

Detterman, Mark, Env. Health

From: Bob Clark-Riddell [briddell@pangeaenv.com]
Sent: Friday, August 28, 2015 10:26 AM
To: Detterman, Mark, Env. Health
Cc: Roe, Dilan, Env. Health; Tony Kershaw
Subject: Solano - MW-3 Sample
Attachments: 1508919.pdf

Good news, Mark!

Pangea sampled well MW-3 to have one final data point before the anticipated well destruction soon. Well MW-3 had 180 ug/L PCE reported for February 2015 and the concentration trend was basically flat based on historic data. This August 2015 sampling reports a PCE concentration of 59 ug/L, which helps demonstrate a decreasing trend. The lab report is attached. We thought this information would be helpful if you received any comments during the public notice process.

Also, would you like us to prepare a brief well sampling report for the file?

Bob Clark-Riddell, P.E.
Pangea Environmental Services, Inc.
510.435.8664 direct



McC Campbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1508919

Report Created for: Pangea Environmental Svcs., Inc.

1710 Franklin Street, Ste. 200
Oakland, CA 94612

Project Contact: Bob Clark-Riddell

Project P.O.:

Project Name: Solano Group

Project Received: 08/26/2015

Analytical Report reviewed & approved for release on 08/28/2015 by:

Angela Rydelius,
Laboratory Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.





Glossary of Terms & Qualifier Definitions

Client: Pangea Environmental Svcs., Inc.
Project: Solano Group
WorkOrder: 1508919

Glossary Abbreviation

95% Interval	95% Confident Interval
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DUP	Duplicate
EDL	Estimated Detection Limit
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)



Analytical Report

Client: Pangea Environmental Svcs., Inc.
Date Received: 8/26/15 17:17
Date Prepared: 8/27/15
Project: Solano Group

WorkOrder: 1508919
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Halogenated Volatile Organics by P&T and GC-MS (8010 Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-3	1508919-001A	Water	08/26/2015 13:00	GC28	109525

Analytes	Result	RL	DF	Date Analyzed
Bromobenzene	ND	2.5	5	08/27/2015 10:31
Bromochloromethane	ND	2.5	5	08/27/2015 10:31
Bromodichloromethane	ND	2.5	5	08/27/2015 10:31
Bromoform	ND	2.5	5	08/27/2015 10:31
Bromomethane	ND	2.5	5	08/27/2015 10:31
Carbon Tetrachloride	ND	2.5	5	08/27/2015 10:31
Chlorobenzene	ND	2.5	5	08/27/2015 10:31
Chloroethane	ND	2.5	5	08/27/2015 10:31
Chloroform	ND	2.5	5	08/27/2015 10:31
Chloromethane	ND	2.5	5	08/27/2015 10:31
2-Chlorotoluene	ND	2.5	5	08/27/2015 10:31
4-Chlorotoluene	ND	2.5	5	08/27/2015 10:31
Dibromochloromethane	ND	2.5	5	08/27/2015 10:31
1,2-Dibromo-3-chloropropane	ND	1.0	5	08/27/2015 10:31
1,2-Dibromoethane (EDB)	ND	2.5	5	08/27/2015 10:31
Dibromomethane	ND	2.5	5	08/27/2015 10:31
1,2-Dichlorobenzene	ND	2.5	5	08/27/2015 10:31
1,3-Dichlorobenzene	ND	2.5	5	08/27/2015 10:31
1,4-Dichlorobenzene	ND	2.5	5	08/27/2015 10:31
Dichlorodifluoromethane	ND	2.5	5	08/27/2015 10:31
1,1-Dichloroethane	ND	2.5	5	08/27/2015 10:31
1,2-Dichloroethane (1,2-DCA)	ND	2.5	5	08/27/2015 10:31
1,1-Dichloroethene	ND	2.5	5	08/27/2015 10:31
cis-1,2-Dichloroethene	ND	2.5	5	08/27/2015 10:31
trans-1,2-Dichloroethene	ND	2.5	5	08/27/2015 10:31
1,2-Dichloropropane	ND	2.5	5	08/27/2015 10:31
1,3-Dichloropropane	ND	2.5	5	08/27/2015 10:31
2,2-Dichloropropane	ND	2.5	5	08/27/2015 10:31
1,1-Dichloropropene	ND	2.5	5	08/27/2015 10:31
cis-1,3-Dichloropropene	ND	2.5	5	08/27/2015 10:31
trans-1,3-Dichloropropene	ND	2.5	5	08/27/2015 10:31
Freon 113	ND	2.5	5	08/27/2015 10:31
Hexachlorobutadiene	ND	2.5	5	08/27/2015 10:31
Hexachloroethane	ND	2.5	5	08/27/2015 10:31
Methylene chloride	ND	2.5	5	08/27/2015 10:31
1,1,1,2-Tetrachloroethane	ND	2.5	5	08/27/2015 10:31
1,1,2,2-Tetrachloroethane	ND	2.5	5	08/27/2015 10:31

(Cont.)



