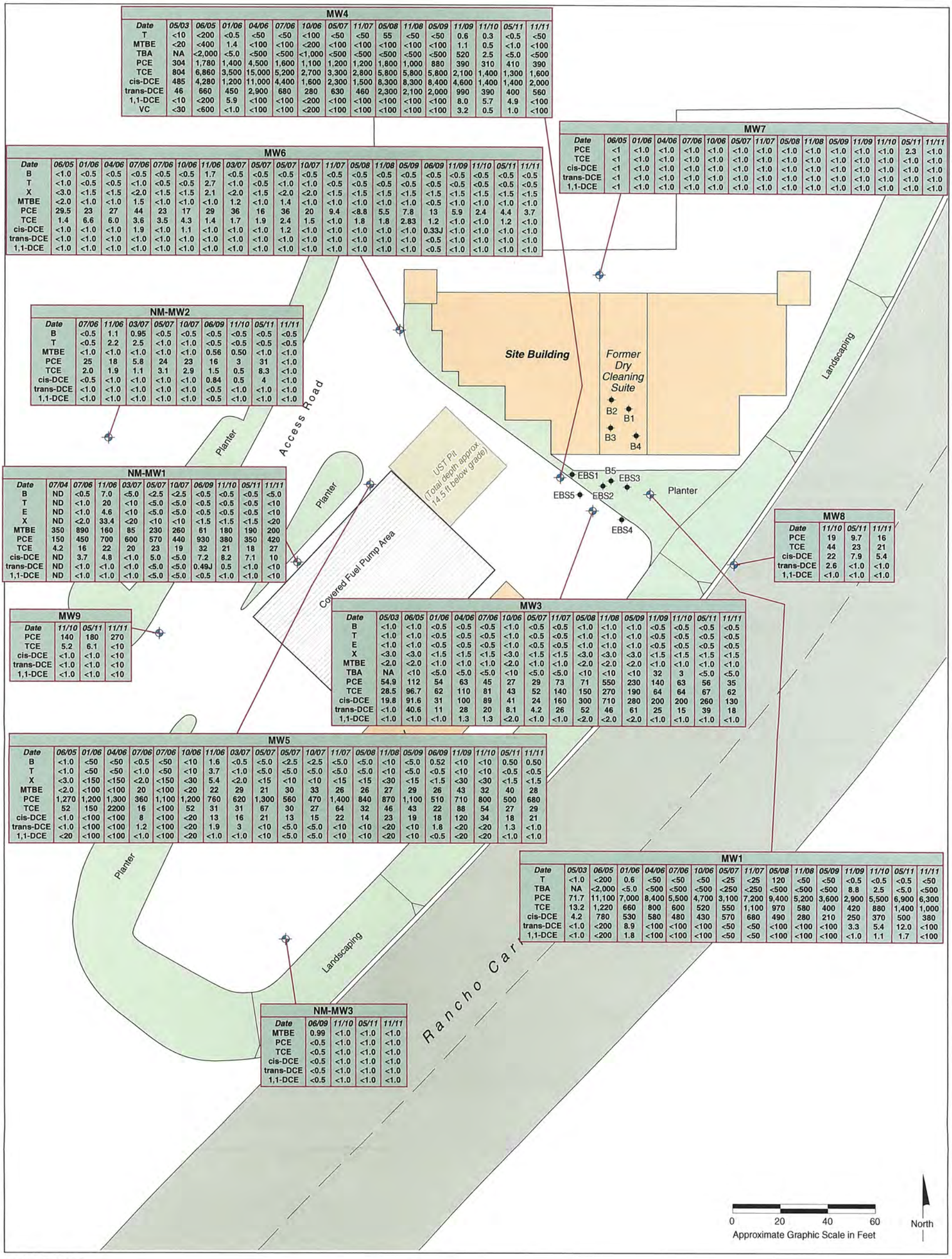
San Diego, California

Project No.: 11011963.08

Figure 1

Date Drafted: 11/17/10



MW4

Date	05/03	06/05	01/06	04/06	07/06	10/06	05/07	11/07	05/08	11/08	05/09	11/09	11/10	05/11	11/11
T	<10	<200	<0.5	<50	<50	<100	<50	<50	55	<50	<50	0.6	0.3	<0.5	<50
MTBE	<20	<400	1.4	<100	<100	<200	<100	<100	<100	<100	<100	1.1	0.5	<1.0	<100
TBA	NA	<2,000	<5.0	<500	<500	<1,000	<500	<500	<500	<500	<500	520	2.5	<5.0	<500
PCE	304	1,780	1,400	4,500	1,600	1,100	1,200	1,200	1,800	1,000	880	390	310	410	390
TCE	804	6,860	3,500	15,000	5,200	2,700	3,300	2,800	5,800	5,800	5,800	2,100	1,400	1,300	1,600
cis-DCE	485	4,280	1,200	11,000	4,400	1,600	2,300	1,500	8,300	8,300	8,400	4,600	1,400	1,400	2,000
trans-DCE	46	660	450	2,900	680	280	630	460	2,300	2,100	2,000	990	390	400	560
1,1-DCE	<10	<200	5.9	<100	<100	<200	<100	<100	<100	<100	<100	8.0	5.7	4.9	<100
VC	<30	<600	<1.0	<100	<100	<200	<100	<100	<100	<100	<100	3.2	0.5	1.0	<100

MW7

Date	06/05	01/06	04/06	07/06	10/06	05/07	11/07	05/08	11/08	05/09	11/09	11/10	05/11	11/11
PCE	<1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.3	<1.0
TCE	<1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-DCE	<1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-DCE	<1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-DCE	<1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

MW6

Date	06/05	01/06	04/06	07/06	07/06	10/06	11/06	03/07	05/07	05/07	10/07	11/07	05/08	11/08	05/09	06/09	11/09	11/10	05/11	11/11
B	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	1.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
T	<1.0	<0.5	<0.5	<1.0	<0.5	<0.5	2.7	<1.0	<0.5	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
X	<3.0	<1.5	<1.5	<2.0	<1.5	<1.5	2.1	<2.0	<1.5	<2.0	<2.0	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
MTBE	<2.0	<1.0	<1.0	1.5	<1.0	<1.0	1.2	<1.0	1.4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0
PCE	29.5	23	27	44	23	17	29	36	16	36	20	9.4	<8.8	5.5	7.8	13	5.9	2.4	4.4	3.7
TCE	1.4	6.6	6.0	3.6	3.5	4.3	1.4	1.7	1.9	2.4	1.5	<1.0	1.8	1.8	2.83	1.2	<1.0	<1.0	1.2	<1.0
cis-DCE	<1.0	<1.0	<1.0	1.9	<1.0	1.1	<1.0	<1.0	<1.0	1.2	<1.0	<1.0	<1.0	<1.0	<1.0	0.33J	<1.0	<1.0	<1.0	<1.0
trans-DCE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0
1,1-DCE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0

NM-MW2

Date	07/06	11/06	03/07	05/07	10/07	06/09	11/10	05/11	11/11
B	<0.5	1.1	0.95	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
T	<0.5	2.2	2.5	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5
MTBE	<1.0	<1.0	<1.0	<1.0	<1.0	0.56	0.50	<1.0	<1.0
PCE	25	18	5.8	24	23	16	3	31	<1.0
TCE	2.0	1.9	1.1	3.1	2.9	1.5	0.5	8.3	<1.0
cis-DCE	<0.5	<1.0	<1.0	<1.0	<1.0	0.84	0.5	4	<1.0
trans-DCE	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5	<1.0	<1.0	<1.0
1,1-DCE	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5	<1.0	<1.0	<1.0

NM-MW1

Date	07/04	07/06	11/06	03/07	05/07	10/07	06/09	11/10	05/11	11/11
B	ND	<0.5	7.0	<5.0	<2.5	<2.5	<0.5	<0.5	<0.5	<5.0
T	ND	<1.0	20	<10	<5.0	<5.0	<0.5	<0.5	<0.5	<10
E	ND	<1.0	4.6	<10	<5.0	<5.0	<0.5	<0.5	<0.5	<10
X	ND	<2.0	33.4	<20	<10	<10	<1.5	<1.5	<1.5	<20
MTBE	350	890	160	85	230	260	61	180	190	200
PCE	150	450	700	600	570	440	930	380	350	420
TCE	4.2	16	22	20	23	19	32	21	18	27
cis-DCE	ND	3.7	4.8	<1.0	5.0	<5.0	7.2	8.2	7.1	10
trans-DCE	ND	<1.0	<1.0	<1.0	<5.0	<5.0	0.49J	0.5	<1.0	<10
1,1-DCE	ND	<1.0	<1.0	<1.0	<5.0	<5.0	<0.5	<1.0	<1.0	<10

MW8

Date	11/10	05/11	11/11
PCE	19	9.7	16
TCE	44	23	21
cis-DCE	22	7.9	5.4
trans-DCE	2.6	<1.0	<1.0
1,1-DCE	<1.0	<1.0	<1.0

MW9

Date	11/10	05/11	11/11
PCE	140	180	270
TCE	5.2	6.1	<10
cis-DCE	<1.0	<1.0	<10
trans-DCE	<1.0	<1.0	<10
1,1-DCE	<1.0	<1.0	<10

MW3

Date	05/03	06/05	01/06	04/06	07/06	10/06	05/07	11/07	05/08	11/08	05/09	11/09	11/10	05/11	11/11
B	<1.0	<1.0	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5
T	<1.0	<1.0	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5
E	<1.0	<1.0	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5
X	<3.0	<3.0	<1.5	<1.5	<1.5	<3.0	<1.5	<1.5	<3.0	<3.0	<3.0	<1.5	<1.5	<1.5	<1.5
MTBE	<2.0	<2.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<2.0	<2.0	<2.0	<1.0	<1.0	<1.0	<1.0
TBA	NA	<10	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<10	<10	32	3	<5.0	<5.0
PCE	54.9	112	54	63	45	27	29	73	71	550	230	140	63	56	35
TCE	28.5	96.7	62	110	81	43	52	140	150	270	190	64	64	67	62
cis-DCE	19.8	91.6	31	100	89	41	24	160	300	710	280	200	200	260	130
trans-DCE	<1.0	40.6	11	28	20	8.1	4.2	26	52	46	61	25	15	39	18
1,1-DCE	<1.0	<1.0	<1.0	1.3	1.3	<2.0	<1.0	<1.0	<2.0	<2.0	<2.0	<1.0	<1.0	<1.0	<1.0

MW5

Date	06/05	01/06	04/06	07/06	07/06	10/06	11/06	03/07	05/07	05/07	10/07	11/07	05/08	11/08	05/09	06/09	11/09	11/10	05/11	11/11
B	<1.0	<50	<50	<0.5	<50	<10	1.6	<0.5	<5.0	<2.5	<2.5	<5.0	<5.0	<10	<5.0	0.52	<10	<10	0.50	0.50
T	<1.0	<50	<50	<1.0	<50	<10	3.7	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<0.5	<10	<10	<0.5	<0.5
X	<3.0	<150	<150	<2.0	<150	<30	5.4	<2.0	<15	<10	<10	<15	<15	<30	<15	<1.5	<30	<30	<1.5	<1.5
MTBE	<2.0	<100	<100	20	<100	<20	22	29	21	30	33	26	26	27	29	26	43	32	40	28
PCE	1,270	1,200	1,300	360	1,100	1,200	760	620	1,300	560	470	1,400	840	870	1,100	510	710	800	500	680
TCE	52	150	2200	16	<100	52	31	31	67	30	27	64	32	46	43	22	88	54	27	29
cis-DCE	<1.0	<100	<100	8	<100	<20	13	16	21	13	15	22	14	23	19	18	120	34	18	21
trans-DCE	<1.0	<100	<100	1.2	<100	<20	1.9	3	<10	<5.0	<5.0	<10	<10	<20	<10	1.8	<20	<20	1.3	<1.0
1,1-DCE	<20	<100	<100	<1.0	<100	<20	<1.0	<1.0	<10	<5.0	<5.0	<10	<10	<20	<10	<0.5	<20	<20	<1.0	<1.0

MW1

Date	05/03	06/05	01/06	04/06	07/06	10/06	05/07	11/07	05/08	11/08	05/09	11/09	11/10	05/11	11/11
T	<1.0	<200	0.6	<50	<50	<50	<25	<25	120	<50	<50	<0.5	<0.5	<0.5	<50
TBA	NA	<2,000	<5.0	<500	<500	<500	<250	<250	<500	<500	<500	8.8	2.5	<5.0	<500
PCE	71.7	11,100	7,000	8,400	5,500	4,700	3,100	7,200	9,400	5,200	3,600	2,900	5,500	6,900	6,300
TCE	13.2	1,220	660	800	600	520	550	1,100	970	580	400	420	880	1,400	1,000
cis-DCE	4.2	780	530	580	480	430	570	680	490	280	210	250	370	500	380
trans-DCE	<1.0	<200	8.9	<100	<100	<100	<50	<50	<100	<100	<100	3.3	5.4	12.0	<100
1,1-DCE	<1.0	<200	1.8	<100	<100	<100	<50	<50	<100	<100	<100	<1.0	1.1	1.7	<100

NM-MW3

Date	06/09	11/10	05/11	11/11
MTBE	0.99	<1.0	<1.0	<1.0
PCE	<0.5	<1.0	<1.0	<1.0
TCE	<0.5	<1.0	<1.0	<1.0
cis-DCE	<0.5	<1.0	<1.0	<1.0
trans-DCE	<0.5	<1.0	<1.0	<1.0
1,1-DCE	<0.5	<1.0	<1.0	<1.0

EXPLANATION

Approximate groundwater monitoring well locations

Approximate soil boring locations

MW8

Date	11/10	05/11
B	<0.5	<0.5
T	<0.5	<0.5
E	<0.5	<0.5
X	<1.5	<1.5
MTBE	<1.0	<1.0
TBA	<5.0	<5.0
PCE	19	9.7
TCE	44	23
cis-DCE	22	7.9
trans-DCE	2.6	<1.0
1,1-DCE	<1.0	<1.0

Groundwater water samples collected by SCS Engineers on November 7 and 8, 2011. Groundwater samples analyzed for volatile organic compounds (VOCs) by EPA Method 8260B. Results reported in micrograms per liter (µg/L). < indicates concentration not reported above indicated detection limit for relevant analyte and analytical method. NA indicates not analyzed.

B = benzene
T = toluene
E = ethylbenzene
X = xylenes
MTBE = methyl tertiary buty ether
TBA = tertiary butal alcohol
PCE = tetrachloroethene
TCE = trichloroethene
cis-DCE = cis-DCE-dichloroethene
trans-DCE = trans-DCE-dichloroethene
1,1-DCE = 1,1-dichloroethene
VC = vinyl chloride

Disclaimer: This figure is based on available data. Actual conditions may differ. All locations and dimensions are approximate.

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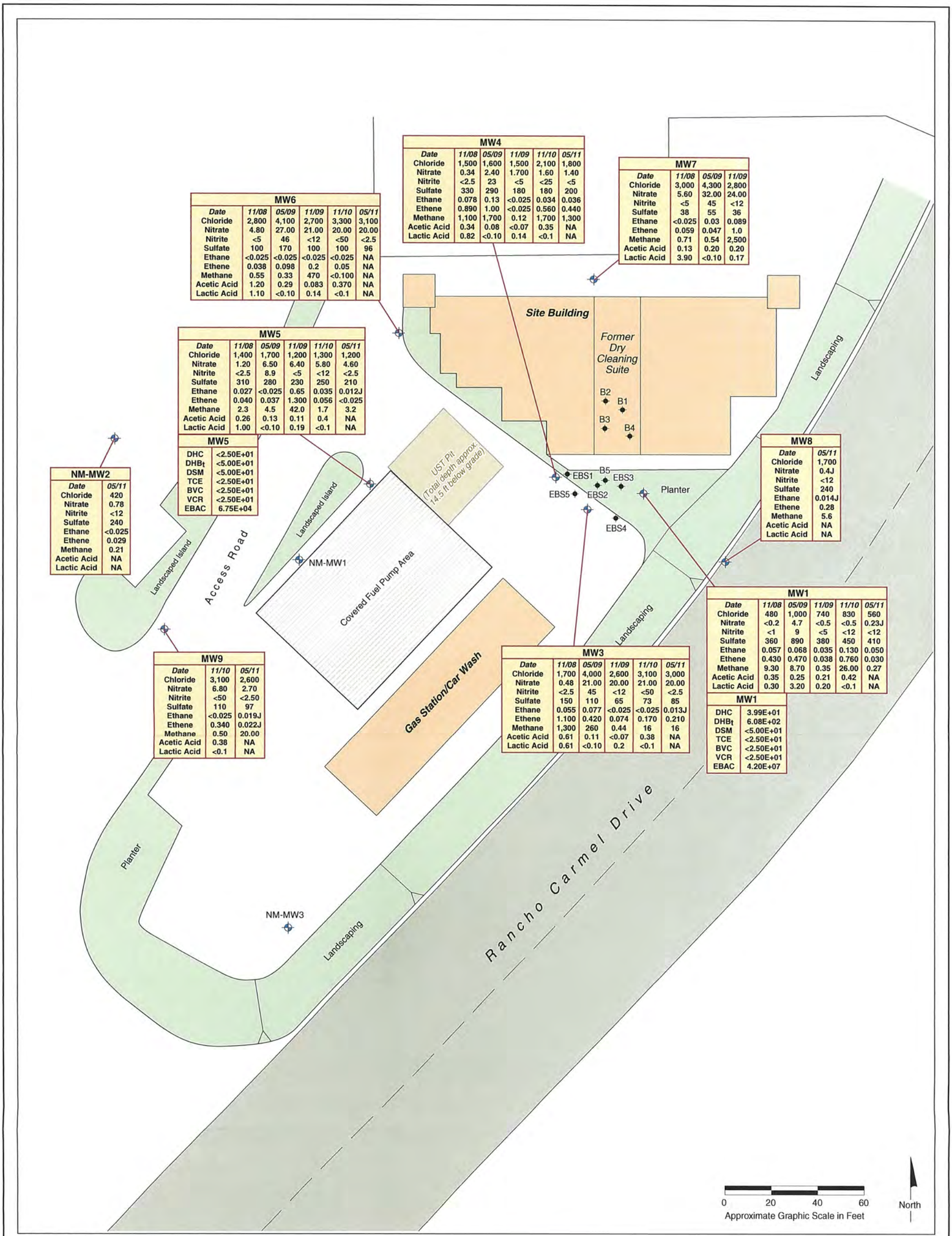
SITE PLAN WITH HISTORICAL GROUNDWATER ANALYTICAL RESULTS

PSS Partners
11040 Rancho Carmel Drive
San Diego, California

Project No.: 11011963.08

Figure 2

Date Drafted: 2/2/12



EXPLANATION

MW3 — Monitoring well designation and approximate location

B5 — Soil boring designation and approximate location

MW8	
Date	*05/11*
Chloride	1,700
Nitrate	0.4J
Nitrite	<12
Sulfate	240
Ethane	0.014J
Ethene	0.28
Methane	5.6
Acetic Acid	NA
Lactic Acid	NA

Groundwater water samples collected by SCS Engineers on May 16 and 17, 2011. Samples analyzed for chloride, nitrate, nitrite, and sulfate by EPA Method 9056 with results reported in milligrams per liter (mg/L); ethane, ethene, and methane in accordance with AM20GAX with results reported in micrograms per liter (µg/L); acetic acid and lactic acid in accordance with AM23G with results reported in milligrams per liter (mg/L). < indicates concentration not reported above indicated detection limit for relevant analyte and analytical method. NA indicates not analyzed. J indicates estimated value

MW1	
DHC	3.99E+01
DHBt	6.08E+02
DSM	<5.00E+01
TCE	<2.50E+01
BVC	<2.50E+01
VCR	<2.50E+01
EBAC	4.20E+07

Groundwater samples analyzed for Dehalococcoides (DHC), Dehalobacter (DHBt), Desulfuromonas (DSM), tceA Reductase (TCE), bvcA Reductase (BVC), Vinyl Choride Reductase (VCR), and total Eubacteria (EBAC). Results reported in units of cells per bead.

Disclaimer: This figure is based on available data. Actual conditions may differ. All locations and dimensions are approximate.

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SITE PLAN WITH HISTORICAL GROUNDWATER SAMPLE NATURAL ATTENUATION PARAMETERS

PSS Partners
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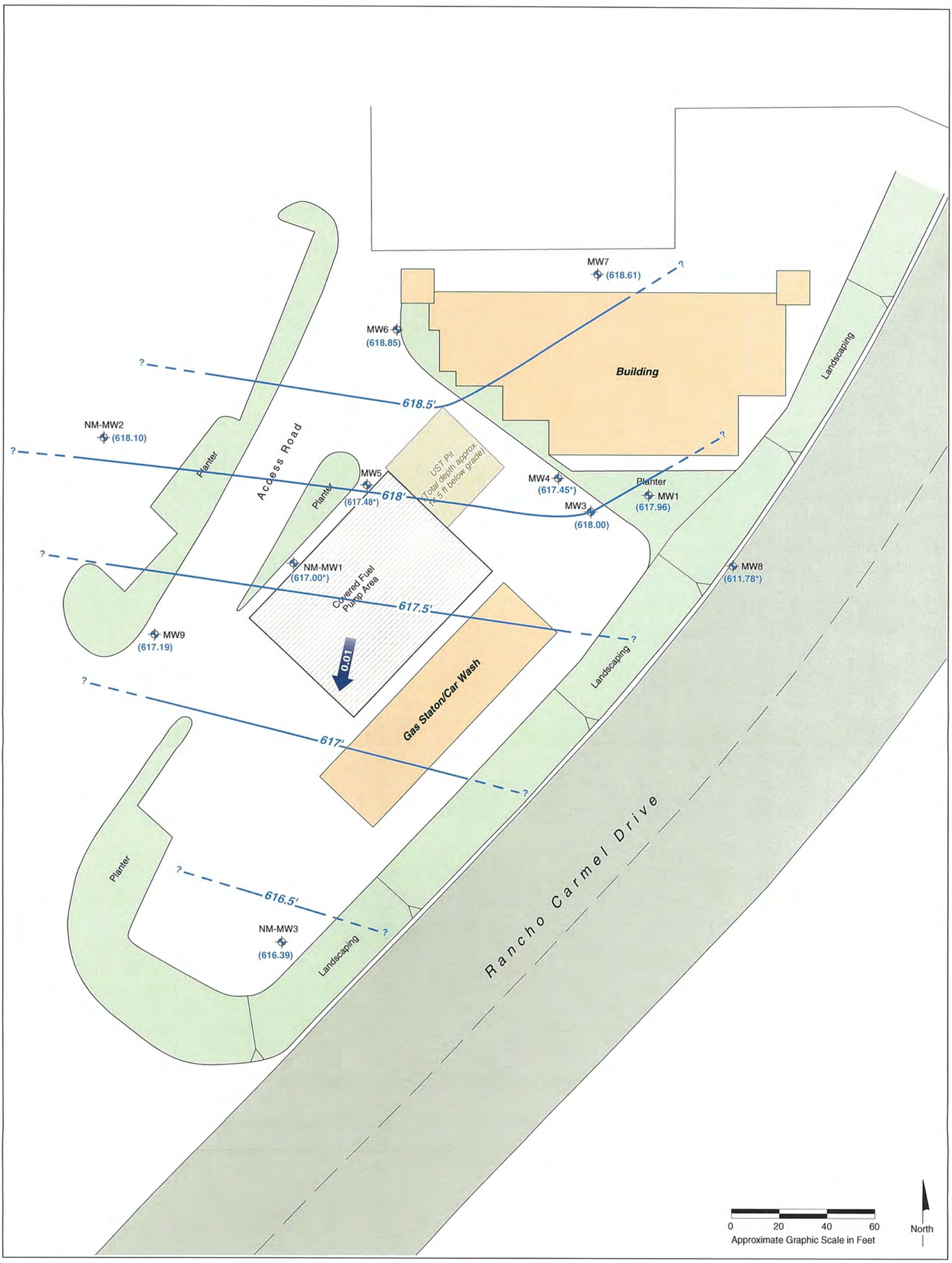
San Diego, California

Project No.: 11011963.08

Figure 3

Date Drafted: 9/12/11



EXPLANATION

Approximate groundwater monitoring well locations

(611.78*) Groundwater elevation in feet above mean sea level.
*Indicates groundwater elevation interpreted to be anomolous and not used in groundwater elevation contouring.

618' Estimated groundwater contour in feet above mean sea level.

0.01 Direction of groundwater flow, with gradient in foot/foot.

Disclaimer: This figure is based on available data. Actual conditions may differ. All locations and dimensions are approximate.

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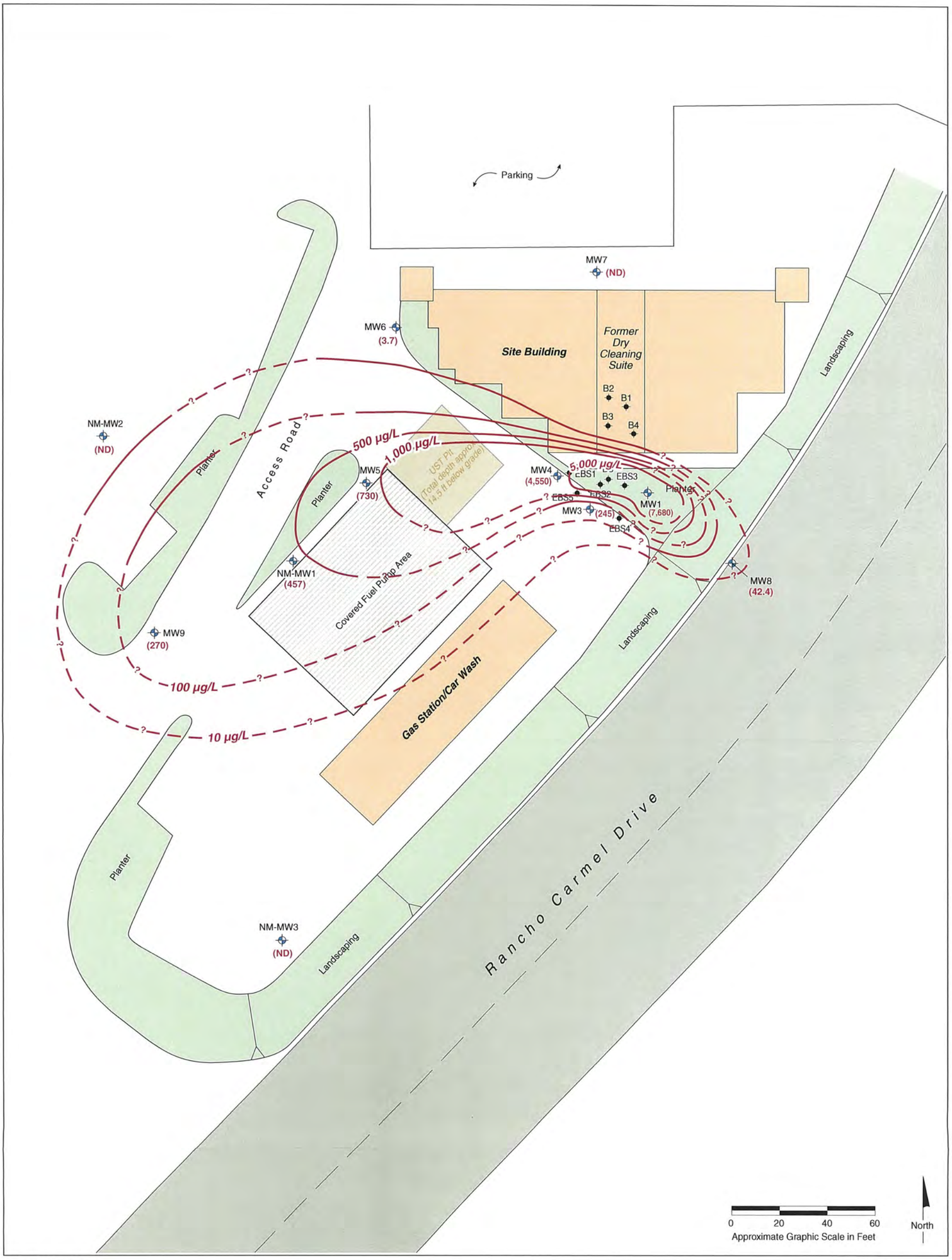
GROUNDWATER ELEVATION MAP
November 7, 2011
PSS Partners
11040 Rancho Carmel Drive
San Diego, California

Project No.: 11011963.08

Figure 4

Date Drafted: 11/23/11



EXPLANATION

- Approximate groundwater monitoring well locations
- Approximate soil boring locations
- (270) Reported November 2011 total chlorinated hydrocarbon concentration in micrograms per liter (µg/L).
- Interpreted isoconcentration contour of total chlorinated hydrocarbons (including tetrachloroethene, trichloroethene, 1,1-Dichloroethane, cis-1,2-Dichloroethene, trans-1,2-Dichloroethene, 1,1-Dichloroethene, and vinyl chloride) dissolved in groundwater. Concentration units in micrograms per liter (µg/L). ND = No chlorinated solvents dissolved in groundwater reported above the analyte specific reporting limits. Contours dashed and queried (?) where inferred.

Disclaimer: This figure is based on available data. Actual conditions may differ. All locations and dimensions are approximate.

