APPENDIX: N

aqua science engineers inc.

September 5, 2003

REPORT
of
SOIL ASSESSMENT
at
Elmwood Site
APN 086-05-009
Milpitas, California

Submitted by:
AQUA SCIENCE ENGINEERS, INC.
208 W. El Pintado
Danville, CA 94526
(925) 820-9391

1.0 INTRODUCTION

This report presents the methods and findings of Aqua Science Engineers (ASE)'s soil sampling project at the Elmwood Site, APN 086-05-009, in Milpitas, California (Figures 1 and 2).

This work was performed at the request of our client and a prospective purchaser of the property, KB Home. The purpose of this assessment was to determine if imported soil that was stockpiled on the subject site (used for the configuration of a golf ball driving range) contained any chemicals of concern that may inhibit the use of the property for residential development.

2.0 SCOPE OF WORK

The scope of work for this assessment was as follows:

1) Drill two soil borings through each of the three large soil piles at the site using a hand-auger (six borings total) and collect two soil samples from each of the borings at multiple depths.

2) Laboratory composite these samples into 4 to 1 composite samples for analysis.

3) Analyze each composite soil sample (3 total) on a 1-week turnaround basis for:

   - Organochlorine pesticides and PCBs
   - Total petroleum hydrocarbons as diesel and motor oil
   - Total petroleum hydrocarbons as gasoline
   - Benzene, toluene, ethylbenzene, total xylenes (BTEX)
   - Methyl tertiary butyl ether (MTBE)
   - Polynuclear aromatic hydrocarbons (PNAs)
   - Volatile organic compounds (VOCs)
   - CAM 17 metals

4) Prepare a report detailing the methods and findings of the sampling.

3.0 SOIL SAMPLE COLLECTION AND ANALYSIS

On July 30, 2003, ASE personnel mobilized to the subject site. The piles were labeled A, B, and C and two hand-augered soil borings were drilled in each pile (STKP-A-1; STKP-A-2, etc.). From each boring, two soil samples were collected at various depths ranging from 2-feet below surface to 5-feet below surface, see Figure 2. Thus, four samples from each pile of soil were collected. The laboratory then composited the four samples from each pile into one soil sample for analysis. The soil samples analyzed for this project were STKP-A-COMP, STKP-B-COMP, and STKP-C-COMP.

All of the soil samples were collected from the hand-auger bucket into new, pre-cleaned, laboratory supplied glass sample jars, labeled and stored in an ice chest with wet ice for transport to McCampbell Analytical Inc. of Pacheco, California (CA DHS ELAP #1644) under chain of custody. The laboratory then performed the compositing.

The three composited soil samples were analyzed for organochlorine pesticides and PCBs by EPA Method 8081/8082, total petroleum hydrocarbons as diesel and motor oil (TPH-D/MO) by EPA Method 8015, total petroleum hydrocarbons as gasoline (TPH-G) by EPA Method 8015, volatile organic compounds (VOCs including the gasoline additives) by EPA Method 8260B, polynuclear aromatic hydrocarbons (PNAs) by EPA Method 8310, and the CAM 17 metals by EPA Method 6010.

4.0 ANALYTICAL RESULTS

The analytical results are presented in Table One. Except for chromium and arsenic, as detailed below, none of the soil samples analyzed during this project contained compounds of concern above Environmental Screening Levels (ESLs) for surface soil where groundwater is a potential source of drinking water and residential land use is permitted. The ESLs are presented in the "Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater" document prepared by the California Regional Water Quality Control Board, San Francisco Bay Region dated July 2003.

