

**ATTACHMENT H**

**SFPUC DISCHARGE PERMIT AND  
ASSOCIATED EFFLUENT LABORATORY REPORTS**



**SAN FRANCISCO PUBLIC UTILITIES COMMISSION**  
**Wastewater Enterprise/Collection System Division**



October 22, 2008

Mr. John E. Karn  
Project Manager  
Arup/PB Joint Venture  
% Arup North America Ltd.  
901 Market St., Suite 260  
San Francisco, CA 94103

**GAVIN NEWSOM**  
MAYOR

**ANN MOLLER CAEN**  
PRESIDENT

**F.X. CROWLEY**  
VICE PRESIDENT

**FRANCESCA VIETOR**  
COMMISSIONER

**ED HARRINGTON**  
GENERAL MANAGER

**SUBJECT: Wastewater Discharge Permit, re groundwater from  
aquifer hydraulic properties test**

Dear Mr. Karn:

We have reviewed your request, dated October 20, 2008, for approval to discharge groundwater generated from pumping of a well, for an aquifer hydraulic properties test at Building 1158 – Presidio Dance Theatre. Pursuant to the provisions of Sections 120, 124 and 125 of Chapter X (Public Works Code) of Part II of the San Francisco Municipal Code, Article 4.1 (hereinafter referred to as “Article 4.1”), permission is hereby granted to Arup/PB Joint Venture (“Permittee”) to discharge **approximately 70,000 gallons** of groundwater from the on-site storage tank, to the City’s sewerage system. **This permit expires on December 31, 2008.**

Discharges by the permittee shall be in compliance with:

- (1) The requirements of Article 4.1 and amendments thereto, as well as the City’s Department of Public Works Order No. 158170;
- (2) The United States Environmental Protection Agency’s regulations contained in 40 CFR Part 403; and
- (3) All applicable pretreatment regulations, standards or requirements under local, state and federal laws.

The permittee, by its acceptance of this permit, agrees:

- (1) To control and monitor the discharge to ensure that the hydraulic capacity of the receiving street sewer is not exceeded;
- (2) To pay to the City the sum of **\$616.61** (to be billed by the Bureau of Financial Services of the San Francisco Public Utilities Commission), representing the sewer service charge (worksheet enclosed) for the wastewater to be discharged; and

- (3) To indemnify and hold harmless the City from any and all costs, claims, damages, fines, remediation costs, losses and other expenses arising from the discharges into the sewerage system.

If you have any questions about the above requirements, please contact me at (415) 695-7369.

Sincerely,

A handwritten signature in black ink, appearing to read "Bruce Seale". The signature is fluid and cursive, written over a light blue horizontal line.

Bruce Seale, Acting Manager  
Pretreatment Program  
Wastewater Enterprise / Collection System Division

Enclosure



**McC Campbell Analytical, Inc.**

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701  
Web: www.mcccampbell.com E-mail: main@mcccampbell.com  
Telephone: 877-252-9262 Fax: 925-252-9269

AEW Engineering, Inc. 55 New Montgomery St, Ste 722 San Francisco, CA 94105	Client Project ID: #2007-014; Doyle Drive	Date Sampled: 09/22/08
		Date Received: 09/23/08
	Client Contact: Randall Young	Date Reported: 10/01/08
	Client P.O.:	Date Completed: 10/01/08

**WorkOrder: 0809714**

October 01, 2008

Dear Randall:

Enclosed within are:

- 1) The results of the **1** analyzed sample from your project: **#2007-014; Doyle Drive,**
- 2) A QC report for the above sample,
- 3) A copy of the chain of custody, and
- 4) An invoice 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 or concerns, please feel free to give me a call. Thank you for choosing

McC Campbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius  
Laboratory Manager  
McC Campbell Analytical, Inc.



# McC Campbell Analytical, Inc.



1534 Willow Pass Rd  
 Pittsburg, CA 94565-1701  
 (925) 252-9262

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 0809714 ClientCode: AEW

WriteOn     EDF     Excel     Fax     Email     HardCopy     ThirdParty     J-flag

Report to: Randall Young    Email: ryoung@aewengineering.com    Requested TAT: 5 days  
 AEW Engineering, Inc.    cc: Kenneth Leung  
 55 New Montgomery St, Ste 722    PO: AEW Engineering, Inc.  
 San Francisco, CA 94105    ProjectNo: #2007-014; Doyle Drive    55 New Montgomery St, Ste 507  
 (415) 495-8401    FAX (415) 358-5598    San Francisco, CA 94105

Requested TAT: 5 days

Date Received: 09/23/2008  
 Date Printed: 09/30/2008

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12

0809714-001	PW-1A	Water	9/22/2008 14:45	<input type="checkbox"/>	A	B	I	D	G	F	H	K	J	G	K	F
-------------	-------	-------	-----------------	--------------------------	---	---	---	---	---	---	---	---	---	---	---	---

**Test Legend:**

1	5520B_SG_W	2	5520B_W	3	8260B_W	4	8270D_W	5	CAM17MS DISS
6	CN_TOTAL_W	7	COD_W	8	FLASH_W	9	G-MBTEX_W	10	HG DISS
11	PH_W	12	PRDISSOLVED						

Prepared by: Samantha Arbuckle

**Comments:**

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).  
 Hazardous samples will be returned to client or disposed of at client expense.

# McC Campbell Analytical, Inc.



1534 Willow Pass Rd  
 Pittsburg, CA 94565-1701  
 (925) 252-9262

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 0809714 ClientCode: AEW

WriteOn     EDF     Excel     Fax     Email     HardCopy     ThirdParty     J-flag

Report to: Randall Young    Email: ryoung@aewengineering.com    Requested TAT: 5 days  
 AEW Engineering, Inc.    cc: Kenneth Leung  
 55 New Montgomery St, Ste 722    PO: AEW Engineering, Inc.  
 San Francisco, CA 94105    ProjectNo: #2007-014; Doyle Drive    55 New Montgomery St, Ste 507    Date Received: 09/23/2008  
 (415) 495-8401    FAX (415) 358-5598    San Francisco, CA 94105    Date Printed: 09/30/2008

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)									
					13	14	15	16	17	18	19	20	21	22

0809714-001	PW-1A	Water	9/22/2008 14:45	<input type="checkbox"/>	F	C	K	E										
-------------	-------	-------	-----------------	--------------------------	---	---	---	---	--	--	--	--	--	--	--	--	--	--

**Test Legend:**

13	SULFIDE DISS	14	TPH(DMO)WSG W	15	TS W	16	TSS W	17	
18		19		20		21		22	
23		24							

Prepared by: Samantha Arbuckle

**Comments:**

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).  
 Hazardous samples will be returned to client or disposed of at client expense.