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INTERPRETED EXTENT OF CHLORINATED SOLVENTS DISSOLVED IN GROUNDWATER NOVEMBER 2011

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San Diego, California

Project No.: 11011963.08

Figure 5

Date Drafted: 11/23/11

TABLES

Table 1 - Historical Groundwater Elevation Data
Former Marston's Cleaners
11040 Rancho Carmel Drive, San Diego, California

Monitor Well (Screen Interval in feet below grade)	Date Collected	Depth to Water (feet below TOC)	Surveyed TOC Elevation (feet above datum)	GW Elevation (feet above datum)
MW1 (10.0' - 25.0')	5/23/2003	17.95	634.59	616.64
	6/8/2005	16.79	634.59	617.80
	1/19/2006	16.81	634.59	617.78
	4/20/2006	16.11	634.59	618.48
	7/20/2006	12.80	634.59	621.79
	10/11/2006	15.56	634.59	619.03
	5/3/2007	17.95	634.59	616.64
	11/6/2007	16.17	634.59	618.42
	5/8/2008	15.45	634.59	619.14
	11/10/2008	16.10	634.59	618.49
	5/12/2009	16.61	634.59	617.98
	11/10/2009	17.59	634.59	617.00
	11/2/2010	16.81	634.59	617.78
	5/16/2011	16.03	634.59	618.56
	11/7/2011	16.63	634.59	617.96
MW3 (15.0' - 35.0')	5/23/2003	15.70	633.63	617.93
	6/8/2005	9.97	633.63	623.66
	1/19/2006	15.40	633.63	618.23
	4/20/2006	15.03	633.63	618.60
	7/20/2006	14.96	633.63	618.67
	10/11/2006	15.65	633.63	617.98
	5/3/2007	16.79	633.63	616.84
	11/6/2007	15.60	633.63	618.03
	5/8/2008	15.50	633.63	618.13
	11/10/2008	15.15	633.63	618.48
	5/12/2009	15.72	633.63	617.91
	11/10/2009	16.65	633.63	616.98
	11/2/2010	15.84	633.63	617.79
	5/16/2011	15.09	633.63	618.54
	11/7/2011	15.63	633.63	618.00
MW4 (10.0' - 30.0')	5/23/2003	16.40	633.78	617.38
	6/8/2005	14.24	633.78	619.54
	1/19/2006	15.61	633.78	618.17
	4/20/2006	15.27	633.78	618.51
	7/20/2006	15.14	633.78	618.64
	10/11/2006	15.70	633.78	618.08
	5/3/2007	16.81	633.78	616.97
	11/6/2007	15.50	633.78	618.28
	5/8/2008	15.10	633.78	618.68
	11/10/2008	15.49	633.78	618.29
	5/12/2009	15.80	633.78	617.98
	11/10/2009	16.63	633.78	617.15
	11/2/2010	16.09	633.78	617.69
	5/16/2011	15.41	633.78	618.37
	11/7/2011	16.33	633.78	617.45
MW5 (12.0' - 27.0')	6/8/2005	13.96	633.31	619.35
	1/19/2006	15.41	633.31	617.90
	4/20/2006	15.05	633.31	618.26
	7/20/2006	14.96	633.31	618.35
	10/11/2006	15.30	633.31	618.01
	5/3/2007	16.11	633.31	617.20
	11/6/2007	15.35	633.31	617.96
	5/8/2008	14.86	633.31	618.45
	11/10/2008	15.36	633.31	617.95
	5/12/2009	15.80	633.31	617.51
	11/10/2009	17.00	633.31	616.31
	11/2/2010	16.04	633.31	617.27
	5/16/2011	15.40	633.31	617.91
	11/7/2011	15.83	633.31	617.48
MW6 (12.0' - 27.0')	6/8/2005	11.22	631.48	620.26
	1/19/2006	12.52	631.48	618.96
	4/20/2006	12.15	631.48	619.33
	7/20/2006	12.01	631.48	619.47
	10/11/2006	12.29	631.48	619.19
	5/3/2007	12.80	631.48	618.68
	11/6/2007	12.24	631.48	619.24
	5/8/2008	11.79	631.48	619.69
	11/10/2008	12.15	631.48	619.33
	5/12/2009	12.70	631.48	618.78
	11/10/2009	13.21	631.48	618.27
	11/2/2010	12.59	631.48	618.89
	5/16/2011	12.15	631.48	619.33
	11/7/2011	12.63	631.48	618.85
MW7 (12.0' - 27.0')	6/8/2005	13.62	633.73	620.11
	1/19/2006	14.92	633.73	618.81
	4/20/2006	14.55	633.73	619.18
	7/20/2006	14.56	633.73	619.17
	10/11/2006	14.80	633.73	618.93
	5/3/2007	15.56	633.73	618.17
	11/6/2007	14.65	633.73	619.08
	5/8/2008	14.15	633.73	619.58
	11/10/2008	14.62	633.73	619.11
	5/12/2009	15.10	633.73	618.63
	11/10/2009	15.84	633.73	617.89
	11/2/2010	15.26	633.73	618.47
	5/16/2011	14.61	633.73	619.12
	11/7/2011	15.12	633.73	618.61
MW8 (25.0' - 40.0')	11/2/2010	36.02	647.57	611.55
	5/16/2011	35.95	647.57	611.62
	11/7/2011	35.79	647.57	611.78
MW9 (13.0' - 28.0')	11/2/2010	14.00	631.39	617.39
	5/16/2011	13.32	631.39	618.07
	11/7/2011	14.20	631.39	617.19
NM-MW1 (9.0' - 24.0')	11/2/2010	15.65	632.76	617.11
	5/16/2011	14.87	632.76	617.89
	11/7/2011	15.76	632.76	617.00
NM-MW2 (5.0' - 20.0')	11/2/2010	9.95	628.22	618.27
	5/16/2011	9.47	628.22	618.75
	11/7/2011	10.12	628.22	618.10
NM-MW3 (10.0' - 25.0')	11/2/2010	18.05	634.61	616.56
	5/16/2011	16.70	634.61	617.91
	11/7/2011	18.22	634.61	616.39

Notes:

Groundwater elevation data collected by SCS Engineers.

Depth to Water = Depth to groundwater as measured in the well in feet below TOC.

TOC Elevation = Elevation of the Top of Casing in feet above North American Vertical Datum 1988 (NAVD88).

GW Elevation = Elevation of groundwater as measured in well in feet above approved datum.

Table 2 (Page 1 of 2) - Historical Groundwater Sample Analytical Results for VOCs
Former Marston's Cleaners
11040 Rancho Carmel Drive, San Diego, California

Sample Designation	Date Collected	Consultant	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	m,p-Xylenes (µg/L)	o-Xylenes (µg/L)	Methyl tert-butyl ether (µg/L)	Di-isopropyl ether (µg/L)	Ethyl tert-butyl ether (µg/L)	Tert-amyl methyl ether (µg/L)	Tert-butyl alcohol (µg/L)	Tetrachloroethene (µg/L)	Trichloroethene (µg/L)	1,1-Dichloroethane (µg/L)	cis-1,2-Dichloroethene (µg/L)	trans-1,2-Dichloroethene (µg/L)	1,1-Dichloroethene (µg/L)	Vinyl Chloride (µg/L)
MW1	5/22/2003	SCS	<1.0	<1.0	<1.0	<2.0	<1.0	<2.0	NA	NA	NA	NA	**71.7**	**13.2**	<1.0	**4.2**	<1.0	<1.0	<3.0
	6/8/2005		<200	<200	<200	<400	<200	<400	<400	<400	<400	<2000	**11,100**	**1,220**	<200	**780**	<200	<200	<500
	1/19/2006		<0.5	**0.6**	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<5.0	**7,000**	**660**	**1.1**	**530**	**8.9**	**1.8**	<1.0
	4/20/2006		<50	<50	<50	<100	<50	<100	<100	<100	<100	<500	**8,400**	**800**	<100	**580**	<100	<100	<100
	7/21/2006		<50	<50	<50	<100	<50	<100	<100	<100	<100	<500	**5,500**	**600**	<100	**480**	<100	<100	<100
	10/11/2006		<50	<50	<50	<100	<50	<100	<100	<100	<100	<500	**4,700**	**520**	<100	**430**	<100	<100	<100
	5/4/2007		<25	<25	<25	<50	<25	<50	<50	<50	<50	<250	**3,100**	**550**	<50	**570**	<50	<50	<50
	11/6/2007		<25	<25	<25	<50	<25	<50	<50	<50	<50	<250	**7,200**	**1,100**	<50	**680**	<50	<50	<50
	5/8/2008		<50	**120**	<50	<100	<50	<100	<100	<100	<100	<500	**9,400**	**970**	<100	**490**	<100	<100	<100
	11/11/2008		<50	<50	<50	<100	<50	<100	<100	<100	<100	<500	**5,200**	**580**	<100	**280**	<100	<100	<100
	5/12/2009		<50	<50	<50	<100	<50	<100	<100	<100	<100	<500	**3,600**	**400**	<100	**210**	<100	<100	<100
	11/10/2009		<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	**8.8**	**2,900**	**420**	<1.0	**250**	**3.3**	<1.0	<1.0
	11/3/2010		<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	**2.5**	**5,500**	**880**	<1.0	**370**	**5.4**	**1.1**	<1.0
	5/17/2011		<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<5.0	**6,900**	**1,400**	<1.0	**500**	**12.0**	**1.7**	<1.0
	11/7/2011		<50	<50	<50	<100	<50	<100	<100	<100	<100	<500	**6,300**	**1,000**	<100	**380**	<100	<100	<100
MW3	5/22/2003	SCS	<1.0	<1.0	<1.0	<2.0	<1.0	<2.0	NA	NA	NA	NA	**54.9**	**28.5**	<1.0	**19.8**	<1.0	<1.0	<3.0
	6/8/2005		<1.0	<1.0	<1.0	<2.0	<1.0	<2.0	<2.0	<2.0	<2.0	<10.0	**112**	**96.7**	**1.2**	**91.6**	**40.6**	<1.0	<3.0
	1/19/2006		<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<5.0	**54**	**62**	<1.0	**31**	**11**	<1.0	<1.0
	4/20/2006		<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<5.0	**63**	**110**	<1.0	**100**	**28**	**1.3**	<1.0
	7/21/2006		<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<5.0	**45**	**81**	<1.0	**89**	**20**	**1.3**	<1.0
	10/11/2006		<1.0	<1.0	<1.0	<2.0	<1.0	<2.0	<2.0	<2.0	<2.0	<10	**27**	**43**	<2.0	**41**	**8.1**	<2.0	<2.0
	5/4/2007		<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<5.0	**29**	**52**	<1.0	**24**	**4.2**	<1.0	<1.0
	11/6/2007		<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<5.0	**76**	**140**	<1.0	**160**	**26**	<1.0	<1.0
	5/8/2008		<1.0	<1.0	<1.0	<2.0	<1.0	<2.0	<2.0	<2.0	<2.0	<10	**71**	**150**	<2.0	**300**	**52**	<2.0	<2.0
	11/11/2008		<1.0	<1.0	<1.0	<2.0	<1.0	<2.0	<2.0	<2.0	<2.0	<10	**550**	**270**	<2.0	**710**	**46**	<2.0	<2.0
	5/12/2009		<1.0	<1.0	<1.0	<2.0	<1.0	<2.0	<2.0	<2.0	<2.0	<10	**230**	**190**	<2.0	**280**	**61**	<2.0	<2.0
	11/10/2009		<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	**32**	**140**	**64**	<1.0	**200**	**25**	<1.0	<1.0
	11/3/2010		<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	**3**	**63**	**64**	<1.0	**200**	**15**	<1.0	<1.0
	5/17/2011		<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<5.0	**56**	**67**	<1.0	**260**	**39**	<1.0	<1.0
	11/7/2011		<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<5.0	**35**	**62**	<1.0	**130**	**18**	<1.0	<1.0
MW4	5/22/2003	SCS	<10.0	<10	<10.0	<20.0	<10.0	<20.0	NA	NA	NA	NA	**304**	**804**	<10.0	**485**	**46**	<10	<30.0
	6/8/2005		<200	<200	<200	<400	<200	<400	<400	<400	<400	<2000	**1,780**	**6,860**	<200	**4,280**	**660**	<200	<600
	1/19/2006		<0.5	<0.5	<0.5	<1.0	<0.5	**1.4**	<1.0	<1.0	<1.0	<5.0	**1,400**	**3,500**	<1.0	**1,200**	**450**	**5.9**	<1.0
	4/20/2006		<50	<50	<50	<100	<50	<100	<100	<100	<100	<500	**4,500**	**15,000**	<100	**11,000**	**2,900**	<100	<100
	7/21/2006		<50	<50	<50	<100	<50	<100	<100	<100	<100	<500	**1,600**	**5,200**	<100	**4,400**	**680**	<100	<100
	10/11/2006		<100	<100	<100	<200	<100	<200	<200	<200	<200	<1,000	**1,100**	**2,700**	<200	**1,600**	**280**	<200	<200
	5/4/2007		<50	<50	<50	<100	<50	<100	<100	<100	<100	<500	**1,200**	**3,300**	<100	**2,300**	**630**	<100	<100
	11/6/2007		<50	<50	<50	<100	<50	<100	<100	<100	<100	<500	**1,200**	**2,800**	<100	**1,500**	**460**	<100	<100
	5/8/2008		<50	**55**	<50	<100	<50	<100	<100	<100	<100	<500	**1,800**	**5,800**	<100	**8,300**	**2,300**	<100	<100
	11/11/2008		<50	<50	<50	<100	<50	<100	<100	<100	<100	<500	**1,000**	**5,800**	<100	**8,300**	**2,100**	<100	<100
	5/12/2009		<50	<50	<50	<100	<50	<100	<100	<100	<100	<500	**880**	**5,800**	<100	**8,400**	**2,000**	<100	<100
	11/10/2009		<0.5	**0.6**	<0.5	<1.0	<0.5	**1.1**	<1.0	<1.0	<1.0	**520**	**390**	**2,100**	<1.0	**4,600**	**990**	**8.0**	**3.2**
	11/3/2010		<0.5	**0.3**	<0.5	<1.0	<0.5	0.5	<1.0	<1.0	<1.0	**2.5**	**310**	**1,400**	<1.0	**1,400**	**390**	**5.7**	**0.5**
	5/17/2011		<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<5.0	**410**	**1,300**	<1.0	**1,400**	**400**	**4.9**	**1.0**
	11/7/2011		<50	<50	<50	<100	<50	<100	<100	<100	<100	<500	**390**	**1,600**	<100	**2,000**	**560**	<100	<100
MW5	6/8/2005	SCS	<1.0	<1.0	<1.0	<2.0	<1.0	<2.0	<2.0	<2.0	<2.0	<10.0	**1,270**	**52**	<1.0	<1.0	<1.0	<20	<3.0
	1/19/2006		<50	<50	<50	<100	<50	<100	<100	<100	<100	<500	**1,200**	**150**	<100	<100	<100	<100	<100
	4/20/2006		<50	<50	<50	<100	<50	<100	<100	<100	<100	<500	**1,300**	**220**	<100	<100	<100	<100	<100
	7/17/2006	N&M	<0.5	<1.0	<1.0	<1.0	<1.0	**20**	NA	NA	NA	NA	**360**	**16**	<1.0	**8**	**1.2**	<1.0	<0.5
	7/20/2006	SCS	<50	<50	<50	<100	<50	<100	<100	<100	<100	<500	**1,100**	<100	<100	<100	<100	<100	<100
	10/11/2006		<10	<10	<10	<20	<10	<20	<20	<20	<20	<100	**1,200**	**52**	<20	<20	<20	<20	<20
	11/14/2006	N&M	**1.6**	**3.7**	<1.0	**3.8**	**1.6**	**22**	NA	NA	NA	NA	**760**	**31**	<1.0	**13**	**1.9**	<1.0	<0.5
	3/1/2007		<0.5	<1.0	<1.0	<1.0	<1.0	**29**	NA	NA	NA	NA	**620**	**31**	<1.0	**16**	**3**	<1.0	<0.5
	5/4/2007	SCS	<5.0	<5.0	<5.0	<10	<5.0	**21**	<10	<10	<10	<50	**1,300**	**67**	<10	**21**	<10	<10	<10
	5/31/2007	N&M	<2.5	<5.0	<5.0	<5.0	<5.0	**30**	NA	NA	NA	NA	**560**	**30**	<5.0	**13**	<5.0	<5.0	<2.5
	10/8/2007		<2.5	<5.0	<5.0	<5.0	<5.0	**33**	NA	NA	NA	NA	**470**	**27**	<5.0	**15**	<5.0	<5.0	<2.5
	11/6/2007	SCS	<5.0	<5.0	<5.0	<10	<5.0	**26**	<10	<10	<10	<50	**1,400**	**64**	<10	**22**	<10	<10	<10
	5/9/2008		<5.0	<5.0	<5.0	<10	<5.0	**26**	<10	<10	<10	<50	**840**	**32**	<10	**14**	<10	<10	<10
	11/11/2008		<10	<10	<10	<20	<10	**27**	<20	<20	<20	<100	**870**	**46**	<20	**23**	<20	<20	<20
	5/12/2009		<5.0	<5.0	<5.0	<10	<5.0	**29**	<10	<10	<10	<50	**1,100**	**43**	<10	**19**	<10	<10	<10
	6/29/2009	N&M	**0.52**	<0.5	<0.5	<1.0	<0.5	**26**	<0.5	<0.5	<0.5	<10	**510**	**22**	<0.5	**18**	**1.8**	<0.5	<0.5
	11/10/2009	SCS	<10	<10	<10	<20	<10	**43**	<20	<20	<20	<100	**710**	**88**	<20	**120**	<20	<20	<20
	11/3/2010		<10	<10	<10	<20	<10	**32**	<20	<20	<20	<100	**800**	**54**	<20	**34**	<20	<20	<20
	5/16/2011		**0.5**	<0.5	<0.5	<1.0	<0.5	**40**	<1.0	<1.0	<1.0	<5.0	**500**	**27**	<1.0	**18**	**1.3**	<1.0	<1.0
	11/8/2011		**0.5**	<0.5	<0.5	<1.0	<0.5	**28**	<1.0	<1.0	<1.0	<5.0	**680**	**29**	<1.0	**21**	<1.0	<1.0	<1.0
MW6	6/9/2005	SCS	<1.0	<1.0	<1.0	<2.0	<1.0	<2.0	<2.0	<2.0	<2.0	<10.0	**29.5**	**1.4**	<1.0	<1.0	<1.0	<1.0	<3.0
	1/19/2006		<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<5.0	**23**	**6.6**	<1.0	<1.0	<1.0	<1.0	<1.0
	4/20/2006		<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<5.0	**27**	**6.0**	<1.0	<1.0	<1.0	<1.0	<1.0
	7/17/2006	N&M	<0.5	<1.0	<1.0	<1.0	<1.0	**1.5**	NA	NA	NA	NA	**44**	**3.6**	<1.0	**1.9**	<1.0	<1.0	<0.5
	7/20/2006	SCS	<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<5.0	**23**	**3.5**	<1.0	<1.0	<1.0	<1.0	<1.0
	10/11/2006		<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<5.0	**17**	**4.3**	<1.0	**1.1**	<1.0	<1.0	<1.0
	11/14/2006	N&M	**1.7**	**2.7**	<1.0	**2.1**	<1.0	<1.0	NA	NA	NA	NA	**29**	**1.4**	<1.0	<1.0	<1.0	<1.0	<0.5
	3/1/2007		<0.5	<1.0	<1.0	<1.0	<1.0	**1.2**	NA	NA	NA	NA	**36**	**1.7**	<1.0	<1.0	<1.0	<1.0	<0.5
	5/3/2007	SCS	<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<5.0	**16**	**1.9**	<1.0	<1.0	<1.0	<1.0	<1.0
	5/31/2007	N&M	<0.5	<1.0	<1.0	<1.0	<1.0	**1.4**	NA	NA	NA	NA	**36**	**2.4**	<1.0	**1.2**	<1.0	<1.0	<0.5
	10/8/2007		<0.5	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA	**20**	**1.5**	<1.0	<1.0	<1.0	<1.0	<0.5
	11/7/2007	SCS	<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<5.0	**9.4**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/9/2008		<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<5.0	**8.8**	**1.8**	<1.0	<1.0	<1.0	<1.0	<1.0
	11/10/2008		<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<5.0	**5.5**	**1.8**	<1.0	<1.0	<1.0	<1.0	<1.0
	5/12/2009		<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<5.0	**7.8**	**2.8**	<1.0	<1.0	<1.0	<1.0	<1.0
	6/29/2009	N&M	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<10	**13**	**1.2**	<0.5	**0.33J**	<0.5	<0.5	<0.5
	11/10/2009	SCS	<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<5.0	**5.9**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	11/3/2010		<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<5.0	**2.4**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/17/2011		<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<5.0	**4.4**	**1.2**	<1.0	<1.0	<1.0	<1.0	<1.0
	11/8/2011		<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<5.0	**3.7**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

Table 2 (Page 2 of 2) - Historical Groundwater Sample Analytical Results for VOCs
Former Marston's Cleaners
11040 Rancho Carmel Drive, San Diego, California

Sample Designation	Date Collected	Consultant	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	m,p-Xylenes (µg/L)	o-Xylenes (µg/L)	Methyl tert-butyl ether (µg/L)	Di-isopropyl ether (µg/L)	Ethyl tert-butyl ether (µg/L)	Tert-amyl methyl ether (µg/L)	Tert-butyl alcohol (µg/L)	Tetrachloroethene (µg/L)	Trichloroethene (µg/L)	1,1-Dichloroethane (µg/L)	cis-1,2-Dichloroethene (µg/L)	trans-1,2-Dichloroethene (µg/L)	1,1-Dichloroethene (µg/L)	Vinyl Chloride (µg/L)
MW7	6/9/2005	SCS	<1.0	<1.0	<1.0	<2.0	<1.0	<2.0	<2.0	<2.0	<2.0	<10.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
	1/19/2006		<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	4/20/2006		<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	7/20/2006		<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	10/11/2006		<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/3/2007		<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	11/7/2007		<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/8/2008		<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	**1.2**	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	11/10/2008		<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/12/2009		<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	11/10/2009		<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	11/2/2010		<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/16/2011		<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<5.0	**2.3**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	11/7/2011		<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW8	11/2/2010	SCS	<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<5.0	**19**	**44**	<1.0	**22**	**2.6**	<1.0	<1.0
	5/16/2011		<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<5.0	**9.7**	**23**	<1.0	**7.9**	<1.0	<1.0	<1.0
	11/8/2011		<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<5.0	**16**	**21**	<1.0	**5.4**	<1.0	<1.0	<1.0
MW9	11/2/2010	SCS	<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<5.0	**140**	**5.2**	<1.0	<1.0	<1.0	<1.0	<1.0
	5/16/2011		<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<5.0	**180**	**6.1**	<1.0	<1.0	<1.0	<1.0	<1.0
	11/8/2011		<5.0	<5.0	<5.0	<10	<5.0	<10	<10	<10	<10	<50	**270**	<10	<10	<10	<10	<10	<10
NM-MW1	7/20/2004	N&M	ND	ND	ND	ND	ND	**350**	ND	ND	**11**	ND	**150**	**4.2**	ND	ND	ND	ND	ND
	7/17/2006		<0.5	<1.0	<1.0	<1.0	<1.0	**890**	NA	NA	NA	NA	**450**	**16**	<1.0	**3.7**	<1.0	<1.0	<0.5
	11/14/2006		**7.0**	**20**	**4.6**	**24**	**9.4**	**160**	NA	NA	NA	NA	**700**	**22**	<1.0	**4.8**	<1.0	<1.0	<0.5
	3/1/2007		<5.0	<10	<10	<10	<10	**85**	NA	NA	NA	NA	**600**	**20**	<10	<10	<10	<10	<5.0
	5/31/2007		<2.5	<5.0	<5.0	<5.0	<5.0	**230**	NA	NA	NA	NA	**570**	**23**	<5.0	**5.0**	<5.0	<5.0	<2.5
	10/8/2007		<2.5	<5.0	<5.0	<5.0	<5.0	**260**	NA	NA	NA	NA	**440**	**19**	<5.0	<5.0	<5.0	<5.0	<2.5
	6/29/2009		<0.5	<0.5	<0.5	<1.0	<0.5	**61**	<0.5	<0.5	<0.5	<10	**930**	**32**	<0.5	**7.2**	**0.49J**	<0.5	<0.5
	11/3/2010	SCS	<0.5	<0.5	<0.5	<1.0	<0.5	**180**	<1.0	<1.0	<1.0	<5	**380**	**21**	<1.0	**8.2**	**0.5**	<1.0	<1.0
	5/17/2011		<0.5	<0.5	<0.5	<1.0	<0.5	**190**	<1.0	<1.0	<1.0	<5	**350**	**18**	<1.0	**7.1**	<1.0	<1.0	<1.0
	11/7/2011		<5.0	<10	<10	<10	<10	**200**	<10	<10	<10	<50	**420**	**27**	<10	**10**	<10	<10	<10
NM-MW2	7/17/2006	N&M	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	NA	NA	NA	NA	**25**	**2.0**	<1.0	<0.5	<1.0	<1.0	<0.25
	11/14/2006		**1.1**	**2.2**	<1.0	**1.9**	<1.0	<1.0	NA	NA	NA	NA	**18**	**1.9**	<1.0	<1.0	<1.0	<1.0	<0.5
	3/1/2007		**0.95**	**2.5**	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA	**5.8**	**1.1**	<1.0	<1.0	<1.0	<1.0	<0.5
	5/31/2007		<0.5	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA	**24**	**3.1**	<1.0	<1.0	<1.0	<1.0	<0.5
	10/8/2007		<0.5	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA	**23**	**2.9**	<1.0	<1.0	<1.0	<1.0	<0.5
	6/29/2009		<0.5	<0.5	<0.5	<1.0	<0.5	**0.56**	<0.5	<0.5	<0.5	<10	**16**	**1.5**	<0.5	**0.84**	<0.5	<0.5	<0.5
	11/2/2010	SCS	<0.5	<0.5	<0.5	<1.0	<0.5	**0.50**	<1.0	<1.0	<1.0	<5	**3**	**0.5**	<1.0	**0.5**	<1.0	<1.0	<1.0
	5/16/2011		<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<5	**31**	**8.3**	<1.0	**4**	<1.0	<1.0	<1.0
	11/8/2011		<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
NM-MW3	6/29/2009	N&M	<0.5	<0.5	<0.5	<1.0	<0.5	**0.99**	<0.5	<0.5	<0.5	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	11/2/2010	SCS	<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/17/2011		<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	11/7/2011		<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

Notes:

Results reported in micrograms per liter (µg/L).

Groundwater samples were analyzed for volatile organic compounds (VOCs) in general accordance with EPA Method 8260B.

NA = Not analyzed.

ND = Not detected above the respective detection limits.

< = Below laboratory detection limits for the relevant analytical method and **bold** font indicates a detection above the analyte specific reporting limit.

Analytical data for Ninyo & Moore wells NM-MW1 and NM-MW2 were obtained from Ninyo & Moore *Quarterly Groundwater Monitoring Report*, dated November 30, 2007.

J = Result is between the PQL (practical quantitation limit) and the calculated MDL (method detection limit).

SCS = SCS Engineers collected samples via peristaltic pump and dedicated tubing.

N&M = Ninyo & Moore collected samples via centrifugal pump and bailer.

Table 3 - Historical Groundwater Sample Analytical Results for Natural Attenuation Parameters
Former Marston's Cleaners
11040 Rancho Carmel Drive, San Diego, California

Sample Designation	Date Collected	Chloride (mg/L)	Nitrate mg/L)	Nitrite (mg/L)	Sulfate mg/L)	Ferrous Iron (mg/L)	Total Organic Carbon (mg/L)	Dissolved Iron (mg/L)	Ethane (µg/L)	Ethene (µg/L)	Methane (µg/L)	Hydrogen (µg/L)	Acetic Acid (mg/L)	Butyric Acid (mg/L)	Hexanoic Acid (mg/L)	i-Hexanoic Acid (mg/L)	i-Pentanoic Acid (mg/L)	Lactic Acid (mg/L)	Pentanoic Acid (mg/L)	Propionic Acid (mg/L)	Pyruvic Acid (mg/L)
MW1	11/11/2008	480	<0.2	<1	360	<1.0	9.8	<0.050	0.057	0.430	9.30	2.4	0.35	<0.07	0.86	<0.10	<0.07	0.30	<0.07	<0.07	<0.07
	5/12/2009	1,000	4.7	9	890	NA	NA	NA	0.068	0.470	8.70	NA	0.25	0.08	0.84	<0.10	<0.07	3.20	0.32	0.10	<0.07
	11/10/2009	740	<0.5	<5.00	380	NA	NA	NA	0.035	0.038	0.35	NA	0.21	0.082	<0.10	<0.10	<0.07	0.20	<0.07	0.075	<0.07
	11/3/2010	830	<0.5	<12.00	450	NA	NA	NA	0.130	0.760	26.0	NA	0.42	<0.05	<0.05	<0.05	<0.15	<0.1	<0.07	<0.05	<0.15
	5/17/2011	560	0.23J	<12.00	410	NA	NA	NA	0.050	0.030	0.27	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW3	11/11/2008	1,700	0.48	<2.5	150	<1.0	<5.0	<0.050	0.055	1.100	1,300	1.3	0.61	<0.07	<0.10	<0.10	<0.07	0.61	<0.07	<0.07	<0.07
	5/12/2009	4,000	21.00	45	110	NA	NA	NA	0.077	0.420	260	NA	0.11	<0.07	<0.10	<0.10	<0.07	<0.10	<0.07	<0.07	<0.07
	11/10/2009	2,600	20.00	<12.00	65	NA	NA	NA	<0.025	0.074	0.44	NA	<0.07	<0.07	<0.10	<0.10	<0.07	0.2	<0.07	<0.07	<0.07
	11/3/2010	3,100	21.00	<50.00	73	NA	NA	NA	<0.025	0.170	16	NA	0.38	<0.05	<0.05	<0.05	<0.15	<0.1	<0.07	<0.05	<0.15
	5/17/2011	3,000	20.00	<2.5	85	NA	NA	NA	0.013J	0.210	16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW4	11/11/2008	1,500	0.34	<2.5	330	<1.0	6.8	<0.050	0.078	0.890	1,100	1.9	0.34	<0.07	<0.10	<0.10	<0.07	0.82	<0.07	<0.07	<0.07
	5/12/2009	1,600	2.40	23	290	NA	NA	NA	0.13	1.000	1,700	NA	0.08	<0.07	<0.10	<0.10	<0.07	<0.10	<0.07	<0.07	<0.07
	11/10/2009	1,500	1.70	<5.00	180	NA	NA	NA	<0.025	<0.025	0.12	NA	<0.07	<0.07	<0.10	<0.10	<0.07	0.14	<0.07	<0.07	<0.07
	11/3/2010	2,100	1.60	<25.00	180	NA	NA	NA	0.034	0.560	1,700	NA	0.35	<0.05	<0.05	<0.05	<0.15	<0.1	<0.07	<0.05	<0.15
	5/17/2011	1,800	1.40	<5.0	200	NA	NA	NA	0.036	0.440	1,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW5	11/11/2008	1,400	1.20	<2.5	310	<1.0	<5.0	<0.050	0.027	0.040	2.3	1.2	0.26	<0.07	<0.10	<0.10	<0.07	1.00	<0.07	<0.07	<0.07
	5/12/2009	1,700	6.50	8.9	280	NA	NA	NA	<0.025	0.037	4.5	NA	0.13	<0.07	<0.10	<0.10	<0.07	<0.10	<0.07	<0.07	<0.07
	11/10/2009	1,200	6.40	<5.00	230	NA	NA	NA	0.65	1.300	42	NA	0.11	<0.07	<0.10	<0.10	<0.07	0.19	<0.07	<0.07	<0.07
	11/3/2010	1,300	5.80	<12.00	250	NA	NA	NA	0.035	0.056	1.7	NA	0.4	<0.05	<0.05	<0.05	<0.15	<0.1	<0.07	<0.05	<0.15
	5/16/2011	1,200	4.60	<2.5	210	NA	NA	NA	0.012J	<0.025	3.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW6	11/10/2008	2,800	4.80	<5	100	<1.0	<5.0	<0.050	<0.025	0.038	0.55	1.1	1.20	<0.07	<0.10	<0.10	<0.07	1.10	<0.07	<0.07	<0.07
	5/12/2009	4,100	27.00	46	170	NA	NA	NA	<0.025	0.098	0.33	NA	0.29	<0.07	<0.10	<0.10	<0.07	<0.10	<0.07	0.11	<0.07
	11/10/2009	2,700	21.00	<12.00	100	NA	NA	NA	<0.025	0.2	470	NA	0.083	<0.07	<0.10	<0.10	<0.07	0.14	<0.07	<0.07	<0.07
	11/3/2010	3,300	20.00	<50.00	100	NA	NA	NA	<0.025	0.05	<0.100	NA	0.370	<0.05	<0.05	<0.05	<0.15	<0.1	<0.07	<0.05	<0.15
	5/17/2011	3,100	20.00	<2.5	96	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW7	11/10/2008	3,000	5.60	<5	38	<1.0	<5.0	<0.050	<0.025	0.059	0.71	2.2	0.13	<0.07	<0.10	<0.10	<0.07	3.90	<0.07	<0.07	<0.07
	5/12/2009	4,300	32.00	45	55	NA	NA	NA	0.03	0.047	0.54	NA	0.20	<0.07	<0.10	<0.10	<0.07	<0.10	<0.07	<0.07	<0.07
	11/10/2009	2,800	24.00	<12.00	36	NA	NA	NA	0.089	1.0	2,500	NA	0.20	<0.07	<0.10	<0.10	<0.07	0.17	<0.07	<0.07	0.077
MW8	5/16/2011	1,700	0.4J	<12.00	240	NA	NA	NA	0.014J	0.28	5.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW9	11/3/2010	3,100	6.80	<50.00	110	NA	NA	NA	<0.025	0.340	0.50	NA	0.38	<0.05	<0.05	<0.05	<0.15	<0.1	<0.07	<0.05	<0.15
	5/16/2011	2,600	2.70	<2.50	97	NA	NA	NA	0.019J	0.022J	20.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NM-MW2	5/16/2011	420	0.78	<12.00	240	NA	NA	NA	<0.025	0.029	0.21	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
Groundwater samples collected by SCS Engineers.
Results reported in milligrams per liter (mg/L) and micrograms per liter (µg/L).
Groundwater samples analyzed for chloride, nitrate, nitrite, and sulfate in accordance with EPA Method 9056; ferrous iron in accordance with EPA Method 7199 Modified; total organic carbon in accordance with EPA Method 9060; dissolved iron in accordance with EPA Method 6010B; ethane, ethene, hydrogen, methane in accordance with AM20GAX; and acetic acid, butyric acid, hexanoic acid, i-hexanoic acid, i-pentanoic acid, lactic acid and HIBA, pentanoic Acid, propionic acid, and pyruvic acid in accordance with AM23G.
< indicates concentration not reported above indicated detection limit for relevant analyte and analytical method.
NA = Not analyzed
J = estimated value