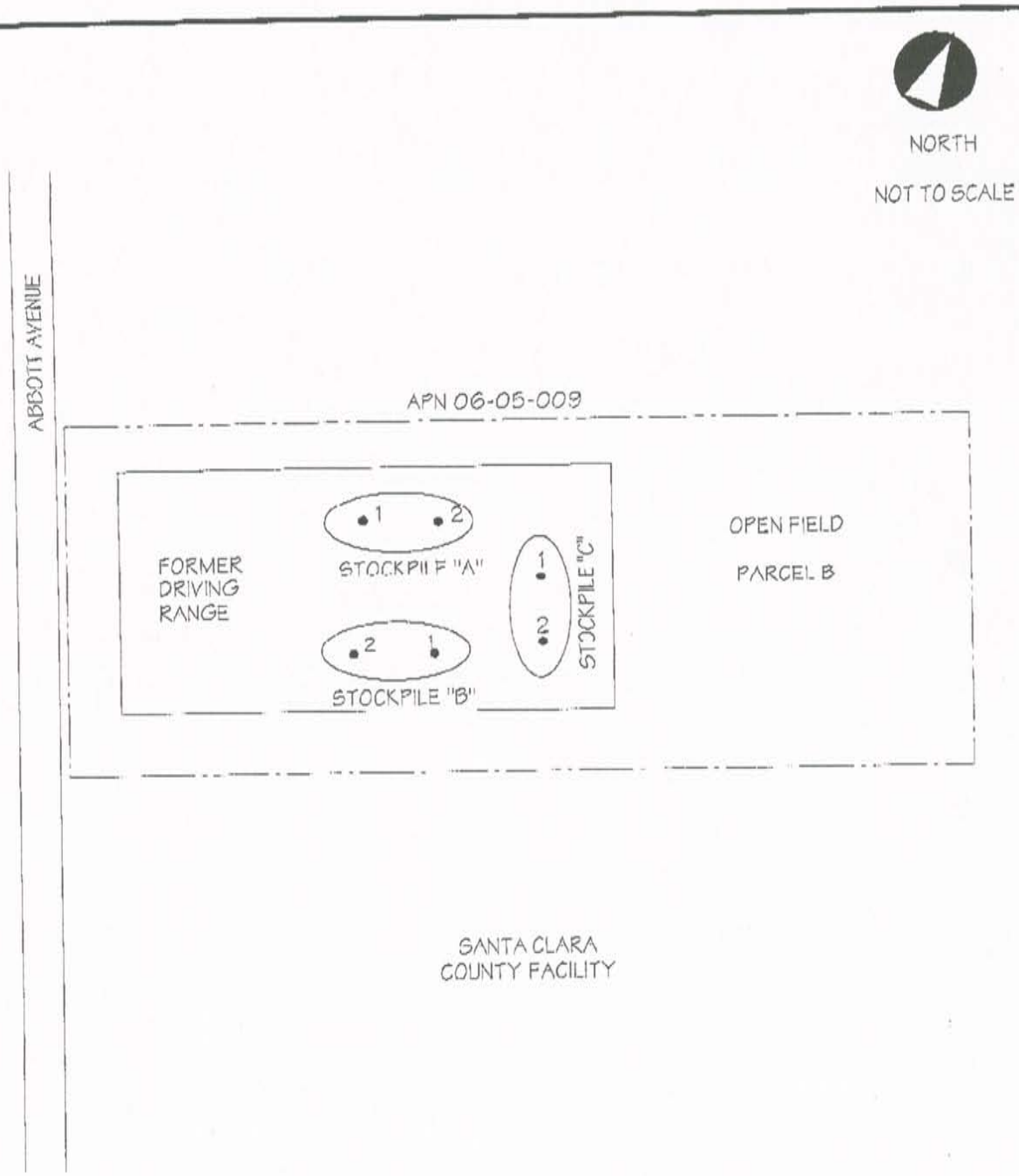
4.1 Chromium

In two of the three soil samples, the total chromium ESL was exceeded slightly. In order to identify whether the chromium in the samples was chromium III (which is naturally occurring and not very toxic) or hexavalent chromium (which is extremely toxic), ASE had the laboratory analyze two of the three soil samples for hexavalent chromium. Both

SUBJECT SITE
APN 086-05-009 & APN 086-11-013
Milpitas, California 95035

VICINITY MAP

DRAWN BY: RW	07/30/03
ASE JOB NO. 3907	FIGURE NO.1



LEGEND

1 ● SOIL SAMPLE LOCATION

SITE PLAN

ELMWOOD SITE
APN 086-05-009
MILPITAS, CALIFORNIA

AQUA SCIENCE ENGINEERS, INC. | FIGURE 2

TABLE ONE

Summary of Analyses of Composited Soil Samples From Stockpiled Soil Piles A, B & C Elmwood Property, Milpitas, CA

All results are in parts per million (ppm)

COMPOUND	STKP-A	STKP-B	STKP-C	RESIDENTIAL ESL
CAM 17 Metals				
Antimony	< 0.5	< 0.5	< 0.5	6.9
Arsenic	6.1	6.0	9.7	5.5 (See Note 2)
Barium	226	228	246	750
Beryllium	< 0.5	< 0.5	0.5	4.0
Cadmium	< 0.5	< 0.5	< 0.5	1.7
Chromium	52	91	89	750 (See Note 3)
Hexavalent Chromium	< 2.0	< 2.0	Not Analyzed	1.8
Cobalt	13	14	16	40
Copper	55	53	29	230
Lead	22	42	35	200
Molybdenum	< 0.5	1	0.6	40
Nickel	85	91	140	150
Selenium	< 2.5	< 2.5	< 2.5	10
Silver	0.7	0.6	0.6	20
Thallium	< 2.5	< 2.5	< 2.5	1
Vanadium	27	30	34	110
Zinc	73	83	70	600
Mercury	0.13	0.19	1.6	2.5
Volatile Organic Compounds (VOCs)				
All VOCs	< 0.005 - < 0.05	< 0.005 - < 0.05	< 0.005 - < 0.05	VARIES
Total Petroleum Hydrocarbons				
Diesel	< 1.0	< 1.0	1.2	100
Motor Oil	6.7	< 5.0	1.3	100
Gasoline	< 1.0	< 1.0	< 1.0	100
Polynuclear Aromatic Hydrocarbons (PNAs)				
Fluoranthene	< 0.005	< 0.005	0.0082	40
Pyrene	< 0.005	< 0.005	0.012	85
All Remaining PNAs	< 0.005	< 0.005	< 0.005	VARIES
Organochlorine Pesticides, and PCBs				
DDD	< 0.005	< 0.005	0.011	2.4
DDE	< 0.005	0.0072	0.022	1.7
Remaining Pesticides	< 0.005 - < 0.5	< 0.005 - < 0.5	< 0.005 - < 0.5	VARIES
PCBs	< 0.12 - < 0.25	< 0.12 < 0.25	< 0.12 - < 0.25	0.22

Notes:

1. Non-detectable concentration noted by the less than sign (<) followed by the detection limit.

2. The SF Bay Area background concentration for arsenic is approximately 10.

3. Since no hexavalent chromium was identified, the ESL for chromium III is used.

4. ESL is environmental screening level prepaed by the SF Bay RWQCB in their document entitled "Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater", Interim Final, July 2003.

APPENDIX A

Analytical Report of Soil Samples

McCampbell Analytical Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

Aqua Science Engineers, Inc.	Client Project ID: #3907; KB Home-Elmwood	Date Sampled:	07/30/03
208 West El Pintado Road		Date Received:	07/30/03
Danville, CA 94526	Client Contact: Dave Allen	Date Reported:	08/14/03
	Client P.O.:	Date Completed:	08/14/03

WorkOrder: 0307517

August 14, 2003

Dear Dave:

Enclosed are:

1). the results of 3 analyzed samples from your **#3907; KB Home-Elmwood project,**

2). a QC report for the above samples

3). a copy of the chain of custody, and

4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Angela Rydelius, Lab Manager

McCampbell Analytical Inc.

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Danville, CA 94526	Client Contact: Dave Allen	Date Extracted: 07/30/03
	Client P.O.:	Date Analyzed: 07/31/03

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline *

Extraction method: SW5030B Analytical methods: SW8015Cm Work Order: 0307517

Lab ID	Client ID	Matrix	TPH(g)	DF	% SS
001A	STKP-A-Comp	S	ND	1	86.1
002A	STKP-B-Comp	S	ND	1	83.5
003A	STKP-C-Comp	S	ND	1	85.8

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	NA	NA
	S	1.0	mg/Kg

* water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in µg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern.

DHS Certification No. 1644

Angela Rydelius, Lab Manager

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	Client P.O.:	Date Analyzed: 07/30/03-07/31/03

Diesel (C10-23) and Oil (C18+) Range Extractable Hydrocarbons as Diesel and Motor Oil^

Extraction method: SW3550C Analytical methods: SW8015C Work Order: 0307517

Lab ID	Client ID	Matrix	TPH(d)	TPH(mo)	DF	% SS
0307517-001A	STKP-A-Comp	S	ND,g	6.7	1	83.9
0307517-002A	STKP-B-Comp	S	ND	ND	1	84.5
0307517-003A	STKP-C-Comp	S	1.2,g	13	1	96.4

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	NA	NA	ug/L
	S	1.0	5.0	mg/Kg

* water samples are reported in µg/L, wipe samples in µg/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / STLC / SPLP / TCLP extracts are reported in µg/L.

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant); d) gasoline range compounds are significant; e) unknown medium boiling point pattern that does not appear to be derived from diesel; f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; k) kerosene/kerosene range; l) bunker oil; m) fuel oil; n) stoddard solvent/mineral spirit.

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	Client P.O.:	Date Analyzed: 07/31/03

Volatiles Organics by P&T and GC/MS (Basic Target List)*

Extraction Method: SW5030B Analytical Method: SW8260B Work Order: 0307517

Lab ID	0307517-001A
Client ID	STKP-A-Comp
Matrix	Soil

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	50	Benzene	ND	1.0	5.0
Bromobenzene	ND	1.0	5.0	Bromochloromethane	ND	1.0	5.0
Bromodichloromethane	ND	1.0	5.0	Bromoform	ND	1.0	5.0
2-Butanone (MEK)	ND	1.0	10	Bromomethane	ND	1.0	5.0
n-Butyl benzene	ND	1.0	5.0	sec-Butyl benzene	ND	1.0	5.0
tert-Butyl benzene	ND	1.0	5.0	Carbon Disulfide	ND	1.0	5.0
Carbon Tetrachloride	ND	1.0	5.0	Chlorobenzene	ND	1.0	5.0
Chloroethane	ND	1.0	5.0	2-Chloroethyl Vinyl Ether	ND	1.0	5.0
Chloroform	ND	1.0	5.0	Chloromethane	ND	1.0	5.0
2-Chlorotoluene	ND	1.0	5.0	4-Chlorotoluene	ND	1.0	5.0
Dibromochloromethane	ND	1.0	5.0	1,2-Dibromo-3-chloropropane	ND	1.0	5.0
1,2-Dibromoethane (EDB)	ND	1.0	5.0	Dibromomethane	ND	1.0	5.0
1,2-Dichlorobenzene	ND	1.0	5.0	1,3-Dichlorobenzene	ND	1.0	5.0
1,4-Dichlorobenzene	ND	1.0	5.0	Dichlorodifluoromethane	ND	1.0	5.0
1,1-Dichloroethane	ND	1.0	5.0	1,2-Dichloroethane (1,2-DCA)	ND	1.0	5.0
1,1-Dichloroethene	ND	1.0	5.0	cis-1,2-Dichloroethene	ND	1.0	5.0
trans-1,2-Dichloroethene	ND	1.0	5.0	1,2-Dichloropropane	ND	1.0	5.0
1,3-Dichloropropane	ND	1.0	5.0	2,2-Dichloropropane	ND	1.0	5.0
1,1-Dichloropropene	ND	1.0	5.0	cis-1,3-Dichloropropene	ND	1.0	5.0
trans-1,3-Dichloropropene	ND	1.0	5.0	Ethylbenzene	ND	1.0	5.0
Hexachlorobutadiene	ND	1.0	5.0	2-Hexanone	ND	1.0	5.0
Iodomethane (Methyl iodide)	ND	1.0	50	Isopropylbenzene	ND	1.0	5.0
4-Isopropyl toluene	ND	1.0	5.0	Methyl-t-butyl ether (MTBE)	ND	1.0	5.0
Methylene chloride	ND	1.0	5.0	4-Methyl-2-pentanone (MIBK)	ND	1.0	5.0
Naphthalene	ND	1.0	5.0	n-Propyl benzene	ND	1.0	5.0
Styrene	ND	1.0	5.0	1,1,1,2-Tetrachloroethane	ND	1.0	5.0
1,1,2,2-Tetrachloroethane	ND	1.0	5.0	Tetrachloroethene	ND	1.0	5.0
Toluene	ND	1.0	5.0	1,2,3-Trichlorobenzene	ND	1.0	5.0
1,2,4-Trichlorobenzene	ND	1.0	5.0	1,1,1-Trichloroethane	ND	1.0	5.0
1,1,2-Trichloroethane	ND	1.0	5.0	Trichloroethene	ND	1.0	5.0
Trichlorofluoromethane	ND	1.0	5.0	1,2,3-Trichloropropane	ND	1.0	5.0
1,2,4-Trimethylbenzene	ND	1.0	5.0	1,3,5-Trimethylbenzene	ND	1.0	5.0
Vinyl Acetate	ND	1.0	50	Vinyl Chloride	ND	1.0	5.0
Xylenes	ND	1.0	5.0				

Surrogate Recoveries (%)

%SS1:	93.8	%SS2:	100
%SS3:	101		

Comments:

* water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in µg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; j) sample diluted due to high organic content.

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	Client P.O.:	Date Analyzed: 07/31/03

Volatiles Organics by P&T and GC/MS (Basic Target List)*

Extraction Method: SW5030B Analytical Method: SW8260B Work Order: 0307517

Lab ID	0307517-002A
Client ID	STKP-R-Comp
Matrix	Soil

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	50	Benzene	ND	1.0	5.0
Bromobenzene	ND	1.0	5.0	Bromochloromethane	ND	1.0	5.0
Bromodichloromethane	ND	1.0	5.0	Bromoform	ND	1.0	5.0
2-Butanone (MEK)	ND	1.0	10	Bromomethane	ND	1.0	5.0
n-Butyl benzene	ND	1.0	5.0	sec-Butyl benzene	ND	1.0	5.0
tert-Butyl benzene	ND	1.0	5.0	Carbon Disulfide	ND	1.0	5.0
Carbon Tetrachloride	ND	1.0	5.0	Chlorobenzene	ND	1.0	5.0
Chloroethane	ND	1.0	5.0	2-Chloroethyl Vinyl Ether	ND	1.0	5.0
Chloroform	ND	1.0	5.0	Chloromethane	ND	1.0	5.0
2-Chlorotoluene	ND	1.0	5.0	4-Chlorotoluene	ND	1.0	5.0
Dibromochloromethane	ND	1.0	5.0	1,2-Dibromo-3-chloropropane	ND	1.0	5.0
1,2-Dibromoethane (EDB)	ND	1.0	5.0	Dibromomethane	ND	1.0	5.0
1,2-Dichlorobenzene	ND	1.0	5.0	1,3-Dichlorobenzene	ND	1.0	5.0
1,4-Dichlorobenzene	ND	1.0	5.0	Dichlorodifluoromethane	ND	1.0	5.0
1,1-Dichloroethane	ND	1.0	5.0	1,2-Dichloroethane (1,2-DCA)	ND	1.0	5.0
1,1-Dichloroethene	ND	1.0	5.0	cis-1,2-Dichloroethene	ND	1.0	5.0
trans-1,2-Dichloroethene	ND	1.0	5.0	1,2-Dichloropropane	ND	1.0	5.0
1,3-Dichloropropane	ND	1.0	5.0	2,2-Dichloropropane	ND	1.0	5.0
1,1-Dichloropropene	ND	1.0	5.0	cis-1,3-Dichloropropene	ND	1.0	5.0
trans-1,3-Dichloropropene	ND	1.0	5.0	Ethylbenzene	ND	1.0	5.0
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Methylene chloride	ND	1.0	5.0	4-Methyl-2-pentanone (MIBK)	ND	1.0	5.0
Naphthalene	ND	1.0	5.0	n-Propyl benzene	ND	1.0	5.0
Styrene	ND	1.0	5.0	1,1,1,2-Tetrachloroethane	ND	1.0	5.0
1,1,2,2-Tetrachloroethane	ND	1.0	5.0	Tetrachloroethene	ND	1.0	5.0
Toluene	ND	1.0	5.0	1,2,3-Trichlorobenzene	ND	1.0	5.0
1,2,4-Trichlorobenzene	ND	1.0	5.0	1,1,1-Trichloroethane	ND	1.0	5.0
1,1,2-Trichloroethane	ND	1.0	5.0	Trichloroethene	ND	1.0	5.0
Trichlorofluoromethane	ND	1.0	5.0	1,2,3-Trichloropropane	ND	1.0	5.0
1,2,4-Trimethylbenzene	ND	1.0	5.0	1,3,5-Trimethylbenzene	ND	1.0	5.0
Vinyl Acetate	ND	1.0	50	Vinyl Chloride	ND	1.0	5.0
Xylenes	ND	1.0	5.0				

Surrogate Recoveries (%)

%SS1:	93.9	%SS2:	98.4
%SS3:	99.1		

Comments:

* water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in µg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

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Volatiles Organics by P&T and GC/MS (Basic Target List)*

Extraction Method: SW5030B Analytical Method: SW8260B Work Order: 0307517

Lab ID	0307517-003A
Client ID	STKP-C-Comp
Matrix	Soil

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	50	Benzene	ND	1.0	5.0
Bromobenzene	ND	1.0	5.0	Bromochloromethane	ND	1.0	5.0
Bromodichloromethane	ND	1.0	5.0	Bromoform	ND	1.0	5.0
2-Butanone (MEK)	ND	1.0	10	Bromomethane	ND	1.0	5.0
n-Butyl benzene	ND	1.0	5.0	sec-Butyl benzene	ND	1.0	5.0
tert-Butyl benzene	ND	1.0	5.0	Carbon Disulfide	ND	1.0	5.0
Carbon Tetrachloride	ND	1.0	5.0	Chlorobenzene	ND	1.0	5.0
Chloroethane	ND	1.0	5.0	2-Chloroethyl Vinyl Ether	ND	1.0	5.0
Chloroform	ND	1.0	5.0	Chloromethane	ND	1.0	5.0
2-Chlorotoluene	ND	1.0	5.0	4-Chlorotoluene	ND	1.0	5.0
Dibromochloromethane	ND	1.0	5.0	1,2-Dibromo-3-chloropropane	ND	1.0	5.0
1,2-Dibromoethane (EDB)	ND	1.0	5.0	Dibromomethane	ND	1.0	5.0
1,2-Dichlorobenzene	ND	1.0	5.0	1,3-Dichlorobenzene	ND	1.0	5.0
1,4-Dichlorobenzene	ND	1.0	5.0	Dichlorodifluoromethane	ND	1.0	5.0
1,1-Dichloroethane	ND	1.0	5.0	1,2-Dichloroethane (1,2-DCA)	ND	1.0	5.0
1,1-Dichloroethene	ND	1.0	5.0	cis-1,2-Dichloroethene	ND	1.0	5.0
trans-1,2-Dichloroethene	ND	1.0	5.0	1,2-Dichloropropane	ND	1.0	5.0
1,3-Dichloropropane	ND	1.0	5.0	2,2-Dichloropropane	ND	1.0	5.0
1,1-Dichloropropene	ND	1.0	5.0	cis-1,3-Dichloropropene	ND	1.0	5.0
trans-1,3-Dichloropropene	ND	1.0	5.0	Ethylbenzene	ND	1.0	5.0
Hexachlorobutadiene	ND	1.0	5.0	2-Hexanone	ND	1.0	5.0
Iodomethane (Methyl iodide)	ND	1.0	50	Isopropylbenzene	ND	1.0	5.0
4-Isopropyl toluene	ND	1.0	5.0	Methyl-t-butyl ether (MTBE)	ND	1.0	5.0
Methylene chloride	ND	1.0	5.0	4-Methyl-2-pentanone (MIBK)	ND	1.0	5.0
Naphthalene	ND	1.0	5.0	n-Propyl benzene	ND	1.0	5.0
Styrene	ND	1.0	5.0	1,1,1,2-Tetrachloroethane	ND	1.0	5.0
1,1,2,2-Tetrachloroethane	ND	1.0	5.0	Tetrachloroethene	ND	1.0	5.0
Toluene	ND	1.0	5.0	1,2,3-Trichlorobenzene	ND	1.0	5.0
1,2,4-Trichlorobenzene	ND	1.0	5.0	1,1,1-Trichloroethane	ND	1.0	5.0
1,1,2-Trichloroethane	ND	1.0	5.0	Trichloroethene	ND	1.0	5.0
Trichlorofluoromethane	ND	1.0	5.0	1,2,3-Trichloropropane	ND	1.0	5.0
1,2,4-Trimethylbenzene	ND	1.0	5.0	1,3,5-Trimethylbenzene	ND	1.0	5.0
Vinyl Acetate	ND	1.0	50	Vinyl Chloride	ND	1.0	5.0
Xylenes	ND	1.0	5.0				

Surrogate Recoveries (%)

%SS1:	93.1	%SS2:	98.2
%SS3:	99.4		

Comments:

* water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in µg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; j) sample diluted due to high organic content.

DHS Certification No. 1644

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Aqua Science Engineers, Inc.	Client Project ID: #3907; KB Home-Elmwood	Date Sampled: 07/30/03
208 West El Pintado Road		Date Received: 07/30/03
Danville, CA 94526	Client Contact: Dave Allen	Date Extracted: 07/30/03
	Client P.O.:	Date Analyzed: 07/31/03

Organochlorine Pesticides (8080 Basic Target List + PCB)*

Extraction Method: SW3550C Analytical Method: SW8081B/8082A Work Order: 0307517

Lab ID	0307517-001A	0307517-002A	0307517-003A		Reporting Limit for DF =1	
Client ID	STKP-A-Comp	STKP-B-Comp	STKP-C-Comp			
Matrix	S	S	S			
DF	5	5	10		S	W
Compound	**Concentration**				µg/Kg	µg/L
Aldrin	ND<5.0	ND<5.0	ND<10		1.0	NA
a-BHC	ND<5.0	ND<5.0	ND<10		1.0	NA
b-BHC	ND<5.0	ND<5.0	ND<10		1.0	NA
d-BHC	ND<5.0	ND<5.0	ND<10		1.0	NA
g-BHC	ND<5.0	ND<5.0	ND<10		1.0	NA
Chlordane (Technical)	ND<120	ND<120	ND<250		25	NA
a-Chlordane	ND<5.0	ND<5.0	ND<10		1.0	NA
g-Chlordane	ND<5.0	ND<5.0	ND<10		1.0	NA
p,p-DDD	ND<5.0	ND<5.0	11		1.0	NA
p,p-DDE	ND<5.0	7.2	22		1.0	NA
p,p-DDT	ND<5.0	ND<5.0	ND<10		1.0	NA
Dieldrin	ND<5.0	ND<5.0	ND<10		1.0	NA
Endosulfan I	ND<5.0	ND<5.0	ND<10		1.0	NA
Endosulfan II	ND<5.0	ND<5.0	ND<10		1.0	NA
Endosulfan sulfate	ND<5.0	ND<5.0	ND<10		1.0	NA
Endrin	ND<5.0	ND<5.0	ND<10		1.0	NA
Endrin aldehyde	ND<5.0	ND<5.0	ND<10		1.0	NA
Heptachlor	ND<5.0	ND<5.0	ND<10		1.0	NA
Heptachlor epoxide	ND<5.0	ND<5.0	ND<10		1.0	NA
Methoxychlor	ND<5.0	ND<5.0	ND<10		1.0	NA
PCB	ND<120	ND<120	ND<250		25	NA
Toxaphene	ND<250	ND<250	ND<500		50	NA
Surrogate Recoveries (%)						
%SS:	110	100	109			
Comments	j					

* water samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in µg/kg, wipe samples in µg/wipe, filter samples are reported in µg/filter and product/oil/non-aqueous liquid samples in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

(a) PCB aroclor 1016; (b) PCB aroclor 1221; (c) PCB aroclor 1232; (d) PCB aroclor 1242; (e) PCB aroclor 1248; (f) PCB aroclor 1254; (g) PCB aroclor 1260; (h) a lighter than water immiscible sheen/product is present; (i) liquid sample that contains >~2 vol. % sediment; (j) sample diluted due to high organic content; (k) p,p,- is the same as 4,4,-; (l) florisil (EPA 3620) cleanup; (m) silica-gel (EPA 3630) cleanup; (n) elemental sulfur (EPA 3660) cleanup; (o) sulfuric acid permanganate (EPA 3665) cleanup.

DHS Certification No. 1644

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Aqua Science Engineers, Inc.	Client Project ID: #3907; KB Home-Elmwood	Date Sampled: 07/30/03
208 West El Pintado Road		Date Received: 07/30/03
Danville, CA 94526	Client Contact: Dave Allen	Date Extracted: 07/30/03
	Client P.O.:	Date Analyzed: 08/02/03

Polynuclear Aromatic Hydrocarbons (PAHs / PNAs) by HPLC*

Extraction Method: SW3550C Analytical Method: SW8310 Work Order: 0307517

Lab ID	0307517-001A	0307517-002A	0307517-003A		Reporting Limit for DF =1	
Client ID	STKP-A-Comp	STKP-B-Comp	STKP-C-Comp			
Matrix	S	S	S			
DF	1	1	1		S	W
Compound	**Concentration**				µg/Kg	ug/L
Acenaphthene	ND	ND	ND		5.0	NA
Anthracene	ND	ND	ND		5.0	NA
Benzo (a) anthracene	ND	ND	ND		5.0	NA
Benzo (a) pyrene	ND	ND	ND		5.0	NA
Benzo (b) fluoranthene	ND	ND	ND		5.0	NA
Benzo (g,h,i) perylene	ND	ND	ND		5.0	NA
Benzo (k) fluoranthene	ND	ND	ND		5.0	NA
Chrysene	ND	ND	ND		5.0	NA
Dibenzo (a,h) anthracene	ND	ND	ND		5.0	NA
Fluoranthene	ND	ND	8.2		5.0	NA
Fluorene	ND	ND	ND		5.0	NA
Indeno (1,2,3) pyrene	ND	ND	ND		5.0	NA
1-Methylnaphthalene	ND	ND	ND		5.0	NA
2-Methylnaphthalene	ND	ND	ND		5.0	NA
Naphthalene	ND	ND	ND		5.0	NA
Phenanthrene	ND	ND	ND		5.0	NA
Pyrene	ND	ND	12		5.0	NA
Surrogate Recoveries (%)						
%SS1	97.0	93.1	90.4			
%SS2	113	98.3	89.6			
Comments						

* water samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in ug/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; j) sample diluted due to high organic content.

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Aqua Science Engineers, Inc.	Client Project ID: #3907; KB Home-Elmwood	Date Sampled: 07/30/03
208 West El Pintado Road		Date Received: 07/30/03
Danville, CA 94526	Client Contact: Dave Allen	Date Extracted: 07/30/03
	Client P.O.:	Date Analyzed: 07/31/03-08/01/03

Metals by Graphite Furnace Atomic Absorption*

Extraction method: SW3050B Analytical methods: SW7010 Work Order: 0307517

Lab ID	Client ID	Matrix	Extraction	Arsenic	Selenium	Thallium	DF	% SS
001A	STKP-A-Comp	S	TTLC	6.1	ND	ND	1	N/A
002A	STKP-B-Comp	S	TTLC	6.9	ND	ND	1	N/A
003A	STKP-C-Comp	S	TTLC	9.7	ND	ND	1	N/A
Reporting Limit for DF =1; ND means not detected at or above the reporting limit		W	TTLC	NA	NA	NA	NA	
		S	TTLC	2.5	2.5	2.5	mg/Kg	

*water/product/oil/non-aqueous liquid samples and all TCLP / STLC / DISTLC / SPLP extracts are reported in mg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter.

means surrogate recovery outside of acceptance range due to matrix interference; & means low or no surrogate due to matrix interference; ND means not detected above the reporting limit; N/A means not applicable to this sample or instrument.

Analytical Methods: EPA 6010C/200.7 for all elements except: 200.9 (water/liquid- Sb, As, Pb, Se, Tl); 245.1 (Hg); 7010 (sludge/soil/solid/oil/product/wipe/filter - As, Se, Tl); 7471B (Hg).

i) liquid sample that contains greater than ~2 vol. % sediment; this sediment is extracted with the liquid, in accordance with EPA methodologies and can significantly effect reported metal concentrations; j) reporting limit raised due to insufficient sample amount; k) results are reported by dry weight; y) estimated values due to low surrogate recovery; z) reporting limit raised due to matrix interference.

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Aqua Science Engineers, Inc.	Client Project ID: #3907; KB Home-Elmwood	Date Sampled: 07/30/03
208 West El Pintado Road		Date Received: 07/30/03
Danville, CA 94526	Client Contact: Dave Allen	Date Extracted: 07/30/03
	Client P.O.:	Date Analyzed: 08/04/03

Cold Vapor Metals*

Extraction method: SW7471B Analytical methods: SW7471B Work Order: 0307517

Lab ID	Client ID	Matrix	Extraction	Mercury	DF	% SS
0307517-001A	STKP-A-Comp	S	TTLC	0.13	1	N/A
0307517-002A	STKP-B-Comp	S	TTLC	0.19	1	N/A
0307517-003A	STKP-C-Comp	S	TTLC	1.6	1	N/A

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	TTLC	NA	mg/L
	S	TTLC	0.06	mg/Kg

*water/product/oil/non-aqueous liquid samples and all TCLP / STLC / DISTLC / SPLP extracts are reported in mg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter.

means surrogate recovery outside of acceptance range due to matrix interference; & means low or no surrogate due to matrix interference; ND means not detected above the reporting limit; N/A means not applicable to this sample or instrument.

Analytical Methods: EPA 6010C/200.7 for all elements except: 200.9 (water/liquid- Sb, As, Pb, Se, Tl); 245.1 (Hg); 7010 (sludge/soil/solid/oil/product/wipe/filter - As, Se, Tl); 7471B (Hg).

i) liquid sample that contains greater than ~2 vol. % sediment; this sediment is extracted with the liquid, in accordance with EPA methodologies and can significantly effect reported metal concentrations; j) reporting limit raised due to insufficient sample amount; k) results are reported by dry weight; y) estimated values due to low surrogate recovery; z) reporting limit raised due to matrix interference.

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Aqua Science Engineers, Inc.	Client Project ID: #3907; KB Home-Elmwood	Date Sampled: 07/30/03
208 West El Pintado Road		Date Received: 07/30/03
Danville, CA 94526	Client Contact: Dave Allen	Date Extracted: 08/07/03-08/09/03
	Client P.O.:	Date Analyzed: 08/13/03

Hexachrome by IC*

Extraction method: CA Title 22 Analytical methods: E218.6 Work Order: 0307517

Lab ID	Client ID	Matrix	Extraction	Hexachrome	DF	% SS
0307517-001A	STKP-A-Comp	S	DISTLC	ND	1	N/A
0307517-002A	STKP-B-Comp	S	DISTLC	ND	1	N/A

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	TTLC	NA	mg/L
	Σ	DISTLC	2.0	µg/L

* all samples are reported in µg/L. For soil/solid/non-aqeous liquid samples, the 10ml DI:1g sample extraction ratio is not factored into the reported µg/L value, following CA Title 22 instructions for DISTLC haxachrome determinations for regulatory purposes. If a "true" µg/kg value if hexachrome is required then multiply the reported value times the extraction factor (ex: A µg/L * (.5L / 0.05kg) = 10A µg/kg).

z) soil/solid/non-aqeuos sample extracted using a modified STLC extraction procedure by substituting deionized water for the citric acid buffer as the extraction fluid.

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QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix. S

WorkOrder: 0307517

EPA Method: SW8021B/8015Cm Extraction: SW5030B BatchID: 8013 Spiked Sample ID: 0307511-006A

	Sample	Spiked	MS*	MSD*	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
TPH(btex)[£]	ND	0.60	104	105	1.44	98.8	112	12.7	70	130
MTBE	ND	0.10	82.1	88.2	7.15	106	106	0	70	130
Benzene	ND	0.10	92.2	88.6	3.91	94.6	99.7	5.26	70	130
Toluene	ND	0.10	92.9	89.9	3.21	86.8	92.3	6.19	70	130
Ethylbenzene	ND	0.10	93	90.7	2.43	95	95.7	0.772	70	130
Xylenes	ND	0.30	94.7	94.3	0.353	83.7	87.7	4.67	70	130
%SS:	97.0	100	90	86.9	3.46	96.3	102	6.00	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS – MSD) / (MS + MSD) * 2.

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

£ TPH(btex) – sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.
NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

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QC SUMMARY REPORT FOR SW8015C

Matrix: S

WorkOrder: 0307517

EPA Method: SW8015C	Extraction: SW3550C			BatchID: 8014			Spiked Sample ID: 0307509-017A			
	Sample	Spiked	MS*	MSD*	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
TPH(d)	ND	150	91	92.2	1.25	96.7	95.5	1.29	70	130
%SS.	94.9	100	98.3	100	1.80	92.1	91.4	0.759	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / (MS + MSD) * 2.

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.
NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

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QC SUMMARY REPORT FOR SW8260B

Matrix: S

WorkOrder: 0307517

EPA Method: SW8260B Extraction: SW5030B BatchID: 7990 Spiked Sample ID: 0307495-003A

	Sample	Spiked	MS*	MSD*	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/Kg	µg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
Benzene	ND	50	110	112	1.55	111	112	1.04	70	130
Chlorobenzene	ND	50	111	114	2.31	114	114	0	70	130
1,1-Dichloroethene	ND	50	82.2	83.3	1.35	84	83.5	0.551	70	130
Methyl-t-butyl ether (MTBE)	ND	50	107	108	0.997	109	111	2.25	70	130
Toluene	ND	50	115	117	1.65	117	117	0	70	130
Trichloroethene	ND	50	94.9	95.9	0.986	95.8	97.1	1.43	70	130
%SS1:	97.7	100	103	103	0	105	104	1.19	70	130
%SS2:	100	100	98.6	98.8	0.228	100	100	0	70	130
%SS3:	101	100	95.9	97.5	1.68	95.6	95.9	0.286	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS – MSD) / (MS + MSD) * 2.

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.
NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

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QC SUMMARY REPORT FOR SW8310

Matrix: S

WorkOrder: 0307517

EPA Method: SW8310 Extraction: SW3550C BatchID: 8019 Spiked Sample ID: N/A

	Sample	Spiked	MS*	MSD*	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/Kg	µg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
Chrysene	N/A	15	N/A	N/A	N/A	92.4	91.7	0.733	70	130
1-Methylnaphthalene	N/A	15	N/A	N/A	N/A	108	107	0.583	70	130
2-Methylnaphthalene	N/A	15	N/A	N/A	N/A	100	100	0	70	130
Phenanthrene	N/A	15	N/A	N/A	N/A	92.5	92.4	0.102	70	130
Pyrene	N/A	15	N/A	N/A	N/A	118	114	2.94	70	130
%SS1:	N/A	100	N/A	N/A	N/A	83	81	2.36	70	130
%SS2:	N/A	100	N/A	N/A	N/A	83.2	82.7	0.551	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS – MSD) / (MS + MSD) * 2.

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate or not applicable to this method.
NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

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QC SUMMARY REPORT FOR SW8081B/8082A

Matrix: S

WorkOrder: 0307517

EPA Method: SW8081B/8082A Extraction: SW3550C BatchID: 7969 Spiked Sample ID: 0307451-004A

	Sample	Spiked	MS*	MSD*	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/Kg	µg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
Aldrin	ND	10	115	115	0	127	128	0.624	70	130
g-BHC	ND	10	93	93	0	106	107	1.38	70	130
p,p-DDT	ND	25	77.7	77.1	0.747	109	110	1.10	70	130
Dieldrin	ND	25	122	122	0	125	125	0	70	130
Endrin	ND	25	115	116	0.264	120	121	0.978	70	130
Heptachlor	ND	10	113	113	0	121	122	0.821	70	130
%SS:	105	100	108	109	0.868	119	119	0	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS – MSD) / (MS + MSD) * 2.

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.
NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

McCampbell Analytical Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
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http://www.mccampbell.com E-mail: main@mccampbell.com

QC SUMMARY REPORT FOR SW7010

Matrix: S

WorkOrder: 0307517

EPA Method: SW7010 Extraction: SW3050B BatchID: 8011 Spiked Sample ID: N/A

	Sample	Spiked	MS*	MSD*	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
Arsenic	N/A	5	N/A	N/A	N/A	113	91.6	21.2	70	130
Selenium	N/A	5	N/A	N/A	N/A	83.8	81.2	3.14	70	130
Thallium	N/A	5	N/A	N/A	N/A	95.8	106	9.76	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS – MSD) / (MS + MSD) * 2.

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

N/A = not applicable to this method.
NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

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QC SUMMARY REPORT FOR SW7471B

Matrix: S

WorkOrder: 0307517

EPA Method: SW7471B Extraction: SW7471B BatchID: 7991 Spiked Sample ID: N/A

	Sample	Spiked	MS*	MSD*	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
Mercury	N/A	0.25	N/A	N/A	N/A	98.4	101	2.80	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS – MSD) / (MS + MSD) * 2.

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

N/A = not applicable to this method.
NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

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QC SUMMARY REPORT FOR E218.6

Matrix: S

WorkOrder: 0307517

EPA Method: E218.6 Extraction: CA Title 22 BatchID: 8116 Spiked Sample ID: N/A

	Sample	Spiked	MS*	MSD*	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
Hexachrome	N/A	250	N/A	N/A	N/A	103	103	0	90	110

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS – MSD) / (MS + MSD) * 2.

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

N/A = not applicable to this method.
NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

GeoAnalytical Laboratories, Inc.

1405 Kansas Avenue Modesto, CA 95351 Phone (209) 572-0900 Fax (209) 572-0916

CERTIFICATE OF ANALYSIS

Report # P212-02

Date: 8/04/03

McCampbell Analytical
110 2nd Ave. South #D7
Pacheco CA 94553

Project: 0307517, Aqua Science

PO#

Date Rec'd: 7/31/03
Date Started: 7/31/03
Date Completed: 8/04/03

Date Sampled: 7/30/03
Time:
Sampler:

Sample ID: STKP - A - COMP.
Lab ID: P201336

Method	RL	Analyte	Results	Units
7041	0.5	Antimony	ND	mg/Kg
6010B	5.0	Barium	226	mg/Kg
6010B	0.5	Beryllium	ND	mg/Kg
6010B	0.5	Cadmium	ND	mg/Kg
6010B	1.0	Chromium	52	mg/Kg
6010B	2.0	Cobalt	13	mg/Kg
6010B	2.0	Copper	55	mg/Kg
6010B	5.0	Lead	22	mg/Kg
6010B	0.5	Molybdenum	ND	mg/Kg
6010B	2.0	Nickel	85	mg/Kg
6010B	0.5	Silver	0.7	mg/Kg
6010B	0.5	Vanadium	27	mg/Kg
6010B	2.0	Zinc	73	mg/Kg

Rohit Bombaywala
Inorganic Supervisor

Certification # 1157

Donna Keller
Laboratory Director

GeoAnalytical Laboratories, Inc.

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CERTIFICATE OF ANALYSIS

Report # P212-02

Date: 8/04/03

McCampbell Analytical
110 2nd Ave. South #D7
Pacheco CA 94553

Project: 0307517, Aqua Science

PO#

Date Rec'd: 7/31/03
Date Started: 7/31/03
Date Completed: 8/04/03

Date Sampled: 7/30/03
Time:
Sampler:

Sample ID: STKP - B - COMP.
Lab ID: P201337

Method	RL	Analyte	Results	Units
7041	0.5	Antimony	ND	mg/Kg
6010B	5.0	Barium	228	mg/Kg
6010B	0.5	Beryllium	ND	mg/Kg
6010B	0.5	Cadmium	ND	mg/Kg
6010B	1.0	Chromium	91	mg/Kg
6010B	2.0	Cobalt	14	mg/Kg
6010B	2.0	Copper	53	mg/Kg
6010B	5.0	Lead	42	mg/Kg
6010B	0.5	Molybdenum	1.0	mg/Kg
6010B	2.0	Nickel	91	mg/Kg
6010B	0.5	Silver	0.6	mg/Kg
6010B	0.5	Vanadium	30	mg/Kg
6010B	2.0	Zinc	83	mg/Kg

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CERTIFICATE OF ANALYSIS

Report # P212-02

Date: 8/04/03

McCampbell Analytical
110 2nd Ave. South #D7
Pacheco CA 94553

Project: 0307517, Aqua Science

PO#

Date Rec'd: 7/31/03
Date Started: 7/31/03
Date Completed: 8/04/03

Date Sampled: 7/30/03
Time:
Sampler:

Sample ID: STKP - C - COMP.
Lab ID: P201338

Method	RL	Analyte	Results	Units
7041	0.5	Antimony	ND	mg/Kg
6010B	5.0	Barium	246	mg/Kg
6010B	0.5	Beryllium	0.5	mg/Kg
6010B	0.5	Cadmium	ND	mg/Kg
6010B	1.0	Chromium	89	mg/Kg
6010B	2.0	Cobalt	16	mg/Kg
6010B	2.0	Copper	29	mg/Kg
6010B	5.0	Lead	35	mg/Kg
6010B	0.5	Molybdenum	0.6	mg/Kg
6010B	2.0	Nickel	140	mg/Kg
6010B	0.5	Silver	0.6	mg/Kg
6010B	0.5	Vanadium	34	mg/Kg
6010B	2.0	Zinc	70	mg/Kg

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Donna Keller
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Report# F212-02

QC REPORT

McCamphell Analytical
110 2nd Ave. South #D7
Pacheco CA 94553

Analyte	Method	Batch #	Dates Analyzed	Orig.	Dupl.	MS %Rec	MSD %Rec		RPD	LCS %Rec	Blank	Comments
Antimony	7041	I05281	8/01/03			108.0	99.4		6.5	97.0	ND	
Barium	6010B	I05282	8/01/03			92.0	103.0	*	11.3		ND	Sample analyte concentration too high to spike.
Beryllium	6010B	I05283	8/01/03			112.0	108.6		3.1	91.4	ND	
Cadmium	6010B	I05284	8/01/03			98.8	99.4	*	0.6		ND	Sample analyte concentration too high to spike.
Chromium	6010B	I05285	8/01/03			103.4	114.8	*	10.4		ND	Sample analyte concentration too high to spike.
Cobalt	6010B	I05286	8/01/03			102.8	105.6	*	2.7		ND	Sample analyte concentration too high to spike.
Copper	6010B	I05287	8/01/03			86.6	89.8	*	3.6		ND	Sample analyte concentration too high to spike.
Lead	6010B	I05288	8/01/03			106.8	118.0	*	10.0		ND	Sample analyte concentration too high to spike.
Molybdenum	6010B	I05289	8/01/03			118.6	103.2		8.6	95.2	ND	
Nickel	6010B	I05290	8/01/03			95.2	102.6	*	7.5		ND	Sample analyte concentration too high to spike.
Silver	6010B	I05291	8/01/03			106.8	107.8	*	0.9		ND	Sample analyte concentration too high to spike.
Vanadium	6010B	I05292	8/01/03			110.5	107.8		1.0	98.4	ND	
Zinc	6010B	I05293	8/01/03			96.0	108.8	*	12.5		ND	Sample analyte concentration too high to spike.

* LCS/LCSD (see comments)

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Donna Keller
Laboratory Director

09/29/2004 22:27 9495486981 CPS JLOMBARDO

GeO

RUSH

P212-02

McCAMPBELL ANALYTICAL INC.
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PACHECO, CA 94553-5560
Telephone: (925) 798-1620 Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME: ~~RUSH~~ 72hr Rush ☐ 24 HOUR ☐ 48 HOUR ☐ 5 DAY ☐ ROUTINE

Report To: @Melissa Valles **Bill To:** same
Project #: 0307517 **Project Name:** Aqua Science
Project Location:

ANALYSIS REQUEST

SAMPLE ID	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	MATRIX Soil	MATRIX Air	MATRIX Sludge	MATRIX Other	METHOD PRESERVED Ice	HCl	HNO_3	Other	Asbestos	BOD	Sulfide	Cyanide	96hr Static % Survival Fish BioAssay Flat Headminnows & 3 Spine Stickelsback	DOC	TOC	Ammonia	TKN	Alkalinty	Turbidity	Nitrate	Fish Bioassay	Flouride	Coliform	Chloride	General Minerals	EPA	COMMENTS ☐ *36 hr hold time please dechlorinate Cam 17 minus as se hg TL
STKP-A-Comp	07/30		1	vog		X				X																						X P201336
STKP-B-Comp																																X P201337
STKP-C Comp																																X P201338

Relinquished By:	Date:	Time:	Received By:
[signature]			Courier
Courier	7/31/03	755	[signature]

Remarks:
72hr rush; cam 17 minus se TI AS and hg please fax results as soon as available