**Sample Receipt Checklist**

Client Name: **AEW Engineering, Inc.**

Date and Time Received: **9/23/2008 9:43:14 PM**

Project Name: **#2007-014; Doyle Drive**

Checklist completed and reviewed by: **Samantha Arbuckle**

WorkOrder N°: **0809714** Matrix Water

Carrier: Rob Pringle (MAI Courier)

**Chain of Custody (COC) Information**

- Chain of custody present? Yes  No
- Chain of custody signed when relinquished and received? Yes  No
- Chain of custody agrees with sample labels? Yes  No
- Sample IDs noted by Client on COC? Yes  No
- Date and Time of collection noted by Client on COC? Yes  No
- Sampler's name noted on COC? Yes  No

**Sample Receipt Information**

- Custody seals intact on shipping container/cooler? Yes  No  NA
- Shipping container/cooler in good condition? Yes  No
- Samples in proper containers/bottles? Yes  No
- Sample containers intact? Yes  No
- Sufficient sample volume for indicated test? Yes  No

**Sample Preservation and Hold Time (HT) Information**

- All samples received within holding time? Yes  No
- Container/Temp Blank temperature Cooler Temp: 5.1°C NA
- Water - VOA vials have zero headspace / no bubbles? Yes  No  No VOA vials submitted
- Sample labels checked for correct preservation? Yes  No
- TTLC Metal - pH acceptable upon receipt (pH<2)? Yes  No  NA
- Samples Received on Ice? Yes  No

(Ice Type: WET ICE )

\* NOTE: If the "No" box is checked, see comments below.

-----

Client contacted:

Date contacted:

Contacted by:

Comments:







# McC Campbell Analytical, Inc.

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701  
Web: www.mcccampbell.com E-mail: main@mcccampbell.com  
Telephone: 877-252-9262 Fax: 925-252-9269

AEW Engineering, Inc.  55 New Montgomery St, Ste 722  San Francisco, CA 94105	Client Project ID: #2007-014; Doyle Drive	Date Sampled: 09/22/08
	Client Contact: Randall Young	Date Received: 09/23/08
	Client P.O.:	Date Extracted: 09/25/08
		Date Analyzed: 09/25/08

## Volatile Organics by P&T and GC/MS (Basic Target List)\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0809714

Lab ID	0809714-0011
Client ID	PW-1A
Matrix	Water

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	10	tert-Amyl methyl ether (TAME)	ND	1.0	0.5
Benzene	ND	1.0	0.5	Bromobenzene	ND	1.0	0.5
Bromochloromethane	ND	1.0	0.5	Bromodichloromethane	0.57	1.0	0.5
Bromoform	1.6	1.0	0.5	Bromomethane	ND	1.0	0.5
2-Butanone (MEK)	ND	1.0	2.0	t-Butyl alcohol (TBA)	ND	1.0	2.0
n-Butyl benzene	ND	1.0	0.5	sec-Butyl benzene	ND	1.0	0.5
tert-Butyl benzene	ND	1.0	0.5	Carbon Disulfide	ND	1.0	0.5
Carbon Tetrachloride	ND	1.0	0.5	Chlorobenzene	ND	1.0	0.5
Chloroethane	ND	1.0	0.5	Chloroform	ND	1.0	0.5
Chloromethane	ND	1.0	0.5	2-Chlorotoluene	ND	1.0	0.5
4-Chlorotoluene	ND	1.0	0.5	Dibromochloromethane	1.2	1.0	0.5
1,2-Dibromo-3-chloropropane	ND	1.0	0.2	1,2-Dibromoethane (EDB)	ND	1.0	0.5
Dibromomethane	ND	1.0	0.5	1,2-Dichlorobenzene	ND	1.0	0.5
1,3-Dichlorobenzene	ND	1.0	0.5	1,4-Dichlorobenzene	ND	1.0	0.5
Dichlorodifluoromethane	ND	1.0	0.5	1,1-Dichloroethane	ND	1.0	0.5
1,2-Dichloroethane (1,2-DCA)	ND	1.0	0.5	1,1-Dichloroethene	ND	1.0	0.5
cis-1,2-Dichloroethene	ND	1.0	0.5	trans-1,2-Dichloroethene	ND	1.0	0.5
1,2-Dichloropropane	ND	1.0	0.5	1,3-Dichloropropane	ND	1.0	0.5
2,2-Dichloropropane	ND	1.0	0.5	1,1-Dichloropropene	ND	1.0	0.5
cis-1,3-Dichloropropene	ND	1.0	0.5	trans-1,3-Dichloropropene	ND	1.0	0.5
Diisopropyl ether (DIPE)	ND	1.0	0.5	Ethylbenzene	ND	1.0	0.5
Ethyl tert-butyl ether (ETBE)	ND	1.0	0.5	Freon 113	ND	1.0	10
Hexachlorobutadiene	ND	1.0	0.5	Hexachloroethane	ND	1.0	0.5
2-Hexanone	ND	1.0	0.5	Isopropylbenzene	ND	1.0	0.5
4-Isopropyl toluene	ND	1.0	0.5	Methyl-t-butyl ether (MTBE)	ND	1.0	0.5
Methylene chloride	ND	1.0	0.5	4-Methyl-2-pentanone (MIBK)	ND	1.0	0.5
Naphthalene	ND	1.0	0.5	n-Propyl benzene	ND	1.0	0.5
Styrene	ND	1.0	0.5	1,1,1,2-Tetrachloroethane	ND	1.0	0.5
1,1,1,2-Tetrachloroethane	ND	1.0	0.5	Tetrachloroethene	ND	1.0	0.5
Toluene	ND	1.0	0.5	1,2,3-Trichlorobenzene	ND	1.0	0.5
1,2,4-Trichlorobenzene	ND	1.0	0.5	1,1,1-Trichloroethane	ND	1.0	0.5
1,1,2-Trichloroethane	ND	1.0	0.5	Trichloroethene	ND	1.0	0.5
Trichlorofluoromethane	ND	1.0	0.5	1,2,3-Trichloropropane	ND	1.0	0.5
1,2,4-Trimethylbenzene	ND	1.0	0.5	1,3,5-Trimethylbenzene	ND	1.0	0.5
Vinyl Chloride	ND	1.0	0.5	Xylenes	ND	1.0	0.5

### Surrogate Recoveries (%)

%SS1:	100	%SS2:	106
%SS3:	82		

### Comments:

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

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

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.



AEW Engineering, Inc.  55 New Montgomery St, Ste 722  San Francisco, CA 94105	Client Project ID: #2007-014; Doyle Drive	Date Sampled: 09/22/08
	Client Contact: Randall Young	Date Received: 09/23/08
	Client P.O.:	Date Extracted: 09/23/08
		Date Analyzed 09/27/08

**Semi-Volatile Organics by GC/MS (Basic Target List)\***

Extraction Method: SW3510C

Analytical Method: SW8270C

Work Order: 0809714

Lab ID	0809714-001D
Client ID	PW-1A
Matrix	Water

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acenaphthene	ND	1.0	10	Acenaphthylene	ND	1.0	10
Acetochlor	ND	1.0	10	Anthracene	ND	1.0	10
Benzidine	ND	1.0	50	Benzoic Acid	ND	1.0	50
Benzo(a)anthracene	ND	1.0	10	Benzo(b)fluoranthene	ND	1.0	10
Benzo(k)fluoranthene	ND	1.0	10	Benzo(g,h,i)perylene	ND	1.0	10
Benzo(a)pyrene	ND	1.0	10	Benzyl Alcohol	ND	1.0	50
1,1-Biphenyl	ND	1.0	10	Bis (2-chloroethoxy) Methane	ND	1.0	10
Bis (2-chloroethyl) Ether	ND	1.0	10	Bis (2-chloroisopropyl) Ether	ND	1.0	10
Bis (2-ethylhexyl) Phthalate	ND	1.0	20	4-Bromophenyl Phenyl Ether	ND	1.0	10
Butylbenzyl Phthalate	ND	1.0	10	4-Chloroaniline	ND	1.0	20
4-Chloro-3-methylphenol	ND	1.0	10	2-Chloronaphthalene	ND	1.0	10
2-Chlorophenol	ND	1.0	10	4-Chlorophenyl Phenyl Ether	ND	1.0	10
Chrysene	ND	1.0	10	Dibenzo(a,h)anthracene	ND	1.0	10
Dibenzofuran	ND	1.0	10	Di-n-butyl Phthalate	ND	1.0	10
1,2-Dichlorobenzene	ND	1.0	10	1,3-Dichlorobenzene	ND	1.0	10
1,4-Dichlorobenzene	ND	1.0	10	3,3-Dichlorobenzidine	ND	1.0	20
2,4-Dichlorophenol	ND	1.0	10	Diethyl Phthalate	ND	1.0	10
2,4-Dimethylphenol	ND	1.0	10	Dimethyl Phthalate	ND	1.0	10
4,6-Dinitro-2-methylphenol	ND	1.0	50	2,4-Dinitrophenol	ND	1.0	50
2,4-Dinitrotoluene	ND	1.0	10	2,6-Dinitrotoluene	ND	1.0	10
Di-n-octyl Phthalate	ND	1.0	10	1,2-Diphenylhydrazine	ND	1.0	10
Fluoranthene	ND	1.0	10	Fluorene	ND	1.0	10
Hexachlorobenzene	ND	1.0	10	Hexachlorobutadiene	ND	1.0	10
Hexachlorocyclopentadiene	ND	1.0	50	Hexachloroethane	ND	1.0	10
Indeno (1,2,3-cd) pyrene	ND	1.0	10	Isophorone	ND	1.0	10
2-Methylnaphthalene	ND	1.0	10	2-Methylphenol (o-Cresol)	ND	1.0	10
3 &/or 4-Methylphenol (m,p-Cresol)	ND	1.0	10	Naphthalene	ND	1.0	10
2-Nitroaniline	ND	1.0	50	3-Nitroaniline	ND	1.0	50
4-Nitroaniline	ND	1.0	50	Nitrobenzene	ND	1.0	10
2-Nitrophenol	ND	1.0	50	4-Nitrophenol	ND	1.0	50
N-Nitrosodiphenylamine	ND	1.0	10	N-Nitrosodi-n-propylamine	ND	1.0	10
Pentachlorophenol	ND	1.0	50	Phenanthrene	ND	1.0	10
Phenol	ND	1.0	10	Pyrene	ND	1.0	10
1,2,4-Trichlorobenzene	ND	1.0	10	2,4,5-Trichlorophenol	ND	1.0	10
2,4,6-Trichlorophenol	ND	1.0	10				

**Surrogate Recoveries (%)**

%SS1:	60	%SS2:	61
%SS3:	65	%SS4:	47
%SS5:	53	%SS6:	80

**Comments:**

\* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported 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; &) low or no surrogate due to matrix interference.



# McC Campbell Analytical, Inc.

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701  
Web: www.mccampbell.com E-mail: main@mccampbell.com  
Telephone: 877-252-9262 Fax: 925-252-9269

AEW Engineering, Inc.  55 New Montgomery St, Ste 722  San Francisco, CA 94105	Client Project ID: #2007-014; Doyle Drive	Date Sampled: 09/22/08
	Client Contact: Randall Young	Date Received 09/23/08
	Client P.O.:	Date Extracted 09/23/08
		Date Analyzed 09/26/08

### CAM / CCR 17 Metals\*

Lab ID	0809714-001G				Reporting Limit for DF =1; ND means not detected above the reporting limit	
Client ID	PW-1A				S	W
Matrix	W				mg/kg	µg/L
Extraction Type	DISS.					

### ICP-MS Metals, Concentration\*

Analytical Method: E200.8	Extraction Method: E200.8	Work Order: 0809714
Dilution Factor	1	1
Antimony	1.5	NA 0.5
Arsenic	9.5	NA 0.5
Barium	32	NA 5.0
Beryllium	ND	NA 0.5
Cadmium	ND	NA 0.25
Chromium	12	NA 0.5
Cobalt	0.53	NA 0.5
Copper	2.3	NA 0.5
Lead	0.85	NA 0.5
Mercury	0.043	NA 0.012
Molybdenum	15	NA 0.5
Nickel	2.4	NA 0.5
Selenium	0.98	NA 0.5
Silver	ND	NA 0.19
Thallium	ND	NA 0.5
Vanadium	27	NA 0.5
Zinc	5.5	NA 5.0
%SS:	N/A	

<b>Comments</b>						
-----------------	--	--	--	--	--	--

\*water samples are reported in µg/L, 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 diluted out of range; ND means not detected above the reporting limit; N/A means not applicable to this sample or instrument.

TOTAL = acid digestion.  
 WET = Waste Extraction Test (STLC).  
 DI WET = Waste Extraction Test using de-ionized water.























### QC SUMMARY REPORT FOR SW8015B

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 38363

WorkOrder 0809714

Analyte	Extraction SW3510C/3630C								Spiked Sample ID: N/A			
	Sample µg/L	Spiked µg/L	MS % Rec.	MSD % Rec.	MS-MSD % RPD	LCS % Rec.	LCSD % Rec.	LCS-LCSD % RPD	Acceptance Criteria (%)			
TPH-Diesel (C10-C23)	N/A	1000	N/A	N/A	N/A	89.6	90.7	1.16	N/A	N/A	70 - 130	30
%SS:	N/A	2500	N/A	N/A	N/A	83	84	1.78	N/A	N/A	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

#### BATCH 38363 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0809714-001C	09/22/08 2:45 PM	09/23/08	09/27/08 9:36 AM				

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 / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the 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.



**QC SUMMARY REPORT FOR SM5520B/F**

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 38385

WorkOrder 0809714

EPA Method SM5520B/F		Extraction SM5520B/F							Spiked Sample ID: N/A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/L	mg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
POG	N/A	20.83	N/A	N/A	N/A	93.3	90.4	3.21	N/A	N/A	70 - 130	25

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

BATCH 38385 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0809714-001A	09/22/08 2:45 PM	09/23/08	09/26/08 10:30 AM	0809714-001B	09/22/08 2:45 PM	09/23/08	09/26/08 10:35 AM

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 / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the 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.



### QC SUMMARY REPORT FOR E410.4

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 38343

WorkOrder 0809714

EPA Method E410.4		Extraction E410.4							Spiked Sample ID: 0809595-001D			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/L	mg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
COD	ND	400	97.2	100	3.02	103	101	1.75	80 - 120	20	90 - 110	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

#### BATCH 38343 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0809714-001H	09/22/08 2:45 PM	09/24/08	09/24/08 2:19 PM				

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 / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the 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.