Analytical Report

Client: Pangea Environmental Svcs., Inc.	WorkOrder: 1508919
Date Received: 8/26/15 17:17	Extraction Method: SW5030B
Date Prepared: 8/27/15	Analytical Method: SW8260B
Project: Solano Group	Unit: µg/L

Halogenated Volatile Organics by P&T and GC-MS (8010 Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-3	1508919-001A	Water	08/26/2015 13:00	GC28	109525
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Tetrachloroethene	59		2.5	5	08/27/2015 10:31
1,2,3-Trichlorobenzene	ND		2.5	5	08/27/2015 10:31
1,2,4-Trichlorobenzene	ND		2.5	5	08/27/2015 10:31
1,1,1-Trichloroethane	ND		2.5	5	08/27/2015 10:31
1,1,2-Trichloroethane	ND		2.5	5	08/27/2015 10:31
Trichloroethene	ND		2.5	5	08/27/2015 10:31
Trichlorofluoromethane	ND		2.5	5	08/27/2015 10:31
1,2,3-Trichloropropane	ND		2.5	5	08/27/2015 10:31
Vinyl Chloride	ND		2.5	5	08/27/2015 10:31
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Dibromofluoromethane	99		70-130		08/27/2015 10:31
Toluene-d8	100		70-130		08/27/2015 10:31
4-BFB	105		70-130		08/27/2015 10:31
<u>Analyst(s):</u> KF					



Quality Control Report

Client: Pangea Environmental Svcs., Inc.
Date Prepared: 8/26/15
Date Analyzed: 8/26/15
Instrument: GC10
Matrix: Water
Project: Solano Group

WorkOrder: 1508919
BatchID: 109525
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS-109525
 1508919-001AMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	10	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	-	0.50	-	-	-	-
Benzene	ND	-	0.50	-	-	-	-
Bromobenzene	ND	-	0.50	-	-	-	-
Bromochloromethane	ND	-	0.50	-	-	-	-
Bromodichloromethane	ND	-	0.50	-	-	-	-
Bromoform	ND	-	0.50	-	-	-	-
Bromomethane	ND	-	0.50	-	-	-	-
2-Butanone (MEK)	ND	-	2.0	-	-	-	-
t-Butyl alcohol (TBA)	ND	-	2.0	-	-	-	-
n-Butyl benzene	ND	-	0.50	-	-	-	-
sec-Butyl benzene	ND	-	0.50	-	-	-	-
tert-Butyl benzene	ND	-	0.50	-	-	-	-
Carbon Disulfide	ND	-	0.50	-	-	-	-
Carbon Tetrachloride	ND	-	0.50	-	-	-	-
Chlorobenzene	ND	9.92	0.50	10	-	99	43-157
Chloroethane	ND	-	0.50	-	-	-	-
Chloroform	ND	-	0.50	-	-	-	-
Chloromethane	ND	-	0.50	-	-	-	-
2-Chlorotoluene	ND	-	0.50	-	-	-	-
4-Chlorotoluene	ND	-	0.50	-	-	-	-
Dibromochloromethane	ND	-	0.50	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	0.20	-	-	-	-
1,2-Dibromoethane (EDB)	ND	9.31	0.50	10	-	93	44-155
Dibromomethane	ND	-	0.50	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.50	-	-	-	-
Dichlorodifluoromethane	ND	-	0.50	-	-	-	-
1,1-Dichloroethane	ND	-	0.50	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	9.77	0.50	10	-	98	66-125
1,1-Dichloroethene	ND	9.96	0.50	10	-	100	47-149
cis-1,2-Dichloroethene	ND	-	0.50	-	-	-	-
trans-1,2-Dichloroethene	ND	-	0.50	-	-	-	-
1,2-Dichloropropane	ND	-	0.50	-	-	-	-
1,3-Dichloropropane	ND	-	0.50	-	-	-	-
2,2-Dichloropropane	ND	-	0.50	-	-	-	-
1,1-Dichloropropene	ND	-	0.50	-	-	-	-

(Cont.)



Quality Control Report

Client: Pangea Environmental Svcs., Inc.
Date Prepared: 8/26/15
Date Analyzed: 8/26/15
Instrument: GC10
Matrix: Water
Project: Solano Group