APPENDIX A
Groundwater Sampling Field Forms

SCS ENGINEERS

Groundwater Sampling Data Sheet

Sampler: K Eschella, P.G. 8028
Sampler Signature:
Date: 11/7/11
Project Number: 110119G3.08
Client: PSS Partners
Location: 11040 Rancho Carmel Dr. San Diego
Sample Time: 1045

MW1 Well Designation
16.63 DTW (ft)
10.00 Top of Screen (ft)
21.00 Tubing/pump intake depth (ft)
25.00 Bottom of Screen (ft)
Peristaltic _____ Bladder Pump X Centrifugal _____
H2O Quality Meter make/ model: Horiba U52 w/ flow cell
Calibration Date and Time: 11/4/11 @ 1630

Time	Temperature (°C)	pH	O.R.P. (mV)	Conductivity (mS/cm)	Turbidity (N.T.U.)	D.O. (mg/L)	T.D.S. (mg/L)	Salinity (ppt)	DTW (feet)	Flow rate (mL/min)	Notes
1008											flow cell filling
1011	18.67	6.39	200	3.80	3.2	5.53	2.43	2.0	16.81	92	breakthrough
1014	18.77	6.29	205	3.78	3.5	4.74	2.41	2.0	16.92	92	
1017	18.92	6.21	205	3.69	4.3	3.95	2.35	1.9	16.99	92	
1020	19.09	6.14	204	3.67	3.3	3.66	2.35	1.9	17.04	92	
1023	19.12	6.12	202	3.65	3.0	4.02	2.34	1.9	17.07	90	
1026	19.14	6.10	201	3.64	2.9	4.26	2.33	1.9	17.10	90	
1029	19.16	6.10	201	3.64	2.7	3.99	2.33	1.9	17.12	90	
1032	19.17	6.11	201	3.64	2.5	3.92	2.33	1.9	17.14	90	
1035	19.19	6.11	200	3.64	2.4	3.90	2.33	1.9	17.15	90	
1038	19.16	6.10	200	3.64	2.3	3.89	2.33	1.9	17.16	90	
1041	19.18	6.10	200	3.64	2.5	3.86	2.33	1.9	17.17	90	
Stabilization criteria	± 3 % of reading	± 0.2	± 20 mV	± 3 - 5%	± 10 % & < 50	± 0.2 mg/L					

Notes:

Reviewed By: PL7972

SCS ENGINEERS

Groundwater Sampling Data Sheet

Sampler: K. Etchells, P.G. 8078
Sampler Signature:
Date: 11/7/11
Project Number: 110119163.08
Client: PSS Partners
Location: 11040 Rancho Carmel Dr., San Diego
Sample Time: 1130

MW3 Well Designation
15.63 DTW (ft)
15.00 Top of Screen (ft)
22.00 Tubing/pump intake depth (ft)
35.00 Bottom of Screen (ft)
Peristaltic _____ Bladder Pump X Centrifugal _____
H2O Quality Meter make/ model Horiba U52 w/ flow cell
Calibration Date and Time 11/4/11 @ 1630

Time	Temperature (°C)	pH	O.R.P. (mV)	Conductivity (mS/cm)	Turbidity (N.T.U.)	D.O. (mg/L)	T.D.S. (mg/L)	Salinity (ppt)	DTW (feet)	Flow rate (mL/min)	Notes
1100										186	flow cell filling
1102	19.97	6.57	182	7.82	22.2	1.03	4.93	4.3	15.85	186	breakthrough
1104	20.43	6.55	184	7.84	21.1	0.94	4.94	4.3	15.91	186	
1106	20.68	6.51	184	7.87	19.0	0.83	4.96	4.4	15.99	186	
1108	20.74	6.49	184	7.89	18.5	0.80	4.96	4.4	16.08	186	
1110	20.92	6.47	183	7.85	16.5	0.71	4.94	4.3	16.17	186	
1112	20.93	6.46	183	7.85	16.2	0.70	4.94	4.3	16.24	186	
1114	20.95	6.46	183	7.85	16.0	0.69	4.94	4.3	16.30	186	
1116	20.96	6.45	183	7.85	16.1	0.67	4.94	4.3	16.36	186	
1118	20.97	6.45	183	7.85	15.9	0.65	4.94	4.3	16.40	186	
1120	20.95	6.44	183	7.85	15.7	0.67	4.94	4.3	16.43	187	
1122	20.94	6.44	183	7.85	15.5	0.69	4.94	4.3	16.45	187	
1124	20.96	6.44	183	7.85	15.1	0.68	4.94	4.3	16.46	187	
1126	20.97	6.44	183	7.85	14.9	0.69	4.94	4.3	16.46	187	
Stabilization criteria	± 3 % of reading	± 0.2	± 20 mV	± 3 - 5%	± 10 % & < 50	± 0.2 mg/L					

Notes:

Reviewed By: [signature] PG 7972

SCS ENGINEERS

Groundwater Sampling Data Sheet

Sampler: K. Etchells, P.G. 8078
Sampler Signature:
Date: 11/7/11
Project Number: 110119163.08
Client: PSS Partners
Location: 11040 Rancho Carmel Dr., San Diego
Sample Time: 1235

MW4 Well Designation
16.33 DTW (ft)
10.00 Top of Screen (ft)
23.00 Tubing/pump intake depth (ft)
30.00 Bottom of Screen (ft)
Peristaltic _____ Bladder Pump X Centrifugal _____
H2O Quality Meter make/ model Horiba U52 w/ flow cell
Calibration Date and Time 11/4/11 @ 1630

Time	Temperature (°C)	pH	O.R.P. (mV)	Conductivity (mS/cm)	Turbidity (N.T.U.)	D.O. (mg/L)	T.D.S. (mg/L)	Salinity (ppt)	DTW (feet)	Flow rate (mL/min)	Notes
1200											flow cell filling
1202	21.98	6.72	173	7.69	16.7	1.40	4.80	4.2	16.75	120	breakthrough
1205	22.27	6.56	178	7.44	11.3	1.21	4.62	4.0	16.89	120	
1208	22.35	6.45	180	7.09	7.6	1.08	4.41	3.8	16.98	120	
1211	22.49	6.34	181	6.74	5.5	0.97	4.20	3.6	17.06	120	
1214	22.56	6.31	182	6.55	5.3	0.91	4.08	3.5	17.10	120	
1217	22.66	6.24	176	6.06	3.8	0.85	3.79	3.3	17.13	120	
1220	22.63	6.17	173	6.03	3.1	0.75	3.34	2.8	17.15	120	
1223	22.62	6.17	171	6.00	3.0	0.73	3.32	2.8	17.16	120	
1226	22.60	6.17	169	6.00	3.2	0.70	3.31	2.8	17.16	120	
1229	22.59	6.16	168	6.00	3.0	0.72	3.31	2.8	17.17	120	
1232	22.58	6.16	168	6.00	2.9	0.73	3.31	2.8	17.16	120	
Stabilization criteria	± 3 % of reading	± 0.2	± 20 mV	± 3 - 5%	± 10 % & < 50	± 0.2 mg/L					

Notes:

Reviewed By: DG 7972

SCS ENGINEERS

Groundwater Sampling Data Sheet

Sampler: K. Etchells, PG. 8028
Sampler Signature:
Date: 11/8/11
Project Number: 110119603.08
Client: PMS Partners
Location: 11040 Rancho Carmel Dr. San Diego
Sample Time: 1425

MW5 Well Designation
15.83 DTW (ft)
12.00 Top of Screen (ft)
24.00 Tubing/pump intake depth (ft)
27.00 Bottom of Screen (ft)
Peristaltic _____ Bladder Pump X Centrifugal _____
H2O Quality Meter make/ model Horiba U52 w/ flow cell
Calibration Date and Time 11/4/11 @ 1630

Time	Temperature (°C)	pH	O.R.P. (mV)	Conductivity (mS/cm)	Turbidity (N.T.U.)	D.O. (mg/L)	T.D.S. (mg/L)	Salinity (ppt)	DTW (feet)	Flow rate (mL/min)	Notes
1400											flow cell filling breakthrough
1403	25.25	6.73	147	3.99	3.0	1.36	2.57	2.1	15.98	165	
1406	23.90	6.40	155	4.04	3.2	1.17	2.59	2.1	16.05	165	
1409	23.46	6.28	157	4.06	3.0	1.00	2.60	2.2	16.17	165	
1412	22.12	6.21	158	4.08	3.0	0.95	2.61	2.2	16.14	165	
1415	22.81	6.18	158	4.10	3.0	0.82	2.62	2.2	16.15	165	
1418	22.77	6.17	157	4.10	3.4	0.80	2.62	2.2	16.16	165	
1421	22.73	6.16	159	4.10	3.2	0.78	2.62	2.1	16.16	165	
1424	22.76	6.15	163	4.10	3.0	0.77	2.62	2.1	16.17	165	
1427	22.75	6.16	166	4.10	2.9	0.75	2.62	2.1	16.17	165	
1430	22.73	6.15	169	4.10	2.8	0.76	2.62	2.1	16.17	165	
1433	22.72	6.15	171	4.10	2.9	0.73	2.62	2.1	16.17	165	
1436	22.70	6.15	170	4.10	2.7	0.75	2.62	2.1	16.17	165	
1439	22.69	6.15	172	4.10	2.6	0.76	2.62	2.1	16.17	165	
Stabilization criteria	± 3 % of reading	± 0.2	± 20 mV	± 3 - 5%	± 10 % & < 50	± 0.2 mg/L					

Notes:

Reviewed By: PG 7972

SCS ENGINEERS

Groundwater Sampling Data Sheet

Sampler: K. Etchells, P.G. 8028
Sampler Signature:
Date: 11/8/11
Project Number: 110119603.08
Client: PSS Partners
Location: 11040 Rancho Carmel Dr, San Diego,
Sample Time: 1340

MW6 Well Designation
17.63 DTW (ft)
17.00 Top of Screen (ft)
20.00 Tubing/pump intake depth (ft)
27.00 Bottom of Screen (ft)
Peristaltic _____ Bladder Pump X Centrifugal _____
H2O Quality Meter make/ model Horiba U52 w/ flow cell
Calibration Date and Time 11/4/11 @ 1630

Time	Temperature (°C)	pH	O.R.P. (mV)	Conductivity (mS/cm)	Turbidity (N.T.U.)	D.O. (mg/L)	T.D.S. (mg/L)	Salinity (ppt)	DTW (feet)	Flow rate (mL/min)	Notes
1300											flow cell filling
1303	29.23	7.66	117	3.77	8.4	2.72	2.61	2.2	17.71	160	breakthrough
1306	28.92	7.16	136	4.75	8.4	2.19	3.16	2.7	17.76	160	
1309	28.78	6.88	145	5.53	7.9	1.85	3.54	3.0	17.90	160	
1312	28.16	6.67	147	6.06	7.7	1.60	3.86	3.3	17.92	160	
1315	27.60	6.55	148	6.30	7.6	1.50	4.00	3.5	17.92	160	
1318	26.69	6.44	150	6.59	6.9	1.39	4.15	3.6	17.92	160	
1321	26.30	6.39	150	6.77	6.7	1.29	4.25	3.7	17.93	160	
1324	25.90	6.35	150	6.90	6.0	1.22	4.37	3.8	17.93	160	
1327	25.75	6.34	151	6.91	5.8	1.20	4.38	3.9	17.93	160	
1330	25.68	6.34	151	6.91	5.5	1.18	4.38	3.9	17.93	160	
1333	25.65	6.34	152	6.91	5.3	1.17	4.38	3.9	17.93	160	
1336	25.62	6.34	153	6.91	5.2	1.16	4.38	3.9	17.93	160	
Stabilization criteria	± 3 % of reading	± 0.2	± 20 mV	± 3 - 5%	± 10 % & < 50	± 0.2 mg/L					

Notes:

Reviewed By: PG 7972

SCS ENGINEERS

Groundwater Sampling Data Sheet

Sampler: K. Etchells P.G. 8078
Sampler Signature:
Date: 11/7/11
Project Number: 110119963.08
Client: PSS Partners
Location: 11040 Rancho Carmel Dr., San Diego
Sample Time: 950

MW7 Well Designation
15.12 DTW (ft)
17.00 Top of Screen (ft)
21.00 Tubing/pump intake depth (ft)
27.00 Bottom of Screen (ft)
Peristaltic _____ Bladder Pump X Centrifugal _____
H2O Quality Meter make/ model Horiba U52 w/ flow cell
Calibration Date and Time 11/4/11 @ 1630

Time	Temperature (°C)	pH	O.R.P. (mV)	Conductivity (mS/cm)	Turbidity (N.T.U.)	D.O. (mg/L)	T.D.S. (mg/L)	Salinity (ppt)	DTW (feet)	Flow rate (mL/min)	Notes
928										220	flow cell filling
930	19.18	6.63	194	8.78	7.0	1.62	5.54	4.9	15.25	220	breakthrough
932	19.36	6.60	193	8.79	6.4	1.46	5.54	4.9	15.35	220	
934	19.61	6.57	193	8.79	5.6	1.35	5.54	4.9	15.42	220	
936	19.73	6.55	193	8.77	5.1	1.29	5.53	4.9	15.49	220	
938	19.85	6.54	192	8.73	4.9	1.13	5.51	4.8	15.55	220	
940	19.99	6.53	191	8.70	4.7	1.07	5.49	4.8	15.57	220	
942	20.06	6.53	191	8.70	4.5	1.02	5.49	4.8	15.59	220	
944	20.10	6.53	190	8.70	4.4	1.03	5.49	4.8	15.61	220	
946	20.12	6.53	189	8.70	4.2	1.06	5.49	4.8	15.62	220	
948	20.14	6.53	187	8.70	4.1	1.07	5.49	4.8	15.62	220	
Stabilization criteria	± 3 % of reading	± 0.2	± 20 mV	± 3 - 5%	± 10 % & < 50	± 0.2 mg/L					

Notes:

Reviewed By: PG 7972

SCS ENGINEERS

Groundwater Sampling Data Sheet

Sampler: K. Etchells, P.G. 8078
Sampler Signature:
Date: 11/8/11
Project Number: 11011963.08
Client: PSS Partners
Location: 11040 Rancho Carmel Dr., San Diego
Sample Time: 935

MW8 Well Designation
35.79 DTW (ft)
75.00 Top of Screen (ft)
38.50 Tubing/pump intake depth (ft)
40.00 Bottom of Screen (ft)
Peristaltic _____ Bladder Pump X Centrifugal _____
H2O Quality Meter make/ model Horiba U52 w/ flow cell
Calibration Date and Time 11/4/11 @ 1630

Time	Temperature (°C)	pH	O.R.P. (mV)	Conductivity (mS/Cm)	Turbidity (N.T.U.)	D.O. (mg/L)	T.D.S. (mg/L)	Salinity (ppt)	DTW (feet)	Flow rate (mL/min)	Notes
903											flow cell filling
907	21.09	6.41	-70	5.17	118	0.87	3.22	2.7	36.03	90	breakthrough
911	20.88	6.16	-47	4.81	83.6	0.74	3.03	2.5	36.05	90	
915	20.77	6.03	-57	4.59	46.3	0.67	2.92	2.4	36.07	90	
919	20.68	5.98	-51	4.45	38.7	0.63	2.84	2.4	36.05	90	
923	20.67	5.93	-49	4.34	26.7	0.59	2.77	2.3	36.08	90	
927	20.65	6.00	-47	4.29	20.2	0.55	2.76	2.2	36.05	90	
931	20.63	6.01	-46	4.26	19.8	0.53	2.76	2.1	36.06	90	
934	20.62	6.01	-45	4.24	20.3	0.51	2.76	2.2	36.07	90	
Stabilization criteria	± 3 % of reading	± 0.2	± 20 mV	± 3 - 5%	± 10 % & < 50	± 0.2 mg/L					

Notes:

Reviewed By: PG 7972

SCS ENGINEERS

Groundwater Sampling Data Sheet

Sampler: K. Fitchell, P.G. 8018
Sampler Signature:
Date: 11/8/11
Project Number: 110119163.08
Client: PSS Partners
Location: 11040 Rancho Carmel Dr., San Diego
Sample Time: 1118

MW9 Well Designation
14.70 DTW (ft)
13.00 Top of Screen (ft)
21.00 Tubing/pump intake depth (ft)
28.00 Bottom of Screen (ft)
Peristaltic _____ Bladder Pump X Centrifugal _____
H2O Quality Meter make/ model: Horiba U52 w/ flow cell
Calibration Date and Time: 11/4/11 @ 1630

Time	Temperature (°C)	pH	O.R.P. (mV)	Conductivity (mS/cm)	Turbidity (N.T.U.)	D.O. (mg/L)	T.D.S. (mg/L)	Salinity (ppt)	DTW (feet)	Flow rate (mL/min)	Notes
1030											flow cell filling
1033	17.77	6.66	135	9.49	6.4	2.85	5.80	4.9	14.30	135	breakthrough
1036	17.35	6.51	136	8.29	8.0	5.00	5.10	4.5	14.36	135	
1039	18.55	6.45	133	8.16	8.8	2.40	5.03	4.7	14.42	135	
1042	22.93	6.41	132	7.39	9.6	4.42	4.69	4.1	14.50	135	
1045	23.52	6.38	130	7.39	9.9	4.25	4.51	3.9	14.69	135	
1048	23.87	6.37	128	7.47	9.1	4.02	4.64	4.1	14.75	135	
1051	23.93	6.38	127	7.39	8.0	3.87	4.60	4.0	14.79	135	
1054	24.10	6.38	125	7.33	7.5	3.86	4.55	4.0	14.83	135	
1057	24.15	6.39	122	7.28	5.4	3.71	4.61	4.0	14.86	135	
1100	24.24	6.40	120	7.30	5.2	3.69	4.59	4.0	14.88	135	
1103	24.20	6.40	120	7.29	5.0	3.63	4.58	4.0	14.88	135	
1106	24.19	6.40	119	7.27	4.9	3.62	4.58	4.0	14.89	135	
Stabilization criteria	± 3 % of reading	± 0.2	± 20 mV	± 3 - 5%	± 10 % & < 50	± 0.2 mg/L					

Notes:

Reviewed By: PG 7977

SCS ENGINEERS

Groundwater Sampling Data Sheet

Sampler: K. Etchells, P.G. 8028
Sampler Signature:
Date: 11/7/11
Project Number: 11011963.08
Client: PSS Partners
Location: 11640 Rancho Carmel Dr., San Diego
Sample Time: 1506

NM-MW1 Well Designation
15.76 DTW (ft)
9.00 Top of Screen (ft)
20.00 Tubing/pump intake depth (ft)
24.00 Bottom of Screen (ft)
Peristaltic _____ Bladder Pump X Centrifugal _____
H2O Quality Meter make/ model Horiba U52 w/ flow cell
Calibration Date and Time 11/4/11 @ 1630

Time	Temperature (°C)	pH	O.R.P. (mV)	Conductivity (mS/cm)	Turbidity (N.T.U.)	D.O. (mg/L)	T.D.S. (mg/L)	Salinity (ppt)	DTW (feet)	Flow rate (mL/min)	Notes
1430											flow cell filling
1433	20.83	6.28	125	5.32	2.3	1.52	3.36	2.9	16.00	164	breakthrough
1436	20.84	6.16	128	5.38	2.2	1.37	3.39	2.9	16.09	164	
1439	20.87	6.09	133	5.34	2.1	1.26	3.36	2.9	16.18	164	
1442	20.90	6.06	138	5.39	2.1	1.17	3.38	2.9	16.24	167	
1445	20.98	6.04	161	5.37	2.1	1.08	3.36	2.9	16.29	167	
1448	21.00	6.02	250	5.35	2.1	1.01	3.34	2.9	16.33	167	
1451	21.03	6.02	223	5.35	1.9	1.03	3.34	2.9	16.36	167	
1454	21.10	6.01	210	5.35	1.3	1.05	3.34	2.9	16.37	167	
1457	21.07	6.01	196	5.35	1.2	1.07	3.34	2.9	16.37	167	
1459	21.13	6.01	190	5.35	1.1	1.10	3.34	2.9	16.37	167	
1503	21.17	6.01	191	5.35	1.0	1.13	3.34	2.9	16.37	167	
Stabilization criteria	± 3 % of reading	± 0.2	± 20 mV	± 3 - 5%	± 10 % & < 50	± 0.2 mg/L					

Notes:

Reviewed By: PG 7972

SCS ENGINEERS

Groundwater Sampling Data Sheet

Sampler: K. Etchells, P.G. 8028
Sampler Signature:
Date: 11/8/11
Project Number: 11011963.08
Client: PBS Partners
Location: 11040 Rancho Carmel Dr. San Diego
Sample Time: 1215

NM-MW2 Well Designation
10.17 DTW (ft)
10.00 Top of Screen (ft)
15.00 Tubing/pump intake depth (ft)
20.00 Bottom of Screen (ft)
Peristaltic _____ Bladder Pump X Centrifugal _____
H2O Quality Meter make/ model Horiba U52 w/ flow cell
Calibration Date and Time 11/4/11 @ 1630

Time	Temperature (°C)	pH	O.R.P. (mV)	Conductivity (mS/cm)	Turbidity (N.T.U.)	D.O. (mg/L)	T.D.S. (mg/L)	Salinity (ppt)	DTW (feet)	Flow rate (mL/min)	Notes
1130											flow cell fitting breakthrough
1133	26.36	6.40	134	2.39	2.0	0.95	1.53	1.2	10.37	184	
1136	26.01	6.31	134	2.39	2.2	0.84	1.53	1.2	10.44	184	
1139	25.81	6.26	133	2.39	2.0	0.76	1.53	1.2	10.49	184	
1142	25.67	6.24	132	2.39	1.9	0.74	1.53	1.2	10.54	184	
1145	25.48	6.22	131	2.40	1.9	0.72	1.53	1.2	10.56	184	
1148	25.32	6.21	131	2.40	1.8	0.68	1.54	1.2	10.59	184	
1151	25.19	6.19	130	2.41	1.8	0.65	1.54	1.2	10.62	184	
1154	25.14	6.18	128	2.42	1.9	0.64	1.55	1.2	10.64	184	
1157	25.04	6.17	127	2.42	2.0	0.62	1.55	1.2	10.65	184	
1200	25.00	6.17	127	2.42	1.8	0.65	1.55	1.2	10.65	184	
1203	24.93	6.17	126	2.42	1.9	0.67	1.55	1.2	10.66	184	
1206	24.92	6.17	126	2.42	1.7	0.65	1.55	1.2	10.66	184	
1209	24.90	6.17	125	2.42	1.6	0.66	1.55	1.2	10.66	184	
Stabilization criteria	± 3 % of reading	± 0.2	± 20 mV	± 3 - 5%	± 10 % & < 50	± 0.2 mg/L					

Notes:

Reviewed By: 11/9/11

SCS ENGINEERS

Groundwater Sampling Data Sheet

Sampler: K. Etchells, P.G. 8028
Sampler Signature:
Date: 11/7/11
Project Number: 110119633.08
Client: PSS Partners
Location: 11040 Rancho Carmel Dr, San Diego
Sample Time: 1410

NM-MW3 Well Designation
18.77 DTW (ft)
10.00 Top of Screen (ft)
22.00 Tubing/pump intake depth (ft)
25.00 Bottom of Screen (ft)
Peristaltic _____ Bladder Pump X Centrifugal _____
H2O Quality Meter make/ model Horiba U52 w/ flow cell
Calibration Date and Time 11/4/11 @ 1630

Time	Temperature (°C)	pH	O.R.P. (mV)	Conductivity (mS/cm)	Turbidity (N.T.U.)	D.O. (mg/L)	T.D.S. (mg/L)	Salinity (ppt)	DTW (feet)	Flow rate (mL/min)	Notes
1335											flow cell filling
1338	21.90	6.81	-57	2.69	6.3	1.71	1.73	1.4	18.50	186	breakthrough
1341	21.67	6.42	-71	2.69	6.2	1.47	1.72	1.4	18.57	186	
1344	21.66	6.23	-72	2.68	4.7	1.31	1.71	1.4	18.61	186	
1347	21.55	5.95	-60	2.66	2.8	0.86	1.70	1.4	18.65	186	
1350	21.53	6.07	-54	2.65	2.3	0.88	1.69	1.4	18.68	186	
1353	21.50	6.12	-50	2.65	2.0	0.90	1.69	1.4	18.70	186	
1356	21.49	6.13	-43	2.65	1.8	0.87	1.69	1.4	18.72	186	
1359	21.51	6.14	-39	2.65	1.6	0.86	1.69	1.4	18.73	186	
1402	21.48	6.14	-33	2.65	1.4	0.84	1.69	1.4	18.73	186	
1405	21.43	6.14	-32	2.65	1.3	0.80	1.69	1.4	18.73	186	
1408	21.40	6.14	-30	2.65	1.2	0.78	1.69	1.4	18.73	186	
Stabilization criteria	± 3 % of reading	± 0.2	± 20 mV	± 3 - 5%	± 10 % & < 50	± 0.2 mg/L					

Notes:

Reviewed By: PG 7972

APPENDIX B
Analytical Data and Chain-of-Custody Documentation

H&P Mobile Geochemistry Inc.

21 November 2011

Mr. Keith Etchells
SCS Engineers - San Diego
8799 Balboa Avenue, Suite 290
San Diego, CA 92123

H&P Project: SCS110911-10
Client Project: 11011963.08 / 11040 Rancho Carmel Dr.

Dear Mr. Keith Etchells:

Enclosed is the analytical report for the above referenced project. The data herein applies to samples as received by H&P Mobile Geochemistry, Inc. on 08-Nov-11 which were analyzed in accordance with the attached Chain of Custody record(s).

The results for all sample analyses and required QA/QC analyses are presented in the following sections and summarized in the documents:

- Sample Summary
- Case Narrative (if applicable)
- Sample Results
- Quality Control Summary
- Notes and Definitions / Appendix
- Chain of Custody

Unless otherwise noted, all analyses were performed and reviewed in compliance with our Quality Systems Manual and Standard Operating Procedures. This report shall not be reproduced, except in full, without the written approval of H&P Mobile Geochemistry, Inc.

We at H&P Mobile Geochemistry, Inc. sincerely appreciate the opportunity to provide analytical services to you on this project. If you have any questions or concerns regarding this analytical report, please contact me at your convenience at 760-804-9678.

Sincerely,

Janis Villarreal
Laboratory Director

H&P Mobile Geochemistry, Inc. operates under CA Environmental Lab Accreditation Program Numbers 2579, 2740, 2741, 2742, 2743, 2745 and 2754. National Environmental Laboratory Accreditation Conference (NELAC) Standards Lab #11845

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SCS Engineers - San Diego
8799 Balboa Avenue, Suite 290
San Diego, CA 92123

Project: SCS110911-10
Project Number: 11011963.08 / 11040 Rancho Carmel Dr.
Project Manager: Mr. Keith Etchells

Reported:
21-Nov-11 14:17

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW 1	E111035-01	Water	07-Nov-11	08-Nov-11
MW 3	E111035-02	Water	07-Nov-11	08-Nov-11
MW 4	E111035-03	Water	07-Nov-11	08-Nov-11
MW 5	E111035-04	Water	08-Nov-11	08-Nov-11
MW 6	E111035-05	Water	08-Nov-11	08-Nov-11
MW 7	E111035-06	Water	07-Nov-11	08-Nov-11
MW 8	E111035-07	Water	08-Nov-11	08-Nov-11
MW 9	E111035-08	Water	08-Nov-11	08-Nov-11
NM-MW 1	E111035-09	Water	07-Nov-11	08-Nov-11
NM-MW 2	E111035-10	Water	08-Nov-11	08-Nov-11
NM-MW 3	E111035-11	Water	07-Nov-11	08-Nov-11

The sample results have been accepted based on the percent recoveries of the Laboratory Control Sample (LCS).

H&P Mobile Geochemistry Inc.

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SCS Engineers - San Diego	Project: SCS110911-10	
8799 Balboa Avenue, Suite 290	Project Number: 11011963.08 / 11040 Rancho Carmel Dr	Reported:
San Diego, CA 92123	Project Manager: Mr. Keith Etchells	21-Nov-11 14:17

Volatile Organic Compounds by EPA Method 5030B/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
MW 1 (E111035-01) Water Sampled: 07-Nov-11 Received: 08-Nov-11									
Dichlorodifluoromethane (F12)	ND	100	ug/l	10	EK11404	11-Nov-11	11-Nov-11	EPA 8260B	
Chloromethane	ND	100	"	"	"	"	"	"	
Vinyl chloride	ND	100	"	"	"	"	"	"	
Bromomethane	ND	100	"	"	"	"	"	"	
Chloroethane	ND	100	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	100	"	"	"	"	"	"	
1,1-Dichloroethene	ND	100	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	100	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	100	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	100	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	100	"	"	"	"	"	"	
1,1-Dichloroethane	ND	100	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	100	"	"	"	"	"	"	
2,2-Dichloropropane	ND	100	"	"	"	"	"	"	
cis-1,2-Dichloroethene	**380**	100	"	"	"	"	"	"	
Chloroform	ND	100	"	"	"	"	"	"	
Bromochloromethane	ND	100	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	100	"	"	"	"	"	"	
1,1-Dichloropropene	ND	100	"	"	"	"	"	"	
Carbon tetrachloride	ND	100	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	100	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	100	"	"	"	"	"	"	
Benzene	ND	50	"	"	"	"	"	"	
Trichloroethene	**1000**	100	"	"	"	"	"	"	
1,2-Dichloropropane	ND	100	"	"	"	"	"	"	
Bromodichloromethane	ND	100	"	"	"	"	"	"	
Dibromomethane	ND	100	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	100	"	"	"	"	"	"	
Toluene	ND	50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	100	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	100	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	100	"	"	"	"	"	"	
1,3-Dichloropropane	ND	100	"	"	"	"	"	"	
Tetrachloroethene	**6300**	100	"	"	"	"	"	"	
Dibromochloromethane	ND	100	"	"	"	"	"	"	
Chlorobenzene	ND	100	"	"	"	"	"	"	
Ethylbenzene	ND	50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	100	"	"	"	"	"	"	

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SCS Engineers - San Diego
8799 Balboa Avenue, Suite 290
San Diego, CA 92123

Project: SCS110911-10
Project Number: 11011963.08 / 11040 Rancho Carmel Dr.
Project Manager: Mr. Keith Etchells

Reported:
21-Nov-11 14:17

Volatile Organic Compounds by EPA Method 5030B/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
MW 1 (E111035-01) Water Sampled: 07-Nov-11 Received: 08-Nov-11									
m,p-Xylene	ND	100	ug/l	10	EK11404	11-Nov-11	11-Nov-11	EPA 8260B	
o-Xylene	ND	50	"	"	"	"	"	"	
Styrene	ND	100	"	"	"	"	"	"	
Bromoform	ND	100	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	100	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	100	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	100	"	"	"	"	"	"	
n-Propylbenzene	ND	100	"	"	"	"	"	"	
Bromobenzene	ND	100	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	100	"	"	"	"	"	"	
2-Chlorotoluene	ND	100	"	"	"	"	"	"	
4-Chlorotoluene	ND	100	"	"	"	"	"	"	
tert-Butylbenzene	ND	100	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	100	"	"	"	"	"	"	
sec-Butylbenzene	ND	100	"	"	"	"	"	"	
p-Isopropyltoluene	ND	100	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	100	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	100	"	"	"	"	"	"	
n-Butylbenzene	ND	100	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	100	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	500	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	100	"	"	"	"	"	"	
Hexachlorobutadiene	ND	100	"	"	"	"	"	"	
Naphthalene	ND	100	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	100	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	500	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*102 %*		*75-125*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*104 %*		*62-139*	"	"	"	"	
Surrogate: Toluene-d8		*99.4 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*99.8 %*		*75-125*	"	"	"	"	

H&P Mobile Geochemistry Inc.

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SCS Engineers - San Diego	Project: SCS110911-10	
8799 Balboa Avenue, Suite 290	Project Number: 11011963.08 / 11040 Rancho Carmel Dr.	Reported:
San Diego, CA 92123	Project Manager: Mr. Keith Etchells	21-Nov-11 14:17

Volatile Organic Compounds by EPA Method 5030B/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
MW 3 (E111035-02) Water Sampled: 07-Nov-11 Received: 08-Nov-11									
Dichlorodifluoromethane (F12)	ND	1.0	ug/l	0.05	EK11404	11-Nov-11	11-Nov-11	EPA 8260B	
Chloromethane	ND	1.0	"	"	"	"	"	"	
Vinyl chloride	ND	1.0	"	"	"	"	"	"	
Bromomethane	ND	1.0	"	"	"	"	"	"	
Chloroethane	ND	1.0	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	1.0	"	"	"	"	"	"	
1,1-Dichloroethene	ND	1.0	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	1.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	1.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	**18**	1.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	1.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.0	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	1.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	1.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	**130**	2.0	"	0.2	"	"	"	"	
Chloroform	ND	1.0	"	0.05	"	"	"	"	
Bromochloromethane	ND	1.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	1.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	1.0	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	1.0	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	1.0	"	"	"	"	"	"	
Benzene	ND	0.5	"	"	"	"	"	"	
Trichloroethene	**62**	1.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.0	"	"	"	"	"	"	
Bromodichloromethane	ND	1.0	"	"	"	"	"	"	
Dibromomethane	ND	1.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.0	"	"	"	"	"	"	
Toluene	ND	0.5	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	1.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	1.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	1.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.0	"	"	"	"	"	"	
Tetrachloroethene	**35**	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	1.0	"	"	"	"	"	"	
Chlorobenzene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	0.5	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	1.0	"	"	"	"	"	"	

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SCS Engineers - San Diego	Project: SCS110911-10	
8799 Balboa Avenue, Suite 290	Project Number: 11011963.08 / 11040 Rancho Carmel Dr.	Reported:
San Diego, CA 92123	Project Manager: Mr. Keith Etchells	21-Nov-11 14:17

Volatile Organic Compounds by EPA Method 5030B/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
MW 3 (E111035-02) Water Sampled: 07-Nov-11 Received: 08-Nov-11									
m,p-Xylene	ND	1.0	ug/l	0.05	EK11404	11-Nov-11	11-Nov-11	EPA 8260B	
o-Xylene	ND	0.5	"	"	"	"	"	"	
Styrene	ND	1.0	"	"	"	"	"	"	
Bromoform	ND	1.0	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	1.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	1.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	1.0	"	"	"	"	"	"	
n-Propylbenzene	ND	1.0	"	"	"	"	"	"	
Bromobenzene	ND	1.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	1.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	1.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	1.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	1.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
n-Butylbenzene	ND	1.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	5.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	1.0	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	5.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*103 %*		*75-125*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*99.1 %*		*62-139*	"	"	"	"	
Surrogate: Toluene-d8		*101 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*101 %*		*75-125*	"	"	"	"	

H&P Mobile Geochemistry Inc.

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SCS Engineers - San Diego	Project: SCS110911-10	
8799 Balboa Avenue, Suite 290	Project Number: 11011963.08 / 11040 Rancho Carmel Dr.	Reported:
San Diego, CA 92123	Project Manager: Mr. Keith Etchells	21-Nov-11 14:17

Volatile Organic Compounds by EPA Method 5030B/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
MW 4 (E111035-03) Water Sampled: 07-Nov-11 Received: 08-Nov-11									
Dichlorodifluoromethane (F12)	ND	100	ug/l	10	EK11404	11-Nov-11	11-Nov-11	EPA 8260B	
Chloromethane	ND	100	"	"	"	"	"	"	
Vinyl chloride	ND	100	"	"	"	"	"	"	
Bromomethane	ND	100	"	"	"	"	"	"	
Chloroethane	ND	100	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	100	"	"	"	"	"	"	
1,1-Dichloroethene	ND	100	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	100	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	100	"	"	"	"	"	"	
trans-1,2-Dichloroethene	**560**	100	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	100	"	"	"	"	"	"	
1,1-Dichloroethane	ND	100	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	100	"	"	"	"	"	"	
2,2-Dichloropropane	ND	100	"	"	"	"	"	"	
cis-1,2-Dichloroethene	**2000**	100	"	"	"	"	"	"	
Chloroform	ND	100	"	"	"	"	"	"	
Bromochloromethane	ND	100	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	100	"	"	"	"	"	"	
1,1-Dichloropropene	ND	100	"	"	"	"	"	"	
Carbon tetrachloride	ND	100	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	100	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	100	"	"	"	"	"	"	
Benzene	ND	50	"	"	"	"	"	"	
Trichloroethene	**1600**	100	"	"	"	"	"	"	
1,2-Dichloropropane	ND	100	"	"	"	"	"	"	
Bromodichloromethane	ND	100	"	"	"	"	"	"	
Dibromomethane	ND	100	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	100	"	"	"	"	"	"	
Toluene	ND	50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	100	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	100	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	100	"	"	"	"	"	"	
1,3-Dichloropropane	ND	100	"	"	"	"	"	"	
Tetrachloroethene	**390**	100	"	"	"	"	"	"	
Dibromochloromethane	ND	100	"	"	"	"	"	"	
Chlorobenzene	ND	100	"	"	"	"	"	"	
Ethylbenzene	ND	50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	100	"	"	"	"	"	"	

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SCS Engineers - San Diego	Project: SCS110911-10	
8799 Balboa Avenue, Suite 290	Project Number: 11011963.08 / 11040 Rancho Carmel Dr.	Reported:
San Diego, CA 92123	Project Manager: Mr. Keith Etchells	21-Nov-11 14:17

Volatile Organic Compounds by EPA Method 5030B/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
MW 4 (E111035-03) Water Sampled: 07-Nov-11 Received: 08-Nov-11									
m,p-Xylene	ND	100	ug/l	10	EK11404	11-Nov-11	11-Nov-11	EPA 8260B	
o-Xylene	ND	50	"	"	"	"	"	"	
Styrene	ND	100	"	"	"	"	"	"	
Bromoform	ND	100	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	100	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	100	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	100	"	"	"	"	"	"	
n-Propylbenzene	ND	100	"	"	"	"	"	"	
Bromobenzene	ND	100	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	100	"	"	"	"	"	"	
2-Chlorotoluene	ND	100	"	"	"	"	"	"	
4-Chlorotoluene	ND	100	"	"	"	"	"	"	
tert-Butylbenzene	ND	100	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	100	"	"	"	"	"	"	
sec-Butylbenzene	ND	100	"	"	"	"	"	"	
p-Isopropyltoluene	ND	100	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	100	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	100	"	"	"	"	"	"	
n-Butylbenzene	ND	100	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	100	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	500	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	100	"	"	"	"	"	"	
Hexachlorobutadiene	ND	100	"	"	"	"	"	"	
Naphthalene	ND	100	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	100	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	500	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*102 %*		*75-125*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*108 %*		*62-139*	"	"	"	"	
Surrogate: Toluene-d8		*102 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*101 %*		*75-125*	"	"	"	"	

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SCS Engineers - San Diego	Project: SCS110911-10	
8799 Balboa Avenue, Suite 290	Project Number: 11011963.08 / 11040 Rancho Carmel Dr	Reported:
San Diego, CA 92123	Project Manager: Mr. Keith Etchells	21-Nov-11 14:17

Volatile Organic Compounds by EPA Method 5030B/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
MW 5 (E111035-04) Water Sampled: 08-Nov-11 Received: 08-Nov-11									
Dichlorodifluoromethane (F12)	ND	1.0	ug/l	0.05	EK11404	11-Nov-11	11-Nov-11	EPA 8260B	
Chloromethane	ND	1.0	"	"	"	"	"	"	
Vinyl chloride	ND	1.0	"	"	"	"	"	"	
Bromomethane	ND	1.0	"	"	"	"	"	"	
Chloroethane	ND	1.0	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	1.0	"	"	"	"	"	"	
1,1-Dichloroethene	ND	1.0	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	1.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	**28**	1.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	1.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	1.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.0	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	1.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	1.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	**21**	1.0	"	"	"	"	"	"	
Chloroform	ND	1.0	"	"	"	"	"	"	
Bromochloromethane	ND	1.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	1.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	1.0	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	1.0	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	1.0	"	"	"	"	"	"	
Benzene	**0.5**	0.5	"	"	"	"	"	"	
Trichloroethene	**29**	1.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.0	"	"	"	"	"	"	
Bromodichloromethane	ND	1.0	"	"	"	"	"	"	
Dibromomethane	ND	1.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.0	"	"	"	"	"	"	
Toluene	ND	0.5	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	1.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	1.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	1.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.0	"	"	"	"	"	"	
Tetrachloroethene	**680**	10	"	1	"	"	14-Nov-11	"	
Dibromochloromethane	ND	1.0	"	0.05	"	"	11-Nov-11	"	
Chlorobenzene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	0.5	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	1.0	"	"	"	"	"	"	

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SCS Engineers - San Diego	Project: SCS110911-10	
8799 Balboa Avenue, Suite 290	Project Number: 11011963.08 / 11040 Rancho Carmel Dr.	Reported:
San Diego, CA 92123	Project Manager: Mr. Keith Etchells	21-Nov-11 14:17

Volatile Organic Compounds by EPA Method 5030B/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
MW 5 (E111035-04) Water Sampled: 08-Nov-11 Received: 08-Nov-11									
m,p-Xylene	ND	1.0	ug/l	0.05	EK11404	11-Nov-11	11-Nov-11	EPA 8260B	
o-Xylene	ND	0.5	"	"	"	"	"	"	
Styrene	ND	1.0	"	"	"	"	"	"	
Bromoform	ND	1.0	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	1.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	1.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	1.0	"	"	"	"	"	"	
n-Propylbenzene	ND	1.0	"	"	"	"	"	"	
Bromobenzene	ND	1.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	1.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	1.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	1.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	1.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
n-Butylbenzene	ND	1.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	5.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	1.0	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	5.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*102 %*		*75-125*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*103 %*		*62-139*	"	"	"	"	
Surrogate: Toluene-d8		*87.4 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*102 %*		*75-125*	"	"	"	"	

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SCS Engineers - San Diego	Project: SCS110911-10	
8799 Balboa Avenue, Suite 290	Project Number: 11011963.08 / 11040 Rancho Carmel Dr.	Reported:
San Diego, CA 92123	Project Manager: Mr. Keith Etchells	21-Nov-11 14:17

Volatile Organic Compounds by EPA Method 5030B/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
MW 6 (E111035-05) Water Sampled: 08-Nov-11 Received: 08-Nov-11									
Dichlorodifluoromethane (F12)	ND	1.0	ug/l	0.05	EK11404	11-Nov-11	11-Nov-11	EPA 8260B	
Chloromethane	ND	1.0	"	"	"	"	"	"	
Vinyl chloride	ND	1.0	"	"	"	"	"	"	
Bromomethane	ND	1.0	"	"	"	"	"	"	
Chloroethane	ND	1.0	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	1.0	"	"	"	"	"	"	
1,1-Dichloroethene	ND	1.0	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	1.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	1.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	1.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	1.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.0	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	1.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	1.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	1.0	"	"	"	"	"	"	
Chloroform	ND	1.0	"	"	"	"	"	"	
Bromochloromethane	ND	1.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	1.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	1.0	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	1.0	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	1.0	"	"	"	"	"	"	
Benzene	ND	0.5	"	"	"	"	"	"	
Trichloroethene	ND	1.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.0	"	"	"	"	"	"	
Bromodichloromethane	ND	1.0	"	"	"	"	"	"	
Dibromomethane	ND	1.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.0	"	"	"	"	"	"	
Toluene	ND	0.5	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	1.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	1.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	1.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.0	"	"	"	"	"	"	
Tetrachloroethene	**3.7**	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	1.0	"	"	"	"	"	"	
Chlorobenzene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	0.5	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	1.0	"	"	"	"	"	"	

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SCS Engineers - San Diego	Project: SCS110911-10	
8799 Balboa Avenue, Suite 290	Project Number: 11011963.08 / 11040 Rancho Carmel Dr.	Reported:
San Diego, CA 92123	Project Manager: Mr. Keith Etchells	21-Nov-11 14:17

Volatile Organic Compounds by EPA Method 5030B/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
MW 6 (E111035-05) Water Sampled: 08-Nov-11 Received: 08-Nov-11									
m,p-Xylene	ND	1.0	ug/l	0.05	EK11404	11-Nov-11	11-Nov-11	EPA 8260B	
o-Xylene	ND	0.5	"	"	"	"	"	"	
Styrene	ND	1.0	"	"	"	"	"	"	
Bromoform	ND	1.0	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	1.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	1.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	1.0	"	"	"	"	"	"	
n-Propylbenzene	ND	1.0	"	"	"	"	"	"	
Bromobenzene	ND	1.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	1.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	1.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	1.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	1.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
n-Butylbenzene	ND	1.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	5.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	1.0	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	5.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*100 %*		*75-125*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*101 %*		*62-139*	"	"	"	"	
Surrogate: Toluene-d8		*101 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*97.1 %*		*75-125*	"	"	"	"	

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SCS Engineers - San Diego	Project: SCS110911-10	
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San Diego, CA 92123	Project Manager: Mr. Keith Etchells	21-Nov-11 14:17

Volatile Organic Compounds by EPA Method 5030B/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
MW 7 (E111035-06) Water Sampled: 07-Nov-11 Received: 08-Nov-11									
Dichlorodifluoromethane (F12)	ND	1.0	ug/l	0.05	EK11404	11-Nov-11	11-Nov-11	EPA 8260B	
Chloromethane	ND	1.0	"	"	"	"	"	"	
Vinyl chloride	ND	1.0	"	"	"	"	"	"	
Bromomethane	ND	1.0	"	"	"	"	"	"	
Chloroethane	ND	1.0	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	1.0	"	"	"	"	"	"	
1,1-Dichloroethene	ND	1.0	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	1.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	1.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	1.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	1.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.0	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	1.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	1.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	1.0	"	"	"	"	"	"	
Chloroform	ND	1.0	"	"	"	"	"	"	
Bromochloromethane	ND	1.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	1.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	1.0	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	1.0	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	1.0	"	"	"	"	"	"	
Benzene	ND	0.5	"	"	"	"	"	"	
Trichloroethene	ND	1.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.0	"	"	"	"	"	"	
Bromodichloromethane	ND	1.0	"	"	"	"	"	"	
Dibromomethane	ND	1.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.0	"	"	"	"	"	"	
Toluene	ND	0.5	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	1.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	1.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	1.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.0	"	"	"	"	"	"	
Tetrachloroethene	ND	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	1.0	"	"	"	"	"	"	
Chlorobenzene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	0.5	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	1.0	"	"	"	"	"	"	

H&P Mobile Geochemistry Inc.

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SCS Engineers - San Diego	Project: SCS110911-10	
8799 Balboa Avenue, Suite 290	Project Number: 11011963.08 / 11040 Rancho Carmel Dr.	Reported:
San Diego, CA 92123	Project Manager: Mr. Keith Etchells	21-Nov-11 14:17

Volatile Organic Compounds by EPA Method 5030B/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
MW 7 (E111035-06) Water Sampled: 07-Nov-11 Received: 08-Nov-11									
m,p-Xylene	ND	1.0	ug/l	0.05	EK11404	11-Nov-11	11-Nov-11	EPA 8260B	
o-Xylene	ND	0.5	"	"	"	"	"	"	
Styrene	ND	1.0	"	"	"	"	"	"	
Bromoform	ND	1.0	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	1.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	1.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	1.0	"	"	"	"	"	"	
n-Propylbenzene	ND	1.0	"	"	"	"	"	"	
Bromobenzene	ND	1.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	1.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	1.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	1.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	1.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
n-Butylbenzene	ND	1.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	5.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	1.0	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	5.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*106 %*		*75-125*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*106 %*		*62-139*	"	"	"	"	
Surrogate: Toluene-d8		*102 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*97.7 %*		*75-125*	"	"	"	"	

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SCS Engineers - San Diego	Project: SCS110911-10	
8799 Balboa Avenue, Suite 290	Project Number: 11011963.08 / 11040 Rancho Carmel Dr.	Reported:
San Diego, CA 92123	Project Manager: Mr. Keith Etchells	21-Nov-11 14:17

Volatile Organic Compounds by EPA Method 5030B/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
MW 8 (E111035-07) Water Sampled: 08-Nov-11 Received: 08-Nov-11									
Dichlorodifluoromethane (F12)	ND	1.0	ug/l	0.05	EK11404	11-Nov-11	11-Nov-11	EPA 8260B	
Chloromethane	ND	1.0	"	"	"	"	"	"	
Vinyl chloride	ND	1.0	"	"	"	"	"	"	
Bromomethane	ND	1.0	"	"	"	"	"	"	
Chloroethane	ND	1.0	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	1.0	"	"	"	"	"	"	
1,1-Dichloroethene	ND	1.0	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	1.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	1.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	1.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	1.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.0	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	1.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	1.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	**5.4**	1.0	"	"	"	"	"	"	
Chloroform	ND	1.0	"	"	"	"	"	"	
Bromochloromethane	ND	1.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	1.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	1.0	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	1.0	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	1.0	"	"	"	"	"	"	
Benzene	ND	0.5	"	"	"	"	"	"	
Trichloroethene	**21**	1.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.0	"	"	"	"	"	"	
Bromodichloromethane	ND	1.0	"	"	"	"	"	"	
Dibromomethane	ND	1.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.0	"	"	"	"	"	"	
Toluene	ND	0.5	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	1.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	1.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	1.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.0	"	"	"	"	"	"	
Tetrachloroethene	**16**	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	1.0	"	"	"	"	"	"	
Chlorobenzene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	0.5	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	1.0	"	"	"	"	"	"	

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SCS Engineers - San Diego	Project: SCS110911-10	
8799 Balboa Avenue, Suite 290	Project Number: 11011963.08 / 11040 Rancho Carmel Dr.	Reported:
San Diego, CA 92123	Project Manager: Mr. Keith Etchells	21-Nov-11 14:17

Volatile Organic Compounds by EPA Method 5030B/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
MW 8 (E111035-07) Water Sampled: 08-Nov-11 Received: 08-Nov-11									
m,p-Xylene	ND	1.0	ug/l	0.05	EK11404	11-Nov-11	11-Nov-11	EPA 8260B	
o-Xylene	ND	0.5	"	"	"	"	"	"	
Styrene	ND	1.0	"	"	"	"	"	"	
Bromoform	ND	1.0	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	1.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	1.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	1.0	"	"	"	"	"	"	
n-Propylbenzene	ND	1.0	"	"	"	"	"	"	
Bromobenzene	ND	1.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	1.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	1.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	1.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	1.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
n-Butylbenzene	ND	1.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	5.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	1.0	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	5.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*100 %*		*75-125*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*102 %*		*62-139*	"	"	"	"	
Surrogate: Toluene-d8		*99.6 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*97.0 %*		*75-125*	"	"	"	"	

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SCS Engineers - San Diego	Project: SCS110911-10	
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San Diego, CA 92123	Project Manager: Mr. Keith Etchells	21-Nov-11 14:17

Volatile Organic Compounds by EPA Method 5030B/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
MW 9 (E111035-08) Water Sampled: 08-Nov-11 Received: 08-Nov-11									
Dichlorodifluoromethane (F12)	ND	10	ug/l	1	EK11404	11-Nov-11	11-Nov-11	EPA 8260B	
Chloromethane	ND	10	"	"	"	"	"	"	
Vinyl chloride	ND	10	"	"	"	"	"	"	
Bromomethane	ND	10	"	"	"	"	"	"	
Chloroethane	ND	10	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	10	"	"	"	"	"	"	
1,1-Dichloroethene	ND	10	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	10	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	10	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	10	"	"	"	"	"	"	
1,1-Dichloroethane	ND	10	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	10	"	"	"	"	"	"	
2,2-Dichloropropane	ND	10	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	10	"	"	"	"	"	"	
Chloroform	ND	10	"	"	"	"	"	"	
Bromochloromethane	ND	10	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	10	"	"	"	"	"	"	
1,1-Dichloropropene	ND	10	"	"	"	"	"	"	
Carbon tetrachloride	ND	10	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	10	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	10	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	10	"	"	"	"	"	"	
1,2-Dichloropropane	ND	10	"	"	"	"	"	"	
Bromodichloromethane	ND	10	"	"	"	"	"	"	
Dibromomethane	ND	10	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	10	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	10	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	10	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	10	"	"	"	"	"	"	
1,3-Dichloropropane	ND	10	"	"	"	"	"	"	
Tetrachloroethene	**270**	10	"	"	"	"	"	"	
Dibromochloromethane	ND	10	"	"	"	"	"	"	
Chlorobenzene	ND	10	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	10	"	"	"	"	"	"	

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SCS Engineers - San Diego	Project: SCS110911-10	
8799 Balboa Avenue, Suite 290	Project Number: 11011963.08 / 11040 Rancho Carmel Dr.	Reported:
San Diego, CA 92123	Project Manager: Mr. Keith Etchells	21-Nov-11 14:17

Volatile Organic Compounds by EPA Method 5030B/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
MW 9 (E111035-08) Water Sampled: 08-Nov-11 Received: 08-Nov-11									
m,p-Xylene	ND	10	ug/l	1	EK11404	11-Nov-11	11-Nov-11	EPA 8260B	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	10	"	"	"	"	"	"	
Bromoform	ND	10	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	10	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	10	"	"	"	"	"	"	
n-Propylbenzene	ND	10	"	"	"	"	"	"	
Bromobenzene	ND	10	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	10	"	"	"	"	"	"	
2-Chlorotoluene	ND	10	"	"	"	"	"	"	
4-Chlorotoluene	ND	10	"	"	"	"	"	"	
tert-Butylbenzene	ND	10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	10	"	"	"	"	"	"	
sec-Butylbenzene	ND	10	"	"	"	"	"	"	
p-Isopropyltoluene	ND	10	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	10	"	"	"	"	"	"	
n-Butylbenzene	ND	10	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	10	"	"	"	"	"	"	
Hexachlorobutadiene	ND	10	"	"	"	"	"	"	
Naphthalene	ND	10	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	10	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*102 %*	*75-125*		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*107 %*	*62-139*		"	"	"	"	
Surrogate: Toluene-d8		*102 %*	*75-125*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*103 %*	*75-125*		"	"	"	"	

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SCS Engineers - San Diego	Project: SCS110911-10	
8799 Balboa Avenue, Suite 290	Project Number: 11011963.08 / 11040 Rancho Carmel Dr.	Reported:
San Diego, CA 92123	Project Manager: Mr. Keith Etchells	21-Nov-11 14:17

Volatile Organic Compounds by EPA Method 5030B/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
NM-MW 1 (E111035-09) Water Sampled: 07-Nov-11 Received: 08-Nov-11									
Dichlorodifluoromethane (F12)	ND	10	ug/l	1	EK11404	11-Nov-11	11-Nov-11	EPA 8260B	
Chloromethane	ND	10	"	"	"	"	"	"	
Vinyl chloride	ND	10	"	"	"	"	"	"	
Bromomethane	ND	10	"	"	"	"	"	"	
Chloroethane	ND	10	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	10	"	"	"	"	"	"	
1,1-Dichloroethene	ND	10	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	10	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	**200**	10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	10	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	10	"	"	"	"	"	"	
1,1-Dichloroethane	ND	10	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	10	"	"	"	"	"	"	
2,2-Dichloropropane	ND	10	"	"	"	"	"	"	
cis-1,2-Dichloroethene	**10**	10	"	"	"	"	"	"	
Chloroform	ND	10	"	"	"	"	"	"	
Bromochloromethane	ND	10	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	10	"	"	"	"	"	"	
1,1-Dichloropropene	ND	10	"	"	"	"	"	"	
Carbon tetrachloride	ND	10	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	10	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	10	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Trichloroethene	**27**	10	"	"	"	"	"	"	
1,2-Dichloropropane	ND	10	"	"	"	"	"	"	
Bromodichloromethane	ND	10	"	"	"	"	"	"	
Dibromomethane	ND	10	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	10	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	10	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	10	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	10	"	"	"	"	"	"	
1,3-Dichloropropane	ND	10	"	"	"	"	"	"	
Tetrachloroethene	**420**	10	"	"	"	"	"	"	
Dibromochloromethane	ND	10	"	"	"	"	"	"	
Chlorobenzene	ND	10	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	10	"	"	"	"	"	"	

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SCS Engineers - San Diego
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Project: SCS110911-10
Project Number: 11011963.08 / 11040 Rancho Carmel Dr.
Project Manager: Mr. Keith Etchells

Reported:
21-Nov-11 14:17

Volatile Organic Compounds by EPA Method 5030B/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
NM-MW 1 (E111035-09) Water Sampled: 07-Nov-11 Received: 08-Nov-11									
m,p-Xylene	ND	10	ug/l	1	EK11404	11-Nov-11	11-Nov-11	EPA 8260B	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	10	"	"	"	"	"	"	
Bromoform	ND	10	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	10	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	10	"	"	"	"	"	"	
n-Propylbenzene	ND	10	"	"	"	"	"	"	
Bromobenzene	ND	10	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	10	"	"	"	"	"	"	
2-Chlorotoluene	ND	10	"	"	"	"	"	"	
4-Chlorotoluene	ND	10	"	"	"	"	"	"	
tert-Butylbenzene	ND	10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	10	"	"	"	"	"	"	
sec-Butylbenzene	ND	10	"	"	"	"	"	"	
p-Isopropyltoluene	ND	10	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	10	"	"	"	"	"	"	
n-Butylbenzene	ND	10	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	10	"	"	"	"	"	"	
Hexachlorobutadiene	ND	10	"	"	"	"	"	"	
Naphthalene	ND	10	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	10	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*101 %*		*75-125*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*107 %*		*62-139*	"	"	"	"	
Surrogate: Toluene-d8		*100 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*99.6 %*		*75-125*	"	"	"	"	

H&P Mobile Geochemistry Inc.

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SCS Engineers - San Diego	Project: SCS110911-10	
8799 Balboa Avenue, Suite 290	Project Number: 11011963.08 / 11040 Rancho Carmel Dr.	Reported:
San Diego, CA 92123	Project Manager: Mr. Keith Etchells	21-Nov-11 14:17

Volatile Organic Compounds by EPA Method 5030B/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
NM-MW 2 (E111035-10) Water Sampled: 08-Nov-11 Received: 08-Nov-11									
Dichlorodifluoromethane (F12)	ND	1.0	ug/l	0.05	EK11404	11-Nov-11	11-Nov-11	EPA 8260B	
Chloromethane	ND	1.0	"	"	"	"	"	"	
Vinyl chloride	ND	1.0	"	"	"	"	"	"	
Bromomethane	ND	1.0	"	"	"	"	"	"	
Chloroethane	ND	1.0	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	1.0	"	"	"	"	"	"	
1,1-Dichloroethene	ND	1.0	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	1.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	1.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	1.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	1.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.0	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	1.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	1.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	1.0	"	"	"	"	"	"	
Chloroform	ND	1.0	"	"	"	"	"	"	
Bromochloromethane	ND	1.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	1.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	1.0	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	1.0	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	1.0	"	"	"	"	"	"	
Benzene	ND	0.5	"	"	"	"	"	"	
Trichloroethene	ND	1.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.0	"	"	"	"	"	"	
Bromodichloromethane	ND	1.0	"	"	"	"	"	"	
Dibromomethane	ND	1.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.0	"	"	"	"	"	"	
Toluene	ND	0.5	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	1.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	1.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	1.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.0	"	"	"	"	"	"	
Tetrachloroethene	ND	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	1.0	"	"	"	"	"	"	
Chlorobenzene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	0.5	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	1.0	"	"	"	"	"	"	

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SCS Engineers - San Diego
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San Diego, CA 92123

Project: SCS110911-10
Project Number: 11011963.08 / 11040 Rancho Carmel Dr.
Project Manager: Mr. Keith Etchells

Reported:
21-Nov-11 14:17

Volatile Organic Compounds by EPA Method 5030B/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
NM-MW 2 (E111035-10) Water Sampled: 08-Nov-11 Received: 08-Nov-11									
m,p-Xylene	ND	1.0	ug/l	0.05	EK11404	11-Nov-11	11-Nov-11	EPA 8260B	
o-Xylene	ND	0.5	"	"	"	"	"	"	
Styrene	ND	1.0	"	"	"	"	"	"	
Bromoform	ND	1.0	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	1.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	1.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	1.0	"	"	"	"	"	"	
n-Propylbenzene	ND	1.0	"	"	"	"	"	"	
Bromobenzene	ND	1.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	1.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	1.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	1.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	1.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
n-Butylbenzene	ND	1.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	5.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	1.0	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	5.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*104 %*	*75-125*		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*107 %*	*62-139*		"	"	"	"	
Surrogate: Toluene-d8		*100 %*	*75-125*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*97.5 %*	*75-125*		"	"	"	"	

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SCS Engineers - San Diego	Project: SCS110911-10	
8799 Balboa Avenue, Suite 290	Project Number: 11011963.08 / 11040 Rancho Carmel Dr	Reported:
San Diego, CA 92123	Project Manager: Mr. Keith Etchells	21-Nov-11 14:17

Volatile Organic Compounds by EPA Method 5030B/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
NM-MW 3 (E111035-11) Water Sampled: 07-Nov-11 Received: 08-Nov-11									
Dichlorodifluoromethane (F12)	ND	1.0	ug/l	0.05	EK11404	11-Nov-11	11-Nov-11	EPA 8260B	
Chloromethane	ND	1.0	"	"	"	"	"	"	
Vinyl chloride	ND	1.0	"	"	"	"	"	"	
Bromomethane	ND	1.0	"	"	"	"	"	"	
Chloroethane	ND	1.0	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	1.0	"	"	"	"	"	"	
1,1-Dichloroethene	ND	1.0	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	1.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	1.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	1.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	1.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.0	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	1.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	1.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	1.0	"	"	"	"	"	"	
Chloroform	ND	1.0	"	"	"	"	"	"	
Bromochloromethane	ND	1.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	1.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	1.0	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	1.0	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	1.0	"	"	"	"	"	"	
Benzene	ND	0.5	"	"	"	"	"	"	
Trichloroethene	ND	1.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.0	"	"	"	"	"	"	
Bromodichloromethane	ND	1.0	"	"	"	"	"	"	
Dibromomethane	ND	1.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.0	"	"	"	"	"	"	
Toluene	ND	0.5	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	1.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	1.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	1.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.0	"	"	"	"	"	"	
Tetrachloroethene	ND	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	1.0	"	"	"	"	"	"	
Chlorobenzene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	0.5	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	1.0	"	"	"	"	"	"	

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San Diego, CA 92123	Project Manager: Mr. Keith Etchells	21-Nov-11 14:17

Volatile Organic Compounds by EPA Method 5030B/8260B

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
NM-MW 3 (E111035-11) Water Sampled: 07-Nov-11 Received: 08-Nov-11									
m,p-Xylene	ND	1.0	ug/l	0.05	EK11404	11-Nov-11	11-Nov-11	EPA 8260B	
o-Xylene	ND	0.5	"	"	"	"	"	"	
Styrene	ND	1.0	"	"	"	"	"	"	
Bromoform	ND	1.0	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	1.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	1.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	1.0	"	"	"	"	"	"	
n-Propylbenzene	ND	1.0	"	"	"	"	"	"	
Bromobenzene	ND	1.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	1.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	1.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	1.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	1.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
n-Butylbenzene	ND	1.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	5.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	1.0	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	5.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*102 %*		*75-125*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*105 %*		*62-139*	"	"	"	"	
Surrogate: Toluene-d8		*103 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*102 %*		*75-125*	"	"	"	"	

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SCS Engineers - San Diego	Project: SCS110911-10	
8799 Balboa Avenue, Suite 290	Project Number: 11011963.08 / 11040 Rancho Carmel Dr.	Reported:
San Diego, CA 92123	Project Manager: Mr. Keith Etchells	21-Nov-11 14:17

Volatile Organic Compounds by EPA Method 5030B/8260B - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EK11404 - EPA 5030										
Blank (EK11404-BLK1)				Prepared & Analyzed: 11-Nov-11						
Dichlorodifluoromethane (F12)	ND	1.0	ug/l							
Chloromethane	ND	1.0	"							
Vinyl chloride	ND	1.0	"							
Bromomethane	ND	1.0	"							
Chloroethane	ND	1.0	"							
Trichlorofluoromethane (F11)	ND	1.0	"							
1,1-Dichloroethene	ND	1.0	"							
Methylene chloride (Dichloromethane)	ND	1.0	"							
Methyl tertiary-butyl ether (MTBE)	ND	1.0	"							
trans-1,2-Dichloroethene	ND	1.0	"							
Diisopropyl ether (DIPE)	ND	1.0	"							
1,1-Dichloroethane	ND	1.0	"							
Ethyl tert-butyl ether (ETBE)	ND	1.0	"							
2,2-Dichloropropane	ND	1.0	"							
cis-1,2-Dichloroethene	ND	1.0	"							
Chloroform	ND	1.0	"							
Bromochloromethane	ND	1.0	"							
1,1,1-Trichloroethane	ND	1.0	"							
1,1-Dichloropropene	ND	1.0	"							
Carbon tetrachloride	ND	1.0	"							
1,2-Dichloroethane (EDC)	ND	1.0	"							
Tertiary-amyl methyl ether (TAME)	ND	1.0	"							
Benzene	ND	0.5	"							
Trichloroethene	ND	1.0	"							
1,2-Dichloropropane	ND	1.0	"							
Bromodichloromethane	ND	1.0	"							
Dibromomethane	ND	1.0	"							
cis-1,3-Dichloropropene	ND	1.0	"							
Toluene	ND	0.5	"							
trans-1,3-Dichloropropene	ND	1.0	"							
1,1,2-Trichloroethane	ND	1.0	"							
1,2-Dibromoethane (EDB)	ND	1.0	"							
1,3-Dichloropropane	ND	1.0	"							
Tetrachloroethene	ND	1.0	"							

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SCS Engineers - San Diego	Project: SCS110911-10	
8799 Balboa Avenue, Suite 290	Project Number: 11011963.08 / 11040 Rancho Carmel Dr.	Reported:
San Diego, CA 92123	Project Manager: Mr. Keith Etchells	21-Nov-11 14:17

Volatile Organic Compounds by EPA Method 5030B/8260B - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EK11404 - EPA 5030										
Blank (EK11404-BLK1)				Prepared & Analyzed: 11-Nov-11						
Dibromochloromethane	ND	1.0	ug/l							
Chlorobenzene	ND	1.0	"							
Ethylbenzene	ND	0.5	"							
1,1,1,2-Tetrachloroethane	ND	1.0	"							
m,p-Xylene	ND	1.0	"							
o-Xylene	ND	0.5	"							
Styrene	ND	1.0	"							
Bromoform	ND	1.0	"							
Isopropylbenzene (Cumene)	ND	1.0	"							
1,1,2,2-Tetrachloroethane	ND	1.0	"							
1,2,3-Trichloropropane	ND	1.0	"							
n-Propylbenzene	ND	1.0	"							
Bromobenzene	ND	1.0	"							
1,3,5-Trimethylbenzene	ND	1.0	"							
2-Chlorotoluene	ND	1.0	"							
4-Chlorotoluene	ND	1.0	"							
tert-Butylbenzene	ND	1.0	"							
1,2,4-Trimethylbenzene	ND	1.0	"							
sec-Butylbenzene	ND	1.0	"							
p-Isopropyltoluene	ND	1.0	"							
1,3-Dichlorobenzene	ND	1.0	"							
1,4-Dichlorobenzene	ND	1.0	"							
n-Butylbenzene	ND	1.0	"							
1,2-Dichlorobenzene	ND	1.0	"							
1,2-Dibromo-3-chloropropane	ND	5.0	"							
1,2,4-Trichlorobenzene	ND	1.0	"							
Hexachlorobutadiene	ND	1.0	"							
Naphthalene	ND	1.0	"							
1,2,3-Trichlorobenzene	ND	1.0	"							
Tertiary-butyl alcohol (TBA)	ND	5.0	"							
Surrogate: Dibromofluoromethane	*2.61*		"	*2.50*		*104*	*75-125*			
Surrogate: 1,2-Dichloroethane-d4	*2.58*		"	*2.50*		*103*	*62-139*			
Surrogate: Toluene-d8	*2.53*		"	*2.50*		*101*	*75-125*			

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SCS Engineers - San Diego	Project: SCS110911-10	
8799 Balboa Avenue, Suite 290	Project Number: 11011963.08 / 11040 Rancho Carmel Dr.	Reported:
San Diego, CA 92123	Project Manager: Mr. Keith Etchells	21-Nov-11 14:17

Volatile Organic Compounds by EPA Method 5030B/8260B - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EK11404 - EPA 5030										
Blank (EK11404-BLK1)				Prepared & Analyzed: 11-Nov-11						
Surrogate: 4-Bromofluorobenzene	*2.57*		*ug/l*	*2.50*		*103*	*75-125*			
LCS (EK11404-BS1)				Prepared & Analyzed: 11-Nov-11						
Dichlorodifluoromethane (F12)	2.25	1.0	ug/l	2.50		90.0	75-125			
Chloromethane	2.20	1.0	"	2.50		88.1	75-125			
Vinyl chloride	2.40	1.0	"	2.50		96.0	75-125			
Bromomethane	2.38	1.0	"	2.50		95.2	75-125			
Chloroethane	2.48	1.0	"	2.50		99.3	75-125			
Trichlorofluoromethane (F11)	2.52	1.0	"	2.50		101	75-125			
1,1-Dichloroethene	2.86	1.0	"	2.50		114	75-125			
Methylene chloride (Dichloromethane)	2.35	1.0	"	2.50		93.9	75-125			
Methyl tertiary-butyl ether (MTBE)	2.59	1.0	"	2.50		104	75-125			
trans-1,2-Dichloroethene	2.59	1.0	"	2.50		103	75-125			
Diisopropyl ether (DIPE)	2.34	1.0	"	2.50		93.4	75-125			
1,1-Dichloroethane	2.47	1.0	"	2.50		98.9	75-125			
Ethyl tert-butyl ether (ETBE)	2.26	1.0	"	2.50		90.3	75-125			
2,2-Dichloropropane	2.44	1.0	"	2.50		97.7	75-125			
cis-1,2-Dichloroethene	2.55	1.0	"	2.50		102	75-125			
Chloroform	2.49	1.0	"	2.50		99.6	75-125			
Bromochloromethane	2.62	1.0	"	2.50		105	75-125			
1,1,1-Trichloroethane	2.64	1.0	"	2.50		106	75-125			
1,1-Dichloropropene	2.50	1.0	"	2.50		99.9	75-125			
Carbon tetrachloride	2.51	1.0	"	2.50		101	75-125			
1,2-Dichloroethane (EDC)	2.52	1.0	"	2.50		101	75-125			
Tertiary-amyl methyl ether (TAME)	2.14	1.0	"	2.50		85.8	75-125			
Benzene	2.45	0.5	"	2.50		97.9	75-125			
Trichloroethene	2.55	1.0	"	2.50		102	75-125			
1,2-Dichloropropane	2.33	1.0	"	2.50		93.3	75-125			
Bromodichloromethane	2.35	1.0	"	2.50		94.1	75-125			
Dibromomethane	2.38	1.0	"	2.50		95.2	75-125			
cis-1,3-Dichloropropene	2.16	1.0	"	2.50		86.6	75-125			
Toluene	2.54	0.5	"	2.50		102	75-125			
trans-1,3-Dichloropropene	2.20	1.0	"	2.50		88.0	75-125			

H&P Mobile Geochemistry Inc.

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SCS Engineers - San Diego
8799 Balboa Avenue, Suite 290
San Diego, CA 92123

Project: SCS110911-10
Project Number: 11011963.08 / 11040 Rancho Carmel Dr.
Project Manager: Mr. Keith Etchells

Reported:
21-Nov-11 14:17

Volatile Organic Compounds by EPA Method 5030B/8260B - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EK11404 - EPA 5030										
LCS (EK11404-BS1)				Prepared & Analyzed: 11-Nov-11						
1,1,2-Trichloroethane	2.39	1.0	ug/l	2.50		95.6	75-125			
1,2-Dibromoethane (EDB)	2.51	1.0	"	2.50		100	75-125			
1,3-Dichloropropane	2.46	1.0	"	2.50		98.2	75-125			
Tetrachloroethene	2.60	1.0	"	2.50		104	75-125			
Dibromochloromethane	2.23	1.0	"	2.50		89.1	75-125			
Chlorobenzene	2.55	1.0	"	2.50		102	75-125			
Ethylbenzene	2.38	0.5	"	2.50		95.3	75-125			
1,1,1,2-Tetrachloroethane	2.56	1.0	"	2.50		102	75-125			
m,p-Xylene	4.90	1.0	"	5.00		98.0	75-125			
o-Xylene	2.39	0.5	"	2.50		95.4	75-125			
Styrene	2.47	1.0	"	2.50		98.9	75-125			
Bromoform	3.23	1.0	"	2.50		129	75-125			QL-1H
Isopropylbenzene (Cumene)	2.55	1.0	"	2.50		102	75-125			
1,1,2,2-Tetrachloroethane	2.31	1.0	"	2.50		92.3	75-125			
1,2,3-Trichloropropane	2.18	1.0	"	2.50		87.2	75-125			
n-Propylbenzene	2.28	1.0	"	2.50		91.3	75-125			
Bromobenzene	2.39	1.0	"	2.50		95.7	75-125			
1,3,5-Trimethylbenzene	2.37	1.0	"	2.50		94.7	75-125			
2-Chlorotoluene	2.39	1.0	"	2.50		95.7	75-125			
4-Chlorotoluene	2.33	1.0	"	2.50		93.3	75-125			
tert-Butylbenzene	2.41	1.0	"	2.50		96.5	75-125			
1,2,4-Trimethylbenzene	2.42	1.0	"	2.50		97.0	75-125			
sec-Butylbenzene	2.33	1.0	"	2.50		93.1	75-125			
p-Isopropyltoluene	2.39	1.0	"	2.50		95.5	75-125			
1,3-Dichlorobenzene	2.51	1.0	"	2.50		101	75-125			
1,4-Dichlorobenzene	2.43	1.0	"	2.50		97.1	75-125			
n-Butylbenzene	2.31	1.0	"	2.50		92.5	75-125			
1,2-Dichlorobenzene	2.39	1.0	"	2.50		95.7	75-125			
1,2-Dibromo-3-chloropropane	2.95	5.0	"	2.50		118	75-125			
1,2,4-Trichlorobenzene	2.10	1.0	"	2.50		84.2	75-125			
Hexachlorobutadiene	2.29	1.0	"	2.50		91.6	75-125			
Naphthalene	2.24	1.0	"	2.50		89.7	75-125			
1,2,3-Trichlorobenzene	2.24	1.0	"	2.50		89.6	75-125			
Tertiary-butyl alcohol (TBA)	12.2	5.0	"	12.5		97.6	75-125			

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SCS Engineers - San Diego	Project: SCS110911-10	
8799 Balboa Avenue, Suite 290	Project Number: 11011963.08 / 11040 Rancho Carmel Dr.	Reported:
San Diego, CA 92123	Project Manager: Mr. Keith Etchells	21-Nov-11 14:17

Volatile Organic Compounds by EPA Method 5030B/8260B - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EK11404 - EPA 5030										
LCS (EK11404-BS1)	Prepared & Analyzed: 11-Nov-11									
Surrogate: Dibromofluoromethane	*2.73*		*ug/l*	*2.50*		*109*	*75-125*			
Surrogate: 1,2-Dichloroethane-d4	*2.67*		*"*	*2.50*		*107*	*62-139*			
Surrogate: Toluene-d8	*2.56*		*"*	*2.50*		*102*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*2.56*		*"*	*2.50*		*102*	*75-125*			

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San Diego, CA 92123	Project Manager: Mr. Keith Etchells	21-Nov-11 14:17

Notes and Definitions

QL-1H	The LCS and/or LCSD recoveries fell above the established control specifications for this analyte. Any result for this compound is qualified and should be considered biased high.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

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SCS Engineers - San Diego	Project: SCS110911-10	
8799 Balboa Avenue, Suite 290	Project Number: 11011963.08 / 11040 Rancho Carmel Dr.	Reported:
San Diego, CA 92123	Project Manager: Mr. Keith Etchells	21-Nov-11 14:17

Appendix

H&P Mobile Geochemistry, Inc. is approved as an Environmental Laboratory in conformance with the Environmental Laboratory Accreditation Program (CA) for the category of Volatile and Semi-Volatile Organic Chemistry of Hazardous Waste for the following methods:

Certificate# 2741, 2743, 2579, 2754 & 2740 approved for EPA 8260 and LUFT GC/MS
Certificate# 2742, 2745, & 2741 approved for LUFT
Certificate# 2745 & 2742 approved for EPA 418.1

H&P Mobile Geochemistry, Inc. is approved as an Environmental Laboratory in conformance with the National Environmental Accreditation Conference Standards for the category Environmental Analysis Air and Emissions for the following analytes and methods:

1,2,4-Trichlorobenzene by EPA TO-15 & TO-14A
Hexachlorobutadiene by EPA TO-15 & TO-14A
1,2,4-Trimethylbenzene by EPA TO -14A
1,2-Dichlorobenzene by EPA TO-15 & TO-14A
1,3,5-Trimethylbenzene by EPA TO -14A
1,4-Dichlorobenzene by EPA TO-15 & TO-14A
Benzene by EPA TO-15 & TO-14A
Chlorobenzene by EPA TO-15 & TO-14A
Ethyl benzene by EPA TO-15 & TO-14A
Styrene by EPA TO-15 & TO-14A
Toluene by EPA TO-15 & TO-14A
Total Xylenes by EPA TO-15 & TO-14A
1,1,1-Trichloroethane by EPA TO-15 & TO-14A
1,1,2,2-Tetrachloroethane by EPA TO-15 & TO-14A
1,1,2-Trichloroethane by EPA TO-15 & TO-14A
1,1-Dichloroethane by EPA TO-15 & TO-14A
1,1-Dichloroethene by EPA TO-15 & TO-14A
1,2-Dichloroethane by EPA TO-15 & TO-14A
1,2-Dichloropropane by EPA TO-15 & TO-14A
Bromoform by EPA TO-15
Bromomethane by EPA TO-15 & TO-14A
Carbon tetrachloride by EPA TO-15 & TO-14A
Chloroethane by EPA TO-15
Chloroform by EPA TO-15 & TO-14A
Chloromethane by EPA TO-15 & TO-14A
cis-1,2-Dichloroethene by EPA TO-15
cis-1,2-Dichloropropene by EPA TO-15 & TO-14A
Methylene chloride by EPA TO -15 & TO-14A
Tetrachloroethane by EPA TO-15 & TO-14A
trans-1,2-Dichloroethene by EPA TO-15
trans-1,2-Dichloropropene by EPA TO-15 & TO-14A
Trichloroethene by EPA TO-15 & TO-14A
Vinyl chloride by EPA TO -15 & TO-14A
2-Butanone by EPA TO-15
4-Methyl-2-Pentanone by EPA TO-15
Hexane by EPA TO-15
Methyl tert-butyl ether by EPA TO-15
Vinyl acetate by EPA TO-15

This certification applies to samples analyzed in summa canisters.

MOBILE GEOCHEMISTRY

H&P

Chain of Custody Record

☑ 2470 Impala Dr., Carlsbad, CA 92010 • ph 760.804.9678 • fax 760.804.9159

☐ 3825 Industry Avenue, Lakewood, CA 90712 • ph 562.426.6991 • fax 562.426.6995

Date:

(SB) H&P Project # SCS110911-10

Outside Lab:

Client: SCS Engineers

Address: 8799 Balboa Ave. #290
San Diego, CA 92123

Email: ketchells@scsengineers.com Phone: 8585715500

Collector: Keith Etchells

Client Project # 11019163.08

Location: 1040 Rancho Carmel Dr., San Diego

Fax:

Page: 1 of

Project Contact: collector

Turn around time: normal

EDF: Yes ☑ No ☐

Global ID:

Sample Receipt
Intact: ☑ Yes ☐ No
Seal Intact: ☐ Yes ☐ No ☑ N/A
Cold ☑ Yes ☐ No 6°C
N/A (Received on Site)

Special Instructions:

E111035

Sample Name	Field Point Name	Purge Vol	Time	Date	Sample Type	Container Type
MW1		NA	1045	11/7/11	GW	VOAs
MW3			1130			
MW4			1235			
MW5			1445	11/8/11		
MW6			1340			
MW7			950	11/7/11		
MW8			935	11/8/11		
MW9			1110			
NM-MW1			1506	11/7/11		
NM-MW2			1215	11/8/11		

TPH ☐ gasoline ☐ diesel ☐ ext	418.1 TRPH	8021 for BTEX/MTBE	8260B: BTEX / Oxygenates	8260B: TPH gas	8260B: VOC's +OXY (SB)	8260B: DTSC/LARWQCB	8260B: Ketones	TO-15: Full List	TO-15: BTEX/MTBE	LCC (specify)	Naphthalene ☐ 8260B ☐ TO-15	Methane	Fixed Gases ☐ CO_2 ☐ O_2 ☐ N_2					Total # of containers
					X													
					X													
					X													
					X													
					X													
					X													
					X													
					X													
					X													
					X													

Relinquished by: (Signature)	(company)	Received by: (Signature)	(company)	Date	Time
Keith Etchells	SCS	Dee Bell	H&P	11/8/11	1615
Relinquished by: (Signature)	(company)	Received by: (Signature)	(company)	Date	Time
Relinquished by: (Signature)	(company)	Received by: (Signature)	(company)	Date	Time

*Signature constitutes authorization to proceed with analysis and acceptance of condition on back.

Sample disposal instruction: ☐ Disposal @ $2.00 each ☐ Return to client ☐ Pickup

MOBILE GEOCHEMISTRY

H&P

Chain of Custody Record

☐ 2470 Impala Dr., Carlsbad, CA 92010 • ph 760.804.9678 • fax 760.804.9159

☐ 3825 Industry Avenue, Lakewood, CA 90712 • ph 562.426.6991 • fax 562.426.6995

Date:

H&P Project # SCS110911-10

Outside Lab:

Client:

Collector:

Page: 2 of 2

Address:

Client Project # 11011963.08

Project Contact:

Location:

Email:

Phone:

Fax:

Turn around time:

EDF: Yes ☐ No ☐

Global ID:

Sample Receipt
Intact: ☑ Yes ☐ No
Seal Intact: ☐ Yes ☐ No ☑ N/A
Cold: ☑ Yes ☐ No 6 °C
N/A (Received on Site)

Special Instructions:

E111035

Sample Name	Field Point Name	Purge Vol	Time	Date	Sample Type	Container Type	TPH ☐ gasoline ☐ diesel ☐ ext	418.1 TRPH	8021 for BTEX/MTBE	8260B: BTEX / Oxygenates	8260B: TPH gas	8260B: VOC's +DXY	8260B: DTSC/LARWQCB	8260B: Ketones	TO-15: Full List	TO-15: BTEX/MTBE	LCC (specify)	Naphthalene ☐ 8260B ☐ TO-15	Methane	Fixed Gases ☐ CO_2 ☐ O_2 ☐ N_2	Total # of containers
NM-MW3		N/A	1410	11/7/11	GW	VOAs						X									8

Relinquished by: (Signature)	(company) SCS	Received by: (Signature)	(company) H&P	Date: 11/8/11	Time: 1615
Relinquished by: (Signature)	(company)	Received by: (Signature)	(company)	Date:	Time:
Relinquished by: (Signature)	(company)	Received by: (Signature)	(company)	Date:	Time:

*Signature constitutes authorization to proceed with analysis and acceptance of condition on back.

Sample disposal instruction: ☐ *Disposal @ $2.00 each* ☐ *Return to client* ☐ *Pickup*

APPENDIX C
ProUCL Statistical Analyses Outputs

General UCL Statistics for Data Sets with Non-Detects

User Selected Options

From File	Sheet1.wst
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

PCE (mw1)

General Statistics

Number of Valid Observations	15	Number of Distinct Observations	14

Raw Statistics

Minimum	71.7
Maximum	11100
Mean	5791
Geometric Mean	4310
Median	5500
SD	2775
Std. Error of Mean	716.4
Coefficient of Variation	0.479
Skewness	-0.0868

Log-transformed Statistics

Minimum of Log Data	4.272
Maximum of Log Data	9.315
Mean of log Data	8.369
SD of log Data	1.197

Relevant UCL Statistics

Normal Distribution Test

Shapiro Wilk Test Statistic	0.989
Shapiro Wilk Critical Value	0.881

Data appear Normal at 5% Significance Level

Lognormal Distribution Test

Shapiro Wilk Test Statistic	0.593
Shapiro Wilk Critical Value	0.881

Data not Lognormal at 5% Significance Level

Assuming Normal Distribution

95% Student's-t UCL	7053

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL (Chen-1995)	6953
95% Modified-t UCL (Johnson-1978)	7051

Assuming Lognormal Distribution

95% H-UCL	23548
95% Chebyshev (MVUE) UCL	20516
97.5% Chebyshev (MVUE) UCL	25845
99% Chebyshev (MVUE) UCL	36314

Gamma Distribution Test

k star (bias corrected)	1.518
Theta Star	3815
MLE of Mean	5791
MLE of Standard Deviation	4700
nu star	45.54
Approximate Chi Square Value (.05)	31.06
Adjusted Level of Significance	0.0324
Adjusted Chi Square Value	29.59
Anderson-Darling Test Statistic	1.208
Anderson-Darling 5% Critical Value	0.749
Kolmogorov-Smirnov Test Statistic	0.224
Kolmogorov-Smirnov 5% Critical Value	0.225

Data follow Appr. Gamma Distribution at 5% Significance Level

Data Distribution

Data appear Normal at 5% Significance Level

Nonparametric Statistics

95% CLT UCL	6970
95% Jackknife UCL	7053
95% Standard Bootstrap UCL	6911
95% Bootstrap-t UCL	7070
95% Hall's Bootstrap UCL	7014
95% Percentile Bootstrap UCL	6920
95% BCA Bootstrap UCL	6927
95% Chebyshev(Mean, Sd) UCL	8914

97.5% Chebyshev(Mean, Sd) UCL	1265
99% Chebyshev(Mean, Sd) UCL	1919

Assuming Gamma Distribution

95% Approximate Gamma UCL (Use when n >= 40)	8492
95% Adjusted Gamma UCL (Use when n < 40)	8913

Potential UCL to Use — Use 95% Student's-t UCL 763

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be reliable. Chen's and Johnson's methods provide adjustments for positively skewed data sets.

PCE (mw3)

General Statistics

Number of Valid Observations	15	Number of Distinct Observations	14

Raw Statistics

Minimum	27
Maximum	550
Mean	107.1
Geometric Mean	72.88
Median	63
SD	133.2
Std. Error of Mean	34.38
Coefficient of Variation	1.244
Skewness	3.02

Log-transformed Statistics

Minimum of Log Data	3.296
Maximum of Log Data	6.31
Mean of log Data	4.289
SD of log Data	0.798

Relevant UCL Statistics

Normal Distribution Test

Shapiro Wilk Test Statistic	0.579
Shapiro Wilk Critical Value	0.881

Data not Normal at 5% Significance Level

Lognormal Distribution Test

Shapiro Wilk Test Statistic	0.898
Shapiro Wilk Critical Value	0.881

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

95% Student's-t UCL	167.6

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL (Chen-1995)	192.3
95% Modified-t UCL (Johnson-1978)	172.1

Gamma Distribution Test

k star (bias corrected)	1.2
Theta Star	89.23
MLE of Mean	107.1
MLE of Standard Deviation	97.74
nu star	36

Assuming Lognormal Distribution

95% H-UCL	168.5
95% Chebyshev (MVUE) UCL	191
97.5% Chebyshev (MVUE) UCL	231.4
99% Chebyshev (MVUE) UCL	310.8

Data Distribution

Data appear Lognormal at 5% Significance Level

Approximate Chi Square Value (.05)	23.27
Adjusted Level of Significance	0.0324
Adjusted Chi Square Value	22.01
Anderson-Darling Test Statistic	1.164
Anderson-Darling 5% Critical Value	0.755
Kolmogorov-Smirnov Test Statistic	0.274
Kolmogorov-Smirnov 5% Critical Value	0.226

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

95% Approximate Gamma UCL (Use when n >= 40)	165.6
95% Adjusted Gamma UCL (Use when n < 40)	175.1

Nonparametric Statistics

95% CLT UCL	163.6
95% Jackknife UCL	167.6
95% Standard Bootstrap UCL	162.1
95% Bootstrap-t UCL	313.2
95% Hall's Bootstrap UCL	381.2
95% Percentile Bootstrap UCL	165.7
95% BCA Bootstrap UCL	200.1
95% Chebyshev(Mean, Sd) UCL	256.9
97.5% Chebyshev(Mean, Sd) UCL	321.8
99% Chebyshev(Mean, Sd) UCL	449.2

Potential UCL to Use — Use 95% H-UCL 168.5

ProUCL computes and outputs H-statistic based UCLs for historical reasons only
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide
It is therefore recommended to avoid the use of H-statistic based 95% UCLs
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution

More Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

PCE (mw4)

General Statistics

Number of Valid Observations	15
Number of Distinct Observations	13

Raw Statistics

Minimum	304
Maximum	4500
Mean	1218
Geometric Mean	915.2
Median	1100
SD	1051
Std. Error of Mean	271.4
Coefficient of Variation	0.863
Skewness	2.313

Log-transformed Statistics

Minimum of Log Data	5.717
Maximum of Log Data	8.412
Mean of log Data	6.819
SD of log Data	0.784

Relevant UCL Statistics

Normal Distribution Test

Shapiro Wilk Test Statistic	0.747
Shapiro Wilk Critical Value	0.881

Data not Normal at 5% Significance Level

Lognormal Distribution Test

Shapiro Wilk Test Statistic	0.92
Shapiro Wilk Critical Value	0.881

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

95% Student's-t UCL	1696

95% UCLs (Adjusted for Skewness)

Assuming Lognormal Distribution

95% H-UCL	2067
95% Chebyshev (MVUE) UCL	2353

95% Adjusted-CLT UCL (Chen-1995)	1837
95% Modified-t UCL (Johnson-1978)	1723

97.5% Chebyshev (MVUE) UCL	2846
99% Chebyshev (MVUE) UCL	3815

Gamma Distribution Test

k star (bias corrected)	1.565
Theta Star	777.9
MLE of Mean	1218
MLE of Standard Deviation	973.3
nu star	46.95
Approximate Chi Square Value (.05)	32.23
Adjusted Level of Significance	0.0324
Adjusted Chi Square Value	30.73
Anderson-Darling Test Statistic	0.524
Anderson-Darling 5% Critical Value	0.748
Kolmogorov-Smirnov Test Statistic	0.178
Kolmogorov-Smirnov 5% Critical Value	0.225

Data appear Gamma Distributed at 5% Significance Level

Data Distribution

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

95% CLT UCL	1664
95% Jackknife UCL	1696
95% Standard Bootstrap UCL	1640
95% Bootstrap-t UCL	1983
95% Hall's Bootstrap UCL	3717
95% Percentile Bootstrap UCL	1699
95% BCA Bootstrap UCL	1850
95% Chebyshev(Mean, Sd) UCL	2400
97.5% Chebyshev(Mean, Sd) UCL	2912
99% Chebyshev(Mean, Sd) UCL	3918

Assuming Gamma Distribution

95% Approximate Gamma UCL (Use when n >= 40)	1774
95% Adjusted Gamma UCL (Use when n < 40)	1860

Potential UCL to Use

Use 95% Approximate Gamma UCL 1774

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

PCE (mw5)

General Statistics

Number of Valid Observations	14
Number of Distinct Observations	11

Raw Statistics

Minimum	500
Maximum	1400
Mean	1019
Geometric Mean	978.6
Median	1100
SD	281
Std. Error of Mean	75.11
Coefficient of Variation	0.276
Skewness	-0.405

Log-transformed Statistics

Minimum of Log Data	6.215
Maximum of Log Data	7.244
Mean of log Data	6.886
SD of log Data	0.308

Relevant UCL Statistics

Normal Distribution Test

Shapiro Wilk Test Statistic	0.929
Shapiro Wilk Critical Value	0.874

Data appear Normal at 5% Significance Level

Lognormal Distribution Test

Shapiro Wilk Test Statistic	0.904
Shapiro Wilk Critical Value	0.874

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

95% Student's-t UCL	1152

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL (Chen-1995)	1134
95% Modified-t UCL (Johnson-1978)	1151

Gamma Distribution Test

k star (bias corrected)	9.826
Theta Star	103.7
MLE of Mean	1019
MLE of Standard Deviation	325.2
nu star	275.1
Approximate Chi Square Value (.05)	237.7
Adjusted Level of Significance	0.0312
Adjusted Chi Square Value	233.1
Anderson-Darling Test Statistic	0.546
Anderson-Darling 5% Critical Value	0.734
Kolmogorov-Smirnov Test Statistic	0.214
Kolmogorov-Smirnov 5% Critical Value	0.229

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

95% Approximate Gamma UCL (Use when n >= 40)	1180
95% Adjusted Gamma UCL (Use when n < 40)	1203

Assuming Lognormal Distribution

95% H-UCL	1207
95% Chebyshev (MVUE) UCL	1393
97.5% Chebyshev (MVUE) UCL	1554
99% Chebyshev (MVUE) UCL	1869

Data Distribution

Data appear Normal at 5% Significance Level

Nonparametric Statistics

95% CLT UCL	1143
95% Jackknife UCL	1152
95% Standard Bootstrap UCL	1138
95% Bootstrap-t UCL	1145
95% Hall's Bootstrap UCL	1135
95% Percentile Bootstrap UCL	1129
95% BCA Bootstrap UCL	1133
95% Chebyshev(Mean, Sd) UCL	1347
97.5% Chebyshev(Mean, Sd) UCL	1488
99% Chebyshev(Mean, Sd) UCL	1767

Potential UCL to Use

Use 95% Student's-t UCL 1152

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Note: For highly negatively-skewed data, confidence limits computed using Adjusted CLT and Gamma methods may be unreliable. Chebyshev inequality methods provide conservative limits for highly negatively-skewed data sets.

PCE (mw6)

General Statistics

Number of Valid Data	14
Number of Distinct Detected Data	12
Number of Detected Data	13
Number of Non-Detect Data	1
Percent Non-Detects	7.14%

Raw Statistics

Minimum Detected	2.4
Maximum Detected	29.5
Mean of Detected	13.82
SD of Detected	9.287

Log-transformed Statistics

Minimum Detected	0.875
Maximum Detected	3.384
Mean of Detected	2.374
SD of Detected	0.786

Minimum Non-Detect	1
Maximum Non-Detect	1

Minimum Non-Detect	0
Maximum Non-Detect	0

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.903
5% Shapiro Wilk Critical Value	0.866

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method

Mean	12.87
SD	9.607
95% DL/2 (t) UCL	17.42

Maximum Likelihood Estimate(MLE) Method

Mean	12.56
SD	9.786
95% MLE (t) UCL	17.2
95% MLE (Tiku) UCL	17.13

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	1.693
Theta Star	8.166
nu star	44.01
A-D Test Statistic	0.358
5% A-D Critical Value	0.743
K-S Test Statistic	0.743
5% K-S Critical Value	0.239

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data

Minimum	1.0000E-6
Maximum	29.5
Mean	12.84
Median	9.1
SD	9.658
k star	0.424
Theta star	30.27
Nu star	11.87
AppChi2	5.144
95% Gamma Approximate UCL (Use when n >= 40)	29.63
95% Adjusted Gamma UCL (Use when n < 40)	33.35

Note: DL/2 is not a recommended method.

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.943
5% Shapiro Wilk Critical Value	0.866

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method

Mean	2.155
SD	1.114
95% H-Stat (DL/2) UCL	40.39

Log ROS Method

Mean in Log Scale	2.238
SD in Log Scale	0.91
Mean in Original Scale	12.95
SD in Original Scale	9.502
95% t UCL	17.45
95% Percentile Bootstrap UCL	17.1
95% BCA Bootstrap UCL	17.43
95% H UCL	27.69

Data Distribution Test with Detected Values Only

Data appear Normal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method

Mean	13.01
SD	9.088
SE of Mean	2.528
95% KM (t) UCL	17.48
95% KM (z) UCL	17.17
95% KM (jackknife) UCL	17.42
95% KM (bootstrap t) UCL	18.02
95% KM (BCA) UCL	16.98
95% KM (Percentile Bootstrap) UCL	17.1
95% KM (Chebyshev) UCL	24.03
97.5% KM (Chebyshev) UCL	28.79
99% KM (Chebyshev) UCL	38.16

Potential UCLs to Use

95% KM (t) UCL	17.48
95% KM (Percentile Bootstrap) UCL	17.1

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician

PCE (mw7)

General Statistics

Number of Valid Data	2	Number of Detected Data	1
Number of Distinct Detected Data	1	Number of Non-Detect Data	1
Number of Missing Values	12	Percent Non-Detects	50.00%

Warning: This data set only has 2 observations!
Data set is too small to compute reliable and meaningful statistics and estimates!
The data set for variable PCE (mw7) was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

PCE (mw8)

General Statistics

Number of Valid Observations	3	Number of Distinct Observations	3

Warning: This data set only has 3 observations!
Data set is too small to compute reliable and meaningful statistics and estimates!
The data set for variable PCE (mw8) was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

PCE (mw9)

General Statistics

Number of Valid Observations	3	Number of Distinct Observations	3

Warning: This data set only has 3 observations!
Data set is too small to compute reliable and meaningful statistics and estimates!
The data set for variable PCE (mw9) was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

PCE (nm-mw1)

General Statistics

Number of Valid Observations	3	Number of Distinct Observations	3

Warning: This data set only has 3 observations!
Data set is too small to compute reliable and meaningful statistics and estimates!
The data set for variable PCE (nm-mw1) was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

PCE (nm-mw2)

General Statistics

Number of Valid Data	3	Number of Detected Data	2
Number of Distinct Detected Data	2	Number of Non-Detect Data	1
		Percent Non-Detects	33.33%

Warning: This data set only has 3 observations!
Data set is too small to compute reliable and meaningful statistics and estimates!
The data set for variable PCE (nm-mw2) was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

PCE (nm-mw3)

General Statistics

Number of Valid Data	3	Number of Detected Data	0
Number of Distinct Detected Data	0	Number of Non-Detect Data	3
		Percent Non-Detects	100.00%

Warning: This data set only has 3 observations!
Data set is too small to compute reliable and meaningful statistics and estimates!
The data set for variable PCE (nm-mw3) was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

TCE (mw1)

General Statistics

Number of Valid Observations	15
Number of Distinct Observations	15

Raw Statistics

Minimum	13.2
Maximum	1400
Mean	740.9
Geometric Mean	564.2
Median	660
SD	360.7
Std. Error of Mean	93.14
Coefficient of Variation	0.487
Skewness	-0.0144

Log-transformed Statistics

Minimum of Log Data	2.58
Maximum of Log Data	7.244
Mean of log Data	6.335
SD of log Data	1.107

Relevant UCL Statistics

Normal Distribution Test

Shapiro Wilk Test Statistic	0.981
Shapiro Wilk Critical Value	0.881

Data appear Normal at 5% Significance Level

Lognormal Distribution Test

Shapiro Wilk Test Statistic	0.62
Shapiro Wilk Critical Value	0.881

Data not Lognormal at 5% Significance Level

Assuming Normal Distribution

95% Student's-t UCL	904.9

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL (Chen-1995)	893.7
95% Modified-t UCL (Johnson-1978)	904.9

Assuming Lognormal Distribution

95% H-UCL	2468
95% Chebyshev (MVUE) UCL	2331
97.5% Chebyshev (MVUE) UCL	2916
99% Chebyshev (MVUE) UCL	4063

Gamma Distribution Test

k star (bias corrected)	1.633
Theta Star	453.6
MLE of Mean	740.9
MLE of Standard Deviation	579.7
nu star	49
Approximate Chi Square Value (.05)	33.93
Adjusted Level of Significance	0.0324
Adjusted Chi Square Value	32.39
Anderson-Darling Test Statistic	1.022
Anderson-Darling 5% Critical Value	0.747
Kolmogorov-Smirnov Test Statistic	0.228
Kolmogorov-Smirnov 5% Critical Value	0.224

Data not Gamma Distributed at 5% Significance Level

Data Distribution

Data appear Normal at 5% Significance Level

Nonparametric Statistics

95% CLT UCL	894.1
95% Jackknife UCL	904.9
95% Standard Bootstrap UCL	889.5
95% Bootstrap-t UCL	911.9
95% Hall's Bootstrap UCL	893.1
95% Percentile Bootstrap UCL	889.3
95% BCA Bootstrap UCL	894.9
95% Chebyshev(Mean, Sd) UCL	1147
97.5% Chebyshev(Mean, Sd) UCL	1323
99% Chebyshev(Mean, Sd) UCL	1668

Assuming Gamma Distribution

95% Approximate Gamma UCL (Use when n >= 40)	1070
95% Adjusted Gamma UCL (Use when n < 40)	1121

Potential UCL to Use

Use 95% Student's-t UCL 904.9

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Note: For highly negatively-skewed data, confidence limits
(e.g., Chen, Johnson, Lognormal, and Gamma) may not be
reliable. Hall's and Johnson's methods provide
adjustments for positively skewed data sets.

TCE (mw3)

General Statistics

Number of Valid Observations	15	Number of Distinct Observations	13

Raw Statistics		Log-transformed Statistics	
Minimum	28.5	Minimum of Log Data	3.35
Maximum	270	Maximum of Log Data	5.598
Mean	98.68	Mean of log Data	4.42
Geometric Mean	83.11	SD of log Data	0.595
Median	67		
SD	64.8		
Std. Error of Mean	16.73		
Coefficient of Variation	0.657		
Skewness	1.562		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.84	Shapiro Wilk Test Statistic	0.97
Shapiro Wilk Critical Value	0.881	Shapiro Wilk Critical Value	0.881
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	128.1	95% H-UCL	140.1
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	166
95% Adjusted-CLT UCL (Chen-1995)	133.4	97.5% Chebyshev (MVUE) UCL	195.5
95% Modified-t UCL (Johnson-1978)	129.3	99% Chebyshev (MVUE) UCL	253.4

Gamma Distribution Test		Data Distribution
k star (bias corrected)	2.5	Data appear Gamma Distributed at 5% Significance Level
Theta Star	39.47	
MLE of Mean	98.68	
MLE of Standard Deviation	62.41	
nu star	75	
Approximate Chi Square Value (.05)	56.05	
Adjusted Level of Significance	0.0324	
Adjusted Chi Square Value	54.04	
Anderson-Darling Test Statistic	0.461	
Anderson-Darling 5% Critical Value	0.744	
Kolmogorov-Smirnov Test Statistic	0.203	
Kolmogorov-Smirnov 5% Critical Value	0.223	
Data appear Gamma Distributed at 5% Significance Level		

Nonparametric Statistics	
95% CLT UCL	126.2
95% Jackknife UCL	128.1
95% Standard Bootstrap UCL	125.1
95% Bootstrap-t UCL	141.4
95% Hall's Bootstrap UCL	149.4
95% Percentile Bootstrap UCL	126.1
95% BCA Bootstrap UCL	131.5
95% Chebyshev(Mean, Sd) UCL	171.6
97.5% Chebyshev(Mean, Sd) UCL	203.2
99% Chebyshev(Mean, Sd) UCL	265.1

Assuming Gamma Distribution

95% Approximate Gamma UCL (Use when n >= 40)	132
95% Adjusted Gamma UCL (Use when n < 40)	137

Potential UCL to Use — Use 95% Approximate Gamma UCL: 132

TCE (mw4)

General Statistics

Number of Valid Observations	15	Number of Distinct Observations	13

Raw Statistics		Log-transformed Statistics	
Minimum	804	Minimum of Log Data	6.69
Maximum	15000	Maximum of Log Data	9.616
Mean	4264	Mean of log Data	8.082
Geometric Mean	3237	SD of log Data	0.774
Median	3300		
SD	3554		
Std. Error of Mean	917.5		
Coefficient of Variation	0.833		
Skewness	2.09		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.786	Shapiro Wilk Test Statistic	0.975
Shapiro Wilk Critical Value	0.881	Shapiro Wilk Critical Value	0.881

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	5880	95% H-UCL	7179
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	8204
95% Adjusted-CLT UCL (Chen-1995)	6303	97.5% Chebyshev (MVUE) UCL	9910
95% Modified-t UCL (Johnson-1978)	5963	99% Chebyshev (MVUE) UCL	13263

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.615		
Theta Star	2640		
MLE of Mean	4264		
MLE of Standard Deviation	3355		
nu star	48.46		
Approximate Chi Square Value (.05)	33.48	Nonparametric Statistics	
Adjusted Level of Significance	0.0324	95% CLT UCL	5773
Adjusted Chi Square Value	31.95	95% Jackknife UCL	5880
		95% Standard Bootstrap UCL	5703
Anderson-Darling Test Statistic	0.31	95% Bootstrap-t UCL	6852
Anderson-Darling 5% Critical Value	0.747	95% Hall's Bootstrap UCL	12629
Kolmogorov-Smirnov Test Statistic	0.112	95% Percentile Bootstrap UCL	5794

Kolmogorov-Smirnov 5% Critical Value	0.224

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

95% Approximate Gamma UCL (Use when n >= 40)	6172
95% Adjusted Gamma UCL (Use when n < 40)	6467

95% BCA Bootstrap UCL	6267
95% Chebyshev(Mean, Sd) UCL	8264
97.5% Chebyshev(Mean, Sd) UCL	9994
99% Chebyshev(Mean, Sd) UCL	13394

Potential UCL to Use

Use 95% Approximate Gamma UCL 6172

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). These simulations can be downloaded from the ProUCL website.

TCE (mw5)

General Statistics

Number of Valid Data	14	Number of Detected Data	13
Number of Distinct Detected Data	12	Number of Non-Detect Data	1
		Percent Non-Detects	7.14%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	27	Minimum Detected	3.296
Maximum Detected	220	Maximum Detected	5.394
Mean of Detected	71.08	Mean of Detected	4.066
SD of Detected	55.1	SD of Detected	0.611
Minimum Non-Detect	100	Minimum Non-Detect	4.605
Maximum Non-Detect	100	Maximum Non-Detect	4.605

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.732	Shapiro Wilk Test Statistic	0.92
5% Shapiro Wilk Critical Value	0.866	5% Shapiro Wilk Critical Value	0.866

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	69.57	Mean	4.055
SD	53.24	SD	0.588
95% DL/2 (t) UCL	94.77	95% H-Stat (DL/2) UCL	97.74
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	4.056
		SD in Log Scale	0.588
		Mean in Original Scale	69.62
		SD in Original Scale	53.22
		95% t UCL	94.81
		95% Percentile Bootstrap UCL	94.14
		95% BCA Bootstrap UCL	102.2
		95% H-UCL	97.8

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	2.113
Theta Star	33.63
nu star	54.95
A-D Test Statistic	0.724
5% A-D Critical Value	0.74
K-S Test Statistic	0.74
5% K-S Critical Value	0.239

Data appear Gamma Distributed at 5% Significance Level

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data

Minimum	27
Maximum	220
Mean	70.68
Median	53
SD	52.96
k star	2.305
Theta star	30.67
Nu star	64.53
AppChi2	47.05
95% Gamma Approximate UCL (Use when n >= 40)	96.94
95% Adjusted Gamma UCL (Use when n < 40)	101.2

Note: DL/2 is not a recommended method.

Nonparametric Statistics

Kaplan-Meier (KM) Method

Mean	69.6
SD	51.5
SE of Mean	14.39
95% KM (t) UCL	95.08
95% KM (z) UCL	93.27
95% KM (jackknife) UCL	95.03
95% KM (bootstrap t) UCL	133.6
95% KM (BCA) UCL	94.86
95% KM (Percentile Bootstrap) UCL	94.17
95% KM (Chebyshev) UCL	132.3
97.5% KM (Chebyshev) UCL	159.5
99% KM (Chebyshev) UCL	212.8

Potential UCLs to Use

95% KM (BCA) UCL 94.86

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002).
For additional insight, the user may want to consult a statistician.

TCE (mw6)

General Statistics

Number of Valid Data	14	Number of Detected Data	10
Number of Distinct Detected Data	9	Number of Non-Detect Data	4
		Percent Non-Detects	28.57%

Raw Statistics

Minimum Detected	1.2
Maximum Detected	6.6
Mean of Detected	3.13
SD of Detected	1.934
Minimum Non-Detect	1
Maximum Non-Detect	1

Log-transformed Statistics

Minimum Detected	0.182
Maximum Detected	1.887
Mean of Detected	0.976
SD of Detected	0.602
Minimum Non-Detect	0
Maximum Non-Detect	0

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.864

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.929

5% Shapiro Wilk Critical Value	0.842

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method

Mean	2.379
SD	2.027
95% DL/2 (t) UCL	3.338

Maximum Likelihood Estimate(MLE) Method

Mean	2.08
SD	2.367
95% MLE (t) UCL	3.2
95% MLE (Tiku) UCL	3.256

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	2.292
Theta Star	1.365
nu star	45.84
A-D Test Statistic	0.425
5% A-D Critical Value	0.732
K-S Test Statistic	0.732
5% K-S Critical Value	0.268

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data

Minimum	1.0000E-6
Maximum	6.6
Mean	2.236
Median	1.8
SD	2.178
k star	0.192
Theta star	11.64
Nu star	5.378
AppChi2	1.331
95% Gamma Approximate UCL (Use when n >= 40)	9.035
95% Adjusted Gamma UCL (Use when n < 40)	11.08

Note: DL/2 is not a recommended method

5% Shapiro Wilk Critical Value	0.842

Data appear Lognormal at 5% Significance Level

Assuming Lognormal Distribution

DL/2 Substitution Method

Mean	0.499
SD	0.929
95% H-Stat (DL/2) UCL	5.052

Log ROS Method

Mean in Log Scale	0.542
SD in Log Scale	0.886
Mean in Original Scale	2.41
SD in Original Scale	1.999
95% t UCL	3.356
95% Percentile Bootstrap UCL	3.325
95% BCA Bootstrap UCL	3.321
95% H UCL	4.834

Data Distribution Test with Detected Values Only

Data appear Normal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method

Mean	2.579
SD	1.779
SE of Mean	0.501
95% KM (t) UCL	3.466
95% KM (z) UCL	3.403
95% KM (jackknife) UCL	3.422
95% KM (bootstrap t) UCL	3.775
95% KM (BCA) UCL	3.614
95% KM (Percentile Bootstrap) UCL	3.443
95% KM (Chebyshev) UCL	4.763
97.5% KM (Chebyshev) UCL	5.708
99% KM (Chebyshev) UCL	7.565

Potential UCLs to Use

95% KM (t) UCL	3.466
95% KM (Percentile Bootstrap) UCL	3.443

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Engelhardt (1997, 1999).
For additional insight, the user may want to consult a statistician.

TCE (mw7)

General Statistics

Number of Valid Data	14	Number of Detected Data	0
Number of Distinct Detected Data	0	Number of Non-Detect Data	14
		Percent Non-Detects	100.00%

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable TCE (mw7) was not processed!

TCE (mw8)

General Statistics

Number of Valid Observations	3	Number of Distinct Observations	3

Warning: This data set only has 3 observations!
Data set is too small to compute reliable and meaningful statistics and estimates!
The data set for variable TCE (mw8) was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

TCE (mw9)

General Statistics

Number of Valid Data	3	Number of Detected Data	2
Number of Distinct Detected Data	2	Number of Non-Detect Data	1
		Percent Non-Detects	33.33%

Warning: This data set only has 3 observations!
Data set is too small to compute reliable and meaningful statistics and estimates!
The data set for variable TCE (mw9) was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

TCE (nm-mw1)

General Statistics

Number of Valid Observations	3	Number of Distinct Observations	3

Warning: This data set only has 3 observations!

Data set is too small to compute reliable and meaningful statistics and estimates!

The data set for variable TCE (nm-mw1) was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!

If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

TCE (nm-mw2)

General Statistics

Number of Valid Data	3	Number of Detected Data	2
Number of Distinct Detected Data	2	Number of Non-Detect Data	1
		Percent Non-Detects	33.33%

Warning: This data set only has 3 observations!

Data set is too small to compute reliable and meaningful statistics and estimates!

The data set for variable TCE (nm-mw2) was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!

If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

TCE (nm-mw3)

General Statistics

Number of Valid Data	3	Number of Detected Data	0
Number of Distinct Detected Data	0	Number of Non-Detect Data	3
		Percent Non-Detects	100.00%

Warning: This data set only has 3 observations!

Data set is too small to compute reliable and meaningful statistics and estimates!

The data set for variable TCE (nm-mw3) was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!

If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

cis-1,2-DCE (mw1)

General Statistics

Number of Valid Observations	15	Number of Distinct Observations	15

Raw Statistics		Log-transformed Statistics	
Minimum	4.2	Minimum of Log Data	1.435
Maximum	780	Maximum of Log Data	6.659
Mean	435.6	Mean of log Data	5.773
Geometric Mean	321.6	SD of log Data	1.254

Median	480
SD	196.1
Std. Error of Mean	50.63
Coefficient of Variation	0.45
Skewness	-0.439

Relevant UCL Statistics

Normal Distribution Test

Shapiro Wilk Test Statistic	0.98
Shapiro Wilk Critical Value	0.881

Data appear Normal at 5% Significance Level

Lognormal Distribution Test

Shapiro Wilk Test Statistic	0.557
Shapiro Wilk Critical Value	0.881

Data not Lognormal at 5% Significance Level

Assuming Normal Distribution

95% Student's-t UCL	524.8

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL (Chen-1995)	512.8
95% Modified-t UCL (Johnson-1978)	523.8

Assuming Lognormal Distribution

95% H-UCL	2043
95% Chebyshev (MVUE) UCL	1679
97.5% Chebyshev (MVUE) UCL	2124
99% Chebyshev (MVUE) UCL	2998

Gamma Distribution Test

k star (bias corrected)	1.482
Theta Star	293.9
MLE of Mean	435.6
MLE of Standard Deviation	357.8
nu star	44.46
Approximate Chi Square Value (.05)	30.17
Adjusted Level of Significance	0.0324
Adjusted Chi Square Value	28.73
Anderson-Darling Test Statistic	1.486
Anderson-Darling 5% Critical Value	0.75
Kolmogorov-Smirnov Test Statistic	0.25
Kolmogorov-Smirnov 5% Critical Value	0.225

Data not Gamma Distributed at 5% Significance Level

Data Distribution

Data appear Normal at 5% Significance Level

Assuming Gamma Distribution

95% Approximate Gamma UCL (Use when n >= 40)	642
95% Adjusted Gamma UCL (Use when n < 40)	674.3

Nonparametric Statistics

95% CLT UCL	518.9
95% Jackknife UCL	524.8
95% Standard Bootstrap UCL	516.5
95% Bootstrap-t UCL	517.2
95% Hall's Bootstrap UCL	517.8
95% Percentile Bootstrap UCL	514.9
95% BCA Bootstrap UCL	509.3
95% Chebyshev(Mean, Sd) UCL	656.3
97.5% Chebyshev(Mean, Sd) UCL	751.8
99% Chebyshev(Mean, Sd) UCL	939.4

Potential UCL to Use

Use 95% Student's-t UCL 524.8

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Note: For highly negative-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal and Gamma) may not be reliable. Chen's and Johnson's methods provide adjustments for positively skewed data sets.

General Statistics

Number of Valid Observations	15
Number of Distinct Observations	14

Raw Statistics

Minimum	19.8
Maximum	710
Mean	175.8
Geometric Mean	113.1
Median	130
SD	175.1
Std. Error of Mean	45.21
Coefficient of Variation	0.996
Skewness	2.175

Log-transformed Statistics

Minimum of Log Data	2.986
Maximum of Log Data	6.565
Mean of log Data	4.728
SD of log Data	1.031

Relevant UCL Statistics

Normal Distribution Test

Shapiro Wilk Test Statistic	0.776
Shapiro Wilk Critical Value	0.881

Data not Normal at 5% Significance Level

Lognormal Distribution Test

Shapiro Wilk Test Statistic	0.956
Shapiro Wilk Critical Value	0.881

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

95% Student's-t UCL	255.4

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL (Chen-1995)	277.2
95% Modified-t UCL (Johnson-1978)	259.6

Assuming Lognormal Distribution

95% H-UCL	415.9
95% Chebyshev (MVUE) UCL	416.3
97.5% Chebyshev (MVUE) UCL	517.2
99% Chebyshev (MVUE) UCL	715.4

Gamma Distribution Test

k star (bias corrected)	1.065
Theta Star	165.1
MLE of Mean	175.8
MLE of Standard Deviation	170.3
nu star	31.94
Approximate Chi Square Value (.05)	20.03
Adjusted Level of Significance	0.0324
Adjusted Chi Square Value	18.87
Anderson-Darling Test Statistic	0.253
Anderson-Darling 5% Critical Value	0.758
Kolmogorov-Smirnov Test Statistic	0.109
Kolmogorov-Smirnov 5% Critical Value	0.227

Data appear Gamma Distributed at 5% Significance Level

Data Distribution

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

95% Approximate Gamma UCL (Use when n >= 40)	280.3
95% Adjusted Gamma UCL (Use when n < 40)	297.5

Nonparametric Statistics

95% CLT UCL	250.1
95% Jackknife UCL	255.4
95% Standard Bootstrap UCL	249.2
95% Bootstrap-t UCL	310.7
95% Hall's Bootstrap UCL	589.1
95% Percentile Bootstrap UCL	253.1
95% BCA Bootstrap UCL	272.2
95% Chebyshev(Mean, Sd) UCL	372.8
97.5% Chebyshev(Mean, Sd) UCL	458.1
99% Chebyshev(Mean, Sd) UCL	625.6

Potential UCL to Use

Use 95% Approximate Gamma UCL 280.3

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)

cis-1,2-DCE (mw4)

General Statistics

Number of Valid Observations	15	Number of Distinct Observations	13

Raw Statistics

Minimum	485
Maximum	11000
Mean	4078
Geometric Mean	2858
Median	2300
SD	3364
Std. Error of Mean	868.7
Coefficient of Variation	0.825
Skewness	0.882

Log-transformed Statistics

Minimum of Log Data	6.184
Maximum of Log Data	9.306
Mean of log Data	7.958
SD of log Data	0.913

Relevant UCL Statistics

Normal Distribution Test

Shapiro Wilk Test Statistic	0.846
Shapiro Wilk Critical Value	0.881

Data not Normal at 5% Significance Level

Lognormal Distribution Test

Shapiro Wilk Test Statistic	0.935
Shapiro Wilk Critical Value	0.881

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

95% Student's-t UCL	5608

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL (Chen-1995)	5718
95% Modified-t UCL (Johnson-1978)	5641

Assuming Lognormal Distribution

95% H-UCL	8197
95% Chebyshev (MVUE) UCL	8826
97.5% Chebyshev (MVUE) UCL	10837
99% Chebyshev (MVUE) UCL	14786

Gamma Distribution Test

k star (bias corrected)	1.287
Theta Star	3169
MLE of Mean	4078
MLE of Standard Deviation	3595
nu star	38.6
Approximate Chi Square Value (.05)	25.37
Adjusted Level of Significance	0.0324
Adjusted Chi Square Value	24.06
Anderson-Darling Test Statistic	0.593
Anderson-Darling 5% Critical Value	0.753
Kolmogorov-Smirnov Test Statistic	0.178
Kolmogorov-Smirnov 5% Critical Value	0.225

Data appear Gamma Distributed at 5% Significance Level

Data Distribution

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

95% Approximate Gamma UCL (Use when n >= 40)	6204
95% Adjusted Gamma UCL (Use when n < 40)	6543

Nonparametric Statistics

95% CLT UCL	5507
95% Jackknife UCL	5608
95% Standard Bootstrap UCL	5467
95% Bootstrap-t UCL	5929
95% Hall's Bootstrap UCL	5589
95% Percentile Bootstrap UCL	5517
95% BCA Bootstrap UCL	5705
95% Chebyshev(Mean, Sd) UCL	7864
97.5% Chebyshev(Mean, Sd) UCL	9503
99% Chebyshev(Mean, Sd) UCL	12721

Potential UCL to Use | Use 95% Approximate Gamma UCL | 6204

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

cis-1,2-DCE (mw5)

General Statistics

Number of Valid Data	14	Number of Detected Data	9
Number of Distinct Detected Data	8	Number of Non-Detect Data	5
		Percent Non-Detects	35.71%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	14	Minimum Detected	2.639
Maximum Detected	120	Maximum Detected	4.787
Mean of Detected	32.44	Mean of Detected	3.234
SD of Detected	33.28	SD of Detected	0.628
Minimum Non-Detect	1	Minimum Non-Detect	0
Maximum Non-Detect	100	Maximum Non-Detect	4.605

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods):
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	13
Number treated as Detected	1
Single DL Non-Detect Percentage	92.86%

Warning: There are only 9 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.53	Shapiro Wilk Test Statistic	0.726
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	32.32	Mean	3.032
SD	29.49	SD	1.248
95% DL/2 (t) UCL	46.28	95% H-Stat (DL/2) UCL	137.9
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	3.034
		SD in Log Scale	0.635
		Mean in Original Scale	26.63
		SD in Original Scale	27.72
		95% t UCL	39.75

95% Percentile Bootstrap UCL	40.59
95% BCA Bootstrap UCL	46.57
95% H-UCL	37.89

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	1.531
Theta Star	21.19
nu star	27.57
A-D Test Statistic	1.484
5% A-D Critical Value	0.729
K-S Test Statistic	0.729
5% K-S Critical Value	0.282

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data

Minimum	1.0000E-6
Maximum	120
Mean	25.91
Median	21
SD	29.39
k star	0.384
Theta star	67.53
Nu star	10.75
AppChi2	4.413
95% Gamma Approximate UCL (Use when n >= 40)	63.1
95% Adjusted Gamma UCL (Use when n < 40)	71.61

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data do not follow a Discernable Distribution (0.05)

Nonparametric Statistics

Kaplan-Meier (KM) Method

Mean	27.35
SD	26.24
SE of Mean	7.49
95% KM (t) UCL	40.62
95% KM (z) UCL	39.67
95% KM (jackknife) UCL	40.03
95% KM (bootstrap t) UCL	99.85
95% KM (BCA) UCL	42.48
95% KM (Percentile Bootstrap) UCL	41.43
95% KM (Chebyshev) UCL	60
97.5% KM (Chebyshev) UCL	74.13
99% KM (Chebyshev) UCL	101.9

Potential UCLs to Use

95% KM (BCA) UCL	42.48

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). For additional insight, the user may want to consult a statistician.

cis-1,2-DCE (mw6)

General Statistics

Number of Valid Data	14	Number of Detected Data	1
Number of Distinct Detected Data	1	Number of Non-Detect Data	13
		Percent Non-Detects	92.86%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set. It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, B

The data set for variable cis-1,2-DCE (mw6) was not processed!

cis-1,2-DCE (mw7)

General Statistics

Number of Valid Data	14	Number of Detected Data	0
Number of Distinct Detected Data	0	Number of Non-Detect Data	14
		Percent Non-Detects	100.00%

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable cis-1,2-DCE (mw7) was not processed!

cis-1,2-DCE (mw8)

General Statistics

Number of Valid Observations	3	Number of Distinct Observations	3

Warning: This data set only has 3 observations!
Data set is too small to compute reliable and meaningful statistics and estimates!
The data set for variable cis-1,2-DCE (mw8) was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

cis-1,2-DCE (mw9)

General Statistics

Number of Valid Data	3	Number of Detected Data	0
Number of Distinct Detected Data	0	Number of Non-Detect Data	3
		Percent Non-Detects	100.00%

Warning: This data set only has 3 observations!
Data set is too small to compute reliable and meaningful statistics and estimates!
The data set for variable cis-1,2-DCE (mw9) was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

cis-1,2-DCE (nm-mw1)

General Statistics

Number of Valid Observations	3	Number of Distinct Observations	3

Warning: This data set only has 3 observations!

Data set is too small to compute reliable and meaningful statistics and estimates!
The data set for variable cis-1,2-DCE (nm-mw1) was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

cis-1,2-DCE (nm-mw2)

General Statistics

Number of Valid Data	3	Number of Detected Data	2
Number of Distinct Detected Data	2	Number of Non-Detect Data	1
		Percent Non-Detects	33.33%

Warning: This data set only has 3 observations!
Data set is too small to compute reliable and meaningful statistics and estimates!
The data set for variable cis-1,2-DCE (nm-mw2) was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

cis-1,2-DCE (nm-mw3)

General Statistics

Number of Valid Data	3	Number of Detected Data	0
Number of Distinct Detected Data	0	Number of Non-Detect Data	3
		Percent Non-Detects	100.00%

Warning: This data set only has 3 observations!
Data set is too small to compute reliable and meaningful statistics and estimates!
The data set for variable cis-1,2-DCE (nm-mw3) was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

trans-1,2-DCE (mw1)

General Statistics

Number of Valid Data	15	Number of Detected Data	4
Number of Distinct Detected Data	4	Number of Non-Detect Data	11
		Percent Non-Detects	73.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	3.3	Minimum Detected	1.194
Maximum Detected	12	Maximum Detected	2.485
Mean of Detected	7.4	Mean of Detected	1.888

SD of Detected	3.839
Minimum Non-Detect	1
Maximum Non-Detect	200

SD of Detected	0.568
Minimum Non-Detect	0
Maximum Non-Detect	5.298

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	15
Number treated as Detected	0
Single DL Non-Detect Percentage	100.00%

Warning: There are only 4 Distinct Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.975
5% Shapiro Wilk Critical Value	0.748

Data appear Normal at 5% Significance Level

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.974
5% Shapiro Wilk Critical Value	0.748

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method

Mean	35.34
SD	27.1
95% DL/2 (t) UCL	47.66

Maximum Likelihood Estimate(MLE) Method N/A

MLE method failed to converge properly

Assuming Lognormal Distribution

DL/2 Substitution Method

Mean	3.019
SD	1.415
95% H-Stat (DL/2) UCL	206

Log ROS Method

Mean in Log Scale	1.601
SD in Log Scale	0.69
Mean in Original Scale	6.095
SD in Original Scale	3.949
95% t UCL	7.891
95% Percentile Bootstrap UCL	7.847
95% BCA Bootstrap UCL	7.966
95% H-UCL	9.601

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	1.306
Theta Star	5.664
nu star	10.45
A-D Test Statistic	0.226
5% A-D Critical Value	0.659
K-S Test Statistic	0.659
5% K-S Critical Value	0.396

Data appear Gamma Distributed at 5% Significance Level

Data Distribution Test with Detected Values Only

Data appear Normal at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data

Minimum 1.0000E-6

Nonparametric Statistics

Kaplan-Meier (KM) Method

Mean	6.58
SD	3.396
SE of Mean	1.754
95% KM (t) UCL	9.669
95% KM (z) UCL	9.465
95% KM (jackknife) UCL	9.788
95% KM (bootstrap t) UCL	10.59

Maximum	12.37
Mean	5.748
Median	5.622
SD	4.163
k star	0.299
Theta star	19.25
Nu star	8.958
AppChi2	3.302
95% Gamma Approximate UCL (Use when n >= 40)	15.59
95% Adjusted Gamma UCL (Use when n < 40)	N/A

95% KM (BCA) UCL	10.45
95% KM (Percentile Bootstrap) UCL	10.76
95% KM (Chebyshev) UCL	14.22
97.5% KM (Chebyshev) UCL	17.53
99% KM (Chebyshev) UCL	24.03
Potential UCLs to Use	
95% KM (t) UCL	9.669
95% KM (Percentile Bootstrap) UCL	10.76

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). For additional insight, the user may want to consult a statistician.

trans-1,2-DCE (mw3)

General Statistics

Number of Valid Data	15
Number of Distinct Detected Data	14
Number of Detected Data	14
Number of Non-Detect Data	1
Percent Non-Detects	6.67%

Raw Statistics

Minimum Detected	4.2
Maximum Detected	61
Mean of Detected	28.14
SD of Detected	17.24
Minimum Non-Detect	1
Maximum Non-Detect	1

Log-transformed Statistics

Minimum Detected	1.435
Maximum Detected	4.111
Mean of Detected	3.113
SD of Detected	0.762
Minimum Non-Detect	0
Maximum Non-Detect	0

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.957
5% Shapiro Wilk Critical Value	0.874
Data appear Normal at 5% Significance Level	

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.949
5% Shapiro Wilk Critical Value	0.874
Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution

DL/2 Substitution Method

Mean	26.29
SD	18.08
95% DL/2 (t) UCL	34.52

Maximum Likelihood Estimate(MLE) Method

Mean	25.76
SD	18.46
95% MLE (t) UCL	34.15
95% MLE (Tiku) UCL	34.12

Assuming Lognormal Distribution

DL/2 Substitution Method

Mean	2.86
SD	1.227
95% H-Stat (DL/2) UCL	103

Log ROS Method

Mean in Log Scale	2.992
SD in Log Scale	0.872
Mean in Original Scale	26.5
SD in Original Scale	17.78
95% t UCL	34.59

95% Percentile Bootstrap UCL	34.19
95% BCA Bootstrap UCL	34.69
95% H UCL	52.76

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	1.924
Theta Star	14.62
nu star	53.87
A-D Test Statistic	0.162
5% A-D Critical Value	0.745
K-S Test Statistic	0.745
5% K-S Critical Value	0.231

Data appear Gamma Distributed at 5% Significance Level

Data Distribution Test with Detected Values Only

Data appear Normal at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data

Minimum	1.0000E-6
Maximum	61
Mean	26.26
Median	25
SD	18.14
k star	0.441
Theta star	59.55
Nu star	13.23
AppChi2	6.047
95% Gamma Approximate UCL (Use when n >= 40)	57.45
95% Adjusted Gamma UCL (Use when n < 40)	63.63

Note: DL/2 is not a recommended method.

Nonparametric Statistics

Kaplan-Meier (KM) Method

Mean	26.54
SD	17.13
SE of Mean	4.589
95% KM (t) UCL	34.62
95% KM (z) UCL	34.09
95% KM (jackknife) UCL	34.51
95% KM (bootstrap t) UCL	35.36
95% KM (BCA) UCL	34.99
95% KM (Percentile Bootstrap) UCL	34.11
95% KM (Chebyshev) UCL	46.54
97.5% KM (Chebyshev) UCL	55.2
99% KM (Chebyshev) UCL	72.2

Potential UCLs to Use

95% KM (t) UCL	34.62
95% KM (Percentile Bootstrap) UCL	34.11

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). For additional insight, the user may want to consult a statistician.

trans-1,2-DCE (mw4)

General Statistics

Number of Valid Observations	15
Number of Distinct Observations	15

Raw Statistics

Minimum	46
Maximum	2900
Mean	989.7
Geometric Mean	656.8
Median	630
SD	878.8
Std. Error of Mean	226.9
Coefficient of Variation	0.888
Skewness	1.154

Log-transformed Statistics

Minimum of Log Data	3.829
Maximum of Log Data	7.972
Mean of log Data	6.487
SD of log Data	1.04

Relevant UCL Statistics

Normal Distribution Test	
Shapiro Wilk Test Statistic	0.811
Shapiro Wilk Critical Value	0.881

Data not Normal at 5% Significance Level

Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.904
Shapiro Wilk Critical Value	0.881

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution	
95% Student's-t UCL	1389
95% UCLs (Adjusted for Skewness)	
95% Adjusted-CLT UCL (Chen-1995)	1435
95% Modified-t UCL (Johnson-1978)	1401

Assuming Lognormal Distribution	
95% H-UCL	2463
95% Chebyshev (MVUE) UCL	2450
97.5% Chebyshev (MVUE) UCL	3046
99% Chebyshev (MVUE) UCL	4217

Gamma Distribution Test	
k star (bias corrected)	1.134
Theta Star	872.8
MLE of Mean	989.7
MLE of Standard Deviation	929.4
nu star	34.02
Approximate Chi Square Value (.05)	21.68
Adjusted Level of Significance	0.0324
Adjusted Chi Square Value	20.47
Anderson-Darling Test Statistic	0.606
Anderson-Darling 5% Critical Value	0.756
Kolmogorov-Smirnov Test Statistic	0.213
Kolmogorov-Smirnov 5% Critical Value	0.226

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution	
95% Approximate Gamma UCL (Use when n >= 40)	1553
95% Adjusted Gamma UCL (Use when n < 40)	1645

Data Distribution

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics	
95% CLT UCL	1363
95% Jackknife UCL	1389
95% Standard Bootstrap UCL	1357
95% Bootstrap-t UCL	1488
95% Hall's Bootstrap UCL	1361
95% Percentile Bootstrap UCL	1362
95% BCA Bootstrap UCL	1415
95% Chebyshev(Mean, Sd) UCL	1979
97.5% Chebyshev(Mean, Sd) UCL	2407
99% Chebyshev(Mean, Sd) UCL	3247

Potential UCL to Use

Use 95% Approximate Gamma UCL 1553

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

trans-1,2-DCE (mw5)

General Statistics

Number of Valid Data	14	Number of Detected Data	1
Number of Distinct Detected Data	1	Number of Non-Detect Data	13
		Percent Non-Detects	92.86%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set. It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, ...)

The data set for variable trans-1,2-DCE (mw5) was not processed!

trans-1,2-DCE (mw6)

General Statistics

Number of Valid Data	14	Number of Detected Data	0
Number of Distinct Detected Data	0	Number of Non-Detect Data	14
		Percent Non-Detects	100.00%

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable trans-1,2-DCE (mw6) was not processed!

trans-1,2-DCE (mw7)

General Statistics

Number of Valid Data	14	Number of Detected Data	0
Number of Distinct Detected Data	0	Number of Non-Detect Data	14
		Percent Non-Detects	100.00%

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable trans-1,2-DCE (mw7) was not processed!

trans-1,2-DCE (mw8)

General Statistics

Number of Valid Data	3	Number of Detected Data	2
Number of Distinct Detected Data	2	Number of Non-Detect Data	1
		Percent Non-Detects	33.33%

Warning: This data set only has 3 observations!
Data set is too small to compute reliable and meaningful statistics and estimates!
The data set for variable trans-1,2-DCE (mw8) was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

trans-1,2-DCE (mw9)

General Statistics

Number of Valid Data	3	Number of Detected Data	0
Number of Distinct Detected Data	0	Number of Non-Detect Data	3
		Percent Non-Detects	100.00%

Warning: This data set only has 3 observations!
Data set is too small to compute reliable and meaningful statistics and estimates!
The data set for variable trans-1,2-DCE (mw9) was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

trans-1,2-DCE (nm-mw1)

General Statistics

Number of Valid Data	3	Number of Detected Data	2
Number of Distinct Detected Data	2	Number of Non-Detect Data	1
		Percent Non-Detects	33.33%

Warning: This data set only has 3 observations!
Data set is too small to compute reliable and meaningful statistics and estimates!
The data set for variable trans-1,2-DCE (nm-mw1) was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

trans-1,2-DCE (nm-mw2)

General Statistics

Number of Valid Data	3	Number of Detected Data	0
Number of Distinct Detected Data	0	Number of Non-Detect Data	3
		Percent Non-Detects	100.00%

Warning: This data set only has 3 observations!
Data set is too small to compute reliable and meaningful statistics and estimates!
The data set for variable trans-1,2-DCE (nm-mw2) was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

trans-1,2-DCE (nm-mw3)

General Statistics

Number of Valid Data	3	Number of Detected Data	0
Number of Distinct Detected Data	0	Number of Non-Detect Data	3
		Percent Non-Detects	100.00%

Warning: This data set only has 3 observations!

Data set is too small to compute reliable and meaningful statistics and estimates!

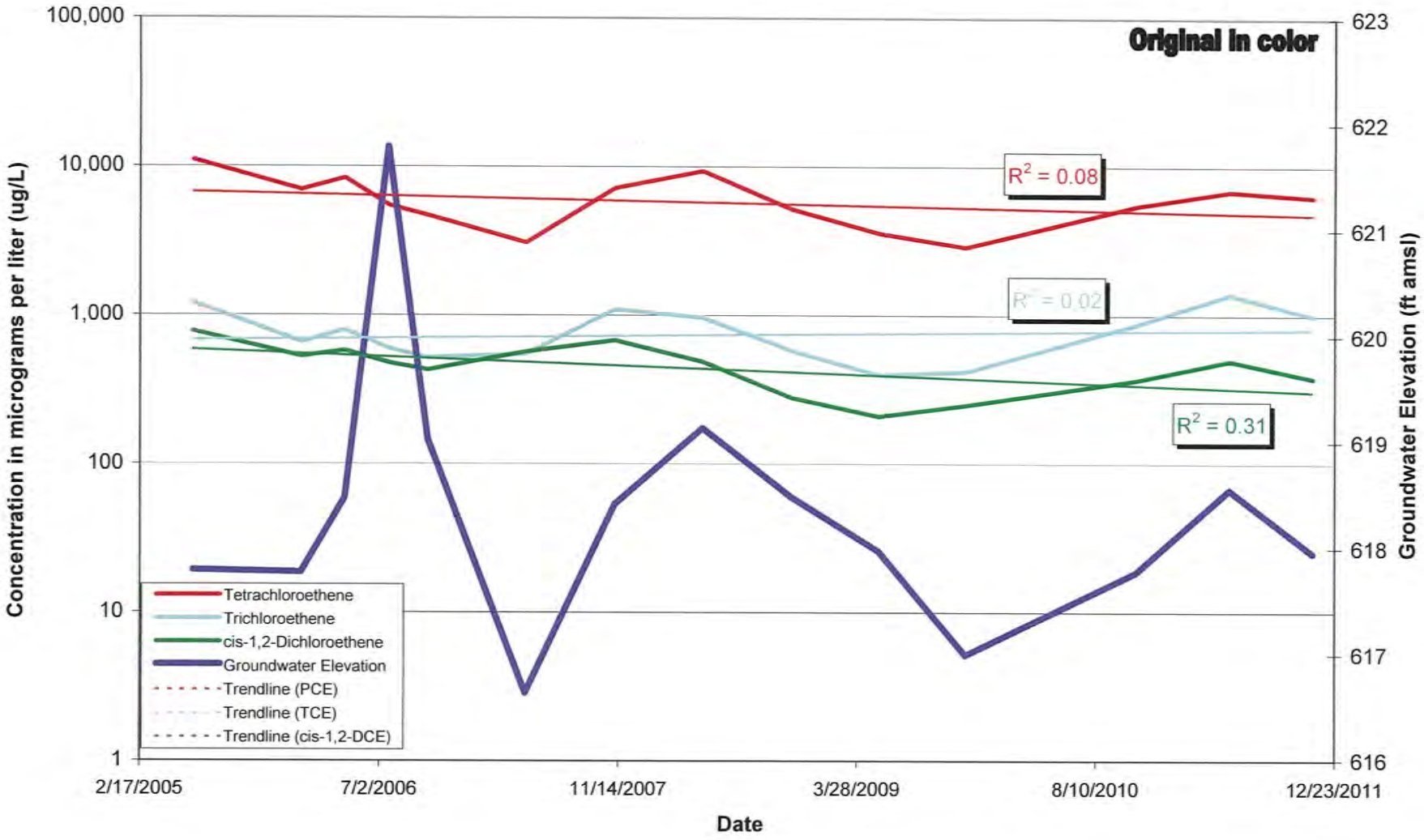
The data set for variable trans-1,2-DCE (nm-mw2) was not processed!

It is suggested to collect at least 8 to 10 observations before using these statistical methods!

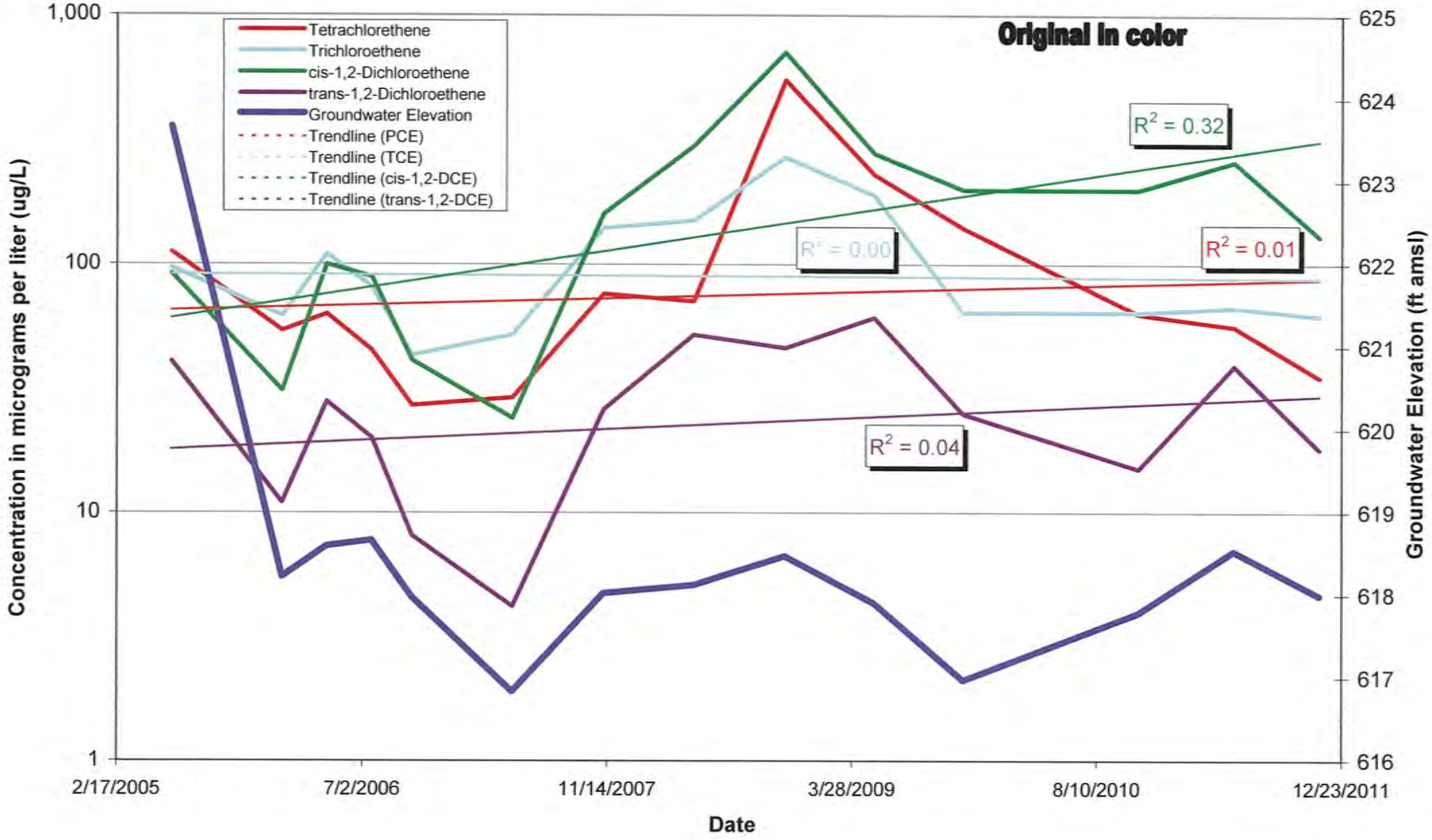
If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

APPENDIX D
Time-Series Concentration Plots

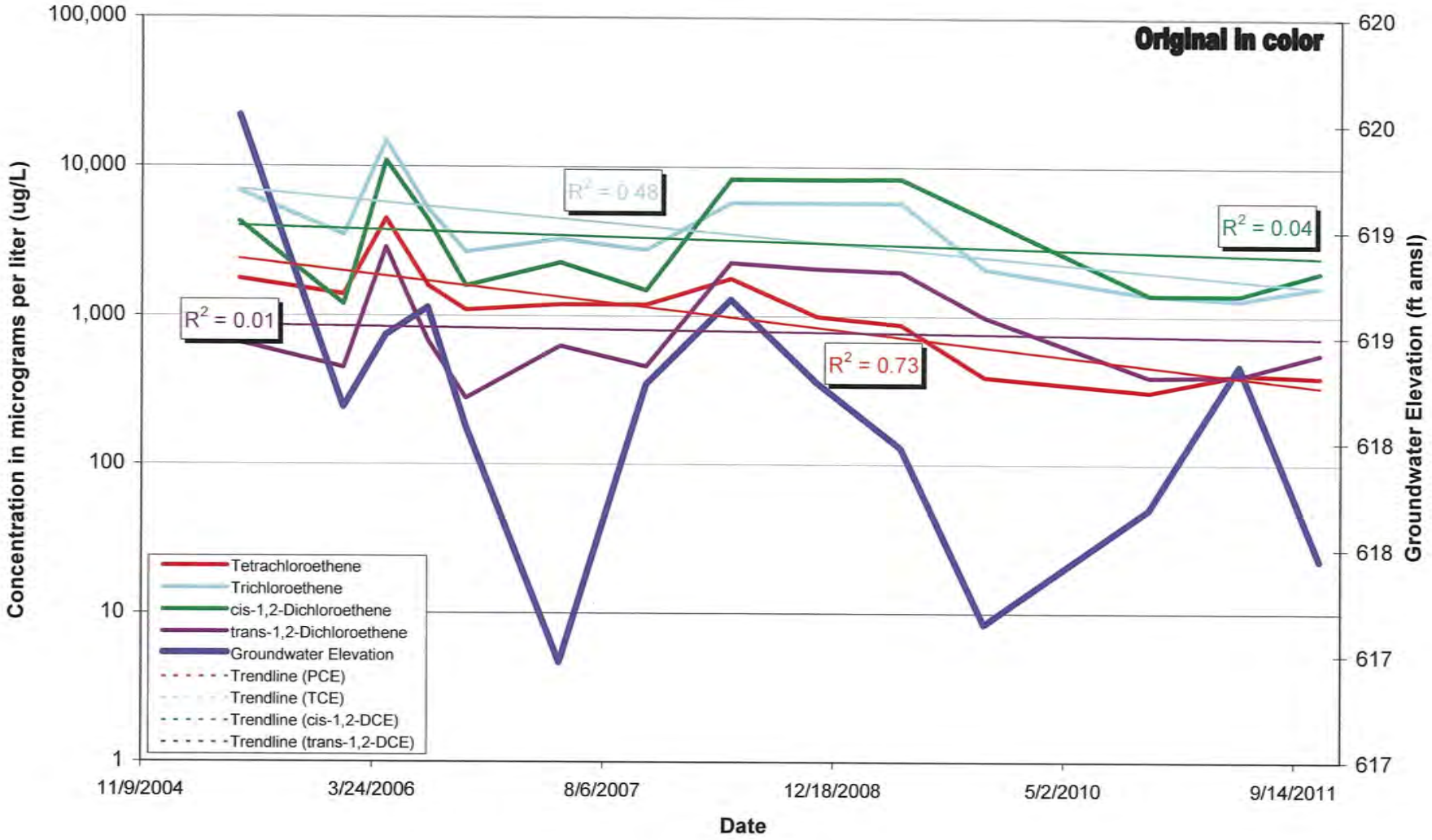
MW1 Time Series Plot
11040 Rancho Carmel Drive, San Diego, California



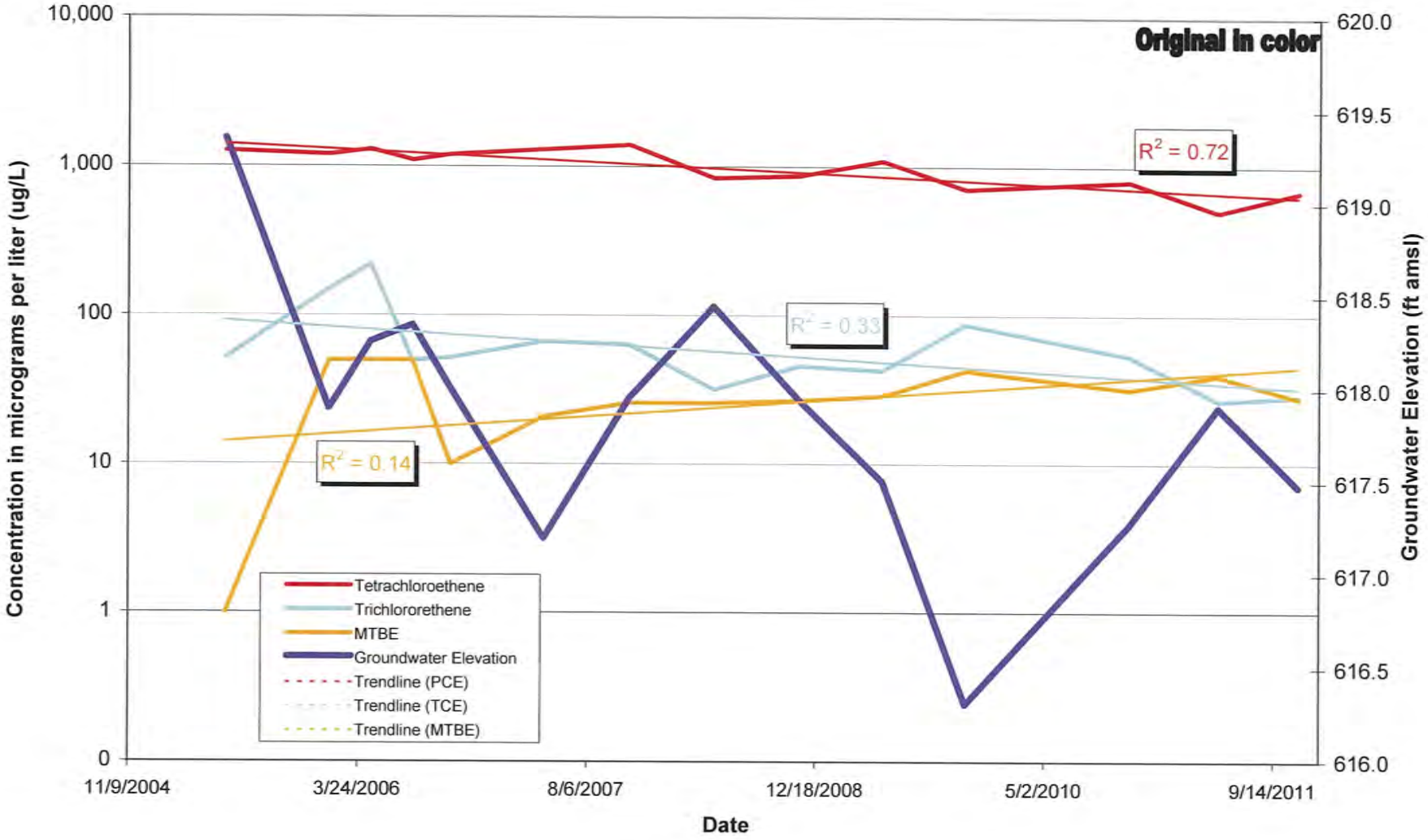
MW3 Time Series Plot
11040 Rancho Carmel Drive, San Diego, California



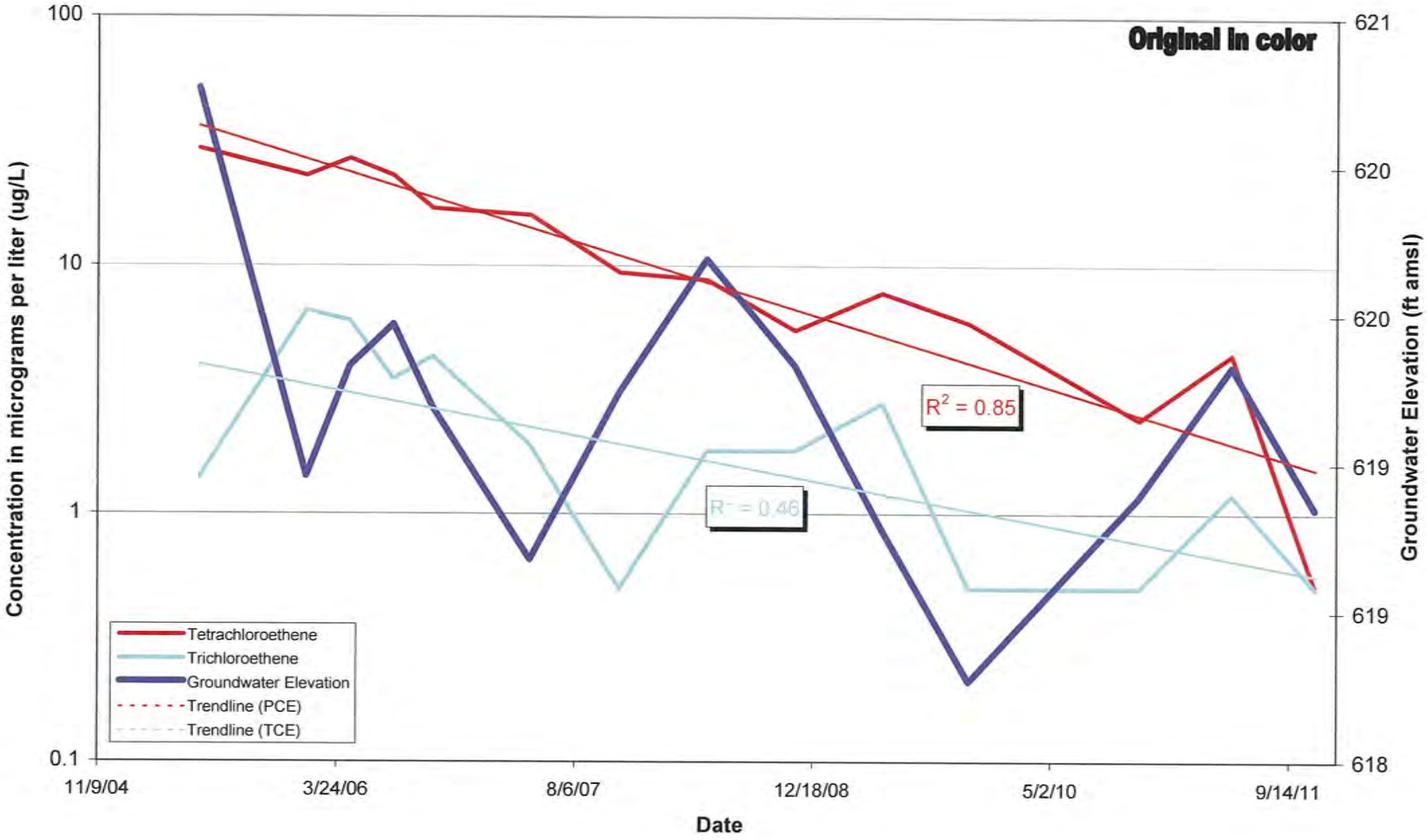
MW4 Time Series Plot
11040 Rancho Carmel Drive, San Diego, California



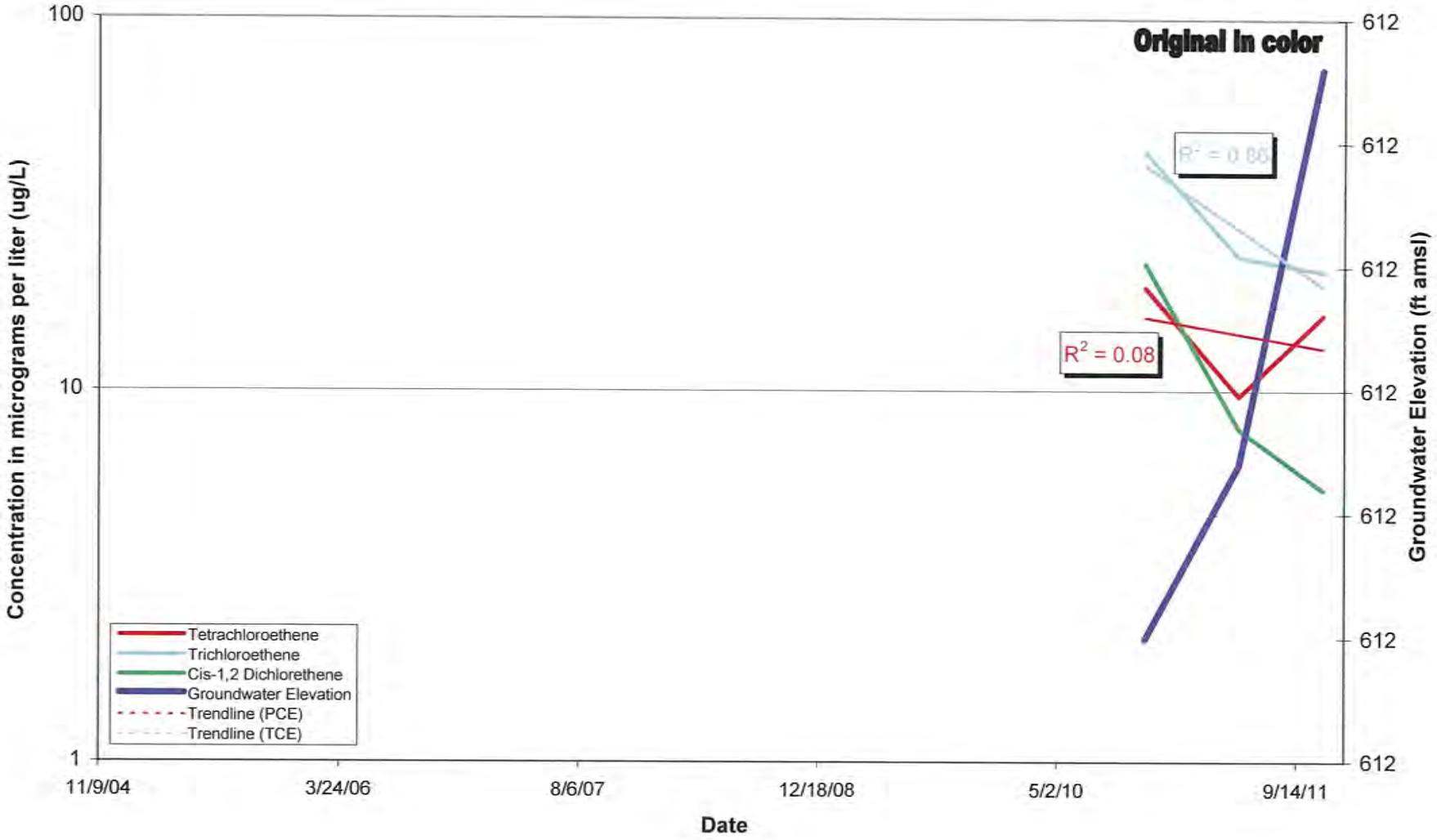
MW5 Time Series Plot
11040 Rancho Carmel Drive, San Diego, California



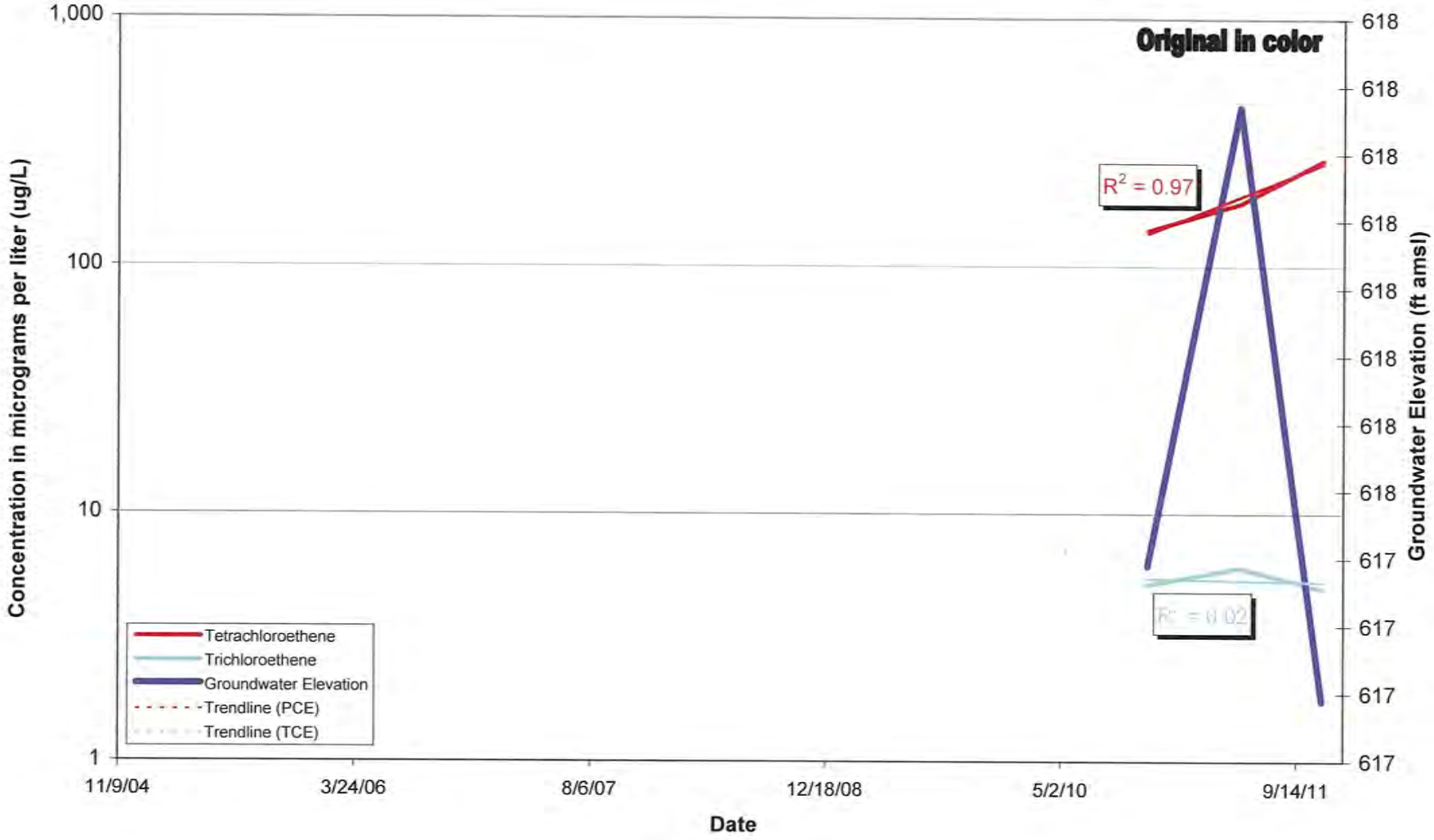
MW6 Time Series Plot
11040 Rancho Carmel Drive, San Diego, California



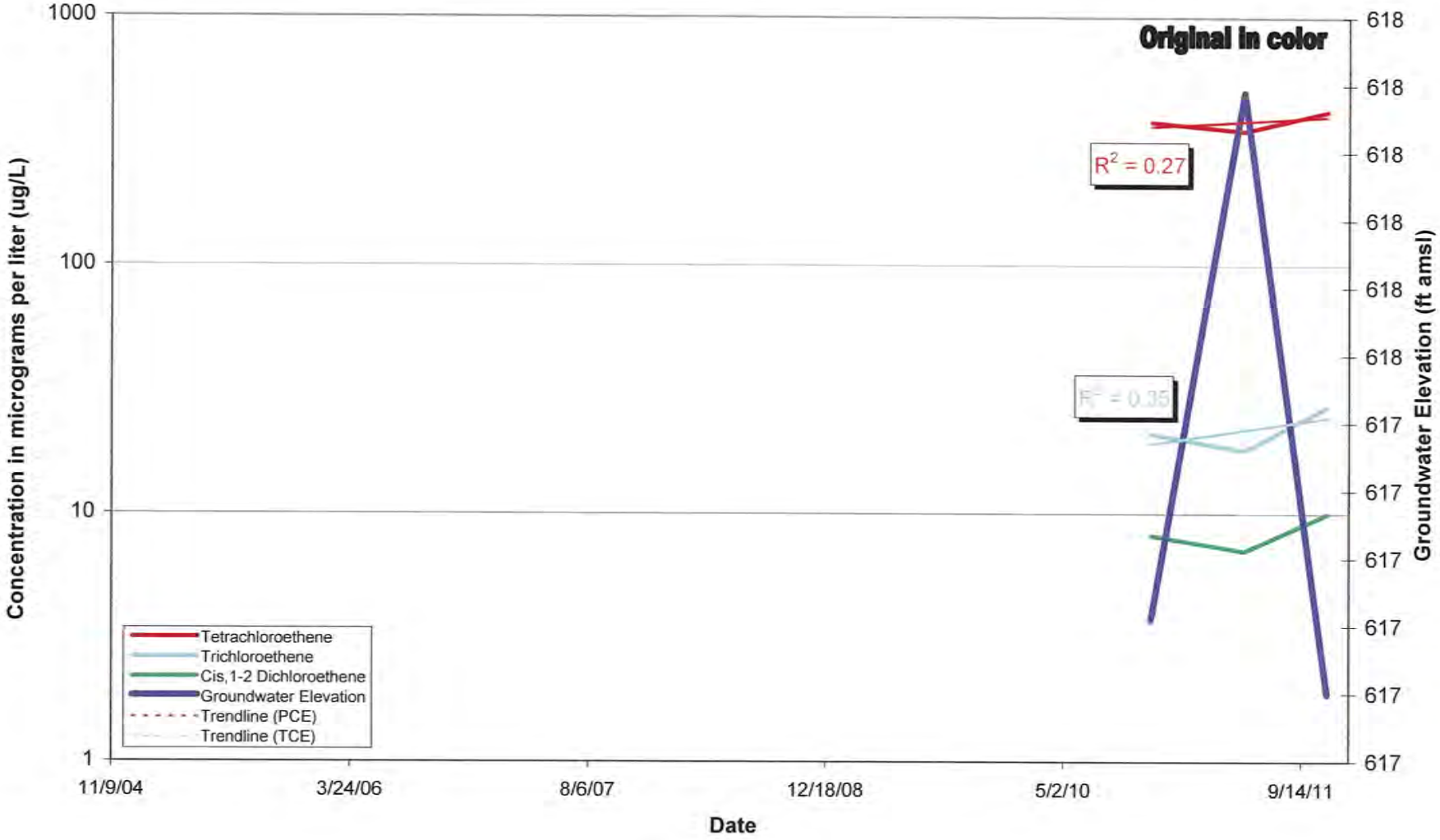
MW8 Time Series Plot
11040 Rancho Carmel Drive, San Diego, California



MW9 Time Series Plot
11040 Rancho Carmel Drive, San Diego, California



NM-MW1 Time Series Plot
11040 Rancho Carmel Drive, San Diego, California



APPENDIX E
Mann-Kendall Statistical Analyses Outputs

Mann Kendall Trend Evaluation

Contaminant: Tetrachloroethene

Monitoring Inputs

Quarter	MW1	MW3	MW4	MW5	MW6
	ug/l	ug/l	ug/l	ug/l	ug/l
1	11100	112	1780	1270	29.5
2	6250	49.5	1500	1200	25
3	3100	52.5	1200	1350	12.7
4	5200	310.5	1400	855	7.15
5	2900	185	635	905	6.85
6	5500	63	310	800	2.4
7	6300	45.5	400	590	2.45
8					
9					
10					
11					
12					
13					
14					
15					
16					

Data Entry Cell

Mann-Kendall Results

0-8 Quarter Evaluation

MW1	Stable/No Trend
MW3	Stable/No Trend
MW4	Decreasing
MW5	Decreasing
MW6	Decreasing

5-12 Quarter Evaluation

MW1	Decreasing
MW3	Decreasing
MW4	Decreasing
MW5	Decreasing
MW6	Decreasing

9-16 Quarter Evaluation

MW1	Stable/No Trend
MW3	Stable/No Trend
MW4	Stable/No Trend
MW5	Stable/No Trend
MW6	Stable/No Trend

12 Quarter Evaluation

MW1	Decreasing
MW3	Decreasing
MW4	Decreasing
MW5	Decreasing
MW6	Decreasing

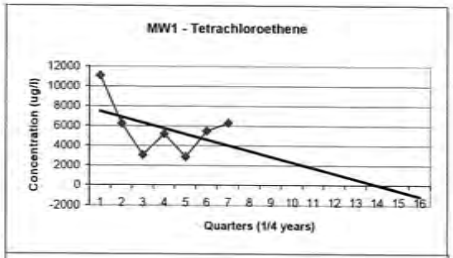
16 Quarter Evaluation

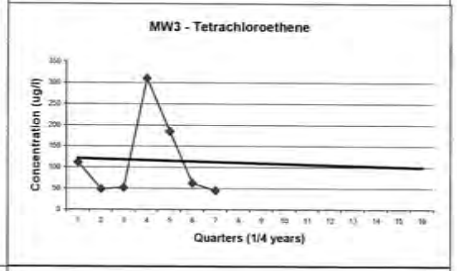
MW1	Decreasing
MW3	Decreasing
MW4	Decreasing
MW5	Decreasing
MW6	Decreasing

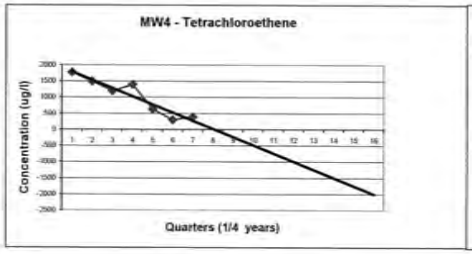
7 Year Evaluation

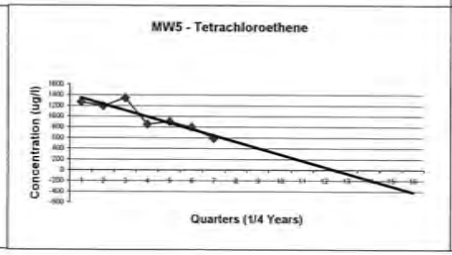
Mess1	Stable/No Trend

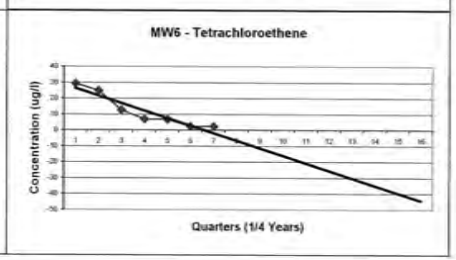
(See 7 year sheet for chart)











Mann Kendall Trend Evaluation

Contaminant: Trichloroethene

Monitoring Inputs

Quarter	MW1	MW3	MW4	MW5	MW6
	ug/l	ug/l	ug/l	ug/l	ug/l
1	1220	96.7	6860	52	1.4
2	630	71.5	4350	101	6.3
3	825	96	3050	65.5	1.2
4	775	210	5800	39	1.8
5	410	127	3950	65.5	1.65
6	880	64	1400	54	0.5
7	1200	64.5	1450	28	0.85
8					
9					
10					
11					
12					
13					
14					
15					
16					

Data Entry Cell

Mann-Kendall Results

0-8 Quarter Evaluation

MW1	Stable/No Trend
MW3	Decreasing
MW4	Decreasing
MW5	Decreasing
MW6	Decreasing

5-12 Quarter Evaluation

MW1	Decreasing
MW3	Decreasing
MW4	Decreasing
MW5	Decreasing
MW6	Decreasing

9-16 Quarter Evaluation

MW1	Stable/No Trend
MW3	Stable/No Trend
MW4	Stable/No Trend
MW5	Stable/No Trend
MW6	Stable/No Trend

12 Quarter Evaluation

MW1	Decreasing
MW3	Decreasing
MW4	Decreasing
MW5	Decreasing
MW6	Decreasing

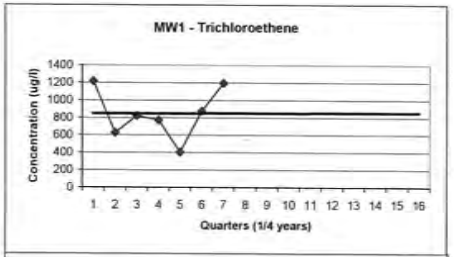
16 Quarter Evaluation

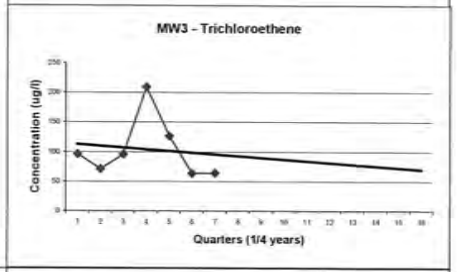
MW1	Decreasing
MW3	Decreasing
MW4	Decreasing
MW5	Decreasing
MW6	Decreasing

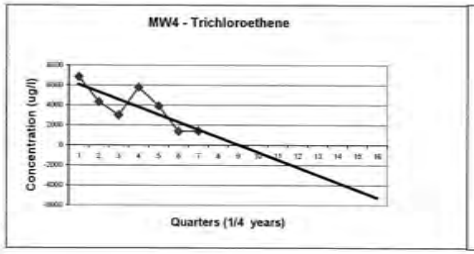
7 Year Evaluation

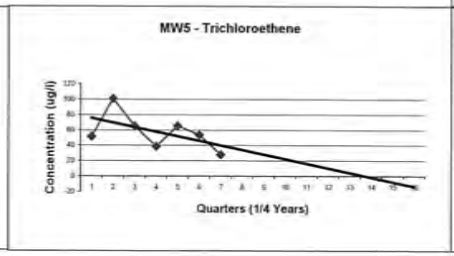
Mess1	Stable/No Trend

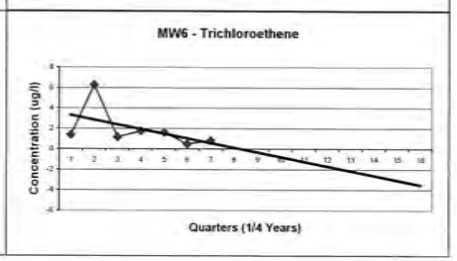
(See 7 year sheet for chart)











APPENDIX G

PROJECT PERSONNEL QUALIFICATIONS

HILLMANN
CONSULTING

Christopher Baker, LEED AP

Vice President of Operations

EDUCATION:

B.A. Economics, University of Maryland

CERTIFICATIONS:

LEED Accredited Professional

NIOSH 582 Certified

EPA AHERA Asbestos Inspector/Management Planner Certified

EPA AHERA Project Designer/Supervisor Certified

State of VA Licensed Asbestos Inspector/Management Planner

State of VA Licensed Asbestos Project Monitor

AIHA Asbestos Analyst Registry Board Approved ID# 4593

EPA Trained in IAQ Evaluation and Remediation

Radiation Safety Trained

Scitec XRF Operator's License

Trained/certified in accordance with 29 CFR 1910.146 permit-required confined spaces.

YEARS OF EXPERIENCE:

With Hillmann: 25 years

Total: 25 years

PROFESSIONAL EXPERIENCE:

Mr. Baker is the Vice President of Operations at Hillmann, responsible for business operations, fiscal management and field staff management. Mr. Baker performs and manages staff for IAQ evaluations and mold and moisture assessments. He responds and coordinates restoration response following disasters, fires, pipe breaks, etc. He is responsible for management of industrial hygiene services on over 2,000,000 square feet of asbestos abatement projects, and provides project management on asbestos abatement projects. Mr. Baker is an ASTM Qualified Environmental Professional for the performance of Phase I and Phase II Environmental Site Assessments. He writes remedial specifications and Operation & Maintenance (O&M) Programs for commercial and residential buildings and co-wrote Standard Operating Procedure for heavy construction contractors working in naturally occurring asbestos.

He also coordinates, conducts and performs quality assurance of various environmental surveys including asbestos, lead in water, lead in paint, radon and mold in industrial, commercial and residential properties.

As a LEED AP, Mr. Baker provides green building services toward LEED accreditation in the Sustainable Sites, Water Efficiency, Energy & Atmosphere, Materials & Resources, Indoor Environmental Quality and Innovation & Design categories. He prepares sustainable strategies to enhance indoor environments including moisture management, hazardous materials compliance, indoor air quality management, pollutant source control and ventilation effectiveness. Mr. Baker also implements systems maintenance practices, water conservation programs and energy efficient building operation plans to reduce environmental impacts.

Representative experience includes:

Tishman Speyer Properties, Various locations nationwide: Hillmann has been providing the complete environmental program for Tishman Speyer's properties since 1987. Our services include phase I environmental site assessments, asbestos surveys, air monitoring, bid administration, O&M programs, industrial hygiene and indoor air quality programs. The estimated contract value is $1,000,000 annually. Mr. Baker functions as a Project Principal, Project Manager and Environmental Assessor. This project is ongoing.

Citigroup – Complete Environmental Program, Various locations nationwide: Mr. Baker is the Project Principal, Project Manager and Environmental Assessor for this contract on which Hillmann has been providing complete environmental program including Phase I environmental site assessments, asbestos and lead surveys, air monitoring, bid administration and O&M programs, industrial hygiene and indoor air quality programs, geology services, radon testing and hazardous materials assessments. Estimated cost to date: $8,250,000. This project is ongoing.

J.C. Penney Company, Inc., Various locations nationwide: Since 1994, Hillmann has been providing complete environmental consulting for J.C. Penney including: Phase I & II ESA's, IAQ, Mold, Asbestos, Lead, Water testing, from identification through testing through remediation. Mr. Baker's role included Project Manager and Environmental Assessor responsibilities. Estimated cost to date: $2,000,000. This project is ongoing.

Verizon Environmental Services, Various locations nationwide: Since 1996, Hillmann has been providing Verizon with asbestos and lead investigations, abatement design, air monitoring and mold and water sampling and emergency response services including IAQ, noise, confined space, characterization, and ventilation evaluation. Mr. Baker functions as Project Manager on this contract. Estimated cost to date: $12,600,000. This project is ongoing.

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National Labor Relations Board, Washington, DC: Mr. Baker is the Project Manager for this project. Hillmann provides Indoor Air Quality Testing nationwide and Disaster Recovery from Hurricane Katrina in New Orleans. Cost to date: $20,000.

Howard County Public Schools, Howard County MD: Mr. Baker is the Project Principal and Project Manager on this contract for which Hillmann provides abatement oversight, design, and limited sampling services. A total of 57 projects were completed in 26 different schools without incident. The contract was completed in 2007. Cost: $83,000.

Fairfax County Public Schools, Fairfax County, VA: As Project Principal and Project Manager for this contract, Mr. Baker provided oversight and management for this asbestos, lead and mold consulting as well as various Indoor Air Quality projects. A total of 236 projects were completed in over 50 different school/center/office buildings without incident. The contract was completed in 2006. Cost: $125,000 annually.

St. Anselm's Abbey and School, Washington, DC: Mr. Baker is responsible for Project Management and Field Technician Services on this ongoing asbestos and lead investigation contract. Cost: $5,000.

Diocese of Arlington, Fairfax & Arlington Counties, VA: Mr. Baker is the Project Principal and Project Manager overseeing asbestos, IAQ, lead and mold consulting services. Over 150 projects have been completed in 39 different buildings. The Diocese is a continuous client since 1989. Cost: $500,000

Maryland Aviation Association, BWI Airport Area, MD: Hillmann performed Phase I and Phase II site assessments at various properties for potential purchases. These services were provided on an on-going basis under term contracts from 2002 until April, 2010. Mr. Baker functioned as Project Principal / Project Manager overseeing its execution. Cost: $13,000.

Tyson's Corner Center, McLean, VA: Hillmann is providing asbestos and lead surveys and remediation oversight, UST services, IAQ and mold services, and Phase I environmental site assessments for this ongoing contract. Mr. Baker functions as the Project Principal, Project Manager and Field Technician. Cost: $400,000. This project is ongoing.

Tishman Speyer Properties: Subsurface Investigation and Soil Segregation on a City Block, Washington, DC: Hillmann was retained to perform subsurface investigations and soil segregation on a city block slated for construction. Several Phase II subsurface investigations were conducted on the site to determine environmental impacts to soil and groundwater. Subsurface investigations were conducted with both direct push and hollow stem auger technology. Analytical results indicated soil and groundwater contamination from metals and PAH compounds. Hillmann performed the process of advancing borings within the footprint of the planned excavation to pre-classify soils for regulatory disposal. Our team was then responsible for complete oversight of the segregation and disposal of impacted soil. Based on semi-volatile compounds identified in the soil from past use, Hillmann designed an injection program whereby a reagent was introduced into the excavation footprint. The injection program was 100% successful in removing all compounds above regulatory criteria. Metals were successfully removed and all residual PAH compounds remediated with a no further action letter received from the regulating agency. Mr. Baker serves as Project Principal, Project Manager and Environmental Assessor for this project, which completed in 2009. Cost $147,000.

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Wexford Development, LLC, Various locations nationwide: Hillmann provides complete environmental consulting for this client including Phase I & II ESA's, UST removal, IAQ, mold, asbestos, lead, and water testing. Mr. Baker functions as a Project Principal, Project Manager and Environmental Assessor in its execution. Cost: $154,000. This project is ongoing.

Coca-Cola Bottling Co., Various facilities in MA, NY, NJ, MD, VA and DC: Hillmann is providing asbestos surveys, bid administration, design and monitoring, and in-house support of the environmental program. Mr. Baker, acted as a Project Principal and Project Manager in its execution. This contract completed in 2003. Cost: $30,000.

Fairfax County Risk Management, VA: Hillmann provided indoor air quality and industrial hygiene sampling in Fairfax County, VA for a 5-year term contract beginning November 2001 through March 2006. Mr. Baker was the Project Principal and Project Manager on the contract. Cost: $50,000 annually.

General Growth Properties, Various nationwide facilities: National service agreement for phase I site assessments and hazardous materials surveys, including asbestos surveys and investigations, project monitoring, mold work, bulk sampling and analysis. Mr. Baker is the Project Principal and Project Manager on the contract. This project is ongoing. Cost: $250,000.

National Guard Bureau – various maintenance shops in MA, RI, ME, NH, VT, PA and VA: Hillmann provided complete baseline industrial hygiene surveys covering an indoor air quality evaluation, a noise survey, a ventilation survey and personal air sampling of selected operations. The testing and assessment parameters included: Temperature, Relative Humidity, Carbon Dioxide, Carbon Monoxide, Lighting, Audiodosimetry, Sound Level Measurements, Ventilation System, Welding Fumes, Total hydrocarbons, Airborne Fibers, Wipes, Lead, Asbestos, Ergonomics, PPE, Safety, House Keeping and Safety and OH Programs. Mr. Baker functioned as a Project Manager on the contract, which completed in 2007. Cost: $150,000.

Washington Hilton, Washington, DC: Hillmann has been providing Hotel management with asbestos consulting services since June 2005 in the form of a full building asbestos survey, asbestos abatement oversight and air monitoring, bid administration and remedial design. Various remedial designs and abatement operations are performed for construction and operations and maintenance purposes. Hillmann designed and oversaw the abatement of 10,000 square feet of friable textured ceiling material from a conference level hallway. The abatement was phased to allow the continuous operation of the various meeting and ballrooms. Mr. Baker functioned as the Project Principal and Project Manager for this contract, which was completed in 2008. Cost: $100,390.