### QC SUMMARY REPORT FOR E200.8

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 38436

WorkOrder 0809714

Analyte	EPA Method E200.8 Extraction E200.8								Spiked Sample ID: 0809694-008A			
	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
Antimony	0.80	10	97	99.1	1.98	99.9	99.9	0	70 - 130	20	80 - 120	20
Arsenic	1.2	10	106	108	2.27	104	103	0.675	70 - 130	20	80 - 120	20
Barium	27	100	102	104	2.00	101	101	0	70 - 130	20	80 - 120	20
Beryllium	ND	10	111	113	2.23	110	112	1.53	70 - 130	20	80 - 120	20
Cadmium	0.46	10	102	106	4.06	103	105	2.21	70 - 130	20	80 - 120	20
Chromium	8.0	10	86.4	89.7	1.96	111	108	2.29	70 - 130	20	80 - 120	20
Cobalt	0.97	10	103	106	2.46	100	100	0	70 - 130	20	80 - 120	20
Copper	150	10	NR	NR	NR	108	109	0.0921	70 - 130	20	80 - 120	20
Lead	4.2	10	96.9	99.4	1.78	102	102	0	70 - 130	20	80 - 120	20
Mercury	0.89	0.25	NR	NR	NR	109	112	3.08	70 - 130	20	80 - 120	20
Molybdenum	3.0	10	102	109	5.47	103	102	0.195	70 - 130	20	80 - 120	20
Nickel	5.6	10	113	108	2.94	104	106	1.14	70 - 130	20	80 - 120	20
Selenium	0.66	10	98	100	2.27	104	103	0.483	70 - 130	20	80 - 120	20
Silver	2.1	10	91.9	95.1	2.79	97.8	98.3	0.531	70 - 130	20	80 - 120	20
Thallium	ND	10	85.4	86.3	1.04	96	97.1	1.18	70 - 130	20	80 - 120	20
Vanadium	4.3	10	100	104	2.41	106	108	1.49	70 - 130	20	80 - 120	20
Zinc	320	100	95.3	101	1.44	103	104	0.964	70 - 130	20	80 - 120	20
%SS:	103	750	97	97	0	98	98	0	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

#### BATCH 38436 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0809714-001G	09/22/08 2:45 PM	09/23/08	09/26/08 3:24 AM				

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 / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not applicable to this method.

NR = matrix interference and/or 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.



**QC SUMMARY REPORT FOR SW8260B**

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 38437

WorkOrder 0809714

Analyte	Extraction SW5030B			Spiked Sample ID: 0809697-003A								
	Sample µg/L	Spiked µg/L	MS % Rec.	MSD % Rec.	MS-MSD % RPD	LCS % Rec.	LCSD % Rec.	LCS-LCSD % RPD	Acceptance Criteria (%)			
tert-Amyl methyl ether (TAME)	ND	10	101	108	6.85	98.1	96	2.19	70 - 130	30	70 - 130	30
Benzene	ND	10	94.9	96.9	2.06	109	107	2.54	70 - 130	30	70 - 130	30
t-Butyl alcohol (TBA)	ND	50	97.6	113	14.7	77.7	73.6	5.45	70 - 130	30	70 - 130	30
Chlorobenzene	ND	10	87.8	89.5	1.97	101	100	0.966	70 - 130	30	70 - 130	30
1,2-Dibromoethane (EDB)	ND	10	81.7	86.2	5.41	101	97.3	3.59	70 - 130	30	70 - 130	30
1,2-Dichloroethane (1,2-DCA)	ND	10	103	110	5.87	107	105	2.20	70 - 130	30	70 - 130	30
1,1-Dichloroethene	ND	10	75.1	77	2.54	89.8	86.9	3.28	70 - 130	30	70 - 130	30
Diisopropyl ether (DIPE)	ND	10	98.2	102	3.78	101	99.1	2.04	70 - 130	30	70 - 130	30
Ethyl tert-butyl ether (ETBE)	ND	10	118	124	4.98	110	106	3.86	70 - 130	30	70 - 130	30
Methyl-t-butyl ether (MTBE)	ND	10	94.6	102	7.34	99.9	96.8	3.11	70 - 130	30	70 - 130	30
Toluene	ND	10	84.8	85.8	1.19	99.8	98.7	1.11	70 - 130	30	70 - 130	30
Trichloroethene	ND	10	94.6	96.6	2.09	114	111	2.76	70 - 130	30	70 - 130	30
%SS1:	92	25	89	89	0	91	91	0	70 - 130	30	70 - 130	30
%SS2:	93	25	90	90	0	95	95	0	70 - 130	30	70 - 130	30
%SS3:	98	2.5	77	75	1.85	102	99	2.49	70 - 130	30	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

BATCH 38437 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0809714-001I	09/22/08 2:45 PM	09/25/08	09/25/08 12:13 AM				

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 / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the 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.



### QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 38438

WorkOrder 0809714

EPA Method SW8021B/8015Cm		Extraction SW5030B							Spiked Sample ID: 0809713-001A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex) <sup>f</sup>	ND	60	100	97.9	2.51	91.5	94.8	3.50	70 - 130	20	70 - 130	20
MTBE	ND	10	106	104	1.70	103	104	0.573	70 - 130	20	70 - 130	20
Benzene	ND	10	96.2	97.3	1.21	99.6	99.9	0.295	70 - 130	20	70 - 130	20
Toluene	ND	10	97.8	98.2	0.447	97.9	100	2.30	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	103	104	0.488	106	106	0	70 - 130	20	70 - 130	20
Xylenes	ND	30	115	116	0.506	105	118	11.4	70 - 130	20	70 - 130	20
%SS:	98	10	95	95	0	96	97	0.866	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

#### BATCH 38438 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0809714-001J	09/22/08 2:45 PM	09/24/08	09/24/08 7:47 PM				

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 / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the 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 = matrix interference and/or 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, or inconsistency in sample containers.



**QC SUMMARY REPORT FOR Kelada-01**

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 38443

WorkOrder 0809714

EPA Method Kelada-01	Extraction Kelada-01								Spiked Sample ID: 0809706-001D			
	Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)		
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
Total Cyanide	2.4	40	103	104	0.946	100	104	3.84	80 - 120	20	90 - 110	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

BATCH 38443 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0809714-001F	09/22/08 2:45 PM	09/24/08	09/24/08 1:06 PM				

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 / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the 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.



### QC SUMMARY REPORT FOR SM4500 S-2 D

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 38444

WorkOrder 0809714

EPA Method SM4500 S-2 D		Extraction SM4500-S <sup>-2</sup> D							Spiked Sample ID: 0809706-001D			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/L	mg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
Dissolved Sulfide	ND	2.5	101	103	2.37	108	106	1.29	75 - 125	20	80 - 120	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

#### BATCH 38444 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0809714-001F	09/22/08 2:45 PM	09/23/08	09/24/08 11:07 AM				

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 / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the 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.



### QC SUMMARY REPORT FOR SW8270C

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 38446

WorkOrder 0809714

Analyte	EPA Method SW8270C Extraction SW3510C								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	MS / MSD	RPD	LCS/LCSD	RPD
Acenaphthene	N/A	50	N/A	N/A	N/A	65.3	65.4	0.107	N/A	N/A	30 - 130	20
4-Chloro-3-methylphenol	N/A	100	N/A	N/A	N/A	101	95.9	5.51	N/A	N/A	30 - 130	20
2-Chlorophenol	N/A	100	N/A	N/A	N/A	82.6	87	5.10	N/A	N/A	30 - 130	20
1,4-Dichlorobenzene	N/A	50	N/A	N/A	N/A	55.5	56.6	2.00	N/A	N/A	30 - 130	20
2,4-Dinitrotoluene	N/A	50	N/A	N/A	N/A	66.9	66.9	0	N/A	N/A	30 - 130	20
4-Nitrophenol	N/A	100	N/A	N/A	N/A	97.7	98.8	1.07	N/A	N/A	30 - 130	20
N-Nitrosodi-n-propylamine	N/A	50	N/A	N/A	N/A	99	100	1.01	N/A	N/A	30 - 130	20
Pentachlorophenol	N/A	100	N/A	N/A	N/A	55.8	57.4	2.83	N/A	N/A	30 - 130	20
Phenol	N/A	100	N/A	N/A	N/A	93.2	96.4	3.41	N/A	N/A	30 - 130	20
Pyrene	N/A	50	N/A	N/A	N/A	74.4	75	0.884	N/A	N/A	30 - 130	20
1,2,4-Trichlorobenzene	N/A	50	N/A	N/A	N/A	50	50.7	1.51	N/A	N/A	30 - 130	20
%SS1:	N/A	5000	N/A	N/A	N/A	83	88	4.98	N/A	N/A	30 - 130	20
%SS2:	N/A	5000	N/A	N/A	N/A	103	109	6.09	N/A	N/A	30 - 130	20
%SS3:	N/A	5000	N/A	N/A	N/A	111	113	2.57	N/A	N/A	30 - 130	20
%SS4:	N/A	5000	N/A	N/A	N/A	66	66	0	N/A	N/A	30 - 130	20
%SS5:	N/A	5000	N/A	N/A	N/A	87	90	3.39	N/A	N/A	30 - 130	20
%SS6:	N/A	5000	N/A	N/A	N/A	76	79	4.64	N/A	N/A	30 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

#### BATCH 38446 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0809714-001D	09/22/08 2:45 PM	09/23/08	09/27/08 12:11 PM				

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 / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the 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.



**QC SUMMARY REPORT FOR WET CHEMISTRY TESTS**

**Test Method: Flash Point**

**Matrix: W**

**WorkOrder: 0809714**

Method Name: SW1010			Units ± °C			BatchID: 38432	
Lab ID	Sample	DF	Dup / Ser. Dil.	DF	Precision	Acceptance Criteria	
0809714-001K	>100 °C	1	>100 °C	1	N/A	2	

BATCH 38432 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0809714-001K	09/22/08 2:45 PM	09/24/08	09/24/08 5:00 PM				

**Test Method: pH**

**Matrix: W**

**WorkOrder: 0809714**

Method Name: SM4500H+B			Units ±, pH units @ °C			BatchID: 38371	
Lab ID	Sample	DF	Dup / Ser. Dil.	DF	Precision	Acceptance Criteria	
0809714-001K	8.32 @ 23.7°C	1	8.31 @ 23.7°C	1	0.01	0.02	

BATCH 38371 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0809714-001K	09/22/08 2:45 PM	09/24/08	09/24/08 6:20 PM				

Dup = Duplicate; Ser. Dil. = Serial Dilution; MS = Matrix Spike; RD = Relative Difference; RPD = Relative Percent Deviation.

Precision = Absolute Value (Sample - Duplicate)

RPD = 100 \* (Sample - Duplicate) / [(Sample + Duplicate) / 2]

%RPD is calculated using results of up to 10 significant figures, however the reported results are rounded to 2 or 3 significant figures. Therefore there may be a slight discrepancy between the %RPD displayed above and %RPD calculated using the reported results. MAI considers %RPD based upon more significant figures to be more accurate.



### QC SUMMARY REPORT FOR E245.2

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 38588

WorkOrder: 0809714

EPA Method E245.2		Extraction E245.1							Spiked Sample ID: N/A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
Mercury	N/A	1	N/A	N/A	N/A	82.9	80.4	3.11	N/A	N/A	80 - 120	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

#### BATCH 38588 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0809714-001G	09/22/08 2:45 PM	09/30/08	09/30/08 7:23 AM				

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 / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the 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.



**QC SUMMARY REPORT FOR WET CHEMISTRY TESTS**

**Test Method: Total Solids**

**Matrix: W**

**WorkOrder: 0809714**

Method Name: SM2540B			Units mg/L			BatchID: 38460
Lab ID	Sample	DF	Dup / Ser. Dil.	DF	% RPD	Acceptance Criteria (%)
0809714-001K	740	1	763	1	3.06	<10

BATCH 38460 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0809714-001K	09/22/08 2:45 PM	09/24/08	09/26/08 5:40 PM				

**Test Method: Total Suspended Solids**

**Matrix: W**

**WorkOrder: 0809714**

Method Name: SM2540D			Units mg/L			BatchID: 38440
Lab ID	Sample	DF	Dup / Ser. Dil.	DF	% RPD	Acceptance Criteria (%)
0809714-001E	114	10	107	10	6.33	<10

BATCH 38440 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0809714-001E	09/22/08 2:45 PM	09/24/08	09/24/08 7:55 PM				

Dup = Duplicate; Ser. Dil. = Serial Dilution; MS = Matrix Spike; RD = Relative Difference; RPD = Relative Percent Deviation.

Precision = Absolute Value (Sample - Duplicate)

RPD = 100 \* (Sample - Duplicate) / [(Sample + Duplicate) / 2]

%RPD is calculated using results of up to 10 significant figures, however the reported results are rounded to 2 or 3 significant figures. Therefore there may be a slight discrepancy between the %RPD displayed above and %RPD calculated using the reported results. MAI considers %RPD based upon more significant figures to be more accurate.



**McC Campbell Analytical, Inc.**

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701  
Web: www.mcccampbell.com E-mail: main@mcccampbell.com  
Telephone: 877-252-9262 Fax: 925-252-9269

AEW Engineering, Inc.  55 New Montgomery St, Ste 722  San Francisco, CA 94105	Client Project ID: #2007-014; Doyle Drive	Date Sampled: 10/08/08
		Date Received: 10/08/08
	Client Contact: Randall Young	Date Reported: 10/09/08
	Client P.O.:	Date Completed: 10/09/08

**WorkOrder: 0810185**

October 09, 2008

Dear Randall:

Enclosed within are:

- 1) The results of the **1** analyzed sample from your project: **#2007-014; Doyle Drive,**
- 2) A QC report for the above sample,
- 3) A copy of the chain of custody, and
- 4) An invoice 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 or concerns, please feel free to give me a call. Thank you for choosing

McC Campbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius  
Laboratory Manager  
McC Campbell Analytical, Inc.







### Sample Receipt Checklist

Client Name: **AEW Engineering, Inc.**

Date and Time Received: **10/08/08 4:34:08 PM**

Project Name: **#2007-014; Doyle Drive**

Checklist completed and reviewed by: **Maria Venegas**

WorkOrder N°: **0810185** Matrix Water

Carrier: Rob Pringle (MAI Courier)

#### Chain of Custody (COC) Information

- Chain of custody present? Yes  No
- Chain of custody signed when relinquished and received? Yes  No
- Chain of custody agrees with sample labels? Yes  No
- Sample IDs noted by Client on COC? Yes  No
- Date and Time of collection noted by Client on COC? Yes  No
- Sampler's name noted on COC? Yes  No

#### Sample Receipt Information

- Custody seals intact on shipping container/cooler? Yes  No  NA
- Shipping container/cooler in good condition? Yes  No
- Samples in proper containers/bottles? Yes  No
- Sample containers intact? Yes  No
- Sufficient sample volume for indicated test? Yes  No

#### Sample Preservation and Hold Time (HT) Information

- All samples received within holding time? Yes  No
  - Container/Temp Blank temperature Cooler Temp: 6.6°C NA
  - Water - VOA vials have zero headspace / no bubbles? Yes  No  No VOA vials submitted
  - Sample labels checked for correct preservation? Yes  No
  - TTLC Metal - pH acceptable upon receipt (pH<2)? Yes  No  NA
  - Samples Received on Ice? Yes  No
- (Ice Type: WET ICE )

\* NOTE: If the "No" box is checked, see comments below.

-----

Client contacted:

Date contacted:

Contacted by:

Comments:





### QC SUMMARY REPORT FOR E300.1

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 38729

WorkOrder 0810185

EPA Method E300.1		Extraction E300.1							Spiked Sample ID: N/A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/L	mg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
Bromide	N/A	1	N/A	N/A	N/A	109	110	1.41	N/A	N/A	85 - 115	15
Chloride	N/A	1	N/A	N/A	N/A	99	98	0.982	N/A	N/A	85 - 115	15
Fluoride	N/A	1	N/A	N/A	N/A	95.8	96.6	0.840	N/A	N/A	85 - 115	15
Sulfate	N/A	1	N/A	N/A	N/A	96.7	95.3	1.54	N/A	N/A	85 - 115	15
%SS:	N/A	0.10	N/A	N/A	N/A	111	110	1.41	N/A	N/A	90 - 115	10

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

#### BATCH 38729 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0810185-001A	10/08/08 9:15 AM	10/09/08	10/09/08 1:57 AM	0810185-001A	10/08/08 9:15 AM	10/09/08	10/09/08 2:38 AM

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 / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the 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.



**McC Campbell Analytical, Inc.**

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701  
Web: www.mcccampbell.com E-mail: main@mcccampbell.com  
Telephone: 877-252-9262 Fax: 925-252-9269

AEW Engineering, Inc.  55 New Montgomery St, Ste 722  San Francisco, CA 94105	Client Project ID: #2007-014; Doyle Drive	Date Sampled: 09/22/08
		Date Received: 09/23/08
	Client Contact: Randall Young	Date Reported: 10/01/08
	Client P.O.:	Date Completed: 10/09/08

**WorkOrder: 0809714**

October 09, 2008

Dear Randall:

Enclosed within are:

- 1) The results of the **1** analyzed sample from your project: **#2007-014; Doyle Drive,**
- 2) A QC report for the above sample,
- 3) A copy of the chain of custody, and
- 4) An invoice 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 or concerns, please feel free to give me a call. Thank you for choosing

McC Campbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius  
Laboratory Manager  
McC Campbell Analytical, Inc.







# McC Campbell Analytical, Inc.

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701  
Web: www.mcccampbell.com E-mail: main@mcccampbell.com  
Telephone: 877-252-9262 Fax: 925-252-9269

AEW Engineering, Inc.  55 New Montgomery St, Ste 722  San Francisco, CA 94105	Client Project ID: #2007-014; Doyle Drive	Date Sampled: 09/22/08
	Client Contact: Randall Young	Date Received: 09/23/08
	Client P.O.:	Date Extracted: 09/23/08
		Date Analyzed: 10/09/08

### Polychlorinated Biphenyls (PCBs) Aroclors by GC-ECD\*

Extraction Method: SW3510C

Analytical Method: SW8082

Work Order: 0809714

Lab ID	0809714-001D			Reporting Limit for DF =1
Client ID	PW-1A			
Matrix	W			
DF	1			

Compound	Concentration			ug/kg	µg/L
Aroclor1016	ND<1.0			NA	0.5
Aroclor1221	ND<1.0			NA	0.5
Aroclor1232	ND<1.0			NA	0.5
Aroclor1242	ND<1.0			NA	0.5
Aroclor1248	ND<1.0			NA	0.5
Aroclor1254	ND<1.0			NA	0.5
Aroclor1260	ND<1.0			NA	0.5
PCBs, total	ND<1.0			NA	0.5

### Surrogate Recoveries (%)

%SS:	124			
Comments	a7			

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

a7) reporting limit raised due to insufficient sample amount



**QC SUMMARY REPORT FOR SW8082**

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 38804

WorkOrder: 0809714

EPA Method SW8082		Extraction SW3510C							Spiked Sample ID: N/A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
Aroclor1260	N/A	3.75	N/A	N/A	N/A	91.7	96	4.57	N/A	N/A	70 - 130	20
%SS:	N/A	2.5	N/A	N/A	N/A	126	130	3.25	N/A	N/A	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

BATCH 38804 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0809714-001D	09/22/08 2:45 PM	09/23/08	10/09/08 11:11 AM				

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 / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the 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.



**McC Campbell Analytical, Inc.**

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701  
Web: www.mcccampbell.com E-mail: main@mcccampbell.com  
Telephone: 877-252-9262 Fax: 925-252-9269

AEW Engineering, Inc. 55 New Montgomery St, Ste 722 San Francisco, CA 94105	Client Project ID: #2007-014; Doyle Drive, San Francisco	Date Sampled: 11/14/08
	Client Contact: Randall Young	Date Received: 11/14/08
	Client P.O.:	Date Reported: 11/18/08
		Date Completed: 11/18/08

**WorkOrder: 0811452**

November 18, 2008

Dear Randall:

Enclosed within are:

- 1) The results of the **1** analyzed sample from your project: **#2007-014; Doyle Drive, San Francis**
- 2) A QC report for the above sample,
- 3) A copy of the chain of custody, and
- 4) An invoice 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 or concerns, please feel free to give me a call. Thank you for choosing

McC Campbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius  
Laboratory Manager  
McC Campbell Analytical, Inc.



# McC Campbell Analytical, Inc.



1534 Willow Pass Rd  
 Pittsburg, CA 94565-1701  
 (925) 252-9262

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 0811452 ClientCode: AEW

WriteOn     EDF     Excel     Fax     Email     HardCopy     ThirdParty     J-flag

Report to: **Randall Young**    Email: **ryoung@aewengineering.com**    Requested TAT: **1 day**  
**AEW Engineering, Inc.**    cc: **Kenneth Leung**  
**55 New Montgomery St, Ste 722**    PO: **55 New Montgomery St, Ste 507**    **Date Received: 11/14/2008**  
**San Francisco, CA 94105**    ProjectNo: **#2007-014; Doyle Drive, San Francisco**    **San Francisco, CA 94105**    **Date Printed: 11/14/2008**  
 (415) 495-8401    FAX (415) 358-5598

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12

0811452-001	Tank 3259	Water	11/14/2008 11:40	<input type="checkbox"/>	B	A	D	D	C	D	E						
-------------	-----------	-------	------------------	--------------------------	---	---	---	---	---	---	---	--	--	--	--	--	--

**Test Legend:**

1	8260B_W	2	G-MBTEX_W	3	PH_W	4	PRDISSOLVED	5	SULFIDE DISS
6	TPH(DMO)WSG_W	7	TS_W	8	TSS_W	9		10	
11		12							

Prepared by: Ana Venegas

Comments: 24hr rush

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).  
 Hazardous samples will be returned to client or disposed of at client expense.



### Sample Receipt Checklist

Client Name: **AEW Engineering, Inc.**

Date and Time Received: **11/14/08 2:03:59 PM**

Project Name: **#2007-014; Doyle Drive, San Francisco**

Checklist completed and reviewed by: **Ana Venegas**

WorkOrder N°: **0811452** Matrix Water

Carrier: Client Drop-In

#### Chain of Custody (COC) Information

- Chain of custody present? Yes  No
- Chain of custody signed when relinquished and received? Yes  No
- Chain of custody agrees with sample labels? Yes  No
- Sample IDs noted by Client on COC? Yes  No
- Date and Time of collection noted by Client on COC? Yes  No
- Sampler's name noted on COC? Yes  No

#### Sample Receipt Information

- Custody seals intact on shipping container/cooler? Yes  No  NA
- Shipping container/cooler in good condition? Yes  No
- Samples in proper containers/bottles? Yes  No
- Sample containers intact? Yes  No
- Sufficient sample volume for indicated test? Yes  No

#### Sample Preservation and Hold Time (HT) Information

- All samples received within holding time? Yes  No
- Container/Temp Blank temperature Cooler Temp: 5.8°C NA
- Water - VOA vials have zero headspace / no bubbles? Yes  No  No VOA vials submitted
- Sample labels checked for correct preservation? Yes  No
- TTLC Metal - pH acceptable upon receipt (pH<2)? Yes  No  NA
- Samples Received on Ice? Yes  No

(Ice Type: WET ICE )

\* NOTE: If the "No" box is checked, see comments below.

-----

Client contacted:

Date contacted:

Contacted by:

Comments:



# McC Campbell Analytical, Inc.

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701  
Web: www.mcccampbell.com E-mail: main@mcccampbell.com  
Telephone: 877-252-9262 Fax: 925-252-9269

AEW Engineering, Inc.  
55 New Montgomery St, Ste 722  
San Francisco, CA 94105

Client Project ID: #2007-014; Doyle Drive, San Francisco  
Client Contact: Randall Young  
Client P.O.:

Date Sampled: 11/14/08  
Date Received: 11/14/08  
Date Extracted: 11/14/08  
Date Analyzed: 11/14/08

## Volatile Organics by P&T and GC/MS (Basic Target List)\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0811452

Lab ID	0811452-001B
Client ID	Tank 3259
Matrix	Water

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	10	tert-Amyl methyl ether (TAME)	ND	1.0	0.5
Benzene	ND	1.0	0.5	Bromobenzene	ND	1.0	0.5
Bromochloromethane	ND	1.0	0.5	Bromodichloromethane	ND	1.0	0.5
Bromoform	ND	1.0	0.5	Bromomethane	ND	1.0	0.5
2-Butanone (MEK)	ND	1.0	2.0	t-Butyl alcohol (TBA)	ND	1.0	2.0
n-Butyl benzene	ND	1.0	0.5	sec-Butyl benzene	ND	1.0	0.5
tert-Butyl benzene	ND	1.0	0.5	Carbon Disulfide	ND	1.0	0.5
Carbon Tetrachloride	ND	1.0	0.5	Chlorobenzene	ND	1.0	0.5
Chloroethane	ND	1.0	0.5	Chloroform	ND	1.0	0.5
Chloromethane	ND	1.0	0.5	2-Chlorotoluene	ND	1.0	0.5
4-Chlorotoluene	ND	1.0	0.5	Dibromochloromethane	ND	1.0	0.5
1,2-Dibromo-3-chloropropane	ND	1.0	0.2	1,2-Dibromoethane (EDB)	ND	1.0	0.5
Dibromomethane	ND	1.0	0.5	1,2-Dichlorobenzene	ND	1.0	0.5
1,3-Dichlorobenzene	ND	1.0	0.5	1,4-Dichlorobenzene	ND	1.0	0.5
Dichlorodifluoromethane	ND	1.0	0.5	1,1-Dichloroethane	ND	1.0	0.5
1,2-Dichloroethane (1,2-DCA)	ND	1.0	0.5	1,1-Dichloroethene	ND	1.0	0.5
cis-1,2-Dichloroethene	ND	1.0	0.5	trans-1,2-Dichloroethene	ND	1.0	0.5
1,2-Dichloropropane	ND	1.0	0.5	1,3-Dichloropropane	ND	1.0	0.5
2,2-Dichloropropane	ND	1.0	0.5	1,1-Dichloropropene	ND	1.0	0.5
cis-1,3-Dichloropropene	ND	1.0	0.5	trans-1,3-Dichloropropene	ND	1.0	0.5
Diisopropyl ether (DIPE)	ND	1.0	0.5	Ethylbenzene	ND	1.0	0.5
Ethyl tert-butyl ether (ETBE)	ND	1.0	0.5	Freon 113	ND	1.0	10
Hexachlorobutadiene	ND	1.0	0.5	Hexachloroethane	ND	1.0	0.5
2-Hexanone	ND	1.0	0.5	Isopropylbenzene	ND	1.0	0.5
4-Isopropyl toluene	ND	1.0	0.5	Methyl-t-butyl ether (MTBE)	ND	1.0	0.5
Methylene chloride	ND	1.0	0.5	4-Methyl-2-pentanone (MIBK)	ND	1.0	0.5
Naphthalene	ND	1.0	0.5	n-Propyl benzene	ND	1.0	0.5
Styrene	ND	1.0	0.5	1,1,1,2-Tetrachloroethane	ND	1.0	0.5
1,1,2,2-Tetrachloroethane	ND	1.0	0.5	Tetrachloroethene	ND	1.0	0.5
Toluene	ND	1.0	0.5	1,2,3-Trichlorobenzene	ND	1.0	0.5
1,2,4-Trichlorobenzene	ND	1.0	0.5	1,1,1-Trichloroethane	ND	1.0	0.5
1,1,2-Trichloroethane	ND	1.0	0.5	Trichloroethene	ND	1.0	0.5
Trichlorofluoromethane	ND	1.0	0.5	1,2,3-Trichloropropane	ND	1.0	0.5
1,2,4-Trimethylbenzene	ND	1.0	0.5	1,3,5-Trimethylbenzene	ND	1.0	0.5
Vinyl Chloride	ND	1.0	0.5	Xylenes	ND	1.0	0.5

### Surrogate Recoveries (%)

%SS1:	100	%SS2:	88
%SS3:	79		

Comments: b1

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

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

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

b1) aqueous sample that contains greater than ~1 vol. % sediment





# McC Campbell Analytical, Inc.

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701  
Web: www.mcccampbell.com E-mail: main@mcccampbell.com  
Telephone: 877-252-9262 Fax: 925-252-9269

AEW Engineering, Inc.  55 New Montgomery St, Ste 722  San Francisco, CA 94105	Client Project ID: #2007-014; Doyle Drive, San Francisco	Date Sampled: 11/14/08
	Client Contact: Randall Young	Date Received: 11/14/08
	Client P.O.:	Date Extracted: 11/14/08
		Date Analyzed: 11/14/08

## pH

Analytical Method: SM4500H+B

Work Order: 0811452

Lab ID	Client ID	Matrix	pH	DF
0811452-001D	Tank 3259	W	7.52 @ 20.1°C, b1	1

Method Accuracy and Reporting Units	W	±0.05, pH units @ °C
	S	NA

\* EPA method 9040; pH = -log(aH+) @ \_°C; ± 0.05 units

b1) aqueous sample that contains greater than ~1 vol. % sediment











### QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 39663

WorkOrder: 0811452

Analyte	Extraction SW5030B			Spiked Sample ID: N/A								
	Sample µg/L	Spiked µg/L	MS % Rec.	MSD % Rec.	MS-MSD % RPD	LCS % Rec.	LCSD % Rec.	LCS-LCSD % RPD	Acceptance Criteria (%)			
									MS / MSD	RPD	LCS/LCSD	RPD
tert-Amyl methyl ether (TAME)	N/A	10	N/A	N/A	N/A	113	113	0	N/A	N/A	70 - 130	30
Benzene	N/A	10	N/A	N/A	N/A	114	109	4.32	N/A	N/A	70 - 130	30
t-Butyl alcohol (TBA)	N/A	50	N/A	N/A	N/A	105	102	3.68	N/A	N/A	70 - 130	30
Chlorobenzene	N/A	10	N/A	N/A	N/A	109	103	5.13	N/A	N/A	70 - 130	30
1,2-Dibromoethane (EDB)	N/A	10	N/A	N/A	N/A	123	118	4.33	N/A	N/A	70 - 130	30
1,2-Dichloroethane (1,2-DCA)	N/A	10	N/A	N/A	N/A	119	118	1.05	N/A	N/A	70 - 130	30
1,1-Dichloroethene	N/A	10	N/A	N/A	N/A	92.5	90.8	1.79	N/A	N/A	70 - 130	30
Diisopropyl ether (DIPE)	N/A	10	N/A	N/A	N/A	111	108	2.80	N/A	N/A	70 - 130	30
Ethyl tert-butyl ether (ETBE)	N/A	10	N/A	N/A	N/A	125	122	2.71	N/A	N/A	70 - 130	30
Methyl-t-butyl ether (MTBE)	N/A	10	N/A	N/A	N/A	105	102	2.83	N/A	N/A	70 - 130	30
Toluene	N/A	10	N/A	N/A	N/A	129	121	6.03	N/A	N/A	70 - 130	30
Trichloroethene	N/A	10	N/A	N/A	N/A	110	105	4.80	N/A	N/A	70 - 130	30
%SS1:	100	25	N/A	N/A	N/A	91	91	0	N/A	N/A	70 - 130	30
%SS2:	88	25	N/A	N/A	N/A	95	94	1.17	N/A	N/A	70 - 130	30
%SS3:	79	2.5	N/A	N/A	N/A	88	83	5.59	N/A	N/A	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

#### BATCH 39663 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0811452-001B	11/14/08 11:40 AM	11/14/08	11/14/08 3:51 PM				

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 / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the 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.



### QC SUMMARY REPORT FOR SM4500 S-2 D

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 39564

WorkOrder: 0811452

EPA Method SM4500 S-2 D		Extraction SM4500-S <sup>-2</sup> D							Spiked Sample ID: 0811322-001D			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/L	mg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
Dissolved Sulfide	ND	2.5	95.7	94.1	1.65	103	102	1.23	75 - 125	20	80 - 120	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

#### BATCH 39564 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0811452-001D	11/14/08 11:40 AM	11/14/08	11/14/08 5:01 PM				

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 / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the 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.



**QC SUMMARY REPORT FOR SW8021B/8015Cm**

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 39662

WorkOrder: 0811452

Analyte	EPA Method SW8021B/8015Cm		Extraction SW5030B						Spiked Sample ID: 0811451-001A			
	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex) <sup>f</sup>	ND	60	88.8	92.2	3.76	108	98.8	9.21	70 - 130	20	70 - 130	20
MTBE	ND	10	107	112	5.31	116	110	5.57	70 - 130	20	70 - 130	20
Benzene	ND	10	91.2	94.5	3.54	89.6	92.1	2.81	70 - 130	20	70 - 130	20
Toluene	ND	10	101	104	3.21	102	103	0.943	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	99.5	103	3.05	99.5	101	1.52	70 - 130	20	70 - 130	20
Xylenes	ND	30	110	113	2.87	111	111	0	70 - 130	20	70 - 130	20
%SS:	97	10	94	94	0	93	94	1.16	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

BATCH 39662 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0811452-001A	11/14/08 11:40 AM	11/14/08	11/14/08 7:00 PM				

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 / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the 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 = matrix interference and/or 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, or inconsistency in sample containers.



**QC SUMMARY REPORT FOR WET CHEMISTRY TESTS**

**Test Method: pH**

**Matrix: W**

**WorkOrder: 0811452**

Method Name: SM4500H+B			Units ±, pH units @ °C			BatchID: 39601	
Lab ID	Sample	DF	Dup / Ser. Dil.	DF	Precision	Acceptance Criteria	
0811452-001D	7.52 @ 20.1°C	1	7.51 @ 20.1°C	1	0.01	0.02	

BATCH 39601 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0811452-001D	11/14/08 11:40 AM	11/14/08	11/14/08 4:00 PM				

**Test Method: Total Suspended Solids**

**Matrix: W**

**WorkOrder: 0811452**

Method Name: SM2540D			Units mg/L			BatchID: 39582	
Lab ID	Sample	DF	Dup / Ser. Dil.	DF	% RPD	Acceptance Criteria (%)	
0811452-001E	22,500	500	22,200	500	1.34	<15	

BATCH 39582 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0811452-001E	11/14/08 11:40 AM	11/17/08	11/17/08 4:00 PM				

Dup = Duplicate; Ser. Dil. = Serial Dilution; MS = Matrix Spike; RD = Relative Difference; RPD = Relative Percent Deviation.

Precision = Absolute Value (Sample - Duplicate)

RPD = 100 \* (Sample - Duplicate) / [(Sample + Duplicate) / 2]

%RPD is calculated using results of up to 10 significant figures, however the reported results are rounded to 2 or 3 significant figures. Therefore there may be a slight discrepancy between the %RPD displayed above and %RPD calculated using the reported results. MAI considers %RPD based upon more significant figures to be more accurate.



### QC SUMMARY REPORT FOR SW8015B

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 39603

WorkOrder: 0811452

Analyte	EPA Method SW8015B			Extraction SW3510C/3630C					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	MS / MSD	RPD	LCS/LCSD	RPD
TPH-Diesel (C10-C23)	N/A	1000	N/A	N/A	N/A	95.1	95	0.0529	N/A	N/A	70 - 130	30
%SS:	N/A	2500	N/A	N/A	N/A	106	106	0	N/A	N/A	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

#### BATCH 39603 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0811452-001C	11/14/08 11:40 AM	11/14/08	11/15/08 1:46 PM				

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 / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the 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.



**McC Campbell Analytical, Inc.**

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701  
Web: www.mcccampbell.com E-mail: main@mcccampbell.com  
Telephone: 877-252-9262 Fax: 925-252-9269

### QC SUMMARY REPORT FOR WET CHEMISTRY TESTS

**Test Method: Total Solids**

**Matrix: W**

**WorkOrder: 0811452**

Method Name: SM2540B			Units mg/L			BatchID: 39666
Lab ID	Sample	DF	Dup / Ser. Dil.	DF	% RPD	Acceptance Criteria (%)
0811452-001D	561	1	568	1	1.24	<10

BATCH 39666 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0811452-001D	11/14/08 11:40 AM	11/14/08	11/18/08 2:00 PM				

Dup = Duplicate; Ser. Dil. = Serial Dilution; MS = Matrix Spike; RD = Relative Difference; RPD = Relative Percent Deviation.

Precision = Absolute Value (Sample - Duplicate)

$RPD = 100 * (Sample - Duplicate) / [(Sample + Duplicate) / 2]$

%RPD is calculated using results of up to 10 significant figures, however the reported results are rounded to 2 or 3 significant figures. Therefore there may be a slight discrepancy between the %RPD displayed above and %RPD calculated using the reported results. MAI considers %RPD based upon more significant figures to be more accurate.