WorkOrder: 1508919
BatchID: 109525
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS-109525
 1508919-001AMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
cis-1,3-Dichloropropene	ND	-	0.50	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.50	-	-	-	-
Diisopropyl ether (DIPE)	ND	-	0.50	-	-	-	-
Ethylbenzene	ND	-	0.50	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	-	0.50	-	-	-	-
Freon 113	ND	-	0.50	-	-	-	-
Hexachlorobutadiene	ND	-	0.50	-	-	-	-
Hexachloroethane	ND	-	0.50	-	-	-	-
2-Hexanone	ND	-	0.50	-	-	-	-
Isopropylbenzene	ND	-	0.50	-	-	-	-
4-Isopropyl toluene	ND	-	0.50	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	-	0.50	-	-	-	-
Methylene chloride	ND	-	0.50	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.50	-	-	-	-
Naphthalene	ND	-	0.50	-	-	-	-
n-Propyl benzene	ND	-	0.50	-	-	-	-
Styrene	ND	-	0.50	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
Tetrachloroethene	ND	-	0.50	-	-	-	-
Toluene	ND	-	0.50	-	-	-	-
1,2,3-Trichlorobenzene	ND	-	0.50	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	0.50	-	-	-	-
1,1,1-Trichloroethane	ND	-	0.50	-	-	-	-
1,1,2-Trichloroethane	ND	-	0.50	-	-	-	-
Trichloroethene	ND	9.77	0.50	10	-	98	43-157
Trichlorofluoromethane	ND	-	0.50	-	-	-	-
1,2,3-Trichloropropane	ND	-	0.50	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	0.50	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	0.50	-	-	-	-
Vinyl Chloride	ND	-	0.50	-	-	-	-
Xylenes, Total	ND	-	0.50	-	-	-	-

(Cont.)



Quality Control Report

Client: Pangea Environmental Svcs., Inc.
Date Prepared: 8/26/15
Date Analyzed: 8/26/15
Instrument: GC10
Matrix: Water
Project: Solano Group

WorkOrder: 1508919
BatchID: 109525
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS-109525
 1508919-001AMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Surrogate Recovery							
Dibromofluoromethane	29.6	29.8		25	119	119	70-130
Toluene-d8	24.2	23.4		25	97	94	70-130
4-BFB	3.05	2.50		2.5	122	100	70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Chlorobenzene	9.50	9.66	10	ND<2.5	95	97	77-120	1.63	20
1,2-Dibromoethane (EDB)	10.0	10.1	10	ND<2.5	100	101	76-135	0.972	20
1,2-Dichloroethane (1,2-DCA)	10.4	10.6	10	ND<2.5	104	106	73-139	2.01	20
1,1-Dichloroethene	9.67	10.0	10	ND<2.5	97	100	59-140	3.76	20
Trichloroethene	13.5	13.8	10	ND<2.5	110	113	64-132	1.69	20
Surrogate Recovery									
Dibromofluoromethane	30.0	30.2	25		120	121	70-130	0.804	20
Toluene-d8	22.9	23.6	25		92	94	70-130	2.88	20
4-BFB	2.64	2.53	2.5		106	101	70-130	4.36	20



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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1508919

ClientCode: PEO

WaterTrax
 WriteOn
 EDF
 Excel
 EQulS
 Email
 HardCopy
 ThirdParty
 J-flag

Report to:

Bob Clark-Riddell
 Pangea Environmental Svcs., Inc.
 1710 Franklin Street, Ste. 200
 Oakland, CA 94612
 (510) 836-3700 FAX: (510) 836-3709

Email: BRiddell@pangeaenv.com
 cc/3rd Party:
 PO:
 ProjectNo: Solano Group

Bill to:

Bob Clark-Riddell
 Pangea Environmental Svcs., Inc.
 1710 Franklin Street, Ste. 200
 Oakland, CA 94612

Requested TAT: 2 days;

Date Received: 08/26/2015

Date Printed: 08/26/2015

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		
1508919-001	MW-3	Water	8/26/2015 13:00	<input type="checkbox"/>	A													

Test Legend:

1	8010BMS_W	2		3		4	
5		6		7		8	
9		10		11		12	

Prepared by: Jena Alfaro

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.



WORK ORDER SUMMARY

Client Name: PANGEA ENVIRONMENTAL SVCS., INC.

QC Level: LEVEL 2

Work Order: 1508919

Project: Solano Group

Client Contact: Bob Clark-Riddell

Date Received: 8/26/2015

Comments:

Contact's Email: BRiddell@pangeaenv.com

WaterTrax WriteOn EDF Excel Fax Email HardCopy ThirdParty J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1508919-001A	MW-3	Water	SW8260B (HVOCs List)	2	VOA w/ HCl	<input type="checkbox"/>	8/26/2015 13:00	2 days	Present	<input type="checkbox"/>	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.



Sample Receipt Checklist

Client Name: **Pangea Environmental Svcs., Inc.** Date and Time Received: **8/26/2015 5:17:45 PM**
 Project Name: **Solano Group** LogIn Reviewed by: **Jena Alfaro**
 WorkOrder No: **1508919** 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
 Sample/Temp Blank temperature Temp: 4.8°C NA
 Water - VOA vials have zero headspace / no bubbles? Yes No NA
 Sample labels checked for correct preservation? Yes No
 pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)? Yes No NA
 Samples Received on Ice? Yes No

(Ice Type: WET ICE)

UCMR3 Samples:

Total Chlorine tested and acceptable upon receipt for EPA 522? Yes No NA
 Free Chlorine tested and acceptable upon receipt for EPA 218.7, 300.1, 537, 539? Yes No NA

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

 Comments: