McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1711456

Report Created for: Essel Environmental Consulting

351 California Street, Ste. 615
San Francisco, CA 94104

Project Contact: Jaime Warren
Project P.O.:
Project Name: 17178; Twin Rivers Demolition; 1235 Delta Street Sacramento, CA 95811
Project Received: 11/10/2017

Analytical Report reviewed & approved for release on 11/14/2017 by:

Yen Cao

Project Manager

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 17178; Twin Rivers Demolition; 1235 Delta Street Sacramento, CA 95811
WorkOrder: 1711456

Glossary Abbreviation

%D	Serial Dilution Percent Difference
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)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
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.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
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
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

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Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
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Analytical Qualifiers

a7	Reporting limit raised due to limited sample amount
h4	Sulfuric acid permanganate (EPA 3665) cleanup

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711456
Date Received:	11/10/17 16:00	**Extraction Method:**	SW3550B
Date Prepared:	11/10/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demolition; 1235 Delta Street Sacramento, CA 95811	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1235-PCB1	1711456-001A	Solid	11/09/2017	GC20 11131736.D	148471

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	2.4	1	11/13/2017 19:01
Aroclor1221	ND	2.4	1	11/13/2017 19:01
Aroclor1232	ND	2.4	1	11/13/2017 19:01
Aroclor1242	ND	2.4	1	11/13/2017 19:01
Aroclor1248	ND	2.4	1	11/13/2017 19:01
Aroclor1254	ND	2.4	1	11/13/2017 19:01
Aroclor1260	ND	2.4	1	11/13/2017 19:01
PCBs, total	ND	2.4	1	11/13/2017 19:01

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	96	70-130	11/13/2017 19:01

Analyst(s): CK Analytical Comments: h4,a7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1235-PCB2	1711456-002A	Solid	11/09/2017	GC20 11131737.D	148471

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	1.9	1	11/13/2017 19:16
Aroclor1221	ND	1.9	1	11/13/2017 19:16
Aroclor1232	ND	1.9	1	11/13/2017 19:16
Aroclor1242	ND	1.9	1	11/13/2017 19:16
Aroclor1248	ND	1.9	1	11/13/2017 19:16
Aroclor1254	ND	1.9	1	11/13/2017 19:16
Aroclor1260	ND	1.9	1	11/13/2017 19:16
PCBs, total	ND	1.9	1	11/13/2017 19:16

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	101	70-130	11/13/2017 19:16

Analyst(s): CK Analytical Comments: h4,a7

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711456
Date Received:	11/10/17 16:00	**Extraction Method:**	SW3550B
Date Prepared:	11/10/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demolition; 1235 Delta Street Sacramento, CA 95811	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1235-PCB3	1711456-003A	Solid	11/09/2017	GC20 11131738.D	148471

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.56	1	11/13/2017 19:31
Aroclor1221	ND	0.56	1	11/13/2017 19:31
Aroclor1232	ND	0.56	1	11/13/2017 19:31
Aroclor1242	ND	0.56	1	11/13/2017 19:31
Aroclor1248	ND	0.56	1	11/13/2017 19:31
Aroclor1254	ND	0.56	1	11/13/2017 19:31
Aroclor1260	ND	0.56	1	11/13/2017 19:31
PCBs, total	ND	0.56	1	11/13/2017 19:31

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	103	70-130	11/13/2017 19:31

Analyst(s): CK Analytical Comments: h4,a7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1235-PCB4	1711456-004A	Solid	11/09/2017	GC20 11131739.D	148471

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	1.5	1	11/13/2017 19:47
Aroclor1221	ND	1.5	1	11/13/2017 19:47
Aroclor1232	ND	1.5	1	11/13/2017 19:47
Aroclor1242	ND	1.5	1	11/13/2017 19:47
Aroclor1248	ND	1.5	1	11/13/2017 19:47
Aroclor1254	ND	1.5	1	11/13/2017 19:47
Aroclor1260	ND	1.5	1	11/13/2017 19:47
PCBs, total	ND	1.5	1	11/13/2017 19:47

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	95	70-130	11/13/2017 19:47

Analyst(s): CK Analytical Comments: h4,a7

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711456
Date Received:	11/10/17 16:00	**Extraction Method:**	SW3550B
Date Prepared:	11/10/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demolition; 1235 Delta Street Sacramento, CA 95811	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1235-PCB5	1711456-005A	Solid	11/09/2017	GC20 11131740.D	148471

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	4.5	1	11/13/2017 20:02
Aroclor1221	ND	4.5	1	11/13/2017 20:02
Aroclor1232	ND	4.5	1	11/13/2017 20:02
Aroclor1242	ND	4.5	1	11/13/2017 20:02
Aroclor1248	ND	4.5	1	11/13/2017 20:02
Aroclor1254	ND	4.5	1	11/13/2017 20:02
Aroclor1260	ND	4.5	1	11/13/2017 20:02
PCBs, total	ND	4.5	1	11/13/2017 20:02

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	121	70-130	11/13/2017 20:02

Analyst(s): CK Analytical Comments: h4,a7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1235-PCB6	1711456-006A	Solid	11/09/2017	GC20 11131741.D	148471

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	3.8	1	11/13/2017 20:17
Aroclor1221	ND	3.8	1	11/13/2017 20:17
Aroclor1232	ND	3.8	1	11/13/2017 20:17
Aroclor1242	ND	3.8	1	11/13/2017 20:17
Aroclor1248	ND	3.8	1	11/13/2017 20:17
Aroclor1254	ND	3.8	1	11/13/2017 20:17
Aroclor1260	ND	3.8	1	11/13/2017 20:17
PCBs, total	ND	3.8	1	11/13/2017 20:17

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	109	70-130	11/13/2017 20:17

Analyst(s): CK Analytical Comments: h4,a7

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711456
Date Received:	11/10/17 16:00	**Extraction Method:**	SW3550B
Date Prepared:	11/10/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demolition; 1235 Delta Street Sacramento, CA 95811	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1235-PCB7	1711456-007A	Solid	11/09/2017	GC20 11131742.D	148471

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	2.2	1	11/13/2017 20:32
Aroclor1221	ND	2.2	1	11/13/2017 20:32
Aroclor1232	ND	2.2	1	11/13/2017 20:32
Aroclor1242	ND	2.2	1	11/13/2017 20:32
Aroclor1248	ND	2.2	1	11/13/2017 20:32
Aroclor1254	ND	2.2	1	11/13/2017 20:32
Aroclor1260	ND	2.2	1	11/13/2017 20:32
PCBs, total	ND	2.2	1	11/13/2017 20:32

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	98	70-130	11/13/2017 20:32

Analyst(s): CK Analytical Comments: h4,a7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1235-PCB8	1711456-008A	Solid	11/09/2017	GC20 11131743.D	148519

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	4.5	1	11/13/2017 20:47
Aroclor1221	ND	4.5	1	11/13/2017 20:47
Aroclor1232	ND	4.5	1	11/13/2017 20:47
Aroclor1242	ND	4.5	1	11/13/2017 20:47
Aroclor1248	ND	4.5	1	11/13/2017 20:47
Aroclor1254	ND	4.5	1	11/13/2017 20:47
Aroclor1260	ND	4.5	1	11/13/2017 20:47
PCBs, total	ND	4.5	1	11/13/2017 20:47

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	87	70-130	11/13/2017 20:47

Analyst(s): CK Analytical Comments: h4,a7

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Quality Control Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711456
Date Prepared:	11/9/17	**BatchID:**	148471
Date Analyzed:	11/15/17	**Extraction Method:**	SW3550B
Instrument:	GC20	**Analytical Method:**	SW8082
Matrix:	Soil	**Unit:**	mg/kg
Project:	17178; Twin Rivers Demolition; 1235 Delta Street Sacramento, CA 95811	**Sample ID:**	MB/LCS/LCSD-148471

QC Summary Report for SW8082

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Aroclor1016	ND	0.050	-	-	-
Aroclor1221	ND	0.050	-	-	-
Aroclor1232	ND	0.050	-	-	-
Aroclor1242	ND	0.050	-	-	-
Aroclor1248	ND	0.050	-	-	-
Aroclor1254	ND	0.050	-	-	-
Aroclor1260	ND	0.050	-	-	-
PCBs, total	ND	0.050	-	-	-
Surrogate Recovery					
Decachlorobiphenyl	0.04112		0.050	82	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Aroclor1016	0.134	0.134	0.15	89	90	70-130	0.332	20
Aroclor1260	0.142	0.141	0.15	94	94	70-130	0	20
Surrogate Recovery								
Decachlorobiphenyl	0.0414	0.0399	0.050	83	80	70-130	3.68	20

(Cont.)

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Quality Control Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711456
Date Prepared:	11/10/17	**BatchID:**	148519
Date Analyzed:	11/13/17 - 11/14/17	**Extraction Method:**	SW3550B
Instrument:	GC22	**Analytical Method:**	SW8082
Matrix:	Soil	**Unit:**	mg/kg
Project:	17178; Twin Rivers Demolition; 1235 Delta Street Sacramento, CA 95811	**Sample ID:**	MB/LCS/LCSD-148519

QC Summary Report for SW8082

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Aroclor1016	ND	0.050	-	-	-
Aroclor1221	ND	0.050	-	-	-
Aroclor1232	ND	0.050	-	-	-
Aroclor1242	ND	0.050	-	-	-
Aroclor1248	ND	0.050	-	-	-
Aroclor1254	ND	0.050	-	-	-
Aroclor1260	ND	0.050	-	-	-
PCBs, total	ND	0.050	-	-	-
Surrogate Recovery					
Decachlorobiphenyl	0.05007		0.050	100	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Aroclor1016	0.136	0.135	0.15	91	90	70-130	0.445	20
Aroclor1260	0.132	0.134	0.15	88	89	70-130	1.44	20
Surrogate Recovery								
Decachlorobiphenyl	0.0423	0.0427	0.050	85	85	70-130	0	20

McCampbell Analytical, Inc.
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Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1711456 **ClientCode: ESL**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☑ EQuIS ☐ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag
☑ Detection Summary ☑ Dry-Weight

Report to:
Jaime Warren
Essel Environmental Consulting
351 California Street, Ste. 615
San Francisco, CA 94104
(707) 494-4883 FAX: 510-380-6610

Email: jwarren@esseltek.com
cc/3rd Party:
PO:
ProjectNo: 17178; Twin Rivers Demolition; 1235 Delta Street Sacramento, CA 95811

Bill to:
Nik Lahiri
Essel Environmental Consulting
351 California Street, Ste. 615
San Francisco, CA 94104
tnnkbmax@sbcglobal.net; nlahiri@essel

Requested TAT: 3 days;

Date Received: **11/10/2017**
Date Logged: **11/10/2017**

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
1711456-001	1235-PCB1	Solid	11/9/2017 00:00	☐	A											
1711456-002	1235-PCB2	Solid	11/9/2017 00:00	☐	A											
1711456-003	1235-PCB3	Solid	11/9/2017 00:00	☐	A											
1711456-004	1235-PCB4	Solid	11/9/2017 00:00	☐	A											
1711456-005	1235-PCB5	Solid	11/9/2017 00:00	☐	A											
1711456-006	1235-PCB6	Solid	11/9/2017 00:00	☐	A											
1711456-007	1235-PCB7	Solid	11/9/2017 00:00	☐	A											
1711456-008	1235-PCB8	Solid	11/9/2017 00:00	☐	A											

Test Legend:

1	8082_PCB_S	2		3		4	
5		6		7		8	
9		10		11		12	

Prepared by: Nancy Palacios

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.

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WORK ORDER SUMMARY

Client Name: ESSEL ENVIRONMENTAL CONSULTING
Client Contact: Jaime Warren
Contact's Email: jwarren@esseltek.com

Project: 17178; Twin Rivers Demolition; 1235 Delta Street Sacramento, CA 95811
Comments:

Work Order: 1711456
QC Level: LEVEL 2
Date Logged: 11/10/2017

☐ 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
1711456-001A	1235-PCB1	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Medium	☐	11/9/2017	3 days		☐	
1711456-002A	1235-PCB2	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Medium	☐	11/9/2017	3 days		☐	
1711456-003A	1235-PCB3	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Medium	☐	11/9/2017	3 days		☐	
1711456-004A	1235-PCB4	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Medium	☐	11/9/2017	3 days		☐	
1711456-005A	1235-PCB5	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Medium	☐	11/9/2017	3 days		☐	
1711456-006A	1235-PCB6	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Medium	☐	11/9/2017	3 days		☐	
1711456-007A	1235-PCB7	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Medium	☐	11/9/2017	3 days		☐	
1711456-008A	1235-PCB8	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Medium	☐	11/9/2017	3 days		☐	

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.

ENVIRONMENTAL
ENGINEERING
& CONSULTING

Turn Around Time:

Send results via: 1711456

Essel Technology Services, Inc.
351 California Street, Suite 615
San Francisco, CA 94104
Phone: 415-938-7002

RUSH

8082 (PCB Only)

Chain of Custody Form 72hr

Project No: 17178	Date Sampled: 11/9/2017	Client Name: SHRA (Sacramento Housing and Redevelopment Agency)
Laboratory Submitted To: McCampbell Analytical		
Relinquished By: Jaime Warren Date: 11/10/17		Project Name: Twin Rivers Demolition
Print Name: Jaime Warren		
Relinquished to: Date:		Project Location: 1235 Delta Street Sacramento, CA 95811

Homogeneous Material Group	Sample Number	Material description	Sample Location	Condition Friability	Quantity
	1235-PCB1	White on wood column Exterior	South elevation at front door		
	1235-PCB2	Beige on metal handrail exterior	South elevation walkway		
	1235-PCB3	Beige on stucco wall Exterior	Southwest corner elevation at exterior stucco wall		
	1235-PCB4	Brown on wood trim exterior	East elevation at upper trim		
	1235-PCB5	Beige on metal door frame	North wall front door interior frame		
	1235-PCB6	Off-white on wood window frame	Livingroom window at east wall		
	1235-PCB7	Off-white on wood door	Bedroom #2 Door		
	1235-PCB8	Off-white on drywall wall	Livingroom at west wall		

Sampled by: Date:

Comments: _____

Recd: 11/10/17 1600

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Sample Receipt Checklist

Client Name:	**Essel Environmental Consulting**	Date and Time Received	**11/10/2017 16:00**
Project Name:	**17178; Twin Rivers Demolition; 1235 Delta Street Sacramento, CA 95811**	Date Logged:	**11/10/2017**
		Received by:	Kena Ponce
WorkOrder №:	**1711456** Matrix: Solid	Logged by:	Nancy Palacios
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	☐	
COC agrees with Quote?	Yes	☐	No	☐	NA ☑

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	☐	NA ☐
Sample/Temp Blank temperature	Temp:				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	☑	

UCMR 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 ☑

Comments:

McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1711358

Report Created for: Essel Environmental Consulting

351 California Street, Ste. 615
San Francisco, CA 94104

Project Contact: Trevor Marion
Project P.O.:
Project Name: 17178; Twin Rivers Demolition

Project Received: 11/09/2017

Analytical Report reviewed & approved for release on 11/13/2017 by:

Yen Cao

Project Manager

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
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http://www.mccampbell.com / E-mail: main@mccampbell.com

Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 17178; Twin Rivers Demolition
WorkOrder: 1711358

Glossary Abbreviation

%D	Serial Dilution Percent Difference
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)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
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.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
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
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

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Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 17178; Twin Rivers Demolition
WorkOrder: 1711358

Analytical Qualifiers

a4	Reporting limits raised due to the sample's matrix prohibiting a full volume extraction.
h4	Sulfuric acid permanganate (EPA 3665) cleanup

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711358
Date Received:	11/9/17 10:07	**Extraction Method:**	SW3550B
Date Prepared:	11/9/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demolition	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1229-PCB1	**1711358-001A**	**Solid**	**11/06/2017**	**GC22 11091729.D**	**148423**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	1.4	1	11/10/2017 06:56
Aroclor1221	ND	1.4	1	11/10/2017 06:56
Aroclor1232	ND	1.4	1	11/10/2017 06:56
Aroclor1242	ND	1.4	1	11/10/2017 06:56
Aroclor1248	ND	1.4	1	11/10/2017 06:56
Aroclor1254	ND	1.4	1	11/10/2017 06:56
Aroclor1260	ND	1.4	1	11/10/2017 06:56
PCBs, total	ND	1.4	1	11/10/2017 06:56

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	87	70-130	11/10/2017 06:56

Analyst(s): CK Analytical Comments: h4,a4

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1229-PCB2	**1711358-002A**	**Solid**	**11/06/2017**	**GC22 11091730.D**	**148423**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.50	1	11/10/2017 07:29
Aroclor1221	ND	0.50	1	11/10/2017 07:29
Aroclor1232	ND	0.50	1	11/10/2017 07:29
Aroclor1242	ND	0.50	1	11/10/2017 07:29
Aroclor1248	ND	0.50	1	11/10/2017 07:29
Aroclor1254	ND	0.50	1	11/10/2017 07:29
Aroclor1260	ND	0.50	1	11/10/2017 07:29
PCBs, total	ND	0.50	1	11/10/2017 07:29

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	89	70-130	11/10/2017 07:29

Analyst(s): CK Analytical Comments: h4,a4

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711358
Date Received:	11/9/17 10:07	**Extraction Method:**	SW3550B
Date Prepared:	11/9/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demolition	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1229-PCB3	**1711358-003A**	**Solid**	**11/06/2017**	**GC22 11091736.D**	**148423**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	1.2	1	11/10/2017 10:54
Aroclor1221	ND	1.2	1	11/10/2017 10:54
Aroclor1232	ND	1.2	1	11/10/2017 10:54
Aroclor1242	ND	1.2	1	11/10/2017 10:54
Aroclor1248	ND	1.2	1	11/10/2017 10:54
Aroclor1254	ND	1.2	1	11/10/2017 10:54
Aroclor1260	ND	1.2	1	11/10/2017 10:54
PCBs, total	ND	1.2	1	11/10/2017 10:54

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	91	70-130	11/10/2017 10:54

Analyst(s): CK Analytical Comments: h4,a4

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1229-PCB4	**1711358-004A**	**Solid**	**11/06/2017**	**GC22 11091737.D**	**148423**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.50	1	11/10/2017 11:28
Aroclor1221	ND	0.50	1	11/10/2017 11:28
Aroclor1232	ND	0.50	1	11/10/2017 11:28
Aroclor1242	ND	0.50	1	11/10/2017 11:28
Aroclor1248	ND	0.50	1	11/10/2017 11:28
Aroclor1254	ND	0.50	1	11/10/2017 11:28
Aroclor1260	ND	0.50	1	11/10/2017 11:28
PCBs, total	ND	0.50	1	11/10/2017 11:28

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	91	70-130	11/10/2017 11:28

Analyst(s): CK Analytical Comments: h4,a4

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711358
Date Received:	11/9/17 10:07	**Extraction Method:**	SW3550B
Date Prepared:	11/9/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demolition	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1229-PCB5	**1711358-005A**	**Solid**	**11/06/2017**	**GC22 11091738.D**	**148423**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	3.6	1	11/10/2017 12:03
Aroclor1221	ND	3.6	1	11/10/2017 12:03
Aroclor1232	ND	3.6	1	11/10/2017 12:03
Aroclor1242	ND	3.6	1	11/10/2017 12:03
Aroclor1248	ND	3.6	1	11/10/2017 12:03
Aroclor1254	ND	3.6	1	11/10/2017 12:03
Aroclor1260	ND	3.6	1	11/10/2017 12:03
PCBs, total	ND	3.6	1	11/10/2017 12:03

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	91	70-130	11/10/2017 12:03

Analyst(s): CK Analytical Comments: h4,a4

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1229-PCB6	**1711358-006A**	**Solid**	**11/06/2017**	**GC22 11091739.D**	**148423**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	2.3	1	11/10/2017 12:37
Aroclor1221	ND	2.3	1	11/10/2017 12:37
Aroclor1232	ND	2.3	1	11/10/2017 12:37
Aroclor1242	ND	2.3	1	11/10/2017 12:37
Aroclor1248	ND	2.3	1	11/10/2017 12:37
Aroclor1254	ND	2.3	1	11/10/2017 12:37
Aroclor1260	ND	2.3	1	11/10/2017 12:37
PCBs, total	ND	2.3	1	11/10/2017 12:37

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	88	70-130	11/10/2017 12:37

Analyst(s): CK Analytical Comments: h4,a4

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711358
Date Received:	11/9/17 10:07	**Extraction Method:**	SW3550B
Date Prepared:	11/9/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demolition	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1229-PCB7	**1711358-007A**	**Solid**	**11/06/2017**	**GC22 11091740.D**	**148423**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	7.1	1	11/10/2017 13:11
Aroclor1221	ND	7.1	1	11/10/2017 13:11
Aroclor1232	ND	7.1	1	11/10/2017 13:11
Aroclor1242	ND	7.1	1	11/10/2017 13:11
Aroclor1248	ND	7.1	1	11/10/2017 13:11
Aroclor1254	ND	7.1	1	11/10/2017 13:11
Aroclor1260	ND	7.1	1	11/10/2017 13:11
PCBs, total	ND	7.1	1	11/10/2017 13:11

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	88	70-130	11/10/2017 13:11

Analyst(s): CK Analytical Comments: h4,a4

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1229-PCB8	**1711358-008A**	**Solid**	**11/06/2017**	**GC22 11091741.D**	**148423**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.72	1	11/10/2017 13:45
Aroclor1221	ND	0.72	1	11/10/2017 13:45
Aroclor1232	ND	0.72	1	11/10/2017 13:45
Aroclor1242	ND	0.72	1	11/10/2017 13:45
Aroclor1248	ND	0.72	1	11/10/2017 13:45
Aroclor1254	ND	0.72	1	11/10/2017 13:45
Aroclor1260	ND	0.72	1	11/10/2017 13:45
PCBs, total	ND	0.72	1	11/10/2017 13:45

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	86	70-130	11/10/2017 13:45

Analyst(s): CK Analytical Comments: h4,a4

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711358
Date Received:	11/9/17 10:07	**Extraction Method:**	SW3550B
Date Prepared:	11/9/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demolition	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1229-PCB9	**1711358-009A**	**Solid**	**11/06/2017**	**GC22 11091742.D**	**148423**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	1.1	1	11/10/2017 14:20
Aroclor1221	ND	1.1	1	11/10/2017 14:20
Aroclor1232	ND	1.1	1	11/10/2017 14:20
Aroclor1242	ND	1.1	1	11/10/2017 14:20
Aroclor1248	ND	1.1	1	11/10/2017 14:20
Aroclor1254	ND	1.1	1	11/10/2017 14:20
Aroclor1260	ND	1.1	1	11/10/2017 14:20
PCBs, total	ND	1.1	1	11/10/2017 14:20

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	88	70-130	11/10/2017 14:20

Analyst(s): CK Analytical Comments: h4,a4

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1229-PCB10	**1711358-010A**	**Solid**	**11/06/2017**	**GC22 11091743.D**	**148423**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	1.2	1	11/10/2017 14:54
Aroclor1221	ND	1.2	1	11/10/2017 14:54
Aroclor1232	ND	1.2	1	11/10/2017 14:54
Aroclor1242	ND	1.2	1	11/10/2017 14:54
Aroclor1248	ND	1.2	1	11/10/2017 14:54
Aroclor1254	ND	1.2	1	11/10/2017 14:54
Aroclor1260	ND	1.2	1	11/10/2017 14:54
PCBs, total	ND	1.2	1	11/10/2017 14:54

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	89	70-130	11/10/2017 14:54

Analyst(s): CK Analytical Comments: h4,a4

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Quality Control Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711358
Date Prepared:	11/9/17	**BatchID:**	148423
Date Analyzed:	11/10/17	**Extraction Method:**	SW3550B
Instrument:	GC22	**Analytical Method:**	SW8082
Matrix:	Soil	**Unit:**	mg/kg
Project:	17178; Twin Rivers Demolition	**Sample ID:**	MB/LCS/LCSD-148423

QC Summary Report for SW8082

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Aroclor1016	ND	0.050	-	-	-
Aroclor1016	ND	0.050	-	-	-
Aroclor1221	ND	0.050	-	-	-
Aroclor1232	ND	0.050	-	-	-
Aroclor1242	ND	0.050	-	-	-
Aroclor1248	ND	0.050	-	-	-
Aroclor1254	ND	0.050	-	-	-
Aroclor1260	ND	0.050	-	-	-
PCBs, total	ND	0.050	-	-	-
Surrogate Recovery					
Decachlorobiphenyl	0.04913		0.050	98	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Aroclor1016	0.138	0.137	0.15	92	91	70-130	0.426	20
Aroclor1260	0.149	0.149	0.15	99	99	70-130	0	20
Surrogate Recovery								
Decachlorobiphenyl	0.0496	0.0485	0.050	99	97	70-130	2.31	20

McCampbell Analytical, Inc.
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CHAIN-OF-CUSTODY RECORD

WorkOrder: 1711358 **ClientCode: ESL**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☑ EQuIS ☐ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag
☑ Detection Summary ☑ Dry-Weight

Report to:
Trevor Marion
Essel Environmental Consulting
351 California Street, Ste. 615
San Francisco, CA 94104
(707) 494-4883 FAX: 510-380-6610

Email: trevormarion@esseltek.com
cc/3rd Party: tbarazoto@esseltek.com; nlahiri@esseltek.
PO:
ProjectNo: 17178; Twin Rivers Demolition

Bill to:
Nik Lahiri
Essel Environmental Consulting
351 California Street, Ste. 615
San Francisco, CA 94104
tnnkbmax@sbcglobal.net; nlahiri@essel

Requested TAT: 3 days;

Date Received: **11/09/2017**
Date Logged: **11/09/2017**

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
1711358-001	1229-PCB1	Solid	11/6/2017 00:00	☐	A											
1711358-002	1229-PCB2	Solid	11/6/2017 00:00	☐	A											
1711358-003	1229-PCB3	Solid	11/6/2017 00:00	☐	A											
1711358-004	1229-PCB4	Solid	11/6/2017 00:00	☐	A											
1711358-005	1229-PCB5	Solid	11/6/2017 00:00	☐	A											
1711358-006	1229-PCB6	Solid	11/6/2017 00:00	☐	A											
1711358-007	1229-PCB7	Solid	11/6/2017 00:00	☐	A											
1711358-008	1229-PCB8	Solid	11/6/2017 00:00	☐	A											
1711358-009	1229-PCB9	Solid	11/6/2017 00:00	☐	A											
1711358-010	1229-PCB10	Solid	11/6/2017 00:00	☐	A											

Test Legend:

1	8082_PCB_Solid	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.

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WORK ORDER SUMMARY

Client Name: ESSEL ENVIRONMENTAL CONSULTING
Client Contact: Trevor Marion
Contact's Email: trevormarion@esseltek.com
Project: 17178; Twin Rivers Demolition
Comments:
Work Order: 1711358
QC Level: LEVEL 2
Date Logged: 11/9/2017

☐ 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
1711358-001A	1229-PCB1	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Small	☐	11/6/2017	3 days		☐	
1711358-002A	1229-PCB2	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Small	☐	11/6/2017	3 days		☐	
1711358-003A	1229-PCB3	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Small	☐	11/6/2017	3 days		☐	
1711358-004A	1229-PCB4	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Small	☐	11/6/2017	3 days		☐	
1711358-005A	1229-PCB5	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Small	☐	11/6/2017	3 days		☐	
1711358-006A	1229-PCB6	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Small	☐	11/6/2017	3 days		☐	
1711358-007A	1229-PCB7	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Small	☐	11/6/2017	3 days		☐	
1711358-008A	1229-PCB8	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Small	☐	11/6/2017	3 days		☐	
1711358-009A	1229-PCB9	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Small	☐	11/6/2017	3 days		☐	
1711358-010A	1229-PCB10	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Small	☐	11/6/2017	3 days		☐	

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.

1711358

Turn Around Time: RUSH

Send results via: TrevorMarion@Esseltek.com, Nlahiri@esseltek.com, Tbarazoto@esseltek.com, Tmiller@esseltek.com, Jwarren@esseltek.com

Essel Technology Services, Inc.
351 California Street, Suite 615
San Francisco, CA 94104
Phone: 415-938-7002

essel ENVIRONMENTAL ENGINEERING & CONSULTING

8082 (PCB Only)

Chain of Custody Form 72hr

Project No: 17178	Date Sampled: 11/6/2017	Client Name: SHRA (Sacramento Housing and Redevelopment Agency)
Laboratory Submitted To: McCampbell Analytical		
Relinquished By: Via Fedex	Date:	Project Name: Twin Rivers Demolition
Print Name: Jaime Warren		
Relinquished to:	Date:	Project Location: 1229 Delta Street Sacramento, CA 95811

Homogeneous Material Group	Sample Number	Material description	Sample Location	Condition Friability	Quantity
	1229-PCB1	White on wood column Exterior	North elevation at front door		
	1229-PCB2	Brown on concrete foundation wall Exterior	North elevation at concrete foundation		
	1229-PCB3	Green on metal pipe Exterior	West elevation at metal pipe		
	1229-PCB4	Gray on stucco wall Exterior	North elevation at exterior stucco wall (right lower)		
	1229-PCB5	Beige on metal door frame	North wall front door interior frame		
	1229-PCB6	Off-white on wood door	Bedroom #1 door		
	1229-PCB7	Off-white on wood door jamb	Bathroom door jamb		
	1229-PCB8	Off-white on wood window frame	Livingroom window at east wall		
	1229-PCB9	Off-white on plaster wall	Livingroom at west wall		
	1229-PCB10	White pliable caulking	Exterior front door at north elevation		

Sampled by: Jaime Date: 11/7/17

Fedex 801549260221 11/9/17
Recd @ MAI 1007

Comments:

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Sample Receipt Checklist

Client Name:	**Essel Environmental Consulting**	Date and Time Received	**11/9/2017 10:07**
Project Name:	**17178; Twin Rivers Demolition**	Date Logged:	**11/9/2017**
		Received by:	Jena Alfaro
WorkOrder №:	**1711358** Matrix:	Logged by:	Jena Alfaro
Carrier:	FedEx		

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	☐	
COC agrees with Quote?	Yes	☐	No	☐	NA ☑

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	☐	NA ☐
Sample/Temp Blank temperature	Temp:				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	☑	

UCMR 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 ☑

Comments:

McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1711459

Report Created for: Essel Environmental Consulting

351 California Street, Ste. 615
San Francisco, CA 94104

Project Contact: Jaime Warren
Project P.O.:
Project Name: 17178; Twin Rivers Demolition; 1222 Delta Street Sacramento, CA 95811
Project Received: 11/10/2017

Analytical Report reviewed & approved for release on 11/15/2017 by:

Yen Cao

Project Manager

McCampbell Analytical, Inc.
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Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 17178; Twin Rivers Demolition; 1222 Delta Street Sacramento, CA 95811
WorkOrder: 1711459

Glossary Abbreviation

%D	Serial Dilution Percent Difference
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)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
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.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
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
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

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Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 17178; Twin Rivers Demolition; 1222 Delta Street Sacramento, CA 95811
WorkOrder: 1711459

Analytical Qualifiers

a7	Reporting limit raised due to limited sample amount
h4	Sulfuric acid permanganate (EPA 3665) cleanup

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711459
Date Received:	11/10/17 16:00	**Extraction Method:**	SW3550B
Date Prepared:	11/10/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demolition; 1222 Delta Street Sacramento, CA 95811	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1222-PCB1	1711459-001A	Solid	11/09/2017	GC40 11131746.d	148519

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	3.6	1	11/14/2017 00:05
Aroclor1221	ND	3.6	1	11/14/2017 00:05
Aroclor1232	ND	3.6	1	11/14/2017 00:05
Aroclor1242	ND	3.6	1	11/14/2017 00:05
Aroclor1248	ND	3.6	1	11/14/2017 00:05
Aroclor1254	ND	3.6	1	11/14/2017 00:05
Aroclor1260	ND	3.6	1	11/14/2017 00:05
PCBs, total	ND	3.6	1	11/14/2017 00:05

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	77	70-130	11/14/2017 00:05

Analyst(s): CK Analytical Comments: h4,a7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1222-PCB2	1711459-002A	Solid	11/09/2017	GC40 11131747.d	148519

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	1.4	1	11/14/2017 00:18
Aroclor1221	ND	1.4	1	11/14/2017 00:18
Aroclor1232	ND	1.4	1	11/14/2017 00:18
Aroclor1242	ND	1.4	1	11/14/2017 00:18
Aroclor1248	ND	1.4	1	11/14/2017 00:18
Aroclor1254	ND	1.4	1	11/14/2017 00:18
Aroclor1260	ND	1.4	1	11/14/2017 00:18
PCBs, total	ND	1.4	1	11/14/2017 00:18

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	80	70-130	11/14/2017 00:18

Analyst(s): CK Analytical Comments: h4,a7

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711459
Date Received:	11/10/17 16:00	**Extraction Method:**	SW3550B
Date Prepared:	11/10/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demolition; 1222 Delta Street Sacramento, CA 95811	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1222-PCB4	1711459-004A	Solid	11/09/2017	GC40 11131749.d	148519

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	1.3	1	11/14/2017 00:44
Aroclor1221	ND	1.3	1	11/14/2017 00:44
Aroclor1232	ND	1.3	1	11/14/2017 00:44
Aroclor1242	ND	1.3	1	11/14/2017 00:44
Aroclor1248	ND	1.3	1	11/14/2017 00:44
Aroclor1254	ND	1.3	1	11/14/2017 00:44
Aroclor1260	ND	1.3	1	11/14/2017 00:44
PCBs, total	ND	1.3	1	11/14/2017 00:44

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	91	70-130	11/14/2017 00:44

Analyst(s): CK Analytical Comments: h4,a7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1222-PCB5	1711459-005A	Solid	11/09/2017	GC40 11131750.d	148520

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	2.9	1	11/14/2017 00:57
Aroclor1221	ND	2.9	1	11/14/2017 00:57
Aroclor1232	ND	2.9	1	11/14/2017 00:57
Aroclor1242	ND	2.9	1	11/14/2017 00:57
Aroclor1248	ND	2.9	1	11/14/2017 00:57
Aroclor1254	ND	2.9	1	11/14/2017 00:57
Aroclor1260	ND	2.9	1	11/14/2017 00:57
PCBs, total	ND	2.9	1	11/14/2017 00:57

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	81	70-130	11/14/2017 00:57

Analyst(s): CK Analytical Comments: h4,a7

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711459
Date Received:	11/10/17 16:00	**Extraction Method:**	SW3550B
Date Prepared:	11/10/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demolition; 1222 Delta Street Sacramento, CA 95811	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1222-PCB6	1711459-006A	Solid	11/09/2017	GC40 11131751.d	148520

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	2.3	1	11/14/2017 01:11
Aroclor1221	ND	2.3	1	11/14/2017 01:11
Aroclor1232	ND	2.3	1	11/14/2017 01:11
Aroclor1242	ND	2.3	1	11/14/2017 01:11
Aroclor1248	ND	2.3	1	11/14/2017 01:11
Aroclor1254	ND	2.3	1	11/14/2017 01:11
Aroclor1260	ND	2.3	1	11/14/2017 01:11
PCBs, total	ND	2.3	1	11/14/2017 01:11

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	84	70-130	11/14/2017 01:11

Analyst(s): CK Analytical Comments: h4,a7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1222-PCB7	1711459-007A	Solid	11/09/2017	GC40 11131752.d	148520

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	1.2	1	11/14/2017 01:24
Aroclor1221	ND	1.2	1	11/14/2017 01:24
Aroclor1232	ND	1.2	1	11/14/2017 01:24
Aroclor1242	ND	1.2	1	11/14/2017 01:24
Aroclor1248	ND	1.2	1	11/14/2017 01:24
Aroclor1254	ND	1.2	1	11/14/2017 01:24
Aroclor1260	ND	1.2	1	11/14/2017 01:24
PCBs, total	ND	1.2	1	11/14/2017 01:24

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	98	70-130	11/14/2017 01:24

Analyst(s): CK Analytical Comments: h4,a7

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711459
Date Received:	11/10/17 16:00	**Extraction Method:**	SW3550B
Date Prepared:	11/10/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demolition; 1222 Delta Street Sacramento, CA 95811	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1222-PCB8	1711459-008A	Solid	11/09/2017	GC40 11131753.d	148520

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	1.6	1	11/14/2017 01:37
Aroclor1221	ND	1.6	1	11/14/2017 01:37
Aroclor1232	ND	1.6	1	11/14/2017 01:37
Aroclor1242	ND	1.6	1	11/14/2017 01:37
Aroclor1248	ND	1.6	1	11/14/2017 01:37
Aroclor1254	ND	1.6	1	11/14/2017 01:37
Aroclor1260	ND	1.6	1	11/14/2017 01:37
PCBs, total	ND	1.6	1	11/14/2017 01:37

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	83	70-130	11/14/2017 01:37

Analyst(s): CK Analytical Comments: h4,a7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1222-PCB9	1711459-009A	Solid	11/09/2017	GC40 11131754.d	148520

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	1.7	1	11/14/2017 01:51
Aroclor1221	ND	1.7	1	11/14/2017 01:51
Aroclor1232	ND	1.7	1	11/14/2017 01:51
Aroclor1242	ND	1.7	1	11/14/2017 01:51
Aroclor1248	ND	1.7	1	11/14/2017 01:51
Aroclor1254	ND	1.7	1	11/14/2017 01:51
Aroclor1260	ND	1.7	1	11/14/2017 01:51
PCBs, total	ND	1.7	1	11/14/2017 01:51

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	84	70-130	11/14/2017 01:51

Analyst(s): CK Analytical Comments: h4,a7

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711459
Date Received:	11/10/17 16:00	**Extraction Method:**	SW3550B
Date Prepared:	11/10/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demolition; 1222 Delta Street Sacramento, CA 95811	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1222-PCB10	**1711459-010A**	**Solid**	**11/09/2017**	**GC40 11131755.d**	**148520**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.85	1	11/14/2017 02:04
Aroclor1221	ND	0.85	1	11/14/2017 02:04
Aroclor1232	ND	0.85	1	11/14/2017 02:04
Aroclor1242	ND	0.85	1	11/14/2017 02:04
Aroclor1248	ND	0.85	1	11/14/2017 02:04
Aroclor1254	ND	0.85	1	11/14/2017 02:04
Aroclor1260	ND	0.85	1	11/14/2017 02:04
PCBs, total	ND	0.85	1	11/14/2017 02:04

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	77	70-130	11/14/2017 02:04

Analyst(s): CK

Analytical Comments: h4,a7

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Quality Control Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711459
Date Prepared:	11/10/17	**BatchID:**	148519
Date Analyzed:	11/13/17 - 11/14/17	**Extraction Method:**	SW3550B
Instrument:	GC22	**Analytical Method:**	SW8082
Matrix:	Soil	**Unit:**	mg/kg
Project:	17178; Twin Rivers Demolition; 1222 Delta Street Sacramento, CA 95811	**Sample ID:**	MB/LCS/LCSD-148519

QC Summary Report for SW8082

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Aroclor1016	ND	0.050	-	-	-
Aroclor1221	ND	0.050	-	-	-
Aroclor1232	ND	0.050	-	-	-
Aroclor1242	ND	0.050	-	-	-
Aroclor1248	ND	0.050	-	-	-
Aroclor1254	ND	0.050	-	-	-
Aroclor1260	ND	0.050	-	-	-
PCBs, total	ND	0.050	-	-	-
Surrogate Recovery					
Decachlorobiphenyl	0.05007		0.050	100	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Aroclor1016	0.136	0.135	0.15	91	90	70-130	0.445	20
Aroclor1260	0.132	0.134	0.15	88	89	70-130	1.44	20
Surrogate Recovery								
Decachlorobiphenyl	0.0423	0.0427	0.050	85	85	70-130	0	20

(Cont.)

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Quality Control Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711459
Date Prepared:	11/10/17	**BatchID:**	148520
Date Analyzed:	11/14/17	**Extraction Method:**	SW3550B
Instrument:	GC22	**Analytical Method:**	SW8082
Matrix:	Soil	**Unit:**	mg/kg
Project:	17178; Twin Rivers Demolition; 1222 Delta Street Sacramento, CA 95811	**Sample ID:**	MB/LCS/LCSD-148520

QC Summary Report for SW8082

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Aroclor1016	ND	0.050	-	-	-
Aroclor1221	ND	0.050	-	-	-
Aroclor1232	ND	0.050	-	-	-
Aroclor1242	ND	0.050	-	-	-
Aroclor1248	ND	0.050	-	-	-
Aroclor1254	ND	0.050	-	-	-
Aroclor1260	ND	0.050	-	-	-
PCBs, total	ND	0.050	-	-	-
Surrogate Recovery					
Decachlorobiphenyl	0.04385		0.050	88	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Aroclor1016	0.133	0.138	0.15	89	92	70-130	3.84	20
Aroclor1260	0.131	0.138	0.15	87	92	70-130	5.40	20
Surrogate Recovery								
Decachlorobiphenyl	0.0448	0.0449	0.050	90	90	70-130	0	20

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Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1711459 **ClientCode: ESL**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☑ EQuIS ☐ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag
☑ Detection Summary ☑ Dry-Weight

Report to:
Jaime Warren
Essel Environmental Consulting
351 California Street, Ste. 615
San Francisco, CA 94104
(707) 494-4883 FAX: 510-380-6610

Email: jwarren@esseltek.com
cc/3rd Party:
PO:
ProjectNo: 17178; Twin Rivers Demolition; 1222 Delta Street Sacramento, CA 95811

Bill to:
Nik Lahiri
Essel Environmental Consulting
351 California Street, Ste. 615
San Francisco, CA 94104
tnnkbmax@sbcglobal.net; nlahiri@essel

Requested TAT: 3 days;

Date Received: **11/10/2017**
Date Logged: **11/10/2017**

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
1711459-001	1222-PCB1	Solid	11/9/2017 00:00	☐	A											
1711459-002	1222-PCB2	Solid	11/9/2017 00:00	☐	A											
1711459-003	1222-PCB3	Solid	11/9/2017 00:00	☐	A											
1711459-004	1222-PCB4	Solid	11/9/2017 00:00	☐	A											
1711459-005	1222-PCB5	Solid	11/9/2017 00:00	☐	A											
1711459-006	1222-PCB6	Solid	11/9/2017 00:00	☐	A											
1711459-007	1222-PCB7	Solid	11/9/2017 00:00	☐	A											
1711459-008	1222-PCB8	Solid	11/9/2017 00:00	☐	A											
1711459-009	1222-PCB9	Solid	11/9/2017 00:00	☐	A											
1711459-010	1222-PCB10	Solid	11/9/2017 00:00	☐	A											

Test Legend:

1	8082_PCB_S	2		3		4	
5		6		7		8	
9		10		11		12	

Prepared by: Nancy Palacios

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.

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WORK ORDER SUMMARY

Client Name: ESSEL ENVIRONMENTAL CONSULTING
Client Contact: Jaime Warren
Contact's Email: jwarren@esseltek.com

Project: 17178; Twin Rivers Demolition; 1222 Delta Street Sacramento, CA 95811
Comments:

Work Order: 1711459
QC Level: LEVEL 2
Date Logged: 11/10/2017

☐ 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
1711459-001A	1222-PCB1	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Medium	☐	11/9/2017	3 days		☐	
1711459-002A	1222-PCB2	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Medium	☐	11/9/2017	3 days		☐	
1711459-003A	1222-PCB3	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Medium	☐	11/9/2017	3 days		☐	
1711459-004A	1222-PCB4	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Medium	☐	11/9/2017	3 days		☐	
1711459-005A	1222-PCB5	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Medium	☐	11/9/2017	3 days		☐	
1711459-006A	1222-PCB6	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Medium	☐	11/9/2017	3 days		☐	
1711459-007A	1222-PCB7	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Medium	☐	11/9/2017	3 days		☐	
1711459-008A	1222-PCB8	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Medium	☐	11/9/2017	3 days		☐	
1711459-009A	1222-PCB9	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Medium	☐	11/9/2017	3 days		☐	
1711459-010A	1222-PCB10	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Medium	☐	11/9/2017	3 days		☐	

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.

ENVIRONMENTAL
ENGINEERING
& CONSULTING

Turn Around Time:

Send results via: .1711459.

Essel Technology Services, Inc.
351 California Street, Suite 615
San Francisco, CA 94104
Phone: 415-938-7002

RUSH

8082 (PCB Only)

Chain of Custody Form 72hr

Project No: 17178	Date Sampled: 11/9/2017	Client Name: SHRA (Sacramento Housing and Redevelopment Agency)
Laboratory Submitted To: McCampbell Analytical		
Relinquished By: Jaime Date: 11/10/17		Project Name: Twin Rivers Demolition
Print Name: Jaime Warren		
Relinquished to:	Date:	Project Location: 1222 Delta Street Sacramento, CA 95811

Homogeneous Material Group	Sample Number	Material description	Sample Location	Condition Friability	Quantity
	1222-PCB1	White on wood column Exterior	North elevation at front door		
	1222-PCB2	Green on stucco wall Exterior	Northeast elevation corner		
	1222-PCB3	Green on metal pipe Exterior	East elevation exterior pipe		
	1222-PCB4	Brown on wood trim exterior	North elevation at upper trim		
	1222-PCB5	Beige on metal door exterior	North wall exterior front door		
	1222-PCB6	Off-white on wood door jamb interior	Bedroom #2 door		
	1222-PCB7	Off-white on wood door interior	Bedroom #1 door		
	1222-PCB8	Off-white on wood door frame interior	Bedroom #1 door frame		
	1222-PCB9	Off-white on wood window frame interior	Livingroom window at north wall		
	1222-PCB10	Off-white on plaster wall	Kitchen at north wall		

Sampled by:

Date:

Recd - Kevin 11/10/17 1600

Comments:

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"When Quality Counts"

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Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Sample Receipt Checklist

Client Name:	**Essel Environmental Consulting**	Date and Time Received	**11/10/2017 16:00**
Project Name:	**17178; Twin Rivers Demolition; 1222 Delta Street Sacramento, CA 95811**	Date Logged:	**11/10/2017**
		Received by:	Kena Ponce
WorkOrder №:	**1711459** Matrix: Solid	Logged by:	Nancy Palacios
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	☐	
COC agrees with Quote?	Yes	☐	No	☐	NA ☑

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	☐	NA ☐
Sample/Temp Blank temperature	Temp:				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	☑	

UCMR 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 ☑

Comments:

McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1711532

Report Created for: Essel Environmental Consulting

351 California Street, Ste. 615
San Francisco, CA 94104

Project Contact: Trevor Marion
Project P.O.:
Project Name: 17178; Twin Rivers Demo; 1221 Delta Street Sacramento, CA 95811
Project Received: 11/13/2017

Analytical Report reviewed & approved for release on 11/16/2017 by:

Jennifer Lagerbom
Project Manager

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Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 17178; Twin Rivers Demo; 1221 Delta Street Sacramento, CA 95811
WorkOrder: 1711532

Glossary Abbreviation

%D	Serial Dilution Percent Difference
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)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
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.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
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
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

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Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 17178; Twin Rivers Demo; 1221 Delta Street Sacramento, CA 95811
WorkOrder: 1711532

Analytical Qualifiers

a7	Reporting limit raised due to limited sample amount
h4	Sulfuric acid permanganate (EPA 3665) cleanup

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711532
Date Received:	11/13/17 19:00	**Extraction Method:**	SW3550B
Date Prepared:	11/13/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo; 1221 Delta Street Sacramento, CA 95811	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1221-PCB1	1711532-001A	Solid	11/06/2017	GC20 11141733.D	148560

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	1.5	1	11/14/2017 19:41
Aroclor1221	ND	1.5	1	11/14/2017 19:41
Aroclor1232	ND	1.5	1	11/14/2017 19:41
Aroclor1242	ND	1.5	1	11/14/2017 19:41
Aroclor1248	ND	1.5	1	11/14/2017 19:41
Aroclor1254	ND	1.5	1	11/14/2017 19:41
Aroclor1260	ND	1.5	1	11/14/2017 19:41
PCBs, total	ND	1.5	1	11/14/2017 19:41

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	94	70-130	11/14/2017 19:41

Analyst(s): CK Analytical Comments: h4,a7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1221-PCB2	1711532-002A	Solid	11/06/2017	GC20 11141732.D	148560

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	2.9	1	11/14/2017 19:26
Aroclor1221	ND	2.9	1	11/14/2017 19:26
Aroclor1232	ND	2.9	1	11/14/2017 19:26
Aroclor1242	ND	2.9	1	11/14/2017 19:26
Aroclor1248	ND	2.9	1	11/14/2017 19:26
Aroclor1254	ND	2.9	1	11/14/2017 19:26
Aroclor1260	ND	2.9	1	11/14/2017 19:26
PCBs, total	ND	2.9	1	11/14/2017 19:26

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	80	70-130	11/14/2017 19:26

Analyst(s): CK Analytical Comments: h4,a7

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711532
Date Received:	11/13/17 19:00	**Extraction Method:**	SW3550B
Date Prepared:	11/13/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo; 1221 Delta Street Sacramento, CA 95811	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1221-PCB3	1711532-003A	Solid	11/06/2017	GC20 11141734.D	148560

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	2.1	1	11/14/2017 19:56
Aroclor1221	ND	2.1	1	11/14/2017 19:56
Aroclor1232	ND	2.1	1	11/14/2017 19:56
Aroclor1242	ND	2.1	1	11/14/2017 19:56
Aroclor1248	ND	2.1	1	11/14/2017 19:56
Aroclor1254	ND	2.1	1	11/14/2017 19:56
Aroclor1260	ND	2.1	1	11/14/2017 19:56
PCBs, total	ND	2.1	1	11/14/2017 19:56

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	86	70-130	11/14/2017 19:56

Analyst(s): CK Analytical Comments: h4,a7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1221-PCB4	1711532-004A	Solid	11/06/2017	GC20 11141718.D	148560

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	2.9	1	11/14/2017 15:54
Aroclor1221	ND	2.9	1	11/14/2017 15:54
Aroclor1232	ND	2.9	1	11/14/2017 15:54
Aroclor1242	ND	2.9	1	11/14/2017 15:54
Aroclor1248	ND	2.9	1	11/14/2017 15:54
Aroclor1254	ND	2.9	1	11/14/2017 15:54
Aroclor1260	ND	2.9	1	11/14/2017 15:54
PCBs, total	ND	2.9	1	11/14/2017 15:54

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	107	70-130	11/14/2017 15:54

Analyst(s): CK Analytical Comments: h4,a7

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711532
Date Received:	11/13/17 19:00	**Extraction Method:**	SW3550B
Date Prepared:	11/13/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo; 1221 Delta Street Sacramento, CA 95811	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1221-PCB5	1711532-005A	Solid	11/06/2017	GC20 11141719.D	148560

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	1.2	1	11/14/2017 16:09
Aroclor1221	ND	1.2	1	11/14/2017 16:09
Aroclor1232	ND	1.2	1	11/14/2017 16:09
Aroclor1242	ND	1.2	1	11/14/2017 16:09
Aroclor1248	ND	1.2	1	11/14/2017 16:09
Aroclor1254	ND	1.2	1	11/14/2017 16:09
Aroclor1260	ND	1.2	1	11/14/2017 16:09
PCBs, total	ND	1.2	1	11/14/2017 16:09

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	80	70-130	11/14/2017 16:09

Analyst(s): CK Analytical Comments: h4,a7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1221-PCB6	1711532-006A	Solid	11/06/2017	GC20 11141720.D	148560

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	2.6	1	11/14/2017 16:24
Aroclor1221	ND	2.6	1	11/14/2017 16:24
Aroclor1232	ND	2.6	1	11/14/2017 16:24
Aroclor1242	ND	2.6	1	11/14/2017 16:24
Aroclor1248	ND	2.6	1	11/14/2017 16:24
Aroclor1254	ND	2.6	1	11/14/2017 16:24
Aroclor1260	ND	2.6	1	11/14/2017 16:24
PCBs, total	ND	2.6	1	11/14/2017 16:24

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	119	70-130	11/14/2017 16:24

Analyst(s): CK Analytical Comments: h4,a7

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711532
Date Received:	11/13/17 19:00	**Extraction Method:**	SW3550B
Date Prepared:	11/13/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo; 1221 Delta Street Sacramento, CA 95811	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1221-PCB7	1711532-007A	Solid	11/06/2017	GC20 11141721.D	148560

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	1.1	1	11/14/2017 16:39
Aroclor1221	ND	1.1	1	11/14/2017 16:39
Aroclor1232	ND	1.1	1	11/14/2017 16:39
Aroclor1242	ND	1.1	1	11/14/2017 16:39
Aroclor1248	ND	1.1	1	11/14/2017 16:39
Aroclor1254	ND	1.1	1	11/14/2017 16:39
Aroclor1260	ND	1.1	1	11/14/2017 16:39
PCBs, total	ND	1.1	1	11/14/2017 16:39

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	88	70-130	11/14/2017 16:39

Analyst(s): CK Analytical Comments: h4,a7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1221-PCB8	1711532-008A	Solid	11/06/2017	GC20 11141735.D	148560

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	1.6	1	11/14/2017 20:11
Aroclor1221	ND	1.6	1	11/14/2017 20:11
Aroclor1232	ND	1.6	1	11/14/2017 20:11
Aroclor1242	ND	1.6	1	11/14/2017 20:11
Aroclor1248	ND	1.6	1	11/14/2017 20:11
Aroclor1254	ND	1.6	1	11/14/2017 20:11
Aroclor1260	ND	1.6	1	11/14/2017 20:11
PCBs, total	ND	1.6	1	11/14/2017 20:11

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	85	70-130	11/14/2017 20:11

Analyst(s): CK Analytical Comments: h4,a7

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711532
Date Prepared:	11/13/17	**BatchID:**	148560
Date Analyzed:	11/14/17	**Extraction Method:**	SW3550B
Instrument:	GC20	**Analytical Method:**	SW8082
Matrix:	Soil	**Unit:**	mg/kg
Project:	17178; Twin Rivers Demo; 1221 Delta Street Sacramento, CA 95811	**Sample ID:**	MB/LCS-148560 1711503-004AMS/MSD

QC Summary Report for SW8082

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Aroclor1016	ND	0.050	-	-	-
Aroclor1016	ND	0.050	-	-	-
Aroclor1221	ND	0.050	-	-	-
Aroclor1232	ND	0.050	-	-	-
Aroclor1242	ND	0.050	-	-	-
Aroclor1248	ND	0.050	-	-	-
Aroclor1254	ND	0.050	-	-	-
Aroclor1260	ND	0.050	-	-	-
PCBs, total	ND	0.050	-	-	-
Surrogate Recovery					
Decachlorobiphenyl	0.04048		0.050	81	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Aroclor1016	0.134	-	0.15	90	-	70-130	-	-
Aroclor1260	0.142	-	0.15	94	-	70-130	-	-
Surrogate Recovery								
Decachlorobiphenyl	0.0415	-	0.050	83	-	70-130	-	-

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Aroclor1016	0.135	0.135	0.15	ND	90	90	70-130	0	20
Aroclor1260	0.141	0.135	0.15	ND	94	90	70-130	4.09	20
Surrogate Recovery									
Decachlorobiphenyl	0.0400	0.0373	0.050		80	75	70-130	6.83	20

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1711532 **ClientCode: ESL**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☒ EQuIS ☐ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag
☒ Detection Summary ☒ Dry-Weight

Report to:
Trevor Marion
Essel Environmental Consulting
351 California Street, Ste. 615
San Francisco, CA 94104
(707) 494-4883 FAX: 510-380-6610

Email: trevormarion@esseltek.com
cc/3rd Party: tbarazoto@esseltek.com; nlahiri@esseltek.
PO:
ProjectNo: 17178; Twin Rivers Demo; 1221 Delta Street Sacramento, CA 95811

Bill to:
Nik Lahiri
Essel Environmental Consulting
351 California Street, Ste. 615
San Francisco, CA 94104
tnnkbmax@sbcglobal.net; nlahiri@essel

Requested TAT: 3 days;

Date Received: **11/13/2017**
Date Logged: **11/13/2017**

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
1711532-001	1221-PCB1	Solid	11/6/2017 00:00	☐	A											
1711532-002	1221-PCB2	Solid	11/6/2017 00:00	☐	A											
1711532-003	1221-PCB3	Solid	11/6/2017 00:00	☐	A											
1711532-004	1221-PCB4	Solid	11/6/2017 00:00	☐	A											
1711532-005	1221-PCB5	Solid	11/6/2017 00:00	☐	A											
1711532-006	1221-PCB6	Solid	11/6/2017 00:00	☐	A											
1711532-007	1221-PCB7	Solid	11/6/2017 00:00	☐	A											
1711532-008	1221-PCB8	Solid	11/6/2017 00:00	☐	A											

Test Legend:

1	8082_PCB_Solid	2		3		4	
5		6		7		8	
9		10		11		12	

Prepared by: Agustina Venegas

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.

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WORK ORDER SUMMARY

Client Name: ESSEL ENVIRONMENTAL CONSULTING
Client Contact: Trevor Marion
Contact's Email: trevormarion@esseltek.com

Project: 17178; Twin Rivers Demo; 1221 Delta Street Sacramento, CA 95811
Comments:

Work Order: 1711532
QC Level: LEVEL 2
Date Logged: 11/13/2017

☐ 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
1711532-001A	1221-PCB1	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Medium	☐	11/6/2017	3 days		☐	
1711532-002A	1221-PCB2	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Medium	☐	11/6/2017	3 days		☐	
1711532-003A	1221-PCB3	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Medium	☐	11/6/2017	3 days		☐	
1711532-004A	1221-PCB4	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Small	☐	11/6/2017	3 days		☐	
1711532-005A	1221-PCB5	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Small	☐	11/6/2017	3 days		☐	
1711532-006A	1221-PCB6	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Small	☐	11/6/2017	3 days		☐	
1711532-007A	1221-PCB7	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Medium	☐	11/6/2017	3 days		☐	
1711532-008A	1221-PCB8	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Medium	☐	11/6/2017	3 days		☐	

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.

RUSH **Turn Around Time:** 72 hr 1711532

Send results via: TrevorMarion@Esseltek.com, Nlahiri@esseltek.com, Tbarazoto@esseltek.com, Tmiller@esseltek.com, Jwarren@esseltek.com

Essel Technology Services, Inc.
351 California Street, Suite 615
San Francisco, CA 94104
Phone: 415-938-7002

essel ENVIRONMENTAL ENGINEERING & CONSULTING

Chain of Custody Form

8082 (PCB Only)

Project No: 17178	Date: 11/6/2017	Client Name: SHRA (Sacramento Housing and Redevelopment Agency)
Laboratory Submitted To: McCampbell Analytical		
Relinquished By:	Date: 11/13/17	Project Name: Twin Rivers Demo
Print Name: Jaime Warren		
Relinquished to:	Date:	Project Location: 1221 Delta Street Sacramento, CA 95811

Homogeneous Material Group	Sample Number	Material description	Sample Location	Condition Friability	Quantity
	1221-PCB1	White on wood column Exterior	North elevation at front door		
	1221-PCB2	Green on concrete foundation wall Exterior	North elevation at concrete foundation		
	1221-PCB3	Brown on wood trim- exterior	Exterior trim north elevation		
	1221-PCB4	Gray on stucco wall Exterior	North elevation at exterior stucco wall (right lower)		
	1221-PCB5	Off-white on wood door	Bedroom Door		
	1221-PCB6	Off-white on wood door frame	Bedroom door		
	1221-PCB7	Off-white on wood door jamb	Bathroom door jamb		
	1221-PCB8	Off-white on wood window frame	Livingroom window		

Sampled by: Date: 11/13/17

Comments: Rel by: Trevor Marion
Jaime Warren 6:57pm
Agustina V. 11/13/17 2000 1900

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1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Sample Receipt Checklist

Client Name:	**Essel Environmental Consulting**	Date and Time Received	**11/13/2017 19:00**
Project Name:	**17178; Twin Rivers Demo; 1221 Delta Street Sacramento, CA 95811**	Date Logged:	**11/13/2017**
		Received by:	Agustina Venegas
WorkOrder №:	**1711532** Matrix: Solid	Logged by:	Agustina Venegas
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	☐	
COC agrees with Quote?	Yes	☐	No	☐	NA ☑

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	☐	NA ☐
Sample/Temp Blank temperature	Temp:				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	☑	

UCMR 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 ☑

Comments:

McCampbell Analytical, Inc.

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Analytical Report

WorkOrder: 1801285

Report Created for: Essel Environmental Consulting

351 California Street, Ste. 615
San Francisco, CA 94104

Project Contact: Trevor Marion
Project P.O.:
Project: 17178; Twin Rivers Demo Survey

Project Received: 01/08/2018

Analytical Report reviewed & approved for release on 01/11/2018 by:

Yen Cao
Project Manager

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Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 17178; Twin Rivers Demo Survey
WorkOrder: 1801285

Glossary Abbreviation

%D	Serial Dilution Percent Difference
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)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
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.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
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
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

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Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 17178; Twin Rivers Demo Survey
WorkOrder: 1801285

Analytical Qualifiers

a4	Reporting limits raised due to the sample's matrix prohibiting a full volume extraction.
a7	Reporting limit raised due to limited sample amount.
h4	Sulfuric acid permanganate (EPA 3665) cleanup.

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1801285
Date Received:	1/8/18 8:08	**Extraction Method:**	SW3550B
Date Prepared:	1/8/18	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo Survey	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
462-PCB-1	1801285-001A	Solid	01/06/2018	GC20 01081855.D	151279

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.50	1	01/09/2018 01:25
Aroclor1221	ND	0.50	1	01/09/2018 01:25
Aroclor1232	ND	0.50	1	01/09/2018 01:25
Aroclor1242	ND	0.50	1	01/09/2018 01:25
Aroclor1248	ND	0.50	1	01/09/2018 01:25
Aroclor1254	ND	0.50	1	01/09/2018 01:25
Aroclor1260	ND	0.50	1	01/09/2018 01:25
PCBs, total	ND	0.50	1	01/09/2018 01:25

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	93	70-130	01/09/2018 01:25

Analyst(s): CK Analytical Comments: h4,a4

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
462-PCB-2	1801285-002A	Solid	01/06/2018	GC20 01081874.D	151279

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	1.4	1	01/09/2018 06:29
Aroclor1221	ND	1.4	1	01/09/2018 06:29
Aroclor1232	ND	1.4	1	01/09/2018 06:29
Aroclor1242	ND	1.4	1	01/09/2018 06:29
Aroclor1248	ND	1.4	1	01/09/2018 06:29
Aroclor1254	ND	1.4	1	01/09/2018 06:29
Aroclor1260	ND	1.4	1	01/09/2018 06:29
PCBs, total	ND	1.4	1	01/09/2018 06:29

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	90	70-130	01/09/2018 06:29

Analyst(s): CK Analytical Comments: h4,a7

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1801285
Date Received:	1/8/18 8:08	**Extraction Method:**	SW3550B
Date Prepared:	1/8/18	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo Survey	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
462-PCB-3	**1801285-003A**	**Solid**	**01/06/2018**	**GC20 01081875.D**	**151279**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.79	1	01/09/2018 06:45
Aroclor1221	ND	0.79	1	01/09/2018 06:45
Aroclor1232	ND	0.79	1	01/09/2018 06:45
Aroclor1242	ND	0.79	1	01/09/2018 06:45
Aroclor1248	ND	0.79	1	01/09/2018 06:45
Aroclor1254	ND	0.79	1	01/09/2018 06:45
Aroclor1260	ND	0.79	1	01/09/2018 06:45
PCBs, total	ND	0.79	1	01/09/2018 06:45

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	100	70-130	01/09/2018 06:45

Analyst(s): CK Analytical Comments: h4,a7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
462-PCB-4	**1801285-004A**	**Solid**	**01/06/2018**	**GC20 01081876.D**	**151279**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.50	1	01/09/2018 07:01
Aroclor1221	ND	0.50	1	01/09/2018 07:01
Aroclor1232	ND	0.50	1	01/09/2018 07:01
Aroclor1242	ND	0.50	1	01/09/2018 07:01
Aroclor1248	ND	0.50	1	01/09/2018 07:01
Aroclor1254	ND	0.50	1	01/09/2018 07:01
Aroclor1260	ND	0.50	1	01/09/2018 07:01
PCBs, total	ND	0.50	1	01/09/2018 07:01

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	95	70-130	01/09/2018 07:01

Analyst(s): CK Analytical Comments: h4,a4

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1801285
Date Received:	1/8/18 8:08	**Extraction Method:**	SW3550B
Date Prepared:	1/8/18	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo Survey	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
462-PCB-5	1801285-005A	Solid	01/06/2018	GC20 01081860.D	151279

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.61	1	01/09/2018 02:45
Aroclor1221	ND	0.61	1	01/09/2018 02:45
Aroclor1232	ND	0.61	1	01/09/2018 02:45
Aroclor1242	ND	0.61	1	01/09/2018 02:45
Aroclor1248	ND	0.61	1	01/09/2018 02:45
Aroclor1254	ND	0.61	1	01/09/2018 02:45
Aroclor1260	ND	0.61	1	01/09/2018 02:45
PCBs, total	ND	0.61	1	01/09/2018 02:45

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	85	70-130	01/09/2018 02:45

Analyst(s): CK

Analytical Comments: h4,a7

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Quality Control Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1801285
Date Prepared:	1/8/18	**BatchID:**	151279
Date Analyzed:	1/9/18	**Extraction Method:**	SW3550B
Instrument:	GC20	**Analytical Method:**	SW8082
Matrix:	Soil	**Unit:**	mg/kg
Project:	17178; Twin Rivers Demo Survey	**Sample ID:**	MB/LCS/LCSD-151279

QC Summary Report for SW8082

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Aroclor1016	ND	0.050	-	-	-
Aroclor1221	ND	0.050	-	-	-
Aroclor1232	ND	0.050	-	-	-
Aroclor1242	ND	0.050	-	-	-
Aroclor1248	ND	0.050	-	-	-
Aroclor1254	ND	0.050	-	-	-
Aroclor1260	ND	0.050	-	-	-
PCBs, total	ND	0.050	-	-	-
Surrogate Recovery					
Decachlorobiphenyl	0.0462		0.050	92	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Aroclor1016	0.138	0.137	0.15	92	91	70-130	1.19	20
Aroclor1260	0.151	0.142	0.15	101	94	70-130	6.49	20
Surrogate Recovery								
Decachlorobiphenyl	0.0475	0.0443	0.050	95	89	70-130	7.14	20

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1801285 **ClientCode: ESL**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☒ EQuIS ☐ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag
☒ Detection Summary ☒ Dry-Weight

Report to:
Trevor Marion
Essel Environmental Consulting
351 California Street, Ste. 615
San Francisco, CA 94104
(707) 494-4883 FAX: 510-380-6610

Email: trevormarion@esseltek.com
cc/3rd Party: jwarren@esseltek.com; tbarazoto@esselte
PO:
Project: 17178; Twin Rivers Demo Survey

Bill to:
Nik Lahiri
Essel Environmental Consulting
351 California Street, Ste. 615
San Francisco, CA 94104
tnnkbmax@sbcglobal.net; nlahiri@essel

Requested TAT: 3 days;

Date Received: **01/08/2018**
Date Logged: **01/08/2018**

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
1801285-001	462-PCB-1	Solid	1/6/2018 00:00	☐	A											
1801285-002	462-PCB-2	Solid	1/6/2018 00:00	☐	A											
1801285-003	462-PCB-3	Solid	1/6/2018 00:00	☐	A											
1801285-004	462-PCB-4	Solid	1/6/2018 00:00	☐	A											
1801285-005	462-PCB-5	Solid	1/6/2018 00:00	☐	A											

Test Legend:

1	8082_PCB_Solid	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.

McCampbell Analytical, Inc.
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WORK ORDER SUMMARY

Client Name: ESSEL ENVIRONMENTAL CONSULTING
Client Contact: Trevor Marion
Contact's Email: trevormarion@esseltek.com
Project: 17178; Twin Rivers Demo Survey
Comments:
Work Order: 1801285
QC Level: LEVEL 2
Date Logged: 1/8/2018

☐ 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
1801285-001A	462-PCB-1	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	1/6/2018	3 days		☐	
1801285-002A	462-PCB-2	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	1/6/2018	3 days		☐	
1801285-003A	462-PCB-3	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	1/6/2018	3 days		☐	
1801285-004A	462-PCB-4	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	1/6/2018	3 days		☐	
1801285-005A	462-PCB-5	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	1/6/2018	3 days		☐	

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.

1801285

Essel Technology Services, Inc.
351 California Street, Suite 615
San Francisco, CA 94104
Phone: 415-938-7002

ESSEL ENVIRONMENTAL ENGINEERING & CONSULTING

Turn Around Time: 72 hrs

Send results via: TrevorMarion@Esseltek.com, Nlahiri@esseltek.com, Tbarazoto@esseltek.com, Tmiller@esseltek.com, Jwarren@esseltek.com

PCB

Chain of Custody Form

~~**Asbestos/Lead/Mold Bulk Sampling**~~

Project No: 17178	Date: 1/6/18	Client Name: SHRA
Laboratory Submitted To: McCampbell		
Relinquished By: Trevor Marion	Date: 1/6/18	Project Name: Twin Rivers Demo Survey
Print Name:		
Relinquished to:	Date:	Project Location: 462 Dos Rios Sacramento, CA
Print Name:		

Homogeneous Material Group	Sample Number	Material description	Sample Location	Condition Friability	Quantity
	462-PCB-1	Wht/beige Paint on wP wall	Bath - N wall		
	-2	wht/beige Paint on wood window trim	LvRm - West		
	-3	↓ on wood ext column	N face - At front door		
	-4	Pink Paint on ext stucco	N face - Ext stucco		
	-5	Grey Paint on wood substrate	N face - behind stucco		

Sampled by: Trevor Marion Date: 1/6/18

Comments: _____

Recd @ MAI 1/8/18 0808

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Sample Receipt Checklist

Client Name:	**Essel Environmental Consulting**	Date and Time Received	**1/8/2018 08:08**
Project:	**17178; Twin Rivers Demo Survey**	Date Logged:	**1/8/2018**
		Received by:	Jena Alfaro
WorkOrder №:	**1801285** Matrix: Solid	Logged by:	Jena Alfaro
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	☐	
COC agrees with Quote?	Yes	☐	No	☐	NA ☑

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	☐	NA ☐
Sample/Temp Blank temperature	Temp:				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	☑	

UCMR 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 ☑

Comments:

McCampbell Analytical, Inc.
"When Quality Counts"

Analytical Report

WorkOrder: 1707894

Report Created for: Essel Environmental Consulting

351 California Street, Ste. 615
San Francisco, CA 94104

Project Contact: Trevor Marion
Project P.O.:
Project Name: 17178; Twin Rivers Demo Survey

Project Received: 07/25/2017

Analytical Report reviewed & approved for release on 07/27/2017 by:

Angela Rydelius,
Laboratory Manager

1534 Willow Pass Rd. Pittsburg, CA 94565 ♦ TEL: (877) 252-9262 ♦ FAX: (925) 252-9269 ♦ www.mccampbell.com
CA ELAP 1644 ♦ NELAP 4033ORELAP

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 17178; Twin Rivers Demo Survey
WorkOrder: 1707894

Glossary Abbreviation

%D	Serial Dilution Percent Difference
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)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
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.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
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
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

McCampbell Analytical, Inc.
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Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 17178; Twin Rivers Demo Survey
WorkOrder: 1707894

Analytical Qualifiers

a1	Sample diluted due to matrix interference
a4	Reporting limits raised due to the sample's matrix prohibiting a full volume extraction.
a7	Reporting limit raised due to limited sample amount
h4	Sulfuric acid permanganate (EPA 3665) cleanup

McCampbell Analytical, Inc.
"When Quality Counts"

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1707894
Date Received:	7/25/17 10:05	**Extraction Method:**	SW3550B
Date Prepared:	7/25/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo Survey	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
442-PCB-1	**1707894-001A**	**Solid**	**07/20/2017**	**GC23**	**142554**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.50	1	07/26/2017 20:47
Aroclor1221	ND	0.50	1	07/26/2017 20:47
Aroclor1232	ND	0.50	1	07/26/2017 20:47
Aroclor1242	ND	0.50	1	07/26/2017 20:47
Aroclor1248	ND	0.50	1	07/26/2017 20:47
Aroclor1254	ND	0.50	1	07/26/2017 20:47
Aroclor1260	ND	0.50	1	07/26/2017 20:47
PCBs, total	ND	0.50	1	07/26/2017 20:47

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	116	70-130	07/26/2017 20:47

Analyst(s): CK Analytical Comments: h4,a4

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
442-PCB-2	**1707894-002A**	**Solid**	**07/20/2017**	**GC23**	**142554**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.81	1	07/26/2017 21:01
Aroclor1221	ND	0.81	1	07/26/2017 21:01
Aroclor1232	ND	0.81	1	07/26/2017 21:01
Aroclor1242	ND	0.81	1	07/26/2017 21:01
Aroclor1248	ND	0.81	1	07/26/2017 21:01
Aroclor1254	ND	0.81	1	07/26/2017 21:01
Aroclor1260	ND	0.81	1	07/26/2017 21:01
PCBs, total	ND	0.81	1	07/26/2017 21:01

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	112	70-130	07/26/2017 21:01

Analyst(s): CK Analytical Comments: h4,a7

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1707894
Date Received:	7/25/17 10:05	**Extraction Method:**	SW3550B
Date Prepared:	7/25/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo Survey	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
442-PCB-3	**1707894-003A**	**Solid**	**07/20/2017**	**GC23**	**142554**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	5.0	10	07/27/2017 12:03
Aroclor1221	ND	5.0	10	07/27/2017 12:03
Aroclor1232	ND	5.0	10	07/27/2017 12:03
Aroclor1242	ND	5.0	10	07/27/2017 12:03
Aroclor1248	ND	5.0	10	07/27/2017 12:03
Aroclor1254	ND	5.0	10	07/27/2017 12:03
Aroclor1260	ND	5.0	10	07/27/2017 12:03
PCBs, total	ND	5.0	10	07/27/2017 12:03

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	120	70-130	07/27/2017 12:03

Analyst(s): CK Analytical Comments: h4,a4,a1

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
442-PCB-4	**1707894-004A**	**Solid**	**07/20/2017**	**GC23**	**142554**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	1.2	1	07/26/2017 21:14
Aroclor1221	ND	1.2	1	07/26/2017 21:14
Aroclor1232	ND	1.2	1	07/26/2017 21:14
Aroclor1242	ND	1.2	1	07/26/2017 21:14
Aroclor1248	ND	1.2	1	07/26/2017 21:14
Aroclor1254	ND	1.2	1	07/26/2017 21:14
Aroclor1260	ND	1.2	1	07/26/2017 21:14
PCBs, total	ND	1.2	1	07/26/2017 21:14

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	97	70-130	07/26/2017 21:14

Analyst(s): CK Analytical Comments: h4,a7

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1707894
Date Received:	7/25/17 10:05	**Extraction Method:**	SW3550B
Date Prepared:	7/25/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo Survey	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
442-PCB-5	1707894-005A	Solid	07/20/2017	GC23	142554

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	1.6	1	07/26/2017 21:28
Aroclor1221	ND	1.6	1	07/26/2017 21:28
Aroclor1232	ND	1.6	1	07/26/2017 21:28
Aroclor1242	ND	1.6	1	07/26/2017 21:28
Aroclor1248	ND	1.6	1	07/26/2017 21:28
Aroclor1254	ND	1.6	1	07/26/2017 21:28
Aroclor1260	ND	1.6	1	07/26/2017 21:28
PCBs, total	ND	1.6	1	07/26/2017 21:28

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	112	70-130	07/26/2017 21:28

Analyst(s): CK Analytical Comments: h4,a7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
442-PCB-6	1707894-006A	Solid	07/20/2017	GC23	142554

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	1.1	1	07/26/2017 21:41
Aroclor1221	ND	1.1	1	07/26/2017 21:41
Aroclor1232	ND	1.1	1	07/26/2017 21:41
Aroclor1242	ND	1.1	1	07/26/2017 21:41
Aroclor1248	ND	1.1	1	07/26/2017 21:41
Aroclor1254	ND	1.1	1	07/26/2017 21:41
Aroclor1260	ND	1.1	1	07/26/2017 21:41
PCBs, total	ND	1.1	1	07/26/2017 21:41

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	88	70-130	07/26/2017 21:41

Analyst(s): CK Analytical Comments: h4,a7

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1707894
Date Received:	7/25/17 10:05	**Extraction Method:**	SW3550B
Date Prepared:	7/25/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo Survey	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
442-PCB-7	1707894-007A	Solid	07/20/2017	GC23	142554

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.50	1	07/26/2017 21:55
Aroclor1221	ND	0.50	1	07/26/2017 21:55
Aroclor1232	ND	0.50	1	07/26/2017 21:55
Aroclor1242	ND	0.50	1	07/26/2017 21:55
Aroclor1248	ND	0.50	1	07/26/2017 21:55
Aroclor1254	ND	0.50	1	07/26/2017 21:55
Aroclor1260	ND	0.50	1	07/26/2017 21:55
PCBs, total	ND	0.50	1	07/26/2017 21:55

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	118	70-130	07/26/2017 21:55

Analyst(s): CK Analytical Comments: h4,a4

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Quality Control Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1707894
Date Prepared:	7/25/17	**BatchID:**	142554
Date Analyzed:	7/25/17	**Extraction Method:**	SW3550B
Instrument:	GC23	**Analytical Method:**	SW8082
Matrix:	Soil	**Unit:**	mg/kg
Project:	17178; Twin Rivers Demo Survey	**Sample ID:**	MB/LCS/LCSD-142554

QC Summary Report for SW8082

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Aroclor1016	ND	0.050	-	-	-
Aroclor1016	ND	0.050	-	-	-
Aroclor1221	ND	0.050	-	-	-
Aroclor1232	ND	0.050	-	-	-
Aroclor1242	ND	0.050	-	-	-
Aroclor1248	ND	0.050	-	-	-
Aroclor1254	ND	0.050	-	-	-
Aroclor1260	ND	0.050	-	-	-
PCBs, total	ND	0.050	-	-	-
Surrogate Recovery					
Decachlorobiphenyl	0.05028		0.050	101	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Aroclor1016	0.166	0.169	0.15	111	112	70-130	1.32	20
Aroclor1260	0.161	0.166	0.15	107	111	70-130	3.23	20
Surrogate Recovery								
Decachlorobiphenyl	0.0453	0.0464	0.050	91	93	70-130	2.43	20

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CHAIN-OF-CUSTODY RECORD

WorkOrder: 1707894 **ClientCode: ESL**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☑ EQuIS ☐ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Trevor Marion
Essel Environmental Consulting
351 California Street, Ste. 615
San Francisco, CA 94104
(707) 494-4883 FAX: 510-380-6610

Email: trevormarion@esseltek.com
cc/3rd Party: tbarazoto@esseltek.com; nlahiri@esseltek.
PO:
ProjectNo: 17178; Twin Rivers Demo Survey

Bill to:
Nik Lahiri
Essel Environmental Consulting
351 California Street, Ste. 615
San Francisco, CA 94104
tnnkbmax@sbcglobal.net; nlahiri@essel

Requested TAT: 3 days;

Date Received: **07/25/2017**
Date Logged: **07/25/2017**

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
1707894-001	442-PCB-1	Solid	7/20/2017 00:00	☐	A											
1707894-002	442-PCB-2	Solid	7/20/2017 00:00	☐	A											
1707894-003	442-PCB-3	Solid	7/20/2017 00:00	☐	A											
1707894-004	442-PCB-4	Solid	7/20/2017 00:00	☐	A											
1707894-005	442-PCB-5	Solid	7/20/2017 00:00	☐	A											
1707894-006	442-PCB-6	Solid	7/20/2017 00:00	☐	A											
1707894-007	442-PCB-7	Solid	7/20/2017 00:00	☐	A											

Test Legend:

1	8082_PCB_Solid	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.

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WORK ORDER SUMMARY

Client Name: ESSEL ENVIRONMENTAL CONSULTING
Client Contact: Trevor Marion
Contact's Email: trevormarion@esseltek.com

Project: 17178; Twin Rivers Demo Survey
Comments:

Work Order: 1707894
QC Level: LEVEL 2
Date Logged: 7/25/2017

☐ 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
1707894-001A	442-PCB-1	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	7/20/2017	3 days		☐	
1707894-002A	442-PCB-2	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	7/20/2017	3 days		☐	
1707894-003A	442-PCB-3	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	7/20/2017	3 days		☐	
1707894-004A	442-PCB-4	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	7/20/2017	3 days		☐	
1707894-005A	442-PCB-5	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	7/20/2017	3 days		☐	
1707894-006A	442-PCB-6	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	7/20/2017	3 days		☐	
1707894-007A	442-PCB-7	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	7/20/2017	3 days		☐	

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.

1707894

Turn Around Time: 72 hr **RUSH!**

Send results via: TrevorMarion@Esseltek.com , Nlahiri@esseltek.com, tBarazoto@esseltek.com, Tmiller@esseltek.com

Essel Technology Services, Inc.
351 California Street, Suite 615
San Francisco, CA 94104
Phone: 415-938-7002

essel ENVIRONMENTAL ENGINEERING & CONSULTING

PCB

Chain of Custody Form

Asbestos/Lead/Mold Bulk Sampling

Project No: 17178	Date: 7/23/17	Client Name: SHRA
Laboratory Submitted To: McCampbell		
Relinquished By: Trevor Marion	Date: ~~7/23/17~~ 7/25/17	Project Name: Twin Rivers Demo Survey
Print Name:		
Relinquished to:	Date:	Project Location: 442 Dos Rios Blvd Sacramento, CA
Print Name:		

Homogeneous Material Group	Sample Number	Material description	Sample Location	Condition Friability	Quantity
	442-PCB-1	White Paint	Kitchn-window Sill		
	-2	White Paint	Bathroom-door		
	-3	White Paint	LvRm-wall		
	-4	Brown Paint	Exterior wood trim		
	-5	Tan Paint	Exterior Stucco		
	-6	White Paint	Exterior wood column		
	-7	White Caulking	Exterior Eve		

Recd @ MAI: 7/25/17 1005

Sampled by: Trevor Marion Date: 7/23/17

Comments: Sampled on: 7/20/17

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Sample Receipt Checklist

Client Name:	**Essel Environmental Consulting**	Date and Time Received	**7/25/2017 10:05**
Project Name:	**17178; Twin Rivers Demo Survey**	Date Logged:	**7/25/2017**
		Received by:	Jena Alfaro
WorkOrder №:	**1707894** Matrix: Solid	Logged by:	Jena Alfaro
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	☐	NA ☐
Sample/Temp Blank temperature	Temp:				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	☑	

UCMR 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 ☑

Comments:

McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1801286

Report Created for: Essel Environmental Consulting

351 California Street, Ste. 615
San Francisco, CA 94104

Project Contact: Trevor Marion
Project P.O.:
Project: 17178; Twin Rivers Demo Survey

Project Received: 01/08/2018

Analytical Report reviewed & approved for release on 01/11/2018 by:

Yen Cao
Project Manager

McCampbell Analytical, Inc.
"When Quality Counts"

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Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 17178; Twin Rivers Demo Survey
WorkOrder: 1801286

Glossary Abbreviation

%D	Serial Dilution Percent Difference
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)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
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.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
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
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

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Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 17178; Twin Rivers Demo Survey
WorkOrder: 1801286

Analytical Qualifiers

a4	Reporting limits raised due to the sample's matrix prohibiting a full volume extraction.
a7	Reporting limit raised due to limited sample amount.
h4	Sulfuric acid permanganate (EPA 3665) cleanup.

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1801286
Date Received:	1/8/18 8:08	**Extraction Method:**	SW3550B
Date Prepared:	1/8/18	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo Survey	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
402-PCB-1	1801286-001A	Solid	01/06/2018	GC20 01081877.D	151279

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.50	1	01/09/2018 07:18
Aroclor1221	ND	0.50	1	01/09/2018 07:18
Aroclor1232	ND	0.50	1	01/09/2018 07:18
Aroclor1242	ND	0.50	1	01/09/2018 07:18
Aroclor1248	ND	0.50	1	01/09/2018 07:18
Aroclor1254	ND	0.50	1	01/09/2018 07:18
Aroclor1260	ND	0.50	1	01/09/2018 07:18
PCBs, total	ND	0.50	1	01/09/2018 07:18

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	88	70-130	01/09/2018 07:18

Analyst(s): CK Analytical Comments: h4,a4

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
402-PCB-2	1801286-002A	Solid	01/06/2018	GC20 01081878.D	151279

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	1.9	1	01/09/2018 07:34
Aroclor1221	ND	1.9	1	01/09/2018 07:34
Aroclor1232	ND	1.9	1	01/09/2018 07:34
Aroclor1242	ND	1.9	1	01/09/2018 07:34
Aroclor1248	ND	1.9	1	01/09/2018 07:34
Aroclor1254	ND	1.9	1	01/09/2018 07:34
Aroclor1260	ND	1.9	1	01/09/2018 07:34
PCBs, total	ND	1.9	1	01/09/2018 07:34

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	93	70-130	01/09/2018 07:34

Analyst(s): CK Analytical Comments: h4,a7

(Cont.)

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1801286
Date Received:	1/8/18 8:08	**Extraction Method:**	SW3550B
Date Prepared:	1/8/18	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo Survey	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
402-PCB-3	1801286-003A	Solid	01/06/2018	GC20 01081879.D	151279

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.61	1	01/09/2018 07:50
Aroclor1221	ND	0.61	1	01/09/2018 07:50
Aroclor1232	ND	0.61	1	01/09/2018 07:50
Aroclor1242	ND	0.61	1	01/09/2018 07:50
Aroclor1248	ND	0.61	1	01/09/2018 07:50
Aroclor1254	ND	0.61	1	01/09/2018 07:50
Aroclor1260	ND	0.61	1	01/09/2018 07:50
PCBs, total	ND	0.61	1	01/09/2018 07:50

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	92	70-130	01/09/2018 07:50

Analyst(s): CK Analytical Comments: h4,a7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
402-PCB-4	1801286-004A	Solid	01/06/2018	GC20 01081880.D	151279

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	1.1	1	01/09/2018 08:06
Aroclor1221	ND	1.1	1	01/09/2018 08:06
Aroclor1232	ND	1.1	1	01/09/2018 08:06
Aroclor1242	ND	1.1	1	01/09/2018 08:06
Aroclor1248	ND	1.1	1	01/09/2018 08:06
Aroclor1254	ND	1.1	1	01/09/2018 08:06
Aroclor1260	ND	1.1	1	01/09/2018 08:06
PCBs, total	ND	1.1	1	01/09/2018 08:06

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	98	70-130	01/09/2018 08:06

Analyst(s): CK Analytical Comments: h4,a7

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1801286
Date Received:	1/8/18 8:08	**Extraction Method:**	SW3550B
Date Prepared:	1/8/18	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo Survey	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
402-PCB-5	1801286-005A	Solid	01/06/2018	GC20 01081881.D	151279

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.56	1	01/09/2018 08:22
Aroclor1221	ND	0.56	1	01/09/2018 08:22
Aroclor1232	ND	0.56	1	01/09/2018 08:22
Aroclor1242	ND	0.56	1	01/09/2018 08:22
Aroclor1248	ND	0.56	1	01/09/2018 08:22
Aroclor1254	ND	0.56	1	01/09/2018 08:22
Aroclor1260	ND	0.56	1	01/09/2018 08:22
PCBs, total	ND	0.56	1	01/09/2018 08:22

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	100	70-130	01/09/2018 08:22

Analyst(s): CK Analytical Comments: h4,a7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
402-PCB-6	1801286-006A	Solid	01/06/2018	GC20 01081882.D	151279

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.65	1	01/09/2018 08:38
Aroclor1221	ND	0.65	1	01/09/2018 08:38
Aroclor1232	ND	0.65	1	01/09/2018 08:38
Aroclor1242	ND	0.65	1	01/09/2018 08:38
Aroclor1248	ND	0.65	1	01/09/2018 08:38
Aroclor1254	ND	0.65	1	01/09/2018 08:38
Aroclor1260	ND	0.65	1	01/09/2018 08:38
PCBs, total	ND	0.65	1	01/09/2018 08:38

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	83	70-130	01/09/2018 08:38

Analyst(s): CK Analytical Comments: h4,a7

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Quality Control Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1801286
Date Prepared:	1/8/18	**BatchID:**	151279
Date Analyzed:	1/9/18	**Extraction Method:**	SW3550B
Instrument:	GC20	**Analytical Method:**	SW8082
Matrix:	Soil	**Unit:**	mg/kg
Project:	17178; Twin Rivers Demo Survey	**Sample ID:**	MB/LCS/LCSD-151279

QC Summary Report for SW8082

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Aroclor1016	ND	0.050	-	-	-
Aroclor1221	ND	0.050	-	-	-
Aroclor1232	ND	0.050	-	-	-
Aroclor1242	ND	0.050	-	-	-
Aroclor1248	ND	0.050	-	-	-
Aroclor1254	ND	0.050	-	-	-
Aroclor1260	ND	0.050	-	-	-
PCBs, total	ND	0.050	-	-	-
Surrogate Recovery					
Decachlorobiphenyl	0.0462		0.050	92	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Aroclor1016	0.138	0.137	0.15	92	91	70-130	1.19	20
Aroclor1260	0.151	0.142	0.15	101	94	70-130	6.49	20
Surrogate Recovery								
Decachlorobiphenyl	0.0475	0.0443	0.050	95	89	70-130	7.14	20

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(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1801286 **ClientCode: ESL**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☒ EQuIS ☐ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag
☒ Detection Summary ☒ Dry-Weight

Report to:
Trevor Marion
Essel Environmental Consulting
351 California Street, Ste. 615
San Francisco, CA 94104
(707) 494-4883 FAX: 510-380-6610

Email: trevormarion@esseltek.com
cc/3rd Party: jwarren@esseltek.com; tbarazoto@esselte
PO:
Project: 17178; Twin Rivers Demo Survey

Bill to:
Nik Lahiri
Essel Environmental Consulting
351 California Street, Ste. 615
San Francisco, CA 94104
tnnkbmax@sbcglobal.net; nlahiri@essel

Requested TAT: 3 days;

Date Received: **01/08/2018**
Date Logged: **01/08/2018**

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
1801286-001	402-PCB-1	Solid	1/6/2018 00:00	☐	A											
1801286-002	402-PCB-2	Solid	1/6/2018 00:00	☐	A											
1801286-003	402-PCB-3	Solid	1/6/2018 00:00	☐	A											
1801286-004	402-PCB-4	Solid	1/6/2018 00:00	☐	A											
1801286-005	402-PCB-5	Solid	1/6/2018 00:00	☐	A											
1801286-006	402-PCB-6	Solid	1/6/2018 00:00	☐	A											

Test Legend:

1	8082_PCB_Solid	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.

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WORK ORDER SUMMARY

Client Name: ESSEL ENVIRONMENTAL CONSULTING
Client Contact: Trevor Marion
Contact's Email: trevormarion@esseltek.com
Project: 17178; Twin Rivers Demo Survey
Comments:
Work Order: 1801286
QC Level: LEVEL 2
Date Logged: 1/8/2018

☐ 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
1801286-001A	402-PCB-1	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	1/6/2018	3 days		☐	
1801286-002A	402-PCB-2	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	1/6/2018	3 days		☐	
1801286-003A	402-PCB-3	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	1/6/2018	3 days		☐	
1801286-004A	402-PCB-4	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	1/6/2018	3 days		☐	
1801286-005A	402-PCB-5	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	1/6/2018	3 days		☐	
1801286-006A	402-PCB-6	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	1/6/2018	3 days		☐	

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.

1801286

Essel Technology Services, Inc.
351 California Street, Suite 615
San Francisco, CA 94104
Phone: 415-938-7002

ESSEL ENVIRONMENTAL ENGINEERING & CONSULTING

RUSH **Turn Around Time:** 72 hrs

Send results via: TrevorMarion@Esseltek.com, Nlahiri@esseltek.com, Tbarazoto@esseltek.com, Tmiller@esseltek.com, Jwarren@esseltek.com

PCB

Chain of Custody Form

~~Asbestos/Lead/Mold Bulk Sampling~~

Project No: 17178	Date: 1/6/18	Client Name: SHRA
Laboratory Submitted To: McCampbell		
Relinquished By: Trevor Marion	Date: 1/6/18	Project Name: Twin Rivers Demo Survey
Print Name: Trevor Marion		
Relinquished to:	Date:	Project Location: 402 Dos Rios Sacramento, CA
Print Name:		

Homogeneous Material Group	Sample Number	Material description	Sample Location	Condition Friability	Quantity
	402-PCB-1	White/beige Paint on wp wall	Bathroom - N face wall		
	-2	on wood window trim	Kitchen - top - E wall		
	-3	on wp ceiling	Above front door		
	-4	White paint on ext wood column	N face at front door		
	-5	Green Paint on ext stucco	N face		
	-6	Grey + Beige Paint on wood Substrate	N face - behind stucco		

Sampled by: Trevor Marion Date: 1/6/18 Recd @ MAI 1/8/18 0808

Comments: _____

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Sample Receipt Checklist

Client Name:	**Essel Environmental Consulting**	Date and Time Received	**1/8/2018 08:08**
Project:	**17178; Twin Rivers Demo Survey**	Date Logged:	**1/8/2018**
		Received by:	Jena Alfaro
WorkOrder №:	**1801286** Matrix: Solid	Logged by:	Jena Alfaro
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	☐	
COC agrees with Quote?	Yes	☐	No	☐	NA ☑

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	☐	NA ☐
Sample/Temp Blank temperature	Temp:				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	☑	

UCMR 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 ☑

Comments:

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Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 17178; Twin Rivers Demo Survey
WorkOrder: 1711423

Glossary Abbreviation

%D	Serial Dilution Percent Difference
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)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
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.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
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
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

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Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 17178; Twin Rivers Demo Survey
WorkOrder: 1711423

Analytical Qualifiers

a4	Reporting limits raised due to the sample's matrix prohibiting a full volume extraction.
a7	Reporting limit raised due to limited sample amount
h4	Sulfuric acid permanganate (EPA 3665) cleanup

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711423
Date Received:	11/9/17 20:30	**Extraction Method:**	SW3550B
Date Prepared:	11/9/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo Survey	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
340-PCB-1	1711423-001A	Solid	11/09/2017	GC40 11131726.d	148471

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.50	1	11/13/2017 19:40
Aroclor1221	ND	0.50	1	11/13/2017 19:40
Aroclor1232	ND	0.50	1	11/13/2017 19:40
Aroclor1242	ND	0.50	1	11/13/2017 19:40
Aroclor1248	ND	0.50	1	11/13/2017 19:40
Aroclor1254	ND	0.50	1	11/13/2017 19:40
Aroclor1260	ND	0.50	1	11/13/2017 19:40
PCBs, total	ND	0.50	1	11/13/2017 19:40

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	74	70-130	11/13/2017 19:40

Analyst(s): LT Analytical Comments: h4,a4

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
340-PCB-2	1711423-002A	Solid	11/09/2017	GC40 11131727.d	148471

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.50	1	11/13/2017 19:53
Aroclor1221	ND	0.50	1	11/13/2017 19:53
Aroclor1232	ND	0.50	1	11/13/2017 19:53
Aroclor1242	ND	0.50	1	11/13/2017 19:53
Aroclor1248	ND	0.50	1	11/13/2017 19:53
Aroclor1254	ND	0.50	1	11/13/2017 19:53
Aroclor1260	ND	0.50	1	11/13/2017 19:53
PCBs, total	ND	0.50	1	11/13/2017 19:53

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	87	70-130	11/13/2017 19:53

Analyst(s): LT Analytical Comments: h4,a4

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711423
Date Received:	11/9/17 20:30	**Extraction Method:**	SW3550B
Date Prepared:	11/9/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo Survey	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
340-PCB-3	**1711423-003A**	**Solid**	**11/09/2017**	**GC40 11131728.d**	**148471**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.77	1	11/13/2017 20:06
Aroclor1221	ND	0.77	1	11/13/2017 20:06
Aroclor1232	ND	0.77	1	11/13/2017 20:06
Aroclor1242	ND	0.77	1	11/13/2017 20:06
Aroclor1248	ND	0.77	1	11/13/2017 20:06
Aroclor1254	ND	0.77	1	11/13/2017 20:06
Aroclor1260	ND	0.77	1	11/13/2017 20:06
PCBs, total	ND	0.77	1	11/13/2017 20:06

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	84	70-130	11/13/2017 20:06

Analyst(s): LT Analytical Comments: h4,a7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
340-PCB-4	**1711423-004A**	**Solid**	**11/09/2017**	**GC40 11131729.d**	**148471**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	2.0	1	11/13/2017 20:20
Aroclor1221	ND	2.0	1	11/13/2017 20:20
Aroclor1232	ND	2.0	1	11/13/2017 20:20
Aroclor1242	ND	2.0	1	11/13/2017 20:20
Aroclor1248	ND	2.0	1	11/13/2017 20:20
Aroclor1254	ND	2.0	1	11/13/2017 20:20
Aroclor1260	ND	2.0	1	11/13/2017 20:20
PCBs, total	ND	2.0	1	11/13/2017 20:20

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	88	70-130	11/13/2017 20:20

Analyst(s): LT Analytical Comments: h4,a7

(Cont.)

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711423
Date Received:	11/9/17 20:30	**Extraction Method:**	SW3550B
Date Prepared:	11/9/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo Survey	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
340-PCB-5	**1711423-005A**	**Solid**	**11/09/2017**	**GC40 11131730.d**	**148471**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	1.9	1	11/13/2017 20:33
Aroclor1221	ND	1.9	1	11/13/2017 20:33
Aroclor1232	ND	1.9	1	11/13/2017 20:33
Aroclor1242	ND	1.9	1	11/13/2017 20:33
Aroclor1248	ND	1.9	1	11/13/2017 20:33
Aroclor1254	ND	1.9	1	11/13/2017 20:33
Aroclor1260	ND	1.9	1	11/13/2017 20:33
PCBs, total	ND	1.9	1	11/13/2017 20:33

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	82	70-130	11/13/2017 20:33

Analyst(s): LT

Analytical Comments: h4,a7

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1711423 **ClientCode: ESL**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☒ EQuIS ☐ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag
☒ Detection Summary ☒ Dry-Weight

Report to:
Trevor Marion
Essel Environmental Consulting
351 California Street, Ste. 615
San Francisco, CA 94104
(707) 494-4883 FAX: 510-380-6610

Email: trevormarion@esseltek.com
cc/3rd Party: tbarazoto@esseltek.com; nlahiri@esseltek.
PO:
ProjectNo: 17178; Twin Rivers Demo Survey

Bill to:
Nik Lahiri
Essel Environmental Consulting
351 California Street, Ste. 615
San Francisco, CA 94104
tnnkbmax@sbcglobal.net; nlahiri@essel

Requested TAT: 3 days;

Date Received: **11/09/2017**
Date Logged: **11/09/2017**

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
1711423-001	340-PCB-1	Solid	11/9/2017 00:00	☐	A											
1711423-002	340-PCB-2	Solid	11/9/2017 00:00	☐	A											
1711423-003	340-PCB-3	Solid	11/9/2017 00:00	☐	A											
1711423-004	340-PCB-4	Solid	11/9/2017 00:00	☐	A											
1711423-005	340-PCB-5	Solid	11/9/2017 00:00	☐	A											

Test Legend:

1	8082_PCB_Solid	2		3		4	
5		6		7		8	
9		10		11		12	

Prepared by: Agustina Venegas

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.

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WORK ORDER SUMMARY

Client Name: ESSEL ENVIRONMENTAL CONSULTING
Client Contact: Trevor Marion
Contact's Email: trevormarion@esseltek.com
Project: 17178; Twin Rivers Demo Survey
Comments:
Work Order: 1711423
QC Level: LEVEL 2
Date Logged: 11/9/2017

☐ 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
1711423-001A	340-PCB-1	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Small	☐	11/9/2017	3 days		☐	
1711423-002A	340-PCB-2	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Small	☐	11/9/2017	3 days		☐	
1711423-003A	340-PCB-3	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Small	☐	11/9/2017	3 days		☐	
1711423-004A	340-PCB-4	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Small	☐	11/9/2017	3 days		☐	
1711423-005A	340-PCB-5	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Small	☐	11/9/2017	3 days		☐	

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.

essel
ENVIRONMENTAL
ENGINEERING
& CONSULTING

RUSH **Turn Around Time:** 72 hr 1711423

Send results via: TrevorMarion@Esseltek.com, Nlahiri@esseltek.com, Tbarazoto@esseltek.com, Tmiller@esseltek.com, Jwarren@esseltek.com

Essel Technology Services, Inc.
351 California Street, Suite 615
San Francisco, CA 94104
Phone: 415-938-7002

PCB

Chain of Custody Form

~~Asbestos/Lead/Mold Bulk Sampling~~

Project No: 17178	Date: 11/9/17	Client Name: JHRA	
Laboratory Submitted To: McCampbell			
Relinquished By: Jm	Date: 11/9/17	Project Name: Twin Rivers PCMO Survey	
Print Name: Trevor M			
Relinquished to:	Date:	Project Location: 340 Dos Rios Sacramento, CA	
Print Name:			

Homogeneous Material Group	Sample Number	Material description	Sample Location	Condition Friability	Quantity
	340-PCB-1	Beige Paint on Plaster	Bath - N wall		
	-2	↓	Hallway - S wall		
	-3	Tan Paint on stucco	south ext face		
	-4	Dk brwn Pnt on wood	Above front door		
	-5	White Pnt on wood	Above front door		

Sampled by: Trevor Marion Date: 11/9/17 aguglinaV. 11/9 2030

Comments: _____

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Sample Receipt Checklist

Client Name:	**Essel Environmental Consulting**	Date and Time Received	**11/9/2017 20:30**
Project Name:	**17178; Twin Rivers Demo Survey**	Date Logged:	**11/9/2017**
		Received by:	Agustina Venegas
WorkOrder №:	**1711423** Matrix: Solid	Logged by:	Agustina Venegas
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	☐		
COC agrees with Quote?	Yes	☐	No	☐	NA	☑

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	☐	NA	☐
Sample/Temp Blank temperature	Temp:				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	☑		

UCMR 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	☑

Comments:

McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1711422

Report Created for: Essel Environmental Consulting

351 California Street, Ste. 615
San Francisco, CA 94104

Project Contact: Trevor Marion
Project P.O.:
Project Name: 17178; Twin Rivers Demo Survey

Project Received: 11/09/2017

Analytical Report reviewed & approved for release on 11/14/2017 by:

Heidi Fruhlinger
Project Manager

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Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 17178; Twin Rivers Demo Survey
WorkOrder: 1711422

Glossary Abbreviation

%D	Serial Dilution Percent Difference
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)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
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.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
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
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

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Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 17178; Twin Rivers Demo Survey
WorkOrder: 1711422

Analytical Qualifiers

a2	Sample diluted due to cluttered chromatogram
a4	Reporting limits raised due to the sample's matrix prohibiting a full volume extraction.
a7	Reporting limit raised due to limited sample amount
h4	Sulfuric acid permanganate (EPA 3665) cleanup

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711422
Date Received:	11/9/17 20:30	**Extraction Method:**	SW3550B
Date Prepared:	11/9/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo Survey	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
562-PCB-1	**1711422-001A**	**Solid**	**11/09/2017**	**GC23 11101729.D**	**148452**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.50	1	11/11/2017 01:38
Aroclor1221	ND	0.50	1	11/11/2017 01:38
Aroclor1232	ND	0.50	1	11/11/2017 01:38
Aroclor1242	ND	0.50	1	11/11/2017 01:38
Aroclor1248	ND	0.50	1	11/11/2017 01:38
Aroclor1254	ND	0.50	1	11/11/2017 01:38
Aroclor1260	ND	0.50	1	11/11/2017 01:38
PCBs, total	ND	0.50	1	11/11/2017 01:38

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	117	70-130	11/11/2017 01:38

Analyst(s): LT Analytical Comments: h4,a4

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
562-PCB-2	**1711422-002A**	**Solid**	**11/09/2017**	**GC23 11101730.D**	**148452**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.50	1	11/11/2017 01:54
Aroclor1221	ND	0.50	1	11/11/2017 01:54
Aroclor1232	ND	0.50	1	11/11/2017 01:54
Aroclor1242	ND	0.50	1	11/11/2017 01:54
Aroclor1248	ND	0.50	1	11/11/2017 01:54
Aroclor1254	ND	0.50	1	11/11/2017 01:54
Aroclor1260	ND	0.50	1	11/11/2017 01:54
PCBs, total	ND	0.50	1	11/11/2017 01:54

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	104	70-130	11/11/2017 01:54

Analyst(s): LT Analytical Comments: h4,a4

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711422
Date Received:	11/9/17 20:30	**Extraction Method:**	SW3550B
Date Prepared:	11/9/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo Survey	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
562-PCB-3	**1711422-003A**	**Solid**	**11/09/2017**	**GC23 11131742.D**	**148452**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	2.5	5	11/13/2017 23:19
Aroclor1221	ND	2.5	5	11/13/2017 23:19
Aroclor1232	ND	2.5	5	11/13/2017 23:19
Aroclor1242	ND	2.5	5	11/13/2017 23:19
Aroclor1248	ND	2.5	5	11/13/2017 23:19
Aroclor1254	ND	2.5	5	11/13/2017 23:19
Aroclor1260	ND	2.5	5	11/13/2017 23:19
PCBs, total	ND	2.5	5	11/13/2017 23:19

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	128	70-130	11/13/2017 23:19

Analyst(s): LT Analytical Comments: h4,a2,a4

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
562-PCB-4	**1711422-004A**	**Solid**	**11/09/2017**	**GC23 11101732.D**	**148452**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.60	1	11/11/2017 02:26
Aroclor1221	ND	0.60	1	11/11/2017 02:26
Aroclor1232	ND	0.60	1	11/11/2017 02:26
Aroclor1242	ND	0.60	1	11/11/2017 02:26
Aroclor1248	ND	0.60	1	11/11/2017 02:26
Aroclor1254	ND	0.60	1	11/11/2017 02:26
Aroclor1260	ND	0.60	1	11/11/2017 02:26
PCBs, total	ND	0.60	1	11/11/2017 02:26

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	94	70-130	11/11/2017 02:26

Analyst(s): LT Analytical Comments: h4,a7

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711422
Date Received:	11/9/17 20:30	**Extraction Method:**	SW3550B
Date Prepared:	11/9/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo Survey	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
562-PCB-5	**1711422-005A**	**Solid**	**11/09/2017**	**GC40 11131724.d**	**148452**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	1.6	1	11/13/2017 19:13
Aroclor1221	ND	1.6	1	11/13/2017 19:13
Aroclor1232	ND	1.6	1	11/13/2017 19:13
Aroclor1242	ND	1.6	1	11/13/2017 19:13
Aroclor1248	ND	1.6	1	11/13/2017 19:13
Aroclor1254	ND	1.6	1	11/13/2017 19:13
Aroclor1260	ND	1.6	1	11/13/2017 19:13
PCBs, total	ND	1.6	1	11/13/2017 19:13

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	70	70-130	11/13/2017 19:13

Analyst(s): LT Analytical Comments: h4,a7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
562-PCB-6	**1711422-006A**	**Solid**	**11/09/2017**	**GC40 11131725.d**	**148452**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	2.4	1	11/13/2017 19:27
Aroclor1221	ND	2.4	1	11/13/2017 19:27
Aroclor1232	ND	2.4	1	11/13/2017 19:27
Aroclor1242	ND	2.4	1	11/13/2017 19:27
Aroclor1248	ND	2.4	1	11/13/2017 19:27
Aroclor1254	ND	2.4	1	11/13/2017 19:27
Aroclor1260	ND	2.4	1	11/13/2017 19:27
PCBs, total	ND	2.4	1	11/13/2017 19:27

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	83	70-130	11/13/2017 19:27

Analyst(s): LT Analytical Comments: h4,a7

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Quality Control Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711422
Date Prepared:	11/9/17	**BatchID:**	148452
Date Analyzed:	11/10/17	**Extraction Method:**	SW3550B
Instrument:	GC40	**Analytical Method:**	SW8082
Matrix:	Soil	**Unit:**	mg/kg
Project:	17178; Twin Rivers Demo Survey	**Sample ID:**	MB/LCS-148452

QC Summary Report for SW8082

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Aroclor1016	ND	0.143	0.050	0.15	-	95	70-130
Aroclor1221	ND	-	0.050	-	-	-	-
Aroclor1232	ND	-	0.050	-	-	-	-
Aroclor1242	ND	-	0.050	-	-	-	-
Aroclor1248	ND	-	0.050	-	-	-	-
Aroclor1254	ND	-	0.050	-	-	-	-
Aroclor1260	ND	0.145	0.050	0.15	-	97	70-130
PCBs, total	ND	-	0.050	-	-	-	-
Surrogate Recovery							
Decachlorobiphenyl	0.04107	0.0446		0.050	82	89	70-130

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1711422 **ClientCode: ESL**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☑ EQuIS ☐ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag
☑ Detection Summary ☑ Dry-Weight

Report to:
Trevor Marion
Essel Environmental Consulting
351 California Street, Ste. 615
San Francisco, CA 94104
(707) 494-4883 FAX: 510-380-6610

Email: trevormarion@esseltek.com
cc/3rd Party: tbarazoto@esseltek.com; nlahiri@esseltek.
PO:
ProjectNo: 17178; Twin Rivers Demo Survey

Bill to:
Nik Lahiri
Essel Environmental Consulting
351 California Street, Ste. 615
San Francisco, CA 94104
tnnkbmax@sbcglobal.net; nlahiri@essel

Requested TAT: 3 days;

Date Received: **11/09/2017**
Date Logged: **11/09/2017**

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
1711422-001	562-PCB-1	Solid	11/9/2017 00:00	☐	A											
1711422-002	562-PCB-2	Solid	11/9/2017 00:00	☐	A											
1711422-003	562-PCB-3	Solid	11/9/2017 00:00	☐	A											
1711422-004	562-PCB-4	Solid	11/9/2017 00:00	☐	A											
1711422-005	562-PCB-5	Solid	11/9/2017 00:00	☐	A											
1711422-006	562-PCB-6	Solid	11/9/2017 00:00	☐	A											

Test Legend:

1	8082_PCB_Solid	2		3		4	
5		6		7		8	
9		10		11		12	

Prepared by: Agustina Venegas

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.

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WORK ORDER SUMMARY

Client Name: ESSEL ENVIRONMENTAL CONSULTING
Client Contact: Trevor Marion
Contact's Email: trevormarion@esseltek.com

Project: 17178; Twin Rivers Demo Survey
Comments:

Work Order: 1711422
QC Level: LEVEL 2
Date Logged: 11/9/2017

☐ 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
1711422-001A	562-PCB-1	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Small	☐	11/9/2017	3 days		☐	
1711422-002A	562-PCB-2	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Small	☐	11/9/2017	3 days		☐	
1711422-003A	562-PCB-3	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Small	☐	11/9/2017	3 days		☐	
1711422-004A	562-PCB-4	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Small	☐	11/9/2017	3 days		☐	
1711422-005A	562-PCB-5	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Small	☐	11/9/2017	3 days		☐	
1711422-006A	562-PCB-6	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Small	☐	11/9/2017	3 days		☐	

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.

ESSEL ENVIRONMENTAL ENGINEERING & CONSULTING

Essel Technology Services, Inc.
351 California Street, Suite 615
San Francisco, CA 94104
Phone: 415-938-7002

RUSH 17/1422

Turn Around Time: 72 hr

Send results via: TrevorMarion@Esseltek.com, Nlahiri@esseltek.com, Tbarazoto@esseltek.com, Tmiller@esseltek.com, Jwarren@esseltek.com

PCB - Paints

Chain of Custody Form

~~**Asbestos/Lead/Mold Bulk Sampling**~~

Project No: 17178	Date: 11/9/17	Client Name: SHRA
Laboratory Submitted To: Mccampbell		
Relinquished By: Trevor Marion	Date: 11/9/17	Project Name: Twin Rivers Demo Survey
Print Name:		
Relinquished to:	Date:	Project Location: 562 Elva st Sacramento, CA
Print Name:		

Homogeneous Material Group	Sample Number	Material description	Sample Location	Condition Friability	Quantity
	562-PCB-1	Beige Paint	TBath-N wall		
	-2	Beige Paint	LvRm-S wall		
	-3	Beige Paint	Hall Ciling		
	-4	Pink Paint	South Exterior concret stem wall		
	-5	Beige Paint	Wood Column at front door		
	-6	Drk brown Paint	Wood trim abave front door		

Sampled by: Trevor Marion Date: 11/9/17 agustinav. 11/9 2030

Comments: _____

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Sample Receipt Checklist

Client Name:	**Essel Environmental Consulting**	Date and Time Received	**11/9/2017 20:30**
Project Name:	**17178; Twin Rivers Demo Survey**	Date Logged:	**11/9/2017**
		Received by:	Agustina Venegas
WorkOrder №:	**1711422** Matrix: Solid	Logged by:	Agustina Venegas
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	☐	
COC agrees with Quote?	Yes	☐	No	☐	NA ☑

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	☐	NA ☐
Sample/Temp Blank temperature	Temp:				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	☑	

UCMR 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 ☑

Comments:

McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1711457

Report Created for: Essel Environmental Consulting

351 California Street, Ste. 615
San Francisco, CA 94104

Project Contact: Jaime Warren
Project P.O.:
Project Name: 17178; Twin Rivers Demolition; 521 Eliza Street Sacramento, CA 95811
Project Received: 11/10/2017

Analytical Report reviewed & approved for release on 11/14/2017 by:

Jennifer Lagerbom
Project Manager

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 17178; Twin Rivers Demolition; 521 Eliza Street Sacramento, CA 95811
WorkOrder: 1711457

Glossary Abbreviation

%D	Serial Dilution Percent Difference
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)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
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.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
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
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

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Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 17178; Twin Rivers Demolition; 521 Eliza Street Sacramento, CA 95811
WorkOrder: 1711457

Analytical Qualifiers

a7	Reporting limit raised due to limited sample amount
h4	Sulfuric acid permanganate (EPA 3665) cleanup

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711457
Date Received:	11/10/17 16:00	**Extraction Method:**	SW3550B
Date Prepared:	11/10/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demolition; 521 Eliza Street Sacramento, CA 95811	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
521-PCB1	**1711457-001A**	**Solid**	**11/09/2017**	**GC20 11131744.D**	**148519**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	3.3	1	11/13/2017 21:02
Aroclor1221	ND	3.3	1	11/13/2017 21:02
Aroclor1232	ND	3.3	1	11/13/2017 21:02
Aroclor1242	ND	3.3	1	11/13/2017 21:02
Aroclor1248	ND	3.3	1	11/13/2017 21:02
Aroclor1254	ND	3.3	1	11/13/2017 21:02
Aroclor1260	ND	3.3	1	11/13/2017 21:02
PCBs, total	ND	3.3	1	11/13/2017 21:02

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	87	70-130	11/13/2017 21:02

Analyst(s): CK Analytical Comments: h4,a7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
521-PCB2	**1711457-002A**	**Solid**	**11/09/2017**	**GC20 11131745.D**	**148519**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.72	1	11/13/2017 21:18
Aroclor1221	ND	0.72	1	11/13/2017 21:18
Aroclor1232	ND	0.72	1	11/13/2017 21:18
Aroclor1242	ND	0.72	1	11/13/2017 21:18
Aroclor1248	ND	0.72	1	11/13/2017 21:18
Aroclor1254	ND	0.72	1	11/13/2017 21:18
Aroclor1260	ND	0.72	1	11/13/2017 21:18
PCBs, total	ND	0.72	1	11/13/2017 21:18

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	87	70-130	11/13/2017 21:18

Analyst(s): CK Analytical Comments: h4,a7

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711457
Date Received:	11/10/17 16:00	**Extraction Method:**	SW3550B
Date Prepared:	11/10/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demolition; 521 Eliza Street Sacramento, CA 95811	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
521-PCB3	**1711457-003A**	**Solid**	**11/09/2017**	**GC20 11131748.D**	**148519**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	4.5	1	11/13/2017 22:03
Aroclor1221	ND	4.5	1	11/13/2017 22:03
Aroclor1232	ND	4.5	1	11/13/2017 22:03
Aroclor1242	ND	4.5	1	11/13/2017 22:03
Aroclor1248	ND	4.5	1	11/13/2017 22:03
Aroclor1254	ND	4.5	1	11/13/2017 22:03
Aroclor1260	ND	4.5	1	11/13/2017 22:03
PCBs, total	ND	4.5	1	11/13/2017 22:03

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	81	70-130	11/13/2017 22:03

Analyst(s): CK Analytical Comments: h4,a7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
521-PCB4	**1711457-004A**	**Solid**	**11/09/2017**	**GC20 11131749.D**	**148519**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	1.9	1	11/13/2017 22:18
Aroclor1221	ND	1.9	1	11/13/2017 22:18
Aroclor1232	ND	1.9	1	11/13/2017 22:18
Aroclor1242	ND	1.9	1	11/13/2017 22:18
Aroclor1248	ND	1.9	1	11/13/2017 22:18
Aroclor1254	ND	1.9	1	11/13/2017 22:18
Aroclor1260	ND	1.9	1	11/13/2017 22:18
PCBs, total	ND	1.9	1	11/13/2017 22:18

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	83	70-130	11/13/2017 22:18

Analyst(s): CK Analytical Comments: h4,a7

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711457
Date Received:	11/10/17 16:00	**Extraction Method:**	SW3550B
Date Prepared:	11/10/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demolition; 521 Eliza Street Sacramento, CA 95811	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
521-PCB5	**1711457-005A**	**Solid**	**11/09/2017**	**GC20 11131750.D**	**148519**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	4.2	1	11/13/2017 22:33
Aroclor1221	ND	4.2	1	11/13/2017 22:33
Aroclor1232	ND	4.2	1	11/13/2017 22:33
Aroclor1242	ND	4.2	1	11/13/2017 22:33
Aroclor1248	ND	4.2	1	11/13/2017 22:33
Aroclor1254	ND	4.2	1	11/13/2017 22:33
Aroclor1260	ND	4.2	1	11/13/2017 22:33
PCBs, total	ND	4.2	1	11/13/2017 22:33

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	94	70-130	11/13/2017 22:33

Analyst(s): CK Analytical Comments: h4,a7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
521-PCB6	**1711457-006A**	**Solid**	**11/09/2017**	**GC20 11131751.D**	**148519**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	3.8	1	11/13/2017 22:48
Aroclor1221	ND	3.8	1	11/13/2017 22:48
Aroclor1232	ND	3.8	1	11/13/2017 22:48
Aroclor1242	ND	3.8	1	11/13/2017 22:48
Aroclor1248	ND	3.8	1	11/13/2017 22:48
Aroclor1254	ND	3.8	1	11/13/2017 22:48
Aroclor1260	ND	3.8	1	11/13/2017 22:48
PCBs, total	ND	3.8	1	11/13/2017 22:48

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	83	70-130	11/13/2017 22:48

Analyst(s): CK Analytical Comments: h4,a7

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711457
Date Received:	11/10/17 16:00	**Extraction Method:**	SW3550B
Date Prepared:	11/10/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demolition; 521 Eliza Street Sacramento, CA 95811	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
521-PCB7	**1711457-007A**	**Solid**	**11/09/2017**	**GC20 11131752.D**	**148519**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	3.1	1	11/13/2017 23:04
Aroclor1221	ND	3.1	1	11/13/2017 23:04
Aroclor1232	ND	3.1	1	11/13/2017 23:04
Aroclor1242	ND	3.1	1	11/13/2017 23:04
Aroclor1248	ND	3.1	1	11/13/2017 23:04
Aroclor1254	ND	3.1	1	11/13/2017 23:04
Aroclor1260	ND	3.1	1	11/13/2017 23:04
PCBs, total	ND	3.1	1	11/13/2017 23:04

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	93	70-130	11/13/2017 23:04

Analyst(s): CK Analytical Comments: h4,a7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
521-PCB8	**1711457-008A**	**Solid**	**11/09/2017**	**GC20 11131753.D**	**148519**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	8.3	1	11/13/2017 23:19
Aroclor1221	ND	8.3	1	11/13/2017 23:19
Aroclor1232	ND	8.3	1	11/13/2017 23:19
Aroclor1242	ND	8.3	1	11/13/2017 23:19
Aroclor1248	ND	8.3	1	11/13/2017 23:19
Aroclor1254	ND	8.3	1	11/13/2017 23:19
Aroclor1260	ND	8.3	1	11/13/2017 23:19
PCBs, total	ND	8.3	1	11/13/2017 23:19

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	82	70-130	11/13/2017 23:19

Analyst(s): CK Analytical Comments: h4,a7

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711457
Date Received:	11/10/17 16:00	**Extraction Method:**	SW3550B
Date Prepared:	11/10/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demolition; 521 Eliza Street Sacramento, CA 95811	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
521-PCB9	**1711457-009A**	**Solid**	**11/09/2017**	**GC20 11131754.D**	**148519**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.77	1	11/13/2017 23:34
Aroclor1221	ND	0.77	1	11/13/2017 23:34
Aroclor1232	ND	0.77	1	11/13/2017 23:34
Aroclor1242	ND	0.77	1	11/13/2017 23:34
Aroclor1248	ND	0.77	1	11/13/2017 23:34
Aroclor1254	ND	0.77	1	11/13/2017 23:34
Aroclor1260	ND	0.77	1	11/13/2017 23:34
PCBs, total	ND	0.77	1	11/13/2017 23:34

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	105	70-130	11/13/2017 23:34

Analyst(s): CK Analytical Comments: h4,a7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
521-PCB10	**1711457-010A**	**Solid**	**11/09/2017**	**GC20 11131755.D**	**148519**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.85	1	11/13/2017 23:49
Aroclor1221	ND	0.85	1	11/13/2017 23:49
Aroclor1232	ND	0.85	1	11/13/2017 23:49
Aroclor1242	ND	0.85	1	11/13/2017 23:49
Aroclor1248	ND	0.85	1	11/13/2017 23:49
Aroclor1254	ND	0.85	1	11/13/2017 23:49
Aroclor1260	ND	0.85	1	11/13/2017 23:49
PCBs, total	ND	0.85	1	11/13/2017 23:49

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	83	70-130	11/13/2017 23:49

Analyst(s): CK Analytical Comments: h4,a7

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Quality Control Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711457
Date Prepared:	11/10/17	**BatchID:**	148519
Date Analyzed:	11/13/17 - 11/14/17	**Extraction Method:**	SW3550B
Instrument:	GC22	**Analytical Method:**	SW8082
Matrix:	Soil	**Unit:**	mg/kg
Project:	17178; Twin Rivers Demolition; 521 Eliza Street Sacramento, CA 95811	**Sample ID:**	MB/LCS/LCSD-148519

QC Summary Report for SW8082

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Aroclor1016	ND	0.050	-	-	-
Aroclor1016	ND	0.050	-	-	-
Aroclor1221	ND	0.050	-	-	-
Aroclor1232	ND	0.050	-	-	-
Aroclor1242	ND	0.050	-	-	-
Aroclor1248	ND	0.050	-	-	-
Aroclor1254	ND	0.050	-	-	-
Aroclor1260	ND	0.050	-	-	-
Aroclor1260	ND	0.050	-	-	-
PCBs, total	ND	0.050	-	-	-
Surrogate Recovery					
Decachlorobiphenyl	0.04869		0.050	97	70-130
Decachlorobiphenyl	0.0543		0.050	109	70-130
Decachlorobiphenyl	0.06325		0.050	126	70-130
Decachlorobiphenyl	0.05007		0.050	100	70-130
Decachlorobiphenyl	0.05067		0.050	101	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Aroclor1016	0.141	0.141	0.15	94	94	70-130	0	20
Aroclor1016	0.141	0.141	0.15	94	94	70-130	0	20
Aroclor1260	0.172	0.181	0.15	115	121	70-130	4.94	20
Aroclor1260	0.172	0.181	0.15	115	121	70-130	4.94	20
Surrogate Recovery								
Decachlorobiphenyl	0.0398	0.0423	0.050	80	85	70-130	6.14	20
Decachlorobiphenyl	0.0398	0.0423	0.050	80	85	70-130	6.14	20
Decachlorobiphenyl	0.0517	0.0549	0.050	103	110	70-130	6.14	20
Decachlorobiphenyl	0.0517	0.0549	0.050	103	110	70-130	6.14	20
Decachlorobiphenyl	0.0428	0.0433	0.050	86	87	70-130	0.949	20

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(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1711457 **ClientCode: ESL**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☑ EQuIS ☐ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag
☑ Detection Summary ☑ Dry-Weight

Report to:
Jaime Warren
Essel Environmental Consulting
351 California Street, Ste. 615
San Francisco, CA 94104
(707) 494-4883 FAX: 510-380-6610

Email: jwarren@esseltek.com
cc/3rd Party:
PO:
ProjectNo: 17178; Twin Rivers Demolition; 521 Eliza Street Sacramento, CA 95811

Bill to:
Nik Lahiri
Essel Environmental Consulting
351 California Street, Ste. 615
San Francisco, CA 94104
tnnkbmax@sbcglobal.net; nlahiri@essel

Requested TAT: 3 days;

Date Received: **11/10/2017**
Date Logged: **11/10/2017**

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
1711457-001	521-PCB1	Solid	11/9/2017 00:00	☐	A											
1711457-002	521-PCB2	Solid	11/9/2017 00:00	☐	A											
1711457-003	521-PCB3	Solid	11/9/2017 00:00	☐	A											
1711457-004	521-PCB4	Solid	11/9/2017 00:00	☐	A											
1711457-005	521-PCB5	Solid	11/9/2017 00:00	☐	A											
1711457-006	521-PCB6	Solid	11/9/2017 00:00	☐	A											
1711457-007	521-PCB7	Solid	11/9/2017 00:00	☐	A											
1711457-008	521-PCB8	Solid	11/9/2017 00:00	☐	A											
1711457-009	521-PCB9	Solid	11/9/2017 00:00	☐	A											
1711457-010	521-PCB10	Solid	11/9/2017 00:00	☐	A											

Test Legend:

1	8082_PCB_S	2		3		4	
5		6		7		8	
9		10		11		12	

Prepared by:

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.

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WORK ORDER SUMMARY

Client Name: ESSEL ENVIRONMENTAL CONSULTING
Client Contact: Jaime Warren
Contact's Email: jwarren@esseltek.com

Project: 17178; Twin Rivers Demolition; 521 Eliza Street Sacramento, CA 95811
Comments:

Work Order: 1711457
QC Level: LEVEL 2
Date Logged: 11/10/2017

☐ 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
1711457-001A	521-PCB1	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Medium	☐	11/9/2017	3 days		☐	
1711457-002A	521-PCB2	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Medium	☐	11/9/2017	3 days		☐	
1711457-003A	521-PCB3	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Medium	☐	11/9/2017	3 days		☐	
1711457-004A	521-PCB4	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Medium	☐	11/9/2017	3 days		☐	
1711457-005A	521-PCB5	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Medium	☐	11/9/2017	3 days		☐	
1711457-006A	521-PCB6	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Medium	☐	11/9/2017	3 days		☐	
1711457-007A	521-PCB7	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Medium	☐	11/9/2017	3 days		☐	
1711457-008A	521-PCB8	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Medium	☐	11/9/2017	3 days		☐	
1711457-009A	521-PCB9	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Medium	☐	11/9/2017	3 days		☐	
1711457-010A	521-PCB10	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Medium	☐	11/9/2017	3 days		☐	

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.

ENVIRONMENTAL
ENGINEERING
& CONSULTING

Turn Around Time:

Send results via: 1711457

Essel Technology Services, Inc.
351 California Street, Suite 615
San Francisco, CA 94104
Phone: 415-938-7002

RUSH

8082 (PCB Only)

Chain of Custody Form 72hr

Project No: 17178	Date Sampled: 11/9/2017	Client Name: SHRA (Sacramento Housing and Redevelopment Agency)
Laboratory Submitted To: McCampbell Analytical		
Relinquished By: Date: 11/10/17		Project Name: Twin Rivers Demolition
Print Name: Jaime Warren		
Relinquished to:	Date:	Project Location: 521 Eliza Street Sacramento, CA 95811

Homogeneous Material Group	Sample Number	Material description	Sample Location	Condition Friability	Quantity
	521-PCB1	White on wood column Exterior	Column at front door		
	521-PCB2	Green on stucco wall Exterior	Exterior next to front door		
	521-PCB3	Brown on wood trim exterior	Upper trim exterior		
	521-PCB4	Beige on metal door exterior	Water heater closet- exterior		
	521-PCB5	Off-white on wood door frame interior	Front door frame		
	521-PCB6	Off-white on wood door interior	Bathroom door		
	521-PCB7	Off-white on wood door jamb interior	Bedroom #1 door jamb		
	521-PCB8	Off-white on wood window frame interior	Bedroom #1 window frame		
	521-PCB9	Off-white on plaster wall	Livingroom wall		
	521-PCB10	White pliable caulking	Exterior front door		

Sampled by: Date:

Recd: 11/10/17

Comments:

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Sample Receipt Checklist

Client Name:	**Essel Environmental Consulting**	Date and Time Received	**11/10/2017 16:00**
Project Name:	**17178; Twin Rivers Demolition; 521 Eliza Street Sacramento, CA 95811**	Date Logged:	**11/10/2017**
		Received by:	Kena Ponce
WorkOrder №:	**1711457** Matrix: Solid	Logged by:	
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	☐	
COC agrees with Quote?	Yes	☐	No	☐	NA ☑

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	☐	NA ☐
Sample/Temp Blank temperature	Temp:				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	☑	

UCMR 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 ☑

Comments:

McCampbell Analytical, Inc.

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Analytical Report

WorkOrder: 1801282

Report Created for: Essel Environmental Consulting

351 California Street, Ste. 615
San Francisco, CA 94104

Project Contact: Trevor Marion
Project P.O.:
Project: 17178; Twin Rivers Demo Survey

Project Received: 01/08/2018

Analytical Report reviewed & approved for release on 01/11/2018 by:

Jennifer Lagerbom
Project Manager

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Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 17178; Twin Rivers Demo Survey
WorkOrder: 1801282

Glossary Abbreviation

%D	Serial Dilution Percent Difference
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)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
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.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
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
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

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Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 17178; Twin Rivers Demo Survey
WorkOrder: 1801282

Analytical Qualifiers

a7	Reporting limit raised due to limited sample amount
h4	Sulfuric acid permanganate (EPA 3665) cleanup

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1801282
Date Received:	1/8/18 8:08	**Extraction Method:**	SW3550B
Date Prepared:	1/8/18	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo Survey	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
524-PCB-1	1801282-001A	Solid	01/07/2018	GC20 01081864.D	151279

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.60	1	01/09/2018 03:49
Aroclor1221	ND	0.60	1	01/09/2018 03:49
Aroclor1232	ND	0.60	1	01/09/2018 03:49
Aroclor1242	ND	0.60	1	01/09/2018 03:49
Aroclor1248	ND	0.60	1	01/09/2018 03:49
Aroclor1254	ND	0.60	1	01/09/2018 03:49
Aroclor1260	ND	0.60	1	01/09/2018 03:49
PCBs, total	ND	0.60	1	01/09/2018 03:49

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	95	70-130	01/09/2018 03:49

Analyst(s): CK

Analytical Comments: h4,a7

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Quality Control Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1801282
Date Prepared:	1/8/18	**BatchID:**	151279
Date Analyzed:	1/9/18	**Extraction Method:**	SW3550B
Instrument:	GC20	**Analytical Method:**	SW8082
Matrix:	Soil	**Unit:**	mg/kg
Project:	17178; Twin Rivers Demo Survey	**Sample ID:**	MB/LCS/LCSD-151279

QC Summary Report for SW8082

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Aroclor1016	ND	0.050	-	-	-
Aroclor1221	ND	0.050	-	-	-
Aroclor1232	ND	0.050	-	-	-
Aroclor1242	ND	0.050	-	-	-
Aroclor1248	ND	0.050	-	-	-
Aroclor1254	ND	0.050	-	-	-
Aroclor1260	ND	0.050	-	-	-
PCBs, total	ND	0.050	-	-	-
Surrogate Recovery					
Decachlorobiphenyl	0.0462		0.050	92	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Aroclor1016	0.138	0.137	0.15	92	91	70-130	1.19	20
Aroclor1260	0.151	0.142	0.15	101	94	70-130	6.49	20
Surrogate Recovery								
Decachlorobiphenyl	0.0475	0.0443	0.050	95	89	70-130	7.14	20

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CHAIN-OF-CUSTODY RECORD

WorkOrder: 1801282 **ClientCode: ESL**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☒ EQuIS ☐ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag
☒ Detection Summary ☒ Dry-Weight

Report to:
Trevor Marion
Essel Environmental Consulting
351 California Street, Ste. 615
San Francisco, CA 94104
(707) 494-4883 FAX: 510-380-6610

Email: trevormarion@esseltek.com
cc/3rd Party: jwarren@esseltek.com; tbarazoto@esselte
PO:
Project: 17178; Twin Rivers Demo Survey

Bill to:
Nik Lahiri
Essel Environmental Consulting
351 California Street, Ste. 615
San Francisco, CA 94104
tnnkbmax@sbcglobal.net; nlahiri@essel

Requested TAT: 3 days;

Date Received: **01/08/2018**
Date Logged: **01/08/2018**

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
1801282-001	524-PCB-1	Solid	1/7/2018 00:00	☐	A											

Test Legend:

1	8082_PCB_Solid	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.

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WORK ORDER SUMMARY

Client Name: ESSEL ENVIRONMENTAL CONSULTING
Client Contact: Trevor Marion
Contact's Email: trevormarion@esseltek.com

Project: 17178; Twin Rivers Demo Survey
Comments:

Work Order: 1801282
QC Level: LEVEL 2
Date Logged: 1/8/2018

☐ 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
1801282-001A	524-PCB-1	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Small	☐	1/7/2018	3 days		☐	

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.

RUSH

Turn Around Time:

Send results via: TrevorMarion@Esseltek.com, Nlahiri@esseltek.com, Tbarazoto@esseltek.com, Tmiller@esseltek.com, Jwarren@esseltek.com

1801282

Essel Technology Services, Inc.
351 California Street, Suite 615
San Francisco, CA 94104
Phone: 415-938-7002

essel
ENVIRONMENTAL
ENGINEERING
& CONSULTING

8082 (PCB Only) 72hr

Chain of Custody Form

Asbestos/Lead/Mold Bulk Sampling

Project No: 17178	Date: 1/5/18	Client Name: SHRA	
Laboratory Submitted To: ~~EEI~~ McCampell			
Relinquished By: Jamie Warren	Date: 1/7/18	Project Name: Twin Rivers Demo Survey	
Print Name:			
Relinquished to:	Date:	Project Location: 524 Eliza Street Sacramento, CA	
Print Name:			

Homogeneous Material Group	Sample Number	Material description	Sample Location	Condition Friability	Quantity
524-PCB-1		White Pliable Caulking	Around Front door between Stucco and door frame		

Sampled by:

Date: 1/7/18 Recd @ MAI 1/8/18 0808

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Sample Receipt Checklist

Client Name:	**Essel Environmental Consulting**	Date and Time Received	**1/8/2018 08:08**
Project:	**17178; Twin Rivers Demo Survey**	Date Logged:	**1/8/2018**
		Received by:	Jena Alfaro
WorkOrder №:	**1801282** Matrix: Solid	Logged by:	Jena Alfaro
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	☐	
COC agrees with Quote?	Yes	☐	No	☐	NA ☑

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	☐	NA ☐
Sample/Temp Blank temperature	Temp:				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	☑	

UCMR 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 ☑

Comments:

McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1711458

Report Created for: Essel Environmental Consulting

351 California Street, Ste. 615
San Francisco, CA 94104

Project Contact: Jaime Warren
Project P.O.:
Project Name: 17178; Twin Rivers Demolition; 421 Eliza Street Sacramento, CA 95811
Project Received: 11/10/2017

Analytical Report reviewed & approved for release on 11/15/2017 by:

Yen Cao

Project Manager

McCampbell Analytical, Inc.
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Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 17178; Twin Rivers Demolition; 421 Eliza Street Sacramento, CA 95811
WorkOrder: 1711458

Glossary Abbreviation

%D	Serial Dilution Percent Difference
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)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
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.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
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
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

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Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 17178; Twin Rivers Demolition; 421 Eliza Street Sacramento, CA 95811
WorkOrder: 1711458

Analytical Qualifiers

a7	Reporting limit raised due to limited sample amount
h4	Sulfuric acid permanganate (EPA 3665) cleanup

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711458
Date Received:	11/10/17 16:00	**Extraction Method:**	SW3550B
Date Prepared:	11/10/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demolition; 421 Eliza Street Sacramento, CA 95811	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
421-PCB1	1711458-001A	Solid	11/09/2017	GC40 11131739.d	148519

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	1.7	1	11/13/2017 22:32
Aroclor1221	ND	1.7	1	11/13/2017 22:32
Aroclor1232	ND	1.7	1	11/13/2017 22:32
Aroclor1242	ND	1.7	1	11/13/2017 22:32
Aroclor1248	ND	1.7	1	11/13/2017 22:32
Aroclor1254	ND	1.7	1	11/13/2017 22:32
Aroclor1260	ND	1.7	1	11/13/2017 22:32
PCBs, total	ND	1.7	1	11/13/2017 22:32

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	90	70-130	11/13/2017 22:32

Analyst(s): CK Analytical Comments: h4,a7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
421-PCB2	1711458-002A	Solid	11/09/2017	GC40 11131740.d	148519

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.64	1	11/13/2017 22:45
Aroclor1221	ND	0.64	1	11/13/2017 22:45
Aroclor1232	ND	0.64	1	11/13/2017 22:45
Aroclor1242	ND	0.64	1	11/13/2017 22:45
Aroclor1248	ND	0.64	1	11/13/2017 22:45
Aroclor1254	ND	0.64	1	11/13/2017 22:45
Aroclor1260	ND	0.64	1	11/13/2017 22:45
PCBs, total	ND	0.64	1	11/13/2017 22:45

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	74	70-130	11/13/2017 22:45

Analyst(s): CK Analytical Comments: h4,a7

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711458
Date Received:	11/10/17 16:00	**Extraction Method:**	SW3550B
Date Prepared:	11/10/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demolition; 421 Eliza Street Sacramento, CA 95811	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
421-PCB3	1711458-003A	Solid	11/09/2017	GC40 11131741.d	148519

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	2.1	1	11/13/2017 22:58
Aroclor1221	ND	2.1	1	11/13/2017 22:58
Aroclor1232	ND	2.1	1	11/13/2017 22:58
Aroclor1242	ND	2.1	1	11/13/2017 22:58
Aroclor1248	ND	2.1	1	11/13/2017 22:58
Aroclor1254	ND	2.1	1	11/13/2017 22:58
Aroclor1260	ND	2.1	1	11/13/2017 22:58
PCBs, total	ND	2.1	1	11/13/2017 22:58

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	80	70-130	11/13/2017 22:58

Analyst(s): CK Analytical Comments: h4,a7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
421-PCB4	1711458-004A	Solid	11/09/2017	GC40 11131742.d	148519

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	2.6	1	11/13/2017 23:12
Aroclor1221	ND	2.6	1	11/13/2017 23:12
Aroclor1232	ND	2.6	1	11/13/2017 23:12
Aroclor1242	ND	2.6	1	11/13/2017 23:12
Aroclor1248	ND	2.6	1	11/13/2017 23:12
Aroclor1254	ND	2.6	1	11/13/2017 23:12
Aroclor1260	ND	2.6	1	11/13/2017 23:12
PCBs, total	ND	2.6	1	11/13/2017 23:12

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	70	70-130	11/13/2017 23:12

Analyst(s): CK Analytical Comments: h4,a7

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711458
Date Received:	11/10/17 16:00	**Extraction Method:**	SW3550B
Date Prepared:	11/10/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demolition; 421 Eliza Street Sacramento, CA 95811	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
421-PCB5	**1711458-005A**	**Solid**	**11/09/2017**	**GC40 11131745.d**	**148519**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	5.0	1	11/13/2017 23:51
Aroclor1221	ND	5.0	1	11/13/2017 23:51
Aroclor1232	ND	5.0	1	11/13/2017 23:51
Aroclor1242	ND	5.0	1	11/13/2017 23:51
Aroclor1248	ND	5.0	1	11/13/2017 23:51
Aroclor1254	ND	5.0	1	11/13/2017 23:51
Aroclor1260	ND	5.0	1	11/13/2017 23:51
PCBs, total	ND	5.0	1	11/13/2017 23:51

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	77	70-130	11/13/2017 23:51

Analyst(s): CK

Analytical Comments: h4,a7

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Quality Control Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711458
Date Prepared:	11/10/17	**BatchID:**	148519
Date Analyzed:	11/13/17 - 11/14/17	**Extraction Method:**	SW3550B
Instrument:	GC22	**Analytical Method:**	SW8082
Matrix:	Soil	**Unit:**	mg/kg
Project:	17178; Twin Rivers Demolition; 421 Eliza Street Sacramento, CA 95811	**Sample ID:**	MB/LCS/LCSD-148519

QC Summary Report for SW8082

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Aroclor1016	ND	0.050	-	-	-
Aroclor1221	ND	0.050	-	-	-
Aroclor1232	ND	0.050	-	-	-
Aroclor1242	ND	0.050	-	-	-
Aroclor1248	ND	0.050	-	-	-
Aroclor1254	ND	0.050	-	-	-
Aroclor1260	ND	0.050	-	-	-
PCBs, total	ND	0.050	-	-	-
Surrogate Recovery					
Decachlorobiphenyl	0.05007		0.050	100	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Aroclor1016	0.136	0.135	0.15	91	90	70-130	0.445	20
Aroclor1260	0.132	0.134	0.15	88	89	70-130	1.44	20
Surrogate Recovery								
Decachlorobiphenyl	0.0423	0.0427	0.050	85	85	70-130	0	20

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CHAIN-OF-CUSTODY RECORD

WorkOrder: 1711458 **ClientCode: ESL**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☑ EQuIS ☐ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag
☑ Detection Summary ☑ Dry-Weight

Report to:
Jaime Warren
Essel Environmental Consulting
351 California Street, Ste. 615
San Francisco, CA 94104
(707) 494-4883 FAX: 510-380-6610

Email: jwarren@esseltek.com
cc/3rd Party:
PO:
ProjectNo: 17178; Twin Rivers Demolition; 421 Eliza Street Sacramento, CA 95811

Bill to:
Nik Lahiri
Essel Environmental Consulting
351 California Street, Ste. 615
San Francisco, CA 94104
tnnkbmax@sbcglobal.net; nlahiri@essel

Requested TAT: **3 days;**

Date Received: **11/10/2017**
Date Logged: **11/10/2017**

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
1711458-001	421-PCB1	Solid	11/9/2017 00:00	☐	A											
1711458-002	421-PCB2	Solid	11/9/2017 00:00	☐	A											
1711458-003	421-PCB3	Solid	11/9/2017 00:00	☐	A											
1711458-004	421-PCB4	Solid	11/9/2017 00:00	☐	A											
1711458-005	421-PCB5	Solid	11/9/2017 00:00	☐	A											

Test Legend:

1	8082_PCB_S	2		3		4	
5		6		7		8	
9		10		11		12	

Prepared by: Nancy Palacios

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.

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WORK ORDER SUMMARY

Client Name: ESSEL ENVIRONMENTAL CONSULTING
Client Contact: Jaime Warren
Contact's Email: jwarren@esseltek.com

Project: 17178; Twin Rivers Demolition; 421 Eliza Street Sacramento, CA 95811
Comments:

Work Order: 1711458
QC Level: LEVEL 2
Date Logged: 11/10/2017

☐ 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
1711458-001A	421-PCB1	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Medium	☐	11/9/2017	3 days		☐	
1711458-002A	421-PCB2	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Medium	☐	11/9/2017	3 days		☐	
1711458-003A	421-PCB3	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Medium	☐	11/9/2017	3 days		☐	
1711458-004A	421-PCB4	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Medium	☐	11/9/2017	3 days		☐	
1711458-005A	421-PCB5	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Medium	☐	11/9/2017	3 days		☐	

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.

ENVIRONMENTAL
ENGINEERING
& CONSULTING

Turn Around Time:

Send results via:

1711458

Essel Technology Services, Inc.
351 California Street, Suite 615
San Francisco, CA 94104
Phone: 415-938-7002

RUSH

8082 (PCB Only)

Chain of Custody Form 72hr

Project No: 17178	Date Sampled: 11/9/2017	Client Name: SHRA (Sacramento Housing and Redevelopment Agency)
Laboratory Submitted To: McCampbell Analytical		
Relinquished By: JMW Date: 11/10/17		Project Name: Twin Rivers Demolition
Print Name: Jaime Warren		
Relinquished to:	Date:	Project Location: 421 Eliza Street Sacramento, CA 95811

Homogeneous Material Group	Sample Number	Material description	Sample Location	Condition Friability	Quantity
	421-PCB1	White on wood column Exterior	Column at front door		
	421-PCB2	Green on stucco wall Exterior	Exterior east wall		
	421-PCB3	Off-white on wood window frame interior	Bedroom #4		
	421-PCB4	Off-white on plaster wall	Kitchen east wall		
	421-PCB5	Off-white on wood window frame interior	Kitchen window at north wall		

Sampled by: Date:

Comments: _____

Reid : Kevin 11/10/17 1600

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Sample Receipt Checklist

Client Name:	**Essel Environmental Consulting**	Date and Time Received	**11/10/2017 16:00**
Project Name:	**17178; Twin Rivers Demolition; 421 Eliza Street Sacramento, CA 95811**	Date Logged:	**11/10/2017**
		Received by:	Kena Ponce
WorkOrder №:	**1711458** Matrix: Solid	Logged by:	Nancy Palacios
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	☐	
COC agrees with Quote?	Yes	☐	No	☐	NA ☑

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	☐	NA ☐
Sample/Temp Blank temperature	Temp:				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	☑	

UCMR 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 ☑

Comments:

McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1707896

Report Created for: Essel Environmental Consulting

351 California Street, Ste. 615
San Francisco, CA 94104

Project Contact: Trevor Marion
Project P.O.:
Project Name: 17178; Twins Rivers Demo Survey

Project Received: 07/25/2017

Analytical Report reviewed & approved for release on 07/28/2017 by:

Angela Rydelius,
Laboratory Manager

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Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 17178; Twins Rivers Demo Survey
WorkOrder: 1707896

Glossary Abbreviation

%D	Serial Dilution Percent Difference
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)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
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.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
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
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

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Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 17178; Twins Rivers Demo Survey
WorkOrder: 1707896

Analytical Qualifiers

a1	Sample diluted due to matrix interference
a4	Reporting limits raised due to the sample's matrix prohibiting a full volume extraction.
a7	Reporting limit raised due to limited sample amount
h4	Sulfuric acid permanganate (EPA 3665) cleanup

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1707896
Date Received:	7/25/17 10:05	**Extraction Method:**	SW3550B
Date Prepared:	7/25/17	**Analytical Method:**	SW8082
Project:	17178; Twins Rivers Demo Survey	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1237-PCB-1	**1707896-001A**	**Solid**	**07/20/2017**	**GC23**	**142554**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	21	10	07/27/2017 10:42
Aroclor1221	ND	21	10	07/27/2017 10:42
Aroclor1232	ND	21	10	07/27/2017 10:42
Aroclor1242	ND	21	10	07/27/2017 10:42
Aroclor1248	ND	21	10	07/27/2017 10:42
Aroclor1254	ND	21	10	07/27/2017 10:42
Aroclor1260	ND	21	10	07/27/2017 10:42
PCBs, total	ND	21	10	07/27/2017 10:42

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	127	70-130	07/27/2017 10:42

Analyst(s): CK Analytical Comments: h4,a7,a1

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1237-PCB-2	**1707896-002A**	**Solid**	**07/20/2017**	**GC23**	**142554**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	5.0	10	07/27/2017 10:55
Aroclor1221	ND	5.0	10	07/27/2017 10:55
Aroclor1232	ND	5.0	10	07/27/2017 10:55
Aroclor1242	ND	5.0	10	07/27/2017 10:55
Aroclor1248	ND	5.0	10	07/27/2017 10:55
Aroclor1254	ND	5.0	10	07/27/2017 10:55
Aroclor1260	ND	5.0	10	07/27/2017 10:55
PCBs, total	ND	5.0	10	07/27/2017 10:55

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	119	70-130	07/27/2017 10:55

Analyst(s): CK Analytical Comments: h4,a4,a1

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1707896
Date Received:	7/25/17 10:05	**Extraction Method:**	SW3550B
Date Prepared:	7/25/17	**Analytical Method:**	SW8082
Project:	17178; Twins Rivers Demo Survey	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1237-PCB-3	**1707896-003A**	**Solid**	**07/20/2017**	**GC23**	**142554**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	5.0	10	07/27/2017 11:09
Aroclor1221	ND	5.0	10	07/27/2017 11:09
Aroclor1232	ND	5.0	10	07/27/2017 11:09
Aroclor1242	ND	5.0	10	07/27/2017 11:09
Aroclor1248	ND	5.0	10	07/27/2017 11:09
Aroclor1254	ND	5.0	10	07/27/2017 11:09
Aroclor1260	ND	5.0	10	07/27/2017 11:09
PCBs, total	ND	5.0	10	07/27/2017 11:09

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	124	70-130	07/27/2017 11:09

Analyst(s): CK Analytical Comments: h4,a4,a1

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1237-PCB-4	**1707896-004A**	**Solid**	**07/20/2017**	**GC23**	**142554**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	8.5	10	07/27/2017 11:23
Aroclor1221	ND	8.5	10	07/27/2017 11:23
Aroclor1232	ND	8.5	10	07/27/2017 11:23
Aroclor1242	ND	8.5	10	07/27/2017 11:23
Aroclor1248	ND	8.5	10	07/27/2017 11:23
Aroclor1254	ND	8.5	10	07/27/2017 11:23
Aroclor1260	ND	8.5	10	07/27/2017 11:23
PCBs, total	ND	8.5	10	07/27/2017 11:23

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	121	70-130	07/27/2017 11:23

Analyst(s): CK Analytical Comments: h4,a7,a1

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1707896
Date Received:	7/25/17 10:05	**Extraction Method:**	SW3550B
Date Prepared:	7/25/17	**Analytical Method:**	SW8082
Project:	17178; Twins Rivers Demo Survey	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1237-PCB-5	**1707896-005A**	**Solid**	**07/20/2017**	**GC23**	**142561**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	3.6	1	07/27/2017 08:31
Aroclor1221	ND	3.6	1	07/27/2017 08:31
Aroclor1232	ND	3.6	1	07/27/2017 08:31
Aroclor1242	ND	3.6	1	07/27/2017 08:31
Aroclor1248	ND	3.6	1	07/27/2017 08:31
Aroclor1254	ND	3.6	1	07/27/2017 08:31
Aroclor1260	ND	3.6	1	07/27/2017 08:31
PCBs, total	ND	3.6	1	07/27/2017 08:31

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	128	70-130	07/27/2017 08:31

Analyst(s): CK Analytical Comments: h4,a7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1237-PCB-6	**1707896-006A**	**Solid**	**07/20/2017**	**GC23**	**142561**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	1.6	1	07/27/2017 08:45
Aroclor1221	ND	1.6	1	07/27/2017 08:45
Aroclor1232	ND	1.6	1	07/27/2017 08:45
Aroclor1242	ND	1.6	1	07/27/2017 08:45
Aroclor1248	ND	1.6	1	07/27/2017 08:45
Aroclor1254	ND	1.6	1	07/27/2017 08:45
Aroclor1260	ND	1.6	1	07/27/2017 08:45
PCBs, total	ND	1.6	1	07/27/2017 08:45

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	125	70-130	07/27/2017 08:45

Analyst(s): CK Analytical Comments: h4,a7

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1707896
Date Received:	7/25/17 10:05	**Extraction Method:**	SW3550B
Date Prepared:	7/25/17	**Analytical Method:**	SW8082
Project:	17178; Twins Rivers Demo Survey	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1237-PCB-7	1707896-007A	Solid	07/20/2017	GC23	142561

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	1.9	1	07/27/2017 08:59
Aroclor1221	ND	1.9	1	07/27/2017 08:59
Aroclor1232	ND	1.9	1	07/27/2017 08:59
Aroclor1242	ND	1.9	1	07/27/2017 08:59
Aroclor1248	ND	1.9	1	07/27/2017 08:59
Aroclor1254	ND	1.9	1	07/27/2017 08:59
Aroclor1260	ND	1.9	1	07/27/2017 08:59
PCBs, total	ND	1.9	1	07/27/2017 08:59

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	95	70-130	07/27/2017 08:59

Analyst(s): CK Analytical Comments: h4,a7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1237-PCB-8	1707896-008A	Solid	07/20/2017	GC23	142561

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	1.4	1	07/27/2017 09:12
Aroclor1221	ND	1.4	1	07/27/2017 09:12
Aroclor1232	ND	1.4	1	07/27/2017 09:12
Aroclor1242	ND	1.4	1	07/27/2017 09:12
Aroclor1248	ND	1.4	1	07/27/2017 09:12
Aroclor1254	ND	1.4	1	07/27/2017 09:12
Aroclor1260	ND	1.4	1	07/27/2017 09:12
PCBs, total	ND	1.4	1	07/27/2017 09:12

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	118	70-130	07/27/2017 09:12

Analyst(s): CK Analytical Comments: h4,a7

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1707896
Date Received:	7/25/17 10:05	**Extraction Method:**	SW3550B
Date Prepared:	7/25/17	**Analytical Method:**	SW8082
Project:	17178; Twins Rivers Demo Survey	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1237-PCB-9	**1707896-009A**	**Solid**	**07/20/2017**	**GC23**	**142561**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.50	1	07/27/2017 09:26
Aroclor1221	ND	0.50	1	07/27/2017 09:26
Aroclor1232	ND	0.50	1	07/27/2017 09:26
Aroclor1242	ND	0.50	1	07/27/2017 09:26
Aroclor1248	ND	0.50	1	07/27/2017 09:26
Aroclor1254	ND	0.50	1	07/27/2017 09:26
Aroclor1260	ND	0.50	1	07/27/2017 09:26
PCBs, total	ND	0.50	1	07/27/2017 09:26

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	125	70-130	07/27/2017 09:26

Analyst(s): CK Analytical Comments: h4,a4

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1237-PCB-10	**1707896-010A**	**Solid**	**07/20/2017**	**GC23**	**142561**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.56	1	07/27/2017 10:28
Aroclor1221	ND	0.56	1	07/27/2017 10:28
Aroclor1232	ND	0.56	1	07/27/2017 10:28
Aroclor1242	ND	0.56	1	07/27/2017 10:28
Aroclor1248	ND	0.56	1	07/27/2017 10:28
Aroclor1254	ND	0.56	1	07/27/2017 10:28
Aroclor1260	ND	0.56	1	07/27/2017 10:28
PCBs, total	ND	0.56	1	07/27/2017 10:28

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	116	70-130	07/27/2017 10:28

Analyst(s): CK Analytical Comments: h4,a7

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1707896
Date Received:	7/25/17 10:05	**Extraction Method:**	SW3550B
Date Prepared:	7/25/17	**Analytical Method:**	SW8082
Project:	17178; Twins Rivers Demo Survey	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1237-PCB-11	**1707896-011A**	**Solid**	**07/20/2017**	**GC23**	**142561**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	8.2	10	07/27/2017 16:50
Aroclor1221	ND	8.2	10	07/27/2017 16:50
Aroclor1232	ND	8.2	10	07/27/2017 16:50
Aroclor1242	ND	8.2	10	07/27/2017 16:50
Aroclor1248	ND	8.2	10	07/27/2017 16:50
Aroclor1254	ND	8.2	10	07/27/2017 16:50
Aroclor1260	ND	8.2	10	07/27/2017 16:50
PCBs, total	ND	8.2	10	07/27/2017 16:50

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	130	70-130	07/27/2017 16:50

Analyst(s): CK Analytical Comments: h4,a7,a1

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1237-PCB-12	**1707896-012A**	**Solid**	**07/20/2017**	**GC23**	**142561**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	5.0	10	07/27/2017 11:36
Aroclor1221	ND	5.0	10	07/27/2017 11:36
Aroclor1232	ND	5.0	10	07/27/2017 11:36
Aroclor1242	ND	5.0	10	07/27/2017 11:36
Aroclor1248	ND	5.0	10	07/27/2017 11:36
Aroclor1254	ND	5.0	10	07/27/2017 11:36
Aroclor1260	ND	5.0	10	07/27/2017 11:36
PCBs, total	ND	5.0	10	07/27/2017 11:36

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	115	70-130	07/27/2017 11:36

Analyst(s): CK Analytical Comments: h4,a4,a1

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1707896
Date Received:	7/25/17 10:05	**Extraction Method:**	SW3550B
Date Prepared:	7/25/17	**Analytical Method:**	SW8082
Project:	17178; Twins Rivers Demo Survey	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1237-PCB-13	**1707896-013A**	**Solid**	**07/20/2017**	**GC23**	**142561**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	5.0	10	07/27/2017 11:50
Aroclor1221	ND	5.0	10	07/27/2017 11:50
Aroclor1232	ND	5.0	10	07/27/2017 11:50
Aroclor1242	ND	5.0	10	07/27/2017 11:50
Aroclor1248	ND	5.0	10	07/27/2017 11:50
Aroclor1254	ND	5.0	10	07/27/2017 11:50
Aroclor1260	ND	5.0	10	07/27/2017 11:50
PCBs, total	ND	5.0	10	07/27/2017 11:50

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	119	70-130	07/27/2017 11:50

Analyst(s): CK

Analytical Comments: h4,a4,a1

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Quality Control Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1707896
Date Prepared:	7/25/17	**BatchID:**	142554
Date Analyzed:	7/25/17	**Extraction Method:**	SW3550B
Instrument:	GC23	**Analytical Method:**	SW8082
Matrix:	Soil	**Unit:**	mg/kg
Project:	17178; Twins Rivers Demo Survey	**Sample ID:**	MB/LCS/LCSD-142554

QC Summary Report for SW8082

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Aroclor1016	ND	0.050	-	-	-
Aroclor1016	ND	0.050	-	-	-
Aroclor1221	ND	0.050	-	-	-
Aroclor1232	ND	0.050	-	-	-
Aroclor1242	ND	0.050	-	-	-
Aroclor1248	ND	0.050	-	-	-
Aroclor1254	ND	0.050	-	-	-
Aroclor1260	ND	0.050	-	-	-
PCBs, total	ND	0.050	-	-	-
Surrogate Recovery					
Decachlorobiphenyl	0.05028		0.050	101	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Aroclor1016	0.166	0.169	0.15	111	112	70-130	1.32	20
Aroclor1260	0.161	0.166	0.15	107	111	70-130	3.23	20
Surrogate Recovery								
Decachlorobiphenyl	0.0453	0.0464	0.050	91	93	70-130	2.43	20

(Cont.)

CDPH ELAP 1644 • NELAP 4033ORELAP

QA/QC Officer

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Quality Control Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1707896
Date Prepared:	7/25/17	**BatchID:**	142561
Date Analyzed:	7/25/17	**Extraction Method:**	SW3550B
Instrument:	GC23	**Analytical Method:**	SW8082
Matrix:	Soil	**Unit:**	mg/kg
Project:	17178; Twins Rivers Demo Survey	**Sample ID:**	MB/LCS/LCSD-142561

QC Summary Report for SW8082

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Aroclor1016	ND	0.050	-	-	-
Aroclor1016	ND	0.050	-	-	-
Aroclor1221	ND	0.050	-	-	-
Aroclor1232	ND	0.050	-	-	-
Aroclor1242	ND	0.050	-	-	-
Aroclor1248	ND	0.050	-	-	-
Aroclor1254	ND	0.050	-	-	-
Aroclor1260	ND	0.050	-	-	-
PCBs, total	ND	0.050	-	-	-
Surrogate Recovery					
Decachlorobiphenyl	0.04788		0.050	96	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Aroclor1016	0.164	0.166	0.15	109	111	70-130	1.07	20
Aroclor1260	0.173	0.166	0.15	115	111	70-130	4.01	20
Surrogate Recovery								
Decachlorobiphenyl	0.0457	0.0434	0.050	91	87	70-130	5.20	20

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CHAIN-OF-CUSTODY RECORD

WorkOrder: 1707896 **ClientCode: ESL**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☑ EQuIS ☐ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Trevor Marion
Essel Environmental Consulting
351 California Street, Ste. 615
San Francisco, CA 94104
(707) 494-4883 FAX: 510-380-6610

Email: trevormarion@esseltek.com
cc/3rd Party: tbarazoto@esseltek.com; nlahiri@esseltek.
PO:
ProjectNo: 17178; Twins Rivers Demo Survey

Bill to:
Nik Lahiri
Essel Environmental Consulting
351 California Street, Ste. 615
San Francisco, CA 94104
tnnkbmax@sbcglobal.net; nlahiri@essel

Requested TAT: 3 days;

Date Received: **07/25/2017**
Date Logged: **07/25/2017**

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
1707896-001	1237-PCB-1	Solid	7/20/2017 00:00	☐	A											
1707896-002	1237-PCB-2	Solid	7/20/2017 00:00	☐	A											
1707896-003	1237-PCB-3	Solid	7/20/2017 00:00	☐	A											
1707896-004	1237-PCB-4	Solid	7/20/2017 00:00	☐	A											
1707896-005	1237-PCB-5	Solid	7/20/2017 00:00	☐	A											
1707896-006	1237-PCB-6	Solid	7/20/2017 00:00	☐	A											
1707896-007	1237-PCB-7	Solid	7/20/2017 00:00	☐	A											
1707896-008	1237-PCB-8	Solid	7/20/2017 00:00	☐	A											
1707896-009	1237-PCB-9	Solid	7/20/2017 00:00	☐	A											
1707896-010	1237-PCB-10	Solid	7/20/2017 00:00	☐	A											
1707896-011	1237-PCB-11	Solid	7/20/2017 00:00	☐	A											
1707896-012	1237-PCB-12	Solid	7/20/2017 00:00	☐	A											
1707896-013	1237-PCB-13	Solid	7/20/2017 00:00	☐	A											

Test Legend:

1	8082_PCB_Solid	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.

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WORK ORDER SUMMARY

Client Name: ESSEL ENVIRONMENTAL CONSULTING
Client Contact: Trevor Marion
Contact's Email: trevormarion@esseltek.com
Project: 17178; Twins Rivers Demo Survey
Comments:
Work Order: 1707896
QC Level: LEVEL 2
Date Logged: 7/25/2017

☐ 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
1707896-001A	1237-PCB-1	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	7/20/2017	3 days		☐	
1707896-002A	1237-PCB-2	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	7/20/2017	3 days		☐	
1707896-003A	1237-PCB-3	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	7/20/2017	3 days		☐	
1707896-004A	1237-PCB-4	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	7/20/2017	3 days		☐	
1707896-005A	1237-PCB-5	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	7/20/2017	3 days		☐	
1707896-006A	1237-PCB-6	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	7/20/2017	3 days		☐	
1707896-007A	1237-PCB-7	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	7/20/2017	3 days		☐	
1707896-008A	1237-PCB-8	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	7/20/2017	3 days		☐	
1707896-009A	1237-PCB-9	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	7/20/2017	3 days		☐	
1707896-010A	1237-PCB-10	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	7/20/2017	3 days		☐	
1707896-011A	1237-PCB-11	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	7/20/2017	3 days		☐	
1707896-012A	1237-PCB-12	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	7/20/2017	3 days		☐	
1707896-013A	1237-PCB-13	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	7/20/2017	3 days		☐	

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.

1707896

RUSH! Turn Around Time: 72 hr

Send results via: TrevorMarion@Esseltek.com , Nlahiri@esseltek.com, tBarazoto@esseltek.com, Tmiller@esseltek.com

Essel Technology Services, Inc.
351 California Street, Suite 615
San Francisco, CA 94104
Phone: 415-938-7002

essel ENVIRONMENTAL ENGINEERING & CONSULTING

PCB

Chain of Custody Form

Asbestos/Lead/Mold Bulk Sampling

Project No: 17178	Date: 7/23/17	Client Name: SHRA
Laboratory Submitted To: Mcampbell		
Relinquished By: [signature]	Date: ~~7/23/17~~ 7/25/17	Project Name: Twin Rivers Demo Survey
Print Name: Trevor Marion		
Relinquished to:	Date:	Project Location: 1237 Isabel St. Sacramento, CA
Print Name:		

Homogeneous Material Group	Sample Number	Material description	Sample Location	Condition Friability	Quantity
	1237-PCB-1	White Paint	kitchn- window sill		
	-2	White Paint	Hallway wall		
	-3	White Paint	Hallway Ceiling		
	-4	White Paint	Bathroom door		
	-5	Beige/White Paint	Exterior wood column - west		
	-6	Brown Paint	Exterior wood trim - west		
	-7	White Paint	Exterior wood trim - west		
	-8	Green Paint	Exterior stucco - west		
	-9	White Caulk	Exterior eve - SW		
	-10	White Caulk	Exterior eve - E		

Sampled by: Trevor Marion Date: 7/23/17

Comments: Sampled on 7/20/17

Rec'd @ MAI: 7/25/17 1045

Homogeneous Material Group	Sample Number	Material description	Sample Location
	1237-PCB-11	White caulk	Exterior eve - SW
	↓ -12	white/beige caulk	Bathroom - on 4x4 ceramic tile
	1237-PCB-13	white/beige caulk	Bathroom - on 4x4 ceramic tile

Relinquished by: Name: Trevor Murion Signature: _____ Date: 7/25/17 Time: _____ Rec'd @ MAI: 7/25/17 1635

Received By: Name: _____ Signature: _____ Date: _____ Time: _____

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Sample Receipt Checklist

Client Name:	**Essel Environmental Consulting**	Date and Time Received	**7/25/2017 10:05**
Project Name:	**17178; Twins Rivers Demo Survey**	Date Logged:	**7/25/2017**
		Received by:	Jena Alfaro
WorkOrder №:	**1707896** Matrix: Solid	Logged by:	Jena Alfaro
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	☐	NA ☐
Sample/Temp Blank temperature	Temp:				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	☑	

UCMR 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 ☑

Comments:

McCampbell Analytical, Inc.
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Analytical Report

WorkOrder: 1707895

Report Created for: Essel Environmental Consulting

351 California Street, Ste. 615
San Francisco, CA 94104

Project Contact: Trevor Marion
Project P.O.:
Project Name: 17178; Twin Rivers Demo Survey

Project Received: 07/25/2017

Analytical Report reviewed & approved for release on 07/28/2017 by:

Angela Rydelius,
Laboratory Manager

McCampbell Analytical, Inc.
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Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 17178; Twin Rivers Demo Survey
WorkOrder: 1707895

Glossary Abbreviation

%D	Serial Dilution Percent Difference
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)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
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.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
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
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

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Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 17178; Twin Rivers Demo Survey
WorkOrder: 1707895

Analytical Qualifiers

a4	Reporting limits raised due to the sample's matrix prohibiting a full volume extraction.
a7	Reporting limit raised due to limited sample amount
h4	Sulfuric acid permanganate (EPA 3665) cleanup

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1707895
Date Received:	7/25/17 10:05	**Extraction Method:**	SW3550B
Date Prepared:	7/25/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo Survey	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1233-PCB-1	1707895-001A	Solid	07/20/2017	GC23	142554

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	3.1	1	07/26/2017 22:09
Aroclor1221	ND	3.1	1	07/26/2017 22:09
Aroclor1232	ND	3.1	1	07/26/2017 22:09
Aroclor1242	ND	3.1	1	07/26/2017 22:09
Aroclor1248	ND	3.1	1	07/26/2017 22:09
Aroclor1254	ND	3.1	1	07/26/2017 22:09
Aroclor1260	ND	3.1	1	07/26/2017 22:09
PCBs, total	ND	3.1	1	07/26/2017 22:09

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	124	70-130	07/26/2017 22:09

Analyst(s): CK Analytical Comments: h4,a4

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1233-PCB-2	1707895-002A	Solid	07/20/2017	GC23	142554

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.82	1	07/26/2017 22:22
Aroclor1221	ND	0.82	1	07/26/2017 22:22
Aroclor1232	ND	0.82	1	07/26/2017 22:22
Aroclor1242	ND	0.82	1	07/26/2017 22:22
Aroclor1248	ND	0.82	1	07/26/2017 22:22
Aroclor1254	ND	0.82	1	07/26/2017 22:22
Aroclor1260	ND	0.82	1	07/26/2017 22:22
PCBs, total	ND	0.82	1	07/26/2017 22:22

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	115	70-130	07/26/2017 22:22

Analyst(s): CK Analytical Comments: h4,a7

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1707895
Date Received:	7/25/17 10:05	**Extraction Method:**	SW3550B
Date Prepared:	7/25/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo Survey	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1233-PCB-3	1707895-003A	Solid	07/20/2017	GC23	142554

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	3.6	1	07/26/2017 22:36
Aroclor1221	ND	3.6	1	07/26/2017 22:36
Aroclor1232	ND	3.6	1	07/26/2017 22:36
Aroclor1242	ND	3.6	1	07/26/2017 22:36
Aroclor1248	ND	3.6	1	07/26/2017 22:36
Aroclor1254	ND	3.6	1	07/26/2017 22:36
Aroclor1260	ND	3.6	1	07/26/2017 22:36
PCBs, total	ND	3.6	1	07/26/2017 22:36

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	110	70-130	07/26/2017 22:36

Analyst(s): CK Analytical Comments: h4,a7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1233-PCB-4	1707895-004A	Solid	07/20/2017	GC23	142554

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.76	1	07/26/2017 22:49
Aroclor1221	ND	0.76	1	07/26/2017 22:49
Aroclor1232	ND	0.76	1	07/26/2017 22:49
Aroclor1242	ND	0.76	1	07/26/2017 22:49
Aroclor1248	ND	0.76	1	07/26/2017 22:49
Aroclor1254	ND	0.76	1	07/26/2017 22:49
Aroclor1260	ND	0.76	1	07/26/2017 22:49
PCBs, total	ND	0.76	1	07/26/2017 22:49

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	129	70-130	07/26/2017 22:49

Analyst(s): CK Analytical Comments: h4,a7

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1707895
Date Received:	7/25/17 10:05	**Extraction Method:**	SW3550B
Date Prepared:	7/25/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo Survey	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1233-PCB-5	1707895-005A	Solid	07/20/2017	GC23	142554

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.93	1	07/26/2017 23:44
Aroclor1221	ND	0.93	1	07/26/2017 23:44
Aroclor1232	ND	0.93	1	07/26/2017 23:44
Aroclor1242	ND	0.93	1	07/26/2017 23:44
Aroclor1248	ND	0.93	1	07/26/2017 23:44
Aroclor1254	ND	0.93	1	07/26/2017 23:44
Aroclor1260	ND	0.93	1	07/26/2017 23:44
PCBs, total	ND	0.93	1	07/26/2017 23:44

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	128	70-130	07/26/2017 23:44

Analyst(s): CK Analytical Comments: h4,a7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1233-PCB-6	1707895-006A	Solid	07/20/2017	GC23	142554

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	2.0	1	07/26/2017 23:57
Aroclor1221	ND	2.0	1	07/26/2017 23:57
Aroclor1232	ND	2.0	1	07/26/2017 23:57
Aroclor1242	ND	2.0	1	07/26/2017 23:57
Aroclor1248	ND	2.0	1	07/26/2017 23:57
Aroclor1254	ND	2.0	1	07/26/2017 23:57
Aroclor1260	ND	2.0	1	07/26/2017 23:57
PCBs, total	ND	2.0	1	07/26/2017 23:57

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	105	70-130	07/26/2017 23:57

Analyst(s): CK Analytical Comments: h4,a7

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1707895
Date Received:	7/25/17 10:05	**Extraction Method:**	SW3550B
Date Prepared:	7/25/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo Survey	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1233-PCB-7	1707895-007A	Solid	07/20/2017	GC23	142554

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.57	1	07/27/2017 00:11
Aroclor1221	ND	0.57	1	07/27/2017 00:11
Aroclor1232	ND	0.57	1	07/27/2017 00:11
Aroclor1242	ND	0.57	1	07/27/2017 00:11
Aroclor1248	ND	0.57	1	07/27/2017 00:11
Aroclor1254	ND	0.57	1	07/27/2017 00:11
Aroclor1260	ND	0.57	1	07/27/2017 00:11
PCBs, total	ND	0.57	1	07/27/2017 00:11

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	115	70-130	07/27/2017 00:11

Analyst(s): CK Analytical Comments: h4,a7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1233-PCB-8	1707895-008A	Solid	07/20/2017	GC23	142554

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.50	1	07/27/2017 07:37
Aroclor1221	ND	0.50	1	07/27/2017 07:37
Aroclor1232	ND	0.50	1	07/27/2017 07:37
Aroclor1242	ND	0.50	1	07/27/2017 07:37
Aroclor1248	ND	0.50	1	07/27/2017 07:37
Aroclor1254	ND	0.50	1	07/27/2017 07:37
Aroclor1260	ND	0.50	1	07/27/2017 07:37
PCBs, total	ND	0.50	1	07/27/2017 07:37

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	113	70-130	07/27/2017 07:37

Analyst(s): CK Analytical Comments: h4,a4

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1707895
Date Received:	7/25/17 10:05	**Extraction Method:**	SW3550B
Date Prepared:	7/25/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo Survey	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1233-PCB-9	**1707895-009A**	**Solid**	**07/20/2017**	**GC23**	**142554**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.69	1	07/27/2017 07:51
Aroclor1221	ND	0.69	1	07/27/2017 07:51
Aroclor1232	ND	0.69	1	07/27/2017 07:51
Aroclor1242	ND	0.69	1	07/27/2017 07:51
Aroclor1248	ND	0.69	1	07/27/2017 07:51
Aroclor1254	ND	0.69	1	07/27/2017 07:51
Aroclor1260	ND	0.69	1	07/27/2017 07:51
PCBs, total	ND	0.69	1	07/27/2017 07:51

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	110	70-130	07/27/2017 07:51

Analyst(s): CK Analytical Comments: h4,a7

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Quality Control Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1707895
Date Prepared:	7/25/17	**BatchID:**	142554
Date Analyzed:	7/25/17	**Extraction Method:**	SW3550B
Instrument:	GC23	**Analytical Method:**	SW8082
Matrix:	Soil	**Unit:**	mg/kg
Project:	17178; Twin Rivers Demo Survey	**Sample ID:**	MB/LCS/LCSD-142554

QC Summary Report for SW8082

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Aroclor1016	ND	0.050	-	-	-
Aroclor1016	ND	0.050	-	-	-
Aroclor1221	ND	0.050	-	-	-
Aroclor1232	ND	0.050	-	-	-
Aroclor1242	ND	0.050	-	-	-
Aroclor1248	ND	0.050	-	-	-
Aroclor1254	ND	0.050	-	-	-
Aroclor1260	ND	0.050	-	-	-
PCBs, total	ND	0.050	-	-	-
Surrogate Recovery					
Decachlorobiphenyl	0.05028		0.050	101	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Aroclor1016	0.166	0.169	0.15	111	112	70-130	1.32	20
Aroclor1260	0.161	0.166	0.15	107	111	70-130	3.23	20
Surrogate Recovery								
Decachlorobiphenyl	0.0453	0.0464	0.050	91	93	70-130	2.43	20

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CHAIN-OF-CUSTODY RECORD

WorkOrder: 1707895 **ClientCode: ESL**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☒ EQuIS ☐ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Trevor Marion
Essel Environmental Consulting
351 California Street, Ste. 615
San Francisco, CA 94104
(707) 494-4883 FAX: 510-380-6610

Email: trevormarion@esseltek.com
cc/3rd Party: tbarazoto@esseltek.com; nlahiri@esseltek.
PO:
ProjectNo: 17178; Twin Rivers Demo Survey

Bill to:
Nik Lahiri
Essel Environmental Consulting
351 California Street, Ste. 615
San Francisco, CA 94104
tnnkbmax@sbcglobal.net; nlahiri@essel

Requested TAT: 3 days;

Date Received: **07/25/2017**
Date Logged: **07/25/2017**

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
1707895-001	1233-PCB-1	Solid	7/20/2017 00:00	☐	A											
1707895-002	1233-PCB-2	Solid	7/20/2017 00:00	☐	A											
1707895-003	1233-PCB-3	Solid	7/20/2017 00:00	☐	A											
1707895-004	1233-PCB-4	Solid	7/20/2017 00:00	☐	A											
1707895-005	1233-PCB-5	Solid	7/20/2017 00:00	☐	A											
1707895-006	1233-PCB-6	Solid	7/20/2017 00:00	☐	A											
1707895-007	1233-PCB-7	Solid	7/20/2017 00:00	☐	A											
1707895-008	1233-PCB-8	Solid	7/20/2017 00:00	☐	A											
1707895-009	1233-PCB-9	Solid	7/20/2017 00:00	☐	A											

Test Legend:

1	8082_PCB_Solid	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.

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WORK ORDER SUMMARY

Client Name: ESSEL ENVIRONMENTAL CONSULTING
Client Contact: Trevor Marion
Contact's Email: trevormarion@esseltek.com
Project: 17178; Twin Rivers Demo Survey
Comments:
Work Order: 1707895
QC Level: LEVEL 2
Date Logged: 7/25/2017

☐ 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
1707895-001A	1233-PCB-1	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	7/20/2017	3 days		☐	
1707895-002A	1233-PCB-2	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	7/20/2017	3 days		☐	
1707895-003A	1233-PCB-3	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	7/20/2017	3 days		☐	
1707895-004A	1233-PCB-4	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	7/20/2017	3 days		☐	
1707895-005A	1233-PCB-5	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	7/20/2017	3 days		☐	
1707895-006A	1233-PCB-6	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	7/20/2017	3 days		☐	
1707895-007A	1233-PCB-7	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	7/20/2017	3 days		☐	
1707895-008A	1233-PCB-8	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	7/20/2017	3 days		☐	
1707895-009A	1233-PCB-9	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	7/20/2017	3 days		☐	

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.

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& CONSULTING

Turn Around Time: 72hr **RUSH!**

Send results via: TrevorMarion@Esseltek.com , Nlahiri@esseltek.com, tBarazoto@esseltek.com, Tmiller@esseltek.com

1707895

Essel Technology Services, Inc.
351 California Street, Suite 615
San Francisco, CA 94104
Phone: 415-938-7002

PCB

Chain of Custody Form

Asbestos/Lead/Mold Bulk Sampling

Project No: 17178	Date: 7/23/17	Client Name: SHRA
Laboratory Submitted To: MCampbell		
Relinquished By: Trevor Marion	Date: ~~7/24/17~~ 7/25/17	Project Name: Twin Rivrs Demo Survey
Print Name:		
Relinquished to:	Date:	Project Location: 1233 Isabel Street Sacramento, CA
Print Name:		

Homogeneous Material Group	Sample Number	Material description	Sample Location	Condition Friability	Quantity
	1233-PCB-1	White Paint on wall	Bedroom 1 - west wall		
	-2	White Paint on windowsill	Kitchen		
	-3	White Paint on door	Bathroom		
	-4	Beige Paint on wood column	Exterior wood column - outside front door		
	-5	Tan Paint on stucco	Exterior - outside front door		
	-6	White Paint on wood	Exterior - trim outside front door overhead		
	-7	Brown Paint on wood	Ext - trim outside front door overhead		
	-8	White Caulking	Ext - on eve between panels		
	-9	White Caulking	↓		

Sampled by: Trevor Marion Date: 7/23/17

Comments: Sampled 7/20/17

Rec'd @ MAI @ 7/25/17 1005

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Sample Receipt Checklist

Client Name:	**Essel Environmental Consulting**	Date and Time Received	**7/25/2017 10:05**
Project Name:	**17178; Twin Rivers Demo Survey**	Date Logged:	**7/25/2017**
		Received by:	Jena Alfaro
WorkOrder №:	**1707895** Matrix: Solid	Logged by:	Jena Alfaro
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	☐	NA ☐
Sample/Temp Blank temperature	Temp:				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	☑	

UCMR 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 ☑

Comments:

McCampbell Analytical, Inc.

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Analytical Report

WorkOrder: 1711421

Report Created for: Essel Environmental Consulting

351 California Street, Ste. 615
San Francisco, CA 94104

Project Contact: Trevor Marion
Project P.O.:
Project Name: 17178; Twin Rivers Demo Survey

Project Received: 11/09/2017

Analytical Report reviewed & approved for release on 11/14/2017 by:

Heidi Fruhlinger
Project Manager

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Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 17178; Twin Rivers Demo Survey
WorkOrder: 1711421

Glossary Abbreviation

%D	Serial Dilution Percent Difference
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)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
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.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
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
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

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Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 17178; Twin Rivers Demo Survey
WorkOrder: 1711421

Analytical Qualifiers

S	Surrogate spike recovery outside accepted recovery limits
a2	Sample diluted due to cluttered chromatogram
a4	Reporting limits raised due to the sample's matrix prohibiting a full volume extraction.
a7	Reporting limit raised due to limited sample amount
c1	Surrogate recovery outside of the control limits due to the dilution of the sample.
h4	Sulfuric acid permanganate (EPA 3665) cleanup

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711421
Date Received:	11/9/17 20:30	**Extraction Method:**	SW3550B
Date Prepared:	11/9/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo Survey	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1234-PCB-1	1711421-001A	Solid	11/09/2017	GC23 11101723.D	148452

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.50	1	11/11/2017 00:03
Aroclor1221	ND	0.50	1	11/11/2017 00:03
Aroclor1232	ND	0.50	1	11/11/2017 00:03
Aroclor1242	ND	0.50	1	11/11/2017 00:03
Aroclor1248	ND	0.50	1	11/11/2017 00:03
Aroclor1254	ND	0.50	1	11/11/2017 00:03
Aroclor1260	ND	0.50	1	11/11/2017 00:03
PCBs, total	ND	0.50	1	11/11/2017 00:03

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	102	70-130	11/11/2017 00:03

Analyst(s): LT Analytical Comments: h4,a4

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1234-PCB-2	1711421-002A	Solid	11/09/2017	GC23 11101724.D	148452

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.54	1	11/11/2017 00:19
Aroclor1221	ND	0.54	1	11/11/2017 00:19
Aroclor1232	ND	0.54	1	11/11/2017 00:19
Aroclor1242	ND	0.54	1	11/11/2017 00:19
Aroclor1248	ND	0.54	1	11/11/2017 00:19
Aroclor1254	ND	0.54	1	11/11/2017 00:19
Aroclor1260	ND	0.54	1	11/11/2017 00:19
PCBs, total	ND	0.54	1	11/11/2017 00:19

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	109	70-130	11/11/2017 00:19

Analyst(s): LT Analytical Comments: h4,a7

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711421
Date Received:	11/9/17 20:30	**Extraction Method:**	SW3550B
Date Prepared:	11/9/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo Survey	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1234-PCB-3	**1711421-003A**	**Solid**	**11/09/2017**	**GC23 11131743.D**	**148452**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	7.8	5	11/13/2017 23:34
Aroclor1221	ND	7.8	5	11/13/2017 23:34
Aroclor1232	ND	7.8	5	11/13/2017 23:34
Aroclor1242	ND	7.8	5	11/13/2017 23:34
Aroclor1248	ND	7.8	5	11/13/2017 23:34
Aroclor1254	ND	7.8	5	11/13/2017 23:34
Aroclor1260	ND	7.8	5	11/13/2017 23:34
PCBs, total	ND	7.8	5	11/13/2017 23:34

Surrogates	REC (%)	Qualifiers	Limits	
Decachlorobiphenyl	140	S	70-130	11/13/2017 23:34

Analyst(s): LT Analytical Comments: h4,a2,a4,c1

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1234-PCB-4	**1711421-004A**	**Solid**	**11/09/2017**	**GC23 11101726.D**	**148452**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.72	1	11/11/2017 00:51
Aroclor1221	ND	0.72	1	11/11/2017 00:51
Aroclor1232	ND	0.72	1	11/11/2017 00:51
Aroclor1242	ND	0.72	1	11/11/2017 00:51
Aroclor1248	ND	0.72	1	11/11/2017 00:51
Aroclor1254	ND	0.72	1	11/11/2017 00:51
Aroclor1260	ND	0.72	1	11/11/2017 00:51
PCBs, total	ND	0.72	1	11/11/2017 00:51

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	93	70-130	11/11/2017 00:51

Analyst(s): LT Analytical Comments: h4,a7

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711421
Date Received:	11/9/17 20:30	**Extraction Method:**	SW3550B
Date Prepared:	11/9/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo Survey	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1234-PCB-5	1711421-005A	Solid	11/09/2017	GC23 11101727.D	148452

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	1.9	1	11/11/2017 01:06
Aroclor1221	ND	1.9	1	11/11/2017 01:06
Aroclor1232	ND	1.9	1	11/11/2017 01:06
Aroclor1242	ND	1.9	1	11/11/2017 01:06
Aroclor1248	ND	1.9	1	11/11/2017 01:06
Aroclor1254	ND	1.9	1	11/11/2017 01:06
Aroclor1260	ND	1.9	1	11/11/2017 01:06
PCBs, total	ND	1.9	1	11/11/2017 01:06

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	98	70-130	11/11/2017 01:06

Analyst(s): LT Analytical Comments: h4,a7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1234-PCB-6	1711421-006A	Solid	11/09/2017	GC23 11101728.D	148452

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	3.1	1	11/11/2017 01:22
Aroclor1221	ND	3.1	1	11/11/2017 01:22
Aroclor1232	ND	3.1	1	11/11/2017 01:22
Aroclor1242	ND	3.1	1	11/11/2017 01:22
Aroclor1248	ND	3.1	1	11/11/2017 01:22
Aroclor1254	ND	3.1	1	11/11/2017 01:22
Aroclor1260	ND	3.1	1	11/11/2017 01:22
PCBs, total	ND	3.1	1	11/11/2017 01:22

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	109	70-130	11/11/2017 01:22

Analyst(s): LT Analytical Comments: h4,a7

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Quality Control Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711421
Date Prepared:	11/9/17	**BatchID:**	148452
Date Analyzed:	11/10/17	**Extraction Method:**	SW3550B
Instrument:	GC40	**Analytical Method:**	SW8082
Matrix:	Soil	**Unit:**	mg/kg
Project:	17178; Twin Rivers Demo Survey	**Sample ID:**	MB/LCS-148452

QC Summary Report for SW8082

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Aroclor1016	ND	0.143	0.050	0.15	-	95	70-130
Aroclor1221	ND	-	0.050	-	-	-	-
Aroclor1232	ND	-	0.050	-	-	-	-
Aroclor1242	ND	-	0.050	-	-	-	-
Aroclor1248	ND	-	0.050	-	-	-	-
Aroclor1254	ND	-	0.050	-	-	-	-
Aroclor1260	ND	0.145	0.050	0.15	-	97	70-130
PCBs, total	ND	-	0.050	-	-	-	-
Surrogate Recovery							
Decachlorobiphenyl	0.04107	0.0446		0.050	82	89	70-130

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CHAIN-OF-CUSTODY RECORD

WorkOrder: 1711421 **ClientCode: ESL**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☑ EQuIS ☐ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag
☑ Detection Summary ☑ Dry-Weight

Report to:
Trevor Marion
Essel Environmental Consulting
351 California Street, Ste. 615
San Francisco, CA 94104
(707) 494-4883 FAX: 510-380-6610

Email: trevormarion@esseltek.com
cc/3rd Party: tbarazoto@esseltek.com; nlahiri@esseltek.
PO:
ProjectNo: 17178; Twin Rivers Demo Survey

Bill to:
Nik Lahiri
Essel Environmental Consulting
351 California Street, Ste. 615
San Francisco, CA 94104
tnnkbmax@sbcglobal.net; nlahiri@essel

Requested TAT: 3 days;

Date Received: **11/09/2017**
Date Logged: **11/09/2017**

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
1711421-001	1234-PCB-1	Solid	11/9/2017 00:00	☐	A											
1711421-002	1234-PCB-2	Solid	11/9/2017 00:00	☐	A											
1711421-003	1234-PCB-3	Solid	11/9/2017 00:00	☐	A											
1711421-004	1234-PCB-4	Solid	11/9/2017 00:00	☐	A											
1711421-005	1234-PCB-5	Solid	11/9/2017 00:00	☐	A											
1711421-006	1234-PCB-6	Solid	11/9/2017 00:00	☐	A											

Test Legend:

1	8082_PCB_Solid	2		3		4	
5		6		7		8	
9		10		11		12	

Prepared by: Agustina Venegas

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.

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WORK ORDER SUMMARY

Client Name: ESSEL ENVIRONMENTAL CONSULTING
Client Contact: Trevor Marion
Contact's Email: trevormarion@esseltek.com

Project: 17178; Twin Rivers Demo Survey
Comments:

Work Order: 1711421
QC Level: LEVEL 2
Date Logged: 11/9/2017

☐ 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
1711421-001A	1234-PCB-1	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Small	☐	11/9/2017	3 days		☐	
1711421-002A	1234-PCB-2	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Small	☐	11/9/2017	3 days		☐	
1711421-003A	1234-PCB-3	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Small	☐	11/9/2017	3 days		☐	
1711421-004A	1234-PCB-4	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Small	☐	11/9/2017	3 days		☐	
1711421-005A	1234-PCB-5	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Small	☐	11/9/2017	3 days		☐	
1711421-006A	1234-PCB-6	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Small	☐	11/9/2017	3 days		☐	

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.

Turn Around Time: 72 hrs 1711421

RUSH

Send results via: TrevorMarion@Esseltek.com, Nlahiri@esseltek.com, Tbarazoto@esseltek.com, Tmiller@esseltek.com, Jwarren@esseltek.com

Essel Technology Services, Inc.
351 California Street, Suite 615
San Francisco, CA 94104
Phone: 415-938-7002

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PCB

Chain of Custody Form

~~Asbestos/Lead/Mold Bulk Sampling~~

Project No: 17178	Date: 11/9/17	Client Name: SHRA
Laboratory Submitted To: McCampbell		
Relinquished By: [signature]	Date: 11/9/17	Project Name: Twin Rivers Demo Survey
Print Name: Trevor Marion		
Relinquished to:	Date:	Project Location: 1234 Isabel St. Sacramento, CA
Print Name:		

Homogeneous Material Group	Sample Number	Material description	Sample Location	Condition Friability	Quantity
	1234-PCB-1	White Paint Plaster wall	Bath - S wall		
	-2	↓	LvRm - N wall		
	-3	White Paint on wood	Bedroom - Closet door		
	-4	Green Pnt on Concrete	ext at base of stucco - N face		
	-5	Beige Pnt on ext wood column	Next to front door		
	-6	Drk brown on ext wood trim	Above front door		

Sampled by: Trevor Marion Date: 11/9/17 [signature] 11/9 2030

Comments: ______

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Sample Receipt Checklist

Client Name:	**Essel Environmental Consulting**	Date and Time Received	**11/9/2017 20:30**
Project Name:	**17178; Twin Rivers Demo Survey**	Date Logged:	**11/9/2017**
		Received by:	Agustina Venegas
WorkOrder №:	**1711421** Matrix: Solid	Logged by:	Agustina Venegas
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	☐	
COC agrees with Quote?	Yes	☐	No	☐	NA ☑

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	☐	NA ☐
Sample/Temp Blank temperature	Temp:				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	☑	

UCMR 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 ☑

Comments:

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Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 17178; Twin Rivers Demo Survey
WorkOrder: 1711424

Glossary Abbreviation

%D	Serial Dilution Percent Difference
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)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
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.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
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
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

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Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 17178; Twin Rivers Demo Survey
WorkOrder: 1711424

Analytical Qualifiers

a4	Reporting limits raised due to the sample's matrix prohibiting a full volume extraction.
a7	Reporting limit raised due to limited sample amount
h4	Sulfuric acid permanganate (EPA 3665) cleanup

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711424
Date Received:	11/9/17 20:30	**Extraction Method:**	SW3550B
Date Prepared:	11/9/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo Survey	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1227-PCB-1	**1711424-001A**	**Solid**	**11/09/2017**	**GC40 11131733.d**	**148471**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.50	1	11/13/2017 21:13
Aroclor1221	ND	0.50	1	11/13/2017 21:13
Aroclor1232	ND	0.50	1	11/13/2017 21:13
Aroclor1242	ND	0.50	1	11/13/2017 21:13
Aroclor1248	ND	0.50	1	11/13/2017 21:13
Aroclor1254	ND	0.50	1	11/13/2017 21:13
Aroclor1260	ND	0.50	1	11/13/2017 21:13
PCBs, total	ND	0.50	1	11/13/2017 21:13

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	77	70-130	11/13/2017 21:13

Analyst(s): LT Analytical Comments: h4,a4

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1227-PCB-2	**1711424-002A**	**Solid**	**11/09/2017**	**GC40 11131734.d**	**148471**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	3.3	1	11/13/2017 21:26
Aroclor1221	ND	3.3	1	11/13/2017 21:26
Aroclor1232	ND	3.3	1	11/13/2017 21:26
Aroclor1242	ND	3.3	1	11/13/2017 21:26
Aroclor1248	ND	3.3	1	11/13/2017 21:26
Aroclor1254	ND	3.3	1	11/13/2017 21:26
Aroclor1260	ND	3.3	1	11/13/2017 21:26
PCBs, total	ND	3.3	1	11/13/2017 21:26

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	98	70-130	11/13/2017 21:26

Analyst(s): LT Analytical Comments: h4,a7

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711424
Date Received:	11/9/17 20:30	**Extraction Method:**	SW3550B
Date Prepared:	11/9/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo Survey	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1227-PCB-3	1711424-003A	Solid	11/09/2017	GC40 11131735.d	148471

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.75	1	11/13/2017 21:39
Aroclor1221	ND	0.75	1	11/13/2017 21:39
Aroclor1232	ND	0.75	1	11/13/2017 21:39
Aroclor1242	ND	0.75	1	11/13/2017 21:39
Aroclor1248	ND	0.75	1	11/13/2017 21:39
Aroclor1254	ND	0.75	1	11/13/2017 21:39
Aroclor1260	ND	0.75	1	11/13/2017 21:39
PCBs, total	ND	0.75	1	11/13/2017 21:39

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	81	70-130	11/13/2017 21:39

Analyst(s): LT Analytical Comments: h4,a7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1227-PCB-4	1711424-004A	Solid	11/09/2017	GC40 11131736.d	148471

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.74	1	11/13/2017 21:52
Aroclor1221	ND	0.74	1	11/13/2017 21:52
Aroclor1232	ND	0.74	1	11/13/2017 21:52
Aroclor1242	ND	0.74	1	11/13/2017 21:52
Aroclor1248	ND	0.74	1	11/13/2017 21:52
Aroclor1254	ND	0.74	1	11/13/2017 21:52
Aroclor1260	ND	0.74	1	11/13/2017 21:52
PCBs, total	ND	0.74	1	11/13/2017 21:52

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	72	70-130	11/13/2017 21:52

Analyst(s): LT Analytical Comments: h4,a7

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711424
Date Received:	11/9/17 20:30	**Extraction Method:**	SW3550B
Date Prepared:	11/9/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo Survey	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1227-PCB-5	**1711424-005A**	**Solid**	**11/09/2017**	**GC40 11131737.d**	**148471**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	1.2	1	11/13/2017 22:05
Aroclor1221	ND	1.2	1	11/13/2017 22:05
Aroclor1232	ND	1.2	1	11/13/2017 22:05
Aroclor1242	ND	1.2	1	11/13/2017 22:05
Aroclor1248	ND	1.2	1	11/13/2017 22:05
Aroclor1254	ND	1.2	1	11/13/2017 22:05
Aroclor1260	ND	1.2	1	11/13/2017 22:05
PCBs, total	ND	1.2	1	11/13/2017 22:05

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	74	70-130	11/13/2017 22:05

Analyst(s): LT Analytical Comments: h4,a7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1227-PCB-6	**1711424-006A**	**Solid**	**11/09/2017**	**GC20 11101730.D**	**148471**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.57	1	11/10/2017 20:03
Aroclor1221	ND	0.57	1	11/10/2017 20:03
Aroclor1232	ND	0.57	1	11/10/2017 20:03
Aroclor1242	ND	0.57	1	11/10/2017 20:03
Aroclor1248	ND	0.57	1	11/10/2017 20:03
Aroclor1254	ND	0.57	1	11/10/2017 20:03
Aroclor1260	ND	0.57	1	11/10/2017 20:03
PCBs, total	ND	0.57	1	11/10/2017 20:03

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	83	70-130	11/10/2017 20:03

Analyst(s): CK Analytical Comments: h4,a7

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1711424
Date Received:	11/9/17 20:30	**Extraction Method:**	SW3550B
Date Prepared:	11/9/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo Survey	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1227-PCB-7	1711424-007A	Solid	11/09/2017	GC20 11101731.D	148471

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	2.1	1	11/10/2017 20:18
Aroclor1221	ND	2.1	1	11/10/2017 20:18
Aroclor1232	ND	2.1	1	11/10/2017 20:18
Aroclor1242	ND	2.1	1	11/10/2017 20:18
Aroclor1248	ND	2.1	1	11/10/2017 20:18
Aroclor1254	ND	2.1	1	11/10/2017 20:18
Aroclor1260	ND	2.1	1	11/10/2017 20:18
PCBs, total	ND	2.1	1	11/10/2017 20:18

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	82	70-130	11/10/2017 20:18

Analyst(s): CK Analytical Comments: h4,a7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1227-PCB-8	1711424-008A	Solid	11/09/2017	GC20 11101732.D	148471

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	3.1	1	11/10/2017 20:33
Aroclor1221	ND	3.1	1	11/10/2017 20:33
Aroclor1232	ND	3.1	1	11/10/2017 20:33
Aroclor1242	ND	3.1	1	11/10/2017 20:33
Aroclor1248	ND	3.1	1	11/10/2017 20:33
Aroclor1254	ND	3.1	1	11/10/2017 20:33
Aroclor1260	ND	3.1	1	11/10/2017 20:33
PCBs, total	ND	3.1	1	11/10/2017 20:33

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	81	70-130	11/10/2017 20:33

Analyst(s): CK Analytical Comments: h4,a7

McCampbell Analytical, Inc.
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(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1711424 **ClientCode: ESL**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☒ EQuIS ☐ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag
☒ Detection Summary ☒ Dry-Weight

Report to:
Trevor Marion
Essel Environmental Consulting
351 California Street, Ste. 615
San Francisco, CA 94104
(707) 494-4883 FAX: 510-380-6610

Email: trevormarion@esseltek.com
cc/3rd Party: tbarazoto@esseltek.com; nlahiri@esseltek.
PO:
ProjectNo: 17178; Twin Rivers Demo Survey

Bill to:
Nik Lahiri
Essel Environmental Consulting
351 California Street, Ste. 615
San Francisco, CA 94104
tnnkbmax@sbcglobal.net; nlahiri@essel

Requested TAT: 3 days;

Date Received: **11/09/2017**
Date Logged: **11/09/2017**

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
1711424-001	1227-PCB-1	Solid	11/9/2017 00:00	☐	A											
1711424-002	1227-PCB-2	Solid	11/9/2017 00:00	☐	A											
1711424-003	1227-PCB-3	Solid	11/9/2017 00:00	☐	A											
1711424-004	1227-PCB-4	Solid	11/9/2017 00:00	☐	A											
1711424-005	1227-PCB-5	Solid	11/9/2017 00:00	☐	A											
1711424-006	1227-PCB-6	Solid	11/9/2017 00:00	☐	A											
1711424-007	1227-PCB-7	Solid	11/9/2017 00:00	☐	A											
1711424-008	1227-PCB-8	Solid	11/9/2017 00:00	☐	A											

Test Legend:

1	8082_PCB_Solid	2		3		4	
5		6		7		8	
9		10		11		12	

Prepared by: Agustina Venegas

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.

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Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

WORK ORDER SUMMARY

Client Name: ESSEL ENVIRONMENTAL CONSULTING
Client Contact: Trevor Marion
Contact's Email: trevormarion@esseltek.com

Project: 17178; Twin Rivers Demo Survey
Comments:

Work Order: 1711424
QC Level: LEVEL 2
Date Logged: 11/9/2017

☐ 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
1711424-001A	1227-PCB-1	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Small	☐	11/9/2017	3 days		☐	
1711424-002A	1227-PCB-2	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Small	☐	11/9/2017	3 days		☐	
1711424-003A	1227-PCB-3	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Small	☐	11/9/2017	3 days		☐	
1711424-004A	1227-PCB-4	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Small	☐	11/9/2017	3 days		☐	
1711424-005A	1227-PCB-5	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Small	☐	11/9/2017	3 days		☐	
1711424-006A	1227-PCB-6	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Small	☐	11/9/2017	3 days		☐	
1711424-007A	1227-PCB-7	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Small	☐	11/9/2017	3 days		☐	
1711424-008A	1227-PCB-8	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Small	☐	11/9/2017	3 days		☐	

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.

1711424

RUSH

Turn Around Time: 72

Send results via: TrevorMarion@Esseltek.com, Nlahiri@esseltek.com, Tbarazoto@esseltek.com, Tmiller@esseltek.com, Jwarren@esseltek.com

Essel Technology Services, Inc.
351 California Street, Suite 615
San Francisco, CA 94104
Phone: 415-938-7002

essel ENVIRONMENTAL ENGINEERING & CONSULTING

PCB

Chain of Custody Form

~~Asbestos/Lead/Mold Bulk Sampling~~

Project No: 17178	Date: 11/9/17		Client Name: SHRA
Laboratory Submitted To: Mcampbell			
Relinquished By: JM	Date: 11/9/17		Project Name: Twin Rivers Demo Survey
Print Name: Trevor M			
Relinquished to:	Date:		Project Location: 1227 Isabel St Sacramento, CA
Print Name:			

Homogeneous Material Group	Sample Number	Material description	Sample Location	Condition Friability	Quantity
	1227-PCB-1	Beige Paint on wall	kitchn-w		
	2	white on wood door	Bedroom door		
	3	White on Ceiling	Hallway		
	4	White on wall	Hall closet		
	5	Dk brown on wood trim	Abov front door		
	6	White on horizontal beam	Above front door		
	7	Beige on eave	Above front door		
	8	Tan on metal cover	nxt to front door		

Sampled by: Trevor M Date: 11/9/17 agustina V 11/9 2030

Comments: _____

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Sample Receipt Checklist

Client Name:	**Essel Environmental Consulting**	Date and Time Received	**11/9/2017 20:30**
Project Name:	**17178; Twin Rivers Demo Survey**	Date Logged:	**11/9/2017**
		Received by:	Agustina Venegas
WorkOrder №:	**1711424** Matrix: Solid	Logged by:	Agustina Venegas
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	☐		
COC agrees with Quote?	Yes	☐	No	☐	NA	☑

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	☐	NA	☐
Sample/Temp Blank temperature	Temp:				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	☑		

UCMR 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	☑

Comments:

McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1801342

Report Created for: Essel Environmental Consulting

351 California Street, Ste. 615
San Francisco, CA 94104

Project Contact: Jaime Warren
Project P.O.:
Project: 17178; Twin Rivers Demo Survey

Project Received: 01/08/2018

Analytical Report reviewed & approved for release on 01/11/2018 by:

Yen Cao
Project Manager

McCampbell Analytical, Inc.
"When Quality Counts"

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 17178; Twin Rivers Demo Survey
WorkOrder: 1801342

Glossary Abbreviation

%D	Serial Dilution Percent Difference
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)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
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.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
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
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

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Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 17178; Twin Rivers Demo Survey
WorkOrder: 1801342

Analytical Qualifiers

a4	Reporting limits raised due to the sample's matrix prohibiting a full volume extraction.
h4	Sulfuric acid permanganate (EPA 3665) cleanup.

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1801342
Date Received:	1/8/18 18:21	**Extraction Method:**	SW3550B
Date Prepared:	1/8/18	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo Survey	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1220-PCB-1	1801342-001A	Solid	01/08/2018	GC20 01091838.D	151279

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.50	1	01/09/2018 21:16
Aroclor1221	ND	0.50	1	01/09/2018 21:16
Aroclor1232	ND	0.50	1	01/09/2018 21:16
Aroclor1242	ND	0.50	1	01/09/2018 21:16
Aroclor1248	ND	0.50	1	01/09/2018 21:16
Aroclor1254	ND	0.50	1	01/09/2018 21:16
Aroclor1260	ND	0.50	1	01/09/2018 21:16
PCBs, total	ND	0.50	1	01/09/2018 21:16

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	83	70-130	01/09/2018 21:16

Analyst(s): CK

Analytical Comments: h4,a4

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Quality Control Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1801342
Date Prepared:	1/8/18	**BatchID:**	151279
Date Analyzed:	1/9/18	**Extraction Method:**	SW3550B
Instrument:	GC20	**Analytical Method:**	SW8082
Matrix:	Soil	**Unit:**	mg/kg
Project:	17178; Twin Rivers Demo Survey	**Sample ID:**	MB/LCS/LCSD-151279

QC Summary Report for SW8082

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Aroclor1016	ND	0.050	-	-	-
Aroclor1221	ND	0.050	-	-	-
Aroclor1232	ND	0.050	-	-	-
Aroclor1242	ND	0.050	-	-	-
Aroclor1248	ND	0.050	-	-	-
Aroclor1254	ND	0.050	-	-	-
Aroclor1260	ND	0.050	-	-	-
PCBs, total	ND	0.050	-	-	-
Surrogate Recovery					
Decachlorobiphenyl	0.0462		0.050	92	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Aroclor1016	0.138	0.137	0.15	92	91	70-130	1.19	20
Aroclor1260	0.151	0.142	0.15	101	94	70-130	6.49	20
Surrogate Recovery								
Decachlorobiphenyl	0.0475	0.0443	0.050	95	89	70-130	7.14	20

McCampbell Analytical, Inc.
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Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1801342 **ClientCode: ESL**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☒ EQuIS ☐ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag
☒ Detection Summary ☒ Dry-Weight

Report to:
Jaime Warren
Essel Environmental Consulting
351 California Street, Ste. 615
San Francisco, CA 94104
(707) 494-4883 FAX: 510-380-6610

Email: jwarren@esseltek.com; tbarazoto@esselte
cc/3rd Party:
PO:
Project: 17178; Twin Rivers Demo Survey

Bill to:
Nik Lahiri
Essel Environmental Consulting
351 California Street, Ste. 615
San Francisco, CA 94104
tnnkbmax@sbcglobal.net; nlahiri@essel

Requested TAT: 3 days;

Date Received: **01/08/2018**
Date Logged: **01/08/2018**

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
1801342-001	1220-PCB-1	Solid	1/8/2018 00:00	☐	A											

Test Legend:

1	8082_PCB_Solid	2		3		4	
5		6		7		8	
9		10		11		12	

Prepared by: Kena Ponce

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.

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WORK ORDER SUMMARY

Client Name: ESSEL ENVIRONMENTAL CONSULTING
Project: 17178; Twin Rivers Demo Survey
Work Order: 1801342
Client Contact: Jaime Warren
QC Level: LEVEL 2
Contact's Email: jwarren@esseltek.com; tbarazoto@esseltek.com; nlahiri@esseltek.com
Comments:
Date Logged: 1/8/2018

☐ 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
1801342-001A	1220-PCB-1	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	1/8/2018	3 days		☐	

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.

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& CONSULTING

Turn Around Time: 72hrs

Send results via: TrevorMarion@Esseltek.com, Nlahiri@esseltek.com, Tbarazoto@esseltek.com, Tmiller@esseltek.com, Jwarren@esseltek.com

PCB

RUSH

1801342

Essel Technology Services, Inc.
351 California Street, Suite 615
San Francisco, CA 94104
Phone: 415-938-7002

Chain of Custody Form

Asbestos/Lead/Mold Bulk Sampling

Project No: 17178	Date: 11/8/18	Client Name: SHRA	
Laboratory Submitted To: EMSL McCampbell			
Relinquished By: Jamie Warren	Date: 11/8/18	Project Name: Twin Rivers Demo Survey	
Print Name:			
Relinquished to:	Date: 11/8/18 1821	Project Location: 1220 Fiebel Sacramento CA	
Print Name:			

Homogeneous Material Group	Sample Number	Material description	Sample Location	Condition Friability	Quantity
	1220-PCB-1	White Pliable caulking	Exterior Around Front Door Between door and stucco		

Sampled by: Jamie Warren Date: 11/8/18

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Sample Receipt Checklist

Client Name:	**Essel Environmental Consulting**	Date and Time Received	**1/8/2018 18:21**
Project:	**17178; Twin Rivers Demo Survey**	Date Logged:	**1/8/2018**
		Received by:	Kena Ponce
WorkOrder №:	**1801342** Matrix: Solid	Logged by:	Kena Ponce
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	☐	
COC agrees with Quote?	Yes	☐	No	☐	NA ☑

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	☐	NA ☐
Sample/Temp Blank temperature	Temp:				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	☑	

UCMR 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 ☑

Comments:

McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1801281

Report Created for: Essel Environmental Consulting

351 California Street, Ste. 615
San Francisco, CA 94104

Project Contact: Trevor Marion
Project P.O.:
Project: 17178; Twin Rivers Demo Survey

Project Received: 01/08/2018

Analytical Report reviewed & approved for release on 01/11/2018 by:

Jennifer Lagerbom
Project Manager

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CA ELAP 1644 ♦ NELAP 4033 ORELAP

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Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 17178; Twin Rivers Demo Survey
WorkOrder: 1801281

Glossary Abbreviation

%D	Serial Dilution Percent Difference
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)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
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.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
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
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

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Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 17178; Twin Rivers Demo Survey
WorkOrder: 1801281

Analytical Qualifiers

a7	Reporting limit raised due to limited sample amount
h4	Sulfuric acid permanganate (EPA 3665) cleanup

McCampbell Analytical, Inc.
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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1801281
Date Received:	1/8/18 8:08	**Extraction Method:**	SW3550B
Date Prepared:	1/8/18	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo Survey	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1226-PCB-1	1801281-001A	Solid	01/07/2018	GC20 01081863.D	151279

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.71	1	01/09/2018 03:33
Aroclor1221	ND	0.71	1	01/09/2018 03:33
Aroclor1232	ND	0.71	1	01/09/2018 03:33
Aroclor1242	ND	0.71	1	01/09/2018 03:33
Aroclor1248	ND	0.71	1	01/09/2018 03:33
Aroclor1254	ND	0.71	1	01/09/2018 03:33
Aroclor1260	ND	0.71	1	01/09/2018 03:33
PCBs, total	ND	0.71	1	01/09/2018 03:33

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	101	70-130	01/09/2018 03:33

Analyst(s): CK

Analytical Comments: h4,a7

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Quality Control Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1801281
Date Prepared:	1/8/18	**BatchID:**	151279
Date Analyzed:	1/9/18	**Extraction Method:**	SW3550B
Instrument:	GC20	**Analytical Method:**	SW8082
Matrix:	Soil	**Unit:**	mg/kg
Project:	17178; Twin Rivers Demo Survey	**Sample ID:**	MB/LCS/LCSD-151279

QC Summary Report for SW8082

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Aroclor1016	ND	0.050	-	-	-
Aroclor1221	ND	0.050	-	-	-
Aroclor1232	ND	0.050	-	-	-
Aroclor1242	ND	0.050	-	-	-
Aroclor1248	ND	0.050	-	-	-
Aroclor1254	ND	0.050	-	-	-
Aroclor1260	ND	0.050	-	-	-
PCBs, total	ND	0.050	-	-	-
Surrogate Recovery					
Decachlorobiphenyl	0.0462		0.050	92	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Aroclor1016	0.138	0.137	0.15	92	91	70-130	1.19	20
Aroclor1260	0.151	0.142	0.15	101	94	70-130	6.49	20
Surrogate Recovery								
Decachlorobiphenyl	0.0475	0.0443	0.050	95	89	70-130	7.14	20

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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1801281 **ClientCode: ESL**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☒ EQuIS ☐ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag
☒ Detection Summary ☒ Dry-Weight

Report to:
Trevor Marion
Essel Environmental Consulting
351 California Street, Ste. 615
San Francisco, CA 94104
(707) 494-4883 FAX: 510-380-6610

Email: trevormarion@esseltek.com
cc/3rd Party: jwarren@esseltek.com; tbarazoto@esselte
PO:
Project: 17178; Twin Rivers Demo Survey

Bill to:
Nik Lahiri
Essel Environmental Consulting
351 California Street, Ste. 615
San Francisco, CA 94104
tnnkbmax@sbcglobal.net; nlahiri@essel

Requested TAT: 3 days;

Date Received: **01/08/2018**
Date Logged: **01/08/2018**

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
1801281-001	1226-PCB-1	Solid	1/7/2018 00:00	☐	A											

Test Legend:

1	8082_PCB_Solid	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.

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WORK ORDER SUMMARY

Client Name: ESSEL ENVIRONMENTAL CONSULTING
Client Contact: Trevor Marion
Contact's Email: trevormarion@esseltek.com

Project: 17178; Twin Rivers Demo Survey
Comments:

Work Order: 1801281
QC Level: LEVEL 2
Date Logged: 1/8/2018

☐ 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
1801281-001A	1226-PCB-1	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	1/7/2018	3 days		☐	

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.

RUSH

1801281

Turn Around Time:

Send results via: TrevorMarion@Esseltek.com, Nlahiri@esseltek.com, Tbarazoto@esseltek.com, Tmiller@esseltek.com, Jwarren@esseltek.com

Essel Technology Services, Inc.
351 California Street, Suite 615
San Francisco, CA 94104
Phone: 415-938-7002

essel ENVIRONMENTAL ENGINEERING & CONSULTING

8002 (PCB Only) 72hr.

Chain of Custody Form

Asbestos/Lead/Mold Bulk Sampling

Project No: 17178	Date: 1/5/18	Client Name: SHRA	
Laboratory Submitted To: ~~EEL~~ McCampbell			
Relinquished By: Jamie Warren	Date: 1/7/18	Project Name: Twin Rivers Demo Survey	
Print Name:			
Relinquished to:	Date:	Project Location: 1226 Isabel Street Sacramento, CA	
Print Name:			

Homogeneous Material Group	Sample Number	Material description	Sample Location	Condition Friability	Quantity
	1226-PCB-1	White Pliable Caulking	Around Front door between door and Stucco wall		

Sampled by: Date: 1/7/18 Rec'd @ MAI 1/8/18

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Sample Receipt Checklist

Client Name:	**Essel Environmental Consulting**	Date and Time Received	**1/8/2018 08:08**
Project:	**17178; Twin Rivers Demo Survey**	Date Logged:	**1/8/2018**
		Received by:	Jena Alfaro
WorkOrder №:	**1801281** Matrix: Solid	Logged by:	Jena Alfaro
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	☐	
COC agrees with Quote?	Yes	☐	No	☐	NA ☑

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	☐	NA ☐
Sample/Temp Blank temperature	Temp:				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	☑	

UCMR 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 ☑

Comments:

McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1801284

Report Created for: Essel Environmental Consulting

351 California Street, Ste. 615
San Francisco, CA 94104

Project Contact: Trevor Marion
Project P.O.:
Project: 17178; Twin Rivers Demo Survey

Project Received: 01/08/2018

Analytical Report reviewed & approved for release on 01/11/2018 by:

Jennifer Lagerbom
Project Manager

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CA ELAP 1644 ♦ NELAP 4033 ORELAP

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Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 17178; Twin Rivers Demo Survey
WorkOrder: 1801284

Glossary Abbreviation

%D	Serial Dilution Percent Difference
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)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
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.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
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
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

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Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 17178; Twin Rivers Demo Survey
WorkOrder: 1801284

Analytical Qualifiers

a4	Reporting limits raised due to the sample's matrix prohibiting a full volume extraction.
a7	Reporting limit raised due to limited sample amount
h4	Sulfuric acid permanganate (EPA 3665) cleanup

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1801284
Date Received:	1/8/18 8:08	**Extraction Method:**	SW3550B
Date Prepared:	1/8/18	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo Survey	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1214-PCB-1	1801284-001A	Solid	01/06/2018	GC20 01081866.D	151279

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	1.5	1	01/09/2018 04:21
Aroclor1221	ND	1.5	1	01/09/2018 04:21
Aroclor1232	ND	1.5	1	01/09/2018 04:21
Aroclor1242	ND	1.5	1	01/09/2018 04:21
Aroclor1248	ND	1.5	1	01/09/2018 04:21
Aroclor1254	ND	1.5	1	01/09/2018 04:21
Aroclor1260	ND	1.5	1	01/09/2018 04:21
PCBs, total	ND	1.5	1	01/09/2018 04:21

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	96	70-130	01/09/2018 04:21

Analyst(s): CK Analytical Comments: h4,a7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1214-PCB-2	1801284-002A	Solid	01/06/2018	GC20 01081867.D	151279

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	1.0	1	01/09/2018 04:37
Aroclor1221	ND	1.0	1	01/09/2018 04:37
Aroclor1232	ND	1.0	1	01/09/2018 04:37
Aroclor1242	ND	1.0	1	01/09/2018 04:37
Aroclor1248	ND	1.0	1	01/09/2018 04:37
Aroclor1254	ND	1.0	1	01/09/2018 04:37
Aroclor1260	ND	1.0	1	01/09/2018 04:37
PCBs, total	ND	1.0	1	01/09/2018 04:37

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	96	70-130	01/09/2018 04:37

Analyst(s): CK Analytical Comments: h4,a7

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1801284
Date Received:	1/8/18 8:08	**Extraction Method:**	SW3550B
Date Prepared:	1/8/18	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo Survey	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1214-PCB-3	1801284-003A	Solid	01/06/2018	GC20 01081868.D	151279

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	1.2	1	01/09/2018 04:53
Aroclor1221	ND	1.2	1	01/09/2018 04:53
Aroclor1232	ND	1.2	1	01/09/2018 04:53
Aroclor1242	ND	1.2	1	01/09/2018 04:53
Aroclor1248	ND	1.2	1	01/09/2018 04:53
Aroclor1254	ND	1.2	1	01/09/2018 04:53
Aroclor1260	ND	1.2	1	01/09/2018 04:53
PCBs, total	ND	1.2	1	01/09/2018 04:53

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	109	70-130	01/09/2018 04:53

Analyst(s): CK Analytical Comments: h4,a7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1214-PCB-4	1801284-004A	Solid	01/06/2018	GC20 01081869.D	151279

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	1.0	1	01/09/2018 05:09
Aroclor1221	ND	1.0	1	01/09/2018 05:09
Aroclor1232	ND	1.0	1	01/09/2018 05:09
Aroclor1242	ND	1.0	1	01/09/2018 05:09
Aroclor1248	ND	1.0	1	01/09/2018 05:09
Aroclor1254	ND	1.0	1	01/09/2018 05:09
Aroclor1260	ND	1.0	1	01/09/2018 05:09
PCBs, total	ND	1.0	1	01/09/2018 05:09

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	90	70-130	01/09/2018 05:09

Analyst(s): CK Analytical Comments: h4,a7

(Cont.)

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1801284
Date Received:	1/8/18 8:08	**Extraction Method:**	SW3550B
Date Prepared:	1/8/18	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo Survey	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1214-PCB-5	**1801284-005A**	**Solid**	**01/06/2018**	**GC20 01081873.D**	**151279**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.50	1	01/09/2018 06:14
Aroclor1221	ND	0.50	1	01/09/2018 06:14
Aroclor1232	ND	0.50	1	01/09/2018 06:14
Aroclor1242	ND	0.50	1	01/09/2018 06:14
Aroclor1248	ND	0.50	1	01/09/2018 06:14
Aroclor1254	ND	0.50	1	01/09/2018 06:14
Aroclor1260	ND	0.50	1	01/09/2018 06:14
PCBs, total	ND	0.50	1	01/09/2018 06:14

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	114	70-130	01/09/2018 06:14

Analyst(s): CK

Analytical Comments: h4,a4

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Quality Control Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1801284
Date Prepared:	1/8/18	**BatchID:**	151279
Date Analyzed:	1/9/18	**Extraction Method:**	SW3550B
Instrument:	GC20	**Analytical Method:**	SW8082
Matrix:	Soil	**Unit:**	mg/kg
Project:	17178; Twin Rivers Demo Survey	**Sample ID:**	MB/LCS/LCSD-151279

QC Summary Report for SW8082

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Aroclor1016	ND	0.050	-	-	-
Aroclor1221	ND	0.050	-	-	-
Aroclor1232	ND	0.050	-	-	-
Aroclor1242	ND	0.050	-	-	-
Aroclor1248	ND	0.050	-	-	-
Aroclor1254	ND	0.050	-	-	-
Aroclor1260	ND	0.050	-	-	-
PCBs, total	ND	0.050	-	-	-
Surrogate Recovery					
Decachlorobiphenyl	0.0462		0.050	92	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Aroclor1016	0.138	0.137	0.15	92	91	70-130	1.19	20
Aroclor1260	0.151	0.142	0.15	101	94	70-130	6.49	20
Surrogate Recovery								
Decachlorobiphenyl	0.0475	0.0443	0.050	95	89	70-130	7.14	20

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Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1801284 **ClientCode: ESL**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☒ EQuIS ☐ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag
☒ Detection Summary ☒ Dry-Weight

Report to:
Trevor Marion
Essel Environmental Consulting
351 California Street, Ste. 615
San Francisco, CA 94104
(707) 494-4883 FAX: 510-380-6610

Email: trevormarion@esseltek.com
cc/3rd Party: jwarren@esseltek.com; tbarazoto@esselte
PO:
Project: 17178; Twin Rivers Demo Survey

Bill to:
Nik Lahiri
Essel Environmental Consulting
351 California Street, Ste. 615
San Francisco, CA 94104
tnnkbmax@sbcglobal.net; nlahiri@essel

Requested TAT: 3 days;

Date Received: **01/08/2018**
Date Logged: **01/08/2018**

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
1801284-001	1214-PCB-1	Solid	1/6/2018 00:00	☐	A											
1801284-002	1214-PCB-2	Solid	1/6/2018 00:00	☐	A											
1801284-003	1214-PCB-3	Solid	1/6/2018 00:00	☐	A											
1801284-004	1214-PCB-4	Solid	1/6/2018 00:00	☐	A											
1801284-005	1214-PCB-5	Solid	1/6/2018 00:00	☐	A											

Test Legend:

1	8082_PCB_Solid	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.

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Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

WORK ORDER SUMMARY

Client Name: ESSEL ENVIRONMENTAL CONSULTING
Client Contact: Trevor Marion
Contact's Email: trevormarion@esseltek.com
Project: 17178; Twin Rivers Demo Survey
Comments:
Work Order: 1801284
QC Level: LEVEL 2
Date Logged: 1/8/2018

☐ 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
1801284-001A	1214-PCB-1	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	1/6/2018	3 days		☐	
1801284-002A	1214-PCB-2	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	1/6/2018	3 days		☐	
1801284-003A	1214-PCB-3	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	1/6/2018	3 days		☐	
1801284-004A	1214-PCB-4	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	1/6/2018	3 days		☐	
1801284-005A	1214-PCB-5	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	1/6/2018	3 days		☐	

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.

RUSH Turn Around Time: 72 hrs

Send results via: TrevorMarion@Esseltek.com, Nlahiri@esseltek.com, Tbarazoto@esseltek.com, Tmiller@esseltek.com, Jwarren@esseltek.com

1801284

Essel Technology Services, Inc.
351 California Street, Suite 615
San Francisco, CA 94104
Phone: 415-938-7002

essel ENVIRONMENTAL ENGINEERING & CONSULTING

PCB

Chain of Custody Form

~~Asbestos/Lead/Mold Bulk Sampling~~

Project No: 17178	Date: 1/6/18	Client Name: SHRA
Laboratory Submitted To: McCampbell		
Relinquished By: Trevor Marion	Date: 1/6/18	Project Name: Twin Rivers Demo Survey
Print Name:		
Relinquished to:	Date:	Project Location: 1214 ~~Elsa~~ Isabel St Sacramento, CA
Print Name:		

Homogeneous Material Group	Sample Number	Material description	Sample Location	Condition Friability	Quantity
1214-PCB	-1	White/beige Paint on wall	LivRm - South wall		
	-2	on wood door frame	Bedroom #1 - Door frame		
	-3	on wood window sill	Kitchen - window sill		
	-4	Beige Paint on wood column	Exterior wood column at front door		
	-5	Beige Paint on stucco	Ext stucco East face		

Sampled by: Trevor Marion Date: 1/6/18 Recd @ MAI 1/8/18

Comments: _____

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Sample Receipt Checklist

Client Name:	**Essel Environmental Consulting**	Date and Time Received	**1/8/2018 08:08**
Project:	**17178; Twin Rivers Demo Survey**	Date Logged:	**1/8/2018**
		Received by:	Jena Alfaro
WorkOrder №:	**1801284** Matrix: Solid	Logged by:	Jena Alfaro
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	☐	
COC agrees with Quote?	Yes	☐	No	☐	NA ☑

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	☐	NA ☐
Sample/Temp Blank temperature	Temp:				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	☑	

UCMR 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 ☑

Comments:

McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1712280

Report Created for: Essel Environmental Consulting

351 California Street, Ste. 615
San Francisco, CA 94104

Project Contact: Trevor Marion
Project P.O.:
Project Name: 17178; Twin Rivers Demo

Project Received: 12/07/2017

Analytical Report reviewed & approved for release on 12/12/2017 by:

Yen Cao

Project Manager

McCampbell Analytical, Inc.
"When Quality Counts"

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 17178; Twin Rivers Demo
WorkOrder: 1712280

Glossary Abbreviation

%D	Serial Dilution Percent Difference
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)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
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.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
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
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

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Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 17178; Twin Rivers Demo
WorkOrder: 1712280

Analytical Qualifiers

a4	Reporting limits raised due to the sample's matrix prohibiting a full volume extraction.
a7	Reporting limit raised due to limited sample amount
h4	Sulfuric acid permanganate (EPA 3665) cleanup

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1712280
Date Received:	12/7/17 8:13	**Extraction Method:**	SW3550B
Date Prepared:	12/7/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1207-PCB-1	1712280-001A	Solid	12/06/2017	GC23 12111707.D	149848

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	2.0	1	12/11/2017 10:49
Aroclor1221	ND	2.0	1	12/11/2017 10:49
Aroclor1232	ND	2.0	1	12/11/2017 10:49
Aroclor1242	ND	2.0	1	12/11/2017 10:49
Aroclor1248	ND	2.0	1	12/11/2017 10:49
Aroclor1254	ND	2.0	1	12/11/2017 10:49
Aroclor1260	ND	2.0	1	12/11/2017 10:49
PCBs, total	ND	2.0	1	12/11/2017 10:49

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	102	70-130	12/11/2017 10:49

Analyst(s): LT Analytical Comments: h4,a7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1207-PCB-2	1712280-002A	Solid	12/06/2017	GC23 12111708.D	149848

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.76	1	12/11/2017 11:05
Aroclor1221	ND	0.76	1	12/11/2017 11:05
Aroclor1232	ND	0.76	1	12/11/2017 11:05
Aroclor1242	ND	0.76	1	12/11/2017 11:05
Aroclor1248	ND	0.76	1	12/11/2017 11:05
Aroclor1254	ND	0.76	1	12/11/2017 11:05
Aroclor1260	ND	0.76	1	12/11/2017 11:05
PCBs, total	ND	0.76	1	12/11/2017 11:05

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	130	70-130	12/11/2017 11:05

Analyst(s): LT Analytical Comments: h4,a7

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1712280
Date Received:	12/7/17 8:13	**Extraction Method:**	SW3550B
Date Prepared:	12/7/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1207-PCB-3	1712280-003A	Solid	12/06/2017	GC23 12111709.D	149848

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	2.3	1	12/11/2017 11:21
Aroclor1221	ND	2.3	1	12/11/2017 11:21
Aroclor1232	ND	2.3	1	12/11/2017 11:21
Aroclor1242	ND	2.3	1	12/11/2017 11:21
Aroclor1248	ND	2.3	1	12/11/2017 11:21
Aroclor1254	ND	2.3	1	12/11/2017 11:21
Aroclor1260	ND	2.3	1	12/11/2017 11:21
PCBs, total	ND	2.3	1	12/11/2017 11:21

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	99	70-130	12/11/2017 11:21

Analyst(s): LT Analytical Comments: h4,a7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1207-PCB-4	1712280-004A	Solid	12/06/2017	GC23 12111710.D	149848

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	1.5	1	12/11/2017 11:37
Aroclor1221	ND	1.5	1	12/11/2017 11:37
Aroclor1232	ND	1.5	1	12/11/2017 11:37
Aroclor1242	ND	1.5	1	12/11/2017 11:37
Aroclor1248	ND	1.5	1	12/11/2017 11:37
Aroclor1254	ND	1.5	1	12/11/2017 11:37
Aroclor1260	ND	1.5	1	12/11/2017 11:37
PCBs, total	ND	1.5	1	12/11/2017 11:37

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	102	70-130	12/11/2017 11:37

Analyst(s): LT Analytical Comments: h4,a7

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1712280
Date Received:	12/7/17 8:13	**Extraction Method:**	SW3550B
Date Prepared:	12/7/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1207-PCB-5	**1712280-005A**	**Solid**	**12/06/2017**	**GC23 12111711.D**	**149848**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.50	1	12/11/2017 11:53
Aroclor1221	ND	0.50	1	12/11/2017 11:53
Aroclor1232	ND	0.50	1	12/11/2017 11:53
Aroclor1242	ND	0.50	1	12/11/2017 11:53
Aroclor1248	ND	0.50	1	12/11/2017 11:53
Aroclor1254	ND	0.50	1	12/11/2017 11:53
Aroclor1260	ND	0.50	1	12/11/2017 11:53
PCBs, total	ND	0.50	1	12/11/2017 11:53

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	106	70-130	12/11/2017 11:53

Analyst(s): LT

Analytical Comments: h4,a4

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Quality Control Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1712280
Date Prepared:	12/7/17	**BatchID:**	149848
Date Analyzed:	12/8/17	**Extraction Method:**	SW3550B
Instrument:	GC20	**Analytical Method:**	SW8082
Matrix:	Soil	**Unit:**	mg/kg
Project:	17178; Twin Rivers Demo	**Sample ID:**	MB/LCS/LCSD-149848

QC Summary Report for SW8082

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Aroclor1016	ND	0.050	-	-	-
Aroclor1221	ND	0.050	-	-	-
Aroclor1232	ND	0.050	-	-	-
Aroclor1242	ND	0.050	-	-	-
Aroclor1248	ND	0.050	-	-	-
Aroclor1254	ND	0.050	-	-	-
Aroclor1260	ND	0.050	-	-	-
PCBs, total	ND	0.050	-	-	-
Surrogate Recovery					
Decachlorobiphenyl	0.05831		0.050	117	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Aroclor1016	0.148	0.145	0.15	99	97	70-130	1.83	20
Aroclor1260	0.162	0.156	0.15	108	104	70-130	3.81	20
Surrogate Recovery								
Decachlorobiphenyl	0.0594	0.0555	0.050	119	111	70-130	6.86	20

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1712280 **ClientCode: ESL**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☑ EQuIS ☐ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag
☑ Detection Summary ☑ Dry-Weight

Report to:
Trevor Marion
Essel Environmental Consulting
351 California Street, Ste. 615
San Francisco, CA 94104
(707) 494-4883 FAX: 510-380-6610

Email: trevormarion@esseltek.com
cc/3rd Party: jwarren@esseltek.com; tbarazoto@esselte
PO:
ProjectNo: 17178; Twin Rivers Demo

Bill to:
Nik Lahiri
Essel Environmental Consulting
351 California Street, Ste. 615
San Francisco, CA 94104
tnnkbmax@sbcglobal.net; nlahiri@essel

Requested TAT: 3 days;

Date Received: **12/07/2017**
Date Logged: **12/07/2017**

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
1712280-001	1207-PCB-1	Solid	12/6/2017 00:00	☐	A											
1712280-002	1207-PCB-2	Solid	12/6/2017 00:00	☐	A											
1712280-003	1207-PCB-3	Solid	12/6/2017 00:00	☐	A											
1712280-004	1207-PCB-4	Solid	12/6/2017 00:00	☐	A											
1712280-005	1207-PCB-5	Solid	12/6/2017 00:00	☐	A											

Test Legend:

1	8082_PCB_Solid	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.

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WORK ORDER SUMMARY

Client Name: ESSEL ENVIRONMENTAL CONSULTING **Project:** 17178; Twin Rivers Demo **Work Order:** 1712280
Client Contact: Trevor Marion **QC Level:** LEVEL 2
Contact's Email: trevormarion@esseltek.com **Comments:** **Date Logged:** 12/7/2017

☐ 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
1712280-001A	1207-PCB-1	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	12/6/2017	3 days		☐	
1712280-002A	1207-PCB-2	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	12/6/2017	3 days		☐	
1712280-003A	1207-PCB-3	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	12/6/2017	3 days		☐	
1712280-004A	1207-PCB-4	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	12/6/2017	3 days		☐	
1712280-005A	1207-PCB-5	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	12/6/2017	3 days		☐	

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.

17122280

Turn Around Time: 72 hrs **RUSH**

Send results via: TrevorMarion@Esseltek.com, Nlahiri@esseltek.com, Tbarazoto@esseltek.com, Tmiller@esseltek.com, Jwarren@esseltek.com

Essel Technology Services, Inc.
351 California Street, Suite 615
San Francisco, CA 94104
Phone: 415-938-7002

essel ENVIRONMENTAL ENGINEERING & CONSULTING

PCB paint

Chain of Custody Form

~~Asbestos/Lead/Mold Bulk Sampling~~

Project No: 17178	Date: 12/06/17	Client Name: SHRA
Laboratory Submitted To: McCampbell		
Relinquished By: [signature]	Date: 12/06/17	Project Name: Twin Rivrs Demo Survey - PCB
Print Name: Trevor Marion		
Relinquished to:	Date:	Project Location: 1207 Richards St. Sacramento, CA
~~Print Name:~~ MV Received @ MAI by: [signature]	12/7/17 0813	

Homogeneous Material Group	Sample Number	Material description	Sample Location	Condition Friability	Quantity
1207-PCB-1		White Paint on wood window sill	Bed #1 - N wall		
	-2	White Paint on Dw wall	-kitchn - W wall		
	-3	Grey Paint on wood handrail	Stairwell		
	-4	Beige Paint on ext wood (dumm	At south entrance		
	-5	Beige Paint on ext stucco	At South entrance		

Sampled by: Trevor Marion Date: 12/6/17 Dropped off: 12/7/17 @ 10 am

Comments:

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Sample Receipt Checklist

Client Name:	**Essel Environmental Consulting**	Date and Time Received	**12/7/2017 08:13**
Project Name:	**17178; Twin Rivers Demo**	Date Logged:	**12/7/2017**
		Received by:	Maria Venegas
WorkOrder №:	**1712280** Matrix: Solid	Logged by:	Jena Alfaro
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	☐		
COC agrees with Quote?	Yes	☐	No	☐	NA	☑

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	☐	NA	☐
Sample/Temp Blank temperature	Temp:				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	☑		

UCMR 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	☑

Comments:

McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1801344

Report Created for: Essel Environmental Consulting

351 California Street, Ste. 615
San Francisco, CA 94104

Project Contact: Jaime Warren
Project P.O.:
Project: 17178; Twin Rivers Demo

Project Received: 01/08/2018

Analytical Report reviewed & approved for release on 01/11/2018 by:

Yen Cao
Project Manager

McCampbell Analytical, Inc.
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Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 17178; Twin Rivers Demo
WorkOrder: 1801344

Glossary Abbreviation

%D	Serial Dilution Percent Difference
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)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
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.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
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
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

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Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 17178; Twin Rivers Demo
WorkOrder: 1801344

Analytical Qualifiers

a4	Reporting limits raised due to the sample's matrix prohibiting a full volume extraction.
a7	Reporting limit raised due to limited sample amount.
h4	Sulfuric acid permanganate (EPA 3665) cleanup.

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1801344
Date Received:	1/8/18 18:21	**Extraction Method:**	SW3550B
Date Prepared:	1/8/18	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
453-PCB-1	**1801344-001A**	**Solid**	**01/08/2018**	**GC20 01091846.D**	**151316**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.54	1	01/09/2018 23:24
Aroclor1221	ND	0.54	1	01/09/2018 23:24
Aroclor1232	ND	0.54	1	01/09/2018 23:24
Aroclor1242	ND	0.54	1	01/09/2018 23:24
Aroclor1248	ND	0.54	1	01/09/2018 23:24
Aroclor1254	ND	0.54	1	01/09/2018 23:24
Aroclor1260	ND	0.54	1	01/09/2018 23:24
PCBs, total	ND	0.54	1	01/09/2018 23:24

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	96	70-130	01/09/2018 23:24

Analyst(s): CK Analytical Comments: h4,a7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
453-PCB-2	**1801344-002A**	**Solid**	**01/08/2018**	**GC20 01091847.D**	**151316**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	2.0	1	01/09/2018 23:40
Aroclor1221	ND	2.0	1	01/09/2018 23:40
Aroclor1232	ND	2.0	1	01/09/2018 23:40
Aroclor1242	ND	2.0	1	01/09/2018 23:40
Aroclor1248	ND	2.0	1	01/09/2018 23:40
Aroclor1254	ND	2.0	1	01/09/2018 23:40
Aroclor1260	ND	2.0	1	01/09/2018 23:40
PCBs, total	ND	2.0	1	01/09/2018 23:40

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	125	70-130	01/09/2018 23:40

Analyst(s): CK Analytical Comments: h4,a7

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1801344
Date Received:	1/8/18 18:21	**Extraction Method:**	SW3550B
Date Prepared:	1/8/18	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
453-PCB-3	**1801344-003A**	**Solid**	**01/08/2018**	**GC20 01091848.D**	**151316**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	1.7	1	01/09/2018 23:56
Aroclor1221	ND	1.7	1	01/09/2018 23:56
Aroclor1232	ND	1.7	1	01/09/2018 23:56
Aroclor1242	ND	1.7	1	01/09/2018 23:56
Aroclor1248	ND	1.7	1	01/09/2018 23:56
Aroclor1254	ND	1.7	1	01/09/2018 23:56
Aroclor1260	ND	1.7	1	01/09/2018 23:56
PCBs, total	ND	1.7	1	01/09/2018 23:56

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	100	70-130	01/09/2018 23:56

Analyst(s): CK Analytical Comments: h4,a7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
453-PCB-4	**1801344-004A**	**Solid**	**01/08/2018**	**GC20 01091849.D**	**151316**

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.50	1	01/10/2018 00:12
Aroclor1221	ND	0.50	1	01/10/2018 00:12
Aroclor1232	ND	0.50	1	01/10/2018 00:12
Aroclor1242	ND	0.50	1	01/10/2018 00:12
Aroclor1248	ND	0.50	1	01/10/2018 00:12
Aroclor1254	ND	0.50	1	01/10/2018 00:12
Aroclor1260	ND	0.50	1	01/10/2018 00:12
PCBs, total	ND	0.50	1	01/10/2018 00:12

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	88	70-130	01/10/2018 00:12

Analyst(s): CK Analytical Comments: h4,a4

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1801344
Date Prepared:	1/8/18	**BatchID:**	151316
Date Analyzed:	1/9/18	**Extraction Method:**	SW3550B
Instrument:	GC20	**Analytical Method:**	SW8082
Matrix:	Soil	**Unit:**	mg/kg
Project:	17178; Twin Rivers Demo	**Sample ID:**	MB/LCS/LCSD-151316

QC Summary Report for SW8082

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Aroclor1016	ND	0.050	-	-	-
Aroclor1221	ND	0.050	-	-	-
Aroclor1232	ND	0.050	-	-	-
Aroclor1242	ND	0.050	-	-	-
Aroclor1248	ND	0.050	-	-	-
Aroclor1254	ND	0.050	-	-	-
Aroclor1260	ND	0.050	-	-	-
PCBs, total	ND	0.050	-	-	-
Surrogate Recovery					
Decachlorobiphenyl	0.0502		0.050	100	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Aroclor1016	0.146	0.150	0.15	98	100	70-130	2.23	20
Aroclor1260	0.157	0.166	0.15	105	111	70-130	5.80	20
Surrogate Recovery								
Decachlorobiphenyl	0.0482	0.0511	0.050	96	102	70-130	5.93	20

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(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1801344 **ClientCode: ESL**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☒ EQuIS ☐ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag
☒ Detection Summary ☒ Dry-Weight

Report to:
Jaime Warren
Essel Environmental Consulting
351 California Street, Ste. 615
San Francisco, CA 94104
(707) 494-4883 FAX: 510-380-6610

Email: jwarren@esseltek.com; tbarazoto@esselte
cc/3rd Party:
PO:
Project: 17178; Twin Rivers Demo

Bill to:
Nik Lahiri
Essel Environmental Consulting
351 California Street, Ste. 615
San Francisco, CA 94104
tnnkbmax@sbcglobal.net; nlahiri@essel

Requested TAT: 3 days;

Date Received: **01/08/2018**
Date Logged: **01/08/2018**

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
1801344-001	453-PCB-1	Solid	1/8/2018 00:00	☐	A											
1801344-002	453-PCB-2	Solid	1/8/2018 00:00	☐	A											
1801344-003	453-PCB-3	Solid	1/8/2018 00:00	☐	A											
1801344-004	453-PCB-4	Solid	1/8/2018 00:00	☐	A											

Test Legend:

1	8082_PCB_Solid	2		3		4	
5		6		7		8	
9		10		11		12	

Prepared by: Kena Ponce

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.

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WORK ORDER SUMMARY

Client Name: ESSEL ENVIRONMENTAL CONSULTING
Client Contact: Jaime Warren
Contact's Email: jwarren@esseltek.com; tbarazoto@esseltek.com; nlahiri@esseltek.com

Project: 17178; Twin Rivers Demo
Comments:

Work Order: 1801344
QC Level: LEVEL 2
Date Logged: 1/8/2018

☐ 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
1801344-001A	453-PCB-1	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	1/8/2018	3 days		☐	
1801344-002A	453-PCB-2	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	1/8/2018	3 days		☐	
1801344-003A	453-PCB-3	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	1/8/2018	3 days		☐	
1801344-004A	453-PCB-4	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	1/8/2018	3 days		☐	

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.

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RUSH

Chain of Custody Form

Asbestos/Lead/Mold Bulk Sampling PCB

1801344

Project No: 17178	Date: 1/8/18	Client Name: SHRA
Laboratory Submitted To: McCampbell Analytical		
Relinquished By:	Date: 1/8/18	Project Name: Twin Rivers Demo
Print Name: Tyler Barazoto		
Relinquished to:	Date: 1/8/18 1821	Project Location: 453 Mint st., Sacramento
Print Name:		

Homogeneous Material Group	Sample Number	Material description	Sample Location	Condition Friability	Quantity
		Beige Paint on Wood	Exterior Porch Column		
		Beige Paint on Wood	Living Room E wall window sill		
		Beige Paint on Plaster	Kitchen Wall, West		
		Gray Paint on Wood	Wood substrate under stucco wall, exterior N face		

Sampled by: Trevor Marron + Tyler Barazoto Date: 1/8/18 1/8/18

Comments: _____

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Sample Receipt Checklist

Client Name:	**Essel Environmental Consulting**	Date and Time Received	**1/8/2018 18:21**
Project:	**17178; Twin Rivers Demo**	Date Logged:	**1/8/2018**
		Received by:	Kena Ponce
WorkOrder №:	**1801344** Matrix: Solid	Logged by:	Kena Ponce
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	☐	
COC agrees with Quote?	Yes	☐	No	☐	NA ☑

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	☐	NA ☐
Sample/Temp Blank temperature	Temp:				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	☑	

UCMR 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 ☑

Comments:

McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1801343

Report Created for: Essel Environmental Consulting

351 California Street, Ste. 615
San Francisco, CA 94104

Project Contact: Jaime Warren
Project P.O.:
Project: 17178; Twin Rivers Demo Survey

Project Received: 01/08/2018

Analytical Report reviewed & approved for release on 01/11/2018 by:

Yen Cao
Project Manager

McCampbell Analytical, Inc.
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Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 17178; Twin Rivers Demo Survey
WorkOrder: 1801343

Glossary Abbreviation

%D	Serial Dilution Percent Difference
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)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
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.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
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
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

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Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 17178; Twin Rivers Demo Survey
WorkOrder: 1801343

Analytical Qualifiers

a7	Reporting limit raised due to limited sample amount.
h4	Sulfuric acid permanganate (EPA 3665) cleanup.

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1801343
Date Received:	1/8/18 18:21	**Extraction Method:**	SW3550B
Date Prepared:	1/8/18	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo Survey	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
361-PCB-1	1801343-001A	Solid	01/08/2018	GC20 01091839.D	151316

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	1.1	1	01/09/2018 21:32
Aroclor1221	ND	1.1	1	01/09/2018 21:32
Aroclor1232	ND	1.1	1	01/09/2018 21:32
Aroclor1242	ND	1.1	1	01/09/2018 21:32
Aroclor1248	ND	1.1	1	01/09/2018 21:32
Aroclor1254	ND	1.1	1	01/09/2018 21:32
Aroclor1260	ND	1.1	1	01/09/2018 21:32
PCBs, total	ND	1.1	1	01/09/2018 21:32

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	113	70-130	01/09/2018 21:32

Analyst(s): CK Analytical Comments: h4,a7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
361-PCB-2	1801343-002A	Solid	01/08/2018	GC20 01091843.D	151316

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	1.4	1	01/09/2018 22:36
Aroclor1221	ND	1.4	1	01/09/2018 22:36
Aroclor1232	ND	1.4	1	01/09/2018 22:36
Aroclor1242	ND	1.4	1	01/09/2018 22:36
Aroclor1248	ND	1.4	1	01/09/2018 22:36
Aroclor1254	ND	1.4	1	01/09/2018 22:36
Aroclor1260	ND	1.4	1	01/09/2018 22:36
PCBs, total	ND	1.4	1	01/09/2018 22:36

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	94	70-130	01/09/2018 22:36

Analyst(s): CK Analytical Comments: h4,a7

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1801343
Date Received:	1/8/18 18:21	**Extraction Method:**	SW3550B
Date Prepared:	1/8/18	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo Survey	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
361-PCB-3	1801343-003A	Solid	01/08/2018	GC20 01091844.D	151316

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	1.6	1	01/09/2018 22:52
Aroclor1221	ND	1.6	1	01/09/2018 22:52
Aroclor1232	ND	1.6	1	01/09/2018 22:52
Aroclor1242	ND	1.6	1	01/09/2018 22:52
Aroclor1248	ND	1.6	1	01/09/2018 22:52
Aroclor1254	ND	1.6	1	01/09/2018 22:52
Aroclor1260	ND	1.6	1	01/09/2018 22:52
PCBs, total	ND	1.6	1	01/09/2018 22:52

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	93	70-130	01/09/2018 22:52

Analyst(s): CK Analytical Comments: h4,a7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
361-PCB-4	1801343-004A	Solid	01/08/2018	GC20 01091845.D	151316

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	1.4	1	01/09/2018 23:08
Aroclor1221	ND	1.4	1	01/09/2018 23:08
Aroclor1232	ND	1.4	1	01/09/2018 23:08
Aroclor1242	ND	1.4	1	01/09/2018 23:08
Aroclor1248	ND	1.4	1	01/09/2018 23:08
Aroclor1254	ND	1.4	1	01/09/2018 23:08
Aroclor1260	ND	1.4	1	01/09/2018 23:08
PCBs, total	ND	1.4	1	01/09/2018 23:08

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	103	70-130	01/09/2018 23:08

Analyst(s): CK Analytical Comments: h4,a7

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Quality Control Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1801343
Date Prepared:	1/8/18	**BatchID:**	151316
Date Analyzed:	1/9/18	**Extraction Method:**	SW3550B
Instrument:	GC20	**Analytical Method:**	SW8082
Matrix:	Soil	**Unit:**	mg/kg
Project:	17178; Twin Rivers Demo Survey	**Sample ID:**	MB/LCS/LCSD-151316

QC Summary Report for SW8082

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Aroclor1016	ND	0.050	-	-	-
Aroclor1221	ND	0.050	-	-	-
Aroclor1232	ND	0.050	-	-	-
Aroclor1242	ND	0.050	-	-	-
Aroclor1248	ND	0.050	-	-	-
Aroclor1254	ND	0.050	-	-	-
Aroclor1260	ND	0.050	-	-	-
PCBs, total	ND	0.050	-	-	-
Surrogate Recovery					
Decachlorobiphenyl	0.0502		0.050	100	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Aroclor1016	0.146	0.150	0.15	98	100	70-130	2.23	20
Aroclor1260	0.157	0.166	0.15	105	111	70-130	5.80	20
Surrogate Recovery								
Decachlorobiphenyl	0.0482	0.0511	0.050	96	102	70-130	5.93	20

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(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1801343 **ClientCode: ESL**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☒ EQuIS ☐ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag
☒ Detection Summary ☒ Dry-Weight

Report to:
Jaime Warren
Essel Environmental Consulting
351 California Street, Ste. 615
San Francisco, CA 94104
(707) 494-4883 FAX: 510-380-6610

Email: jwarren@esseltek.com; tbarazoto@esselte
cc/3rd Party:
PO:
Project: 17178; Twin Rivers Demo Survey

Bill to:
Nik Lahiri
Essel Environmental Consulting
351 California Street, Ste. 615
San Francisco, CA 94104
tnnkbmax@sbcglobal.net; nlahiri@essel

Requested TAT: 3 days;

Date Received: **01/08/2018**
Date Logged: **01/08/2018**

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
1801343-001	361-PCB-1	Solid	1/8/2018 00:00	☐	A											
1801343-002	361-PCB-2	Solid	1/8/2018 00:00	☐	A											
1801343-003	361-PCB-3	Solid	1/8/2018 00:00	☐	A											
1801343-004	361-PCB-4	Solid	1/8/2018 00:00	☐	A											

Test Legend:

1	8082_PCB_Solid	2		3		4	
5		6		7		8	
9		10		11		12	

Prepared by: Kena Ponce

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.

McCampbell Analytical, Inc.
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WORK ORDER SUMMARY

Client Name: ESSEL ENVIRONMENTAL CONSULTING
Client Contact: Jaime Warren
Contact's Email: jwarren@esseltek.com; tbarazoto@esseltek.com; nlahiri@esseltek.com

Project: 17178; Twin Rivers Demo Survey
Comments:

Work Order: 1801343
QC Level: LEVEL 2
Date Logged: 1/8/2018

☐ 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
1801343-001A	361-PCB-1	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	1/8/2018	3 days		☐	
1801343-002A	361-PCB-2	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	1/8/2018	3 days		☐	
1801343-003A	361-PCB-3	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	1/8/2018	3 days		☐	
1801343-004A	361-PCB-4	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	1/8/2018	3 days		☐	

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.

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Turn Around Time: 72 hrs

Send results via:

RUSH

Essel Technology Services, Inc.
351 California Street, Suite 615
San Francisco, CA 94104
Phone: 415-938-7002

PCB

Chain of Custody Form

~~Asbestos/Lead/Mold Bulk Sampling~~

1801343

Project No: 17178	Date: 1/8/18	Client Name: SHRA
Laboratory Submitted To: McCampbell		
Relinquished By: [signature]	Date: 1/8/18	Project Name: Twin Rivers Demo Survey
Print Name: Trevor Marion		
Relinquished to: [signature]	Date: 1/8/18 1821	Project Location: 361 mint street
Print Name:		Sacramento, CA

Homogeneous Material Group	Sample Number	Material description	Sample Location	Condition Friability	Quantity
	361-PCB-1	white/beige Paint on door frame	kitchen Pantry door		
	-2	white/beige Paint on wall	LvRm - E wall		
	-3	white/beige Paint on wood column	E face at front door		
	-4	Green Paint on ext stucco	E face at front door		

Sampled by: Trevor Marion Date: 1/8/18

Comments: _____

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Sample Receipt Checklist

Client Name:	**Essel Environmental Consulting**	Date and Time Received	**1/8/2018 18:21**
Project:	**17178; Twin Rivers Demo Survey**	Date Logged:	**1/8/2018**
		Received by:	Kena Ponce
WorkOrder №:	**1801343** Matrix: Solid	Logged by:	Kena Ponce
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	☐	
COC agrees with Quote?	Yes	☐	No	☐	NA ☑

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	☐	NA ☐
Sample/Temp Blank temperature	Temp:				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	☑	

UCMR 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 ☑

Comments:

McCampbell Analytical, Inc.
"When Quality Counts"

Analytical Report

WorkOrder: 1801283

Report Created for: Essel Environmental Consulting

351 California Street, Ste. 615
San Francisco, CA 94104

Project Contact: Trevor Marion
Project P.O.:
Project: 17178; Twin Rivers Demo Survey

Project Received: 01/08/2018

Analytical Report reviewed & approved for release on 01/11/2018 by:

Jennifer Lagerbom
Project Manager

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Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 17178; Twin Rivers Demo Survey
WorkOrder: 1801283

Glossary Abbreviation

%D	Serial Dilution Percent Difference
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)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
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.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
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
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

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Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 17178; Twin Rivers Demo Survey
WorkOrder: 1801283

Analytical Qualifiers

a7	Reporting limit raised due to limited sample amount
h4	Sulfuric acid permanganate (EPA 3665) cleanup

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1801283
Date Received:	1/8/18 8:08	**Extraction Method:**	SW3550B
Date Prepared:	1/8/18	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo Survey	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
370-PCB-1	1801283-001A	Solid	01/06/2018	GC20 01081865.D	151279

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.63	1	01/09/2018 04:05
Aroclor1221	ND	0.63	1	01/09/2018 04:05
Aroclor1232	ND	0.63	1	01/09/2018 04:05
Aroclor1242	ND	0.63	1	01/09/2018 04:05
Aroclor1248	ND	0.63	1	01/09/2018 04:05
Aroclor1254	ND	0.63	1	01/09/2018 04:05
Aroclor1260	ND	0.63	1	01/09/2018 04:05
PCBs, total	ND	0.63	1	01/09/2018 04:05

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	82	70-130	01/09/2018 04:05

Analyst(s): CK

Analytical Comments: h4,a7

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Quality Control Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1801283
Date Prepared:	1/8/18	**BatchID:**	151279
Date Analyzed:	1/9/18	**Extraction Method:**	SW3550B
Instrument:	GC20	**Analytical Method:**	SW8082
Matrix:	Soil	**Unit:**	mg/kg
Project:	17178; Twin Rivers Demo Survey	**Sample ID:**	MB/LCS/LCSD-151279

QC Summary Report for SW8082

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Aroclor1016	ND	0.050	-	-	-
Aroclor1221	ND	0.050	-	-	-
Aroclor1232	ND	0.050	-	-	-
Aroclor1242	ND	0.050	-	-	-
Aroclor1248	ND	0.050	-	-	-
Aroclor1254	ND	0.050	-	-	-
Aroclor1260	ND	0.050	-	-	-
PCBs, total	ND	0.050	-	-	-
Surrogate Recovery					
Decachlorobiphenyl	0.0462		0.050	92	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Aroclor1016	0.138	0.137	0.15	92	91	70-130	1.19	20
Aroclor1260	0.151	0.142	0.15	101	94	70-130	6.49	20
Surrogate Recovery								
Decachlorobiphenyl	0.0475	0.0443	0.050	95	89	70-130	7.14	20

McCampbell Analytical, Inc.
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CHAIN-OF-CUSTODY RECORD

WorkOrder: 1801283 **ClientCode: ESL**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☒ EQuIS ☐ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag
☒ Detection Summary ☒ Dry-Weight

Report to:
Trevor Marion
Essel Environmental Consulting
351 California Street, Ste. 615
San Francisco, CA 94104
(707) 494-4883 FAX: 510-380-6610

Email: trevormarion@esseltek.com
cc/3rd Party: jwarren@esseltek.com; tbarazoto@esselte
PO:
Project: 17178; Twin Rivers Demo Survey

Bill to:
Nik Lahiri
Essel Environmental Consulting
351 California Street, Ste. 615
San Francisco, CA 94104
tnnkbmax@sbcglobal.net; nlahiri@essel

Requested TAT: 3 days;

Date Received: **01/08/2018**
Date Logged: **01/08/2018**

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
1801283-001	370-PCB-1	Solid	1/6/2018 00:00	☐	A											

Test Legend:

1	8082_PCB_Solid	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.

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WORK ORDER SUMMARY

Client Name: ESSEL ENVIRONMENTAL CONSULTING
Client Contact: Trevor Marion
Contact's Email: trevormarion@esseltek.com

Project: 17178; Twin Rivers Demo Survey
Comments:

Work Order: 1801283
QC Level: LEVEL 2
Date Logged: 1/8/2018

☐ 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
1801283-001A	370-PCB-1	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	1/6/2018	3 days		☐	

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.

1801283

Turn Around Time: 72 hrs RUSH

Send results via:

Essel Technology Services, Inc.
351 California Street, Suite 615
San Francisco, CA 94104
Phone: 415-938-7002

ESSEL ENVIRONMENTAL ENGINEERING & CONSULTING

PCB

Chain of Custody Form

~~Asbestos/Lead/Mold Bulk Sampling~~

Project No: 17178	Date: 1/6/18	Client Name: SHRA
Laboratory Submitted To: McCampbell		
Relinquished By: [signature]	Date: 1/6/18	Project Name: Twin Rivers Demo Survey
Print Name: Trevor Marion		
Relinquished to:	Date:	Project Location: 370 Mint St Sacramento, CA
Print Name:		

Homogeneous Material Group	Sample Number	Material description	Sample Location	Condition Friability	Quantity
	370-PCB-1	Grey + Yellow Paint on wood substrate	N face - behind stucco		

Sampled by: Trevor Marion Date: 1/6/18

Recd @ MAI 1/8/18 0808

Comments: _____

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Sample Receipt Checklist

Client Name:	**Essel Environmental Consulting**	Date and Time Received	**1/8/2018 08:08**
Project:	**17178; Twin Rivers Demo Survey**	Date Logged:	**1/8/2018**
		Received by:	Jena Alfaro
WorkOrder №:	**1801283** Matrix: Solid	Logged by:	Jena Alfaro
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	☐	
COC agrees with Quote?	Yes	☐	No	☐	NA ☑

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	☐	NA ☐
Sample/Temp Blank temperature	Temp:				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	☑	

UCMR 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 ☑

Comments:

McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1712281

Report Created for: Essel Environmental Consulting

351 California Street, Ste. 615
San Francisco, CA 94104

Project Contact: Trevor Marion
Project P.O.:
Project Name: 17178; Twin Rivers Demo

Project Received: 12/07/2017

Analytical Report reviewed & approved for release on 12/12/2017 by:

Heidi Fruhlinger
Project Manager

McCampbell Analytical, Inc.
"When Quality Counts"

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Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 17178; Twin Rivers Demo
WorkOrder: 1712281

Glossary Abbreviation

%D	Serial Dilution Percent Difference
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)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
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.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
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
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

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Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting
Project: 17178; Twin Rivers Demo
WorkOrder: 1712281

Analytical Qualifiers

a4	Reporting limits raised due to the sample's matrix prohibiting a full volume extraction.
a7	Reporting limit raised due to limited sample amount
h4	Sulfuric acid permanganate (EPA 3665) cleanup

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1712281
Date Received:	12/7/17 8:17	**Extraction Method:**	SW3550B
Date Prepared:	12/7/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1220-PCB-1	1712281-001A	Solid	12/06/2017	GC20 12111713.D	149848

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	1.2	1	12/11/2017 11:46
Aroclor1221	ND	1.2	1	12/11/2017 11:46
Aroclor1232	ND	1.2	1	12/11/2017 11:46
Aroclor1242	ND	1.2	1	12/11/2017 11:46
Aroclor1248	ND	1.2	1	12/11/2017 11:46
Aroclor1254	ND	1.2	1	12/11/2017 11:46
Aroclor1260	ND	1.2	1	12/11/2017 11:46
PCBs, total	ND	1.2	1	12/11/2017 11:46

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	116	70-130	12/11/2017 11:46

Analyst(s): TD Analytical Comments: h4,a7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1220-PCB-2	1712281-002A	Solid	12/06/2017	GC23 12121723.D	149848

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	2.2	1	12/12/2017 16:25
Aroclor1221	ND	2.2	1	12/12/2017 16:25
Aroclor1232	ND	2.2	1	12/12/2017 16:25
Aroclor1242	ND	2.2	1	12/12/2017 16:25
Aroclor1248	ND	2.2	1	12/12/2017 16:25
Aroclor1254	ND	2.2	1	12/12/2017 16:25
Aroclor1260	ND	2.2	1	12/12/2017 16:25
PCBs, total	ND	2.2	1	12/12/2017 16:25

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	127	70-130	12/12/2017 16:25

Analyst(s): LT Analytical Comments: h4,a7

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1712281
Date Received:	12/7/17 8:17	**Extraction Method:**	SW3550B
Date Prepared:	12/7/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1220-PCB-3	1712281-003A	Solid	12/06/2017	GC23 12111713.D	149848

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.64	1	12/11/2017 12:24
Aroclor1221	ND	0.64	1	12/11/2017 12:24
Aroclor1232	ND	0.64	1	12/11/2017 12:24
Aroclor1242	ND	0.64	1	12/11/2017 12:24
Aroclor1248	ND	0.64	1	12/11/2017 12:24
Aroclor1254	ND	0.64	1	12/11/2017 12:24
Aroclor1260	ND	0.64	1	12/11/2017 12:24
PCBs, total	ND	0.64	1	12/11/2017 12:24

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	109	70-130	12/11/2017 12:24

Analyst(s): LT Analytical Comments: h4,a7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1220-PCB-4	1712281-004A	Solid	12/06/2017	GC23 12111714.D	149848

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	1.1	1	12/11/2017 12:40
Aroclor1221	ND	1.1	1	12/11/2017 12:40
Aroclor1232	ND	1.1	1	12/11/2017 12:40
Aroclor1242	ND	1.1	1	12/11/2017 12:40
Aroclor1248	ND	1.1	1	12/11/2017 12:40
Aroclor1254	ND	1.1	1	12/11/2017 12:40
Aroclor1260	ND	1.1	1	12/11/2017 12:40
PCBs, total	ND	1.1	1	12/11/2017 12:40

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	102	70-130	12/11/2017 12:40

Analyst(s): LT Analytical Comments: h4,a7

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1712281
Date Received:	12/7/17 8:17	**Extraction Method:**	SW3550B
Date Prepared:	12/7/17	**Analytical Method:**	SW8082
Project:	17178; Twin Rivers Demo	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1220-PCB-5	1712281-005A	Solid	12/06/2017	GC23 12121724.D	149848

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	1.5	1	12/12/2017 16:40
Aroclor1221	ND	1.5	1	12/12/2017 16:40
Aroclor1232	ND	1.5	1	12/12/2017 16:40
Aroclor1242	ND	1.5	1	12/12/2017 16:40
Aroclor1248	ND	1.5	1	12/12/2017 16:40
Aroclor1254	ND	1.5	1	12/12/2017 16:40
Aroclor1260	ND	1.5	1	12/12/2017 16:40
PCBs, total	ND	1.5	1	12/12/2017 16:40

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	113	70-130	12/12/2017 16:40

Analyst(s): LT Analytical Comments: h4,a7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1220-PCB-6	1712281-006A	Solid	12/06/2017	GC23 12111712.D	149848

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.50	1	12/11/2017 12:09
Aroclor1221	ND	0.50	1	12/11/2017 12:09
Aroclor1232	ND	0.50	1	12/11/2017 12:09
Aroclor1242	ND	0.50	1	12/11/2017 12:09
Aroclor1248	ND	0.50	1	12/11/2017 12:09
Aroclor1254	ND	0.50	1	12/11/2017 12:09
Aroclor1260	ND	0.50	1	12/11/2017 12:09
PCBs, total	ND	0.50	1	12/11/2017 12:09

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	104	70-130	12/11/2017 12:09

Analyst(s): LT Analytical Comments: h4,a4

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Essel Environmental Consulting	**WorkOrder:**	1712281
Date Prepared:	12/7/17	**BatchID:**	149848
Date Analyzed:	12/8/17	**Extraction Method:**	SW3550B
Instrument:	GC20	**Analytical Method:**	SW8082
Matrix:	Soil	**Unit:**	mg/kg
Project:	17178; Twin Rivers Demo	**Sample ID:**	MB/LCS/LCSD-149848

QC Summary Report for SW8082

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Aroclor1016	ND	0.050	-	-	-
Aroclor1221	ND	0.050	-	-	-
Aroclor1232	ND	0.050	-	-	-
Aroclor1242	ND	0.050	-	-	-
Aroclor1248	ND	0.050	-	-	-
Aroclor1254	ND	0.050	-	-	-
Aroclor1260	ND	0.050	-	-	-
PCBs, total	ND	0.050	-	-	-
Surrogate Recovery					
Decachlorobiphenyl	0.05831		0.050	117	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Aroclor1016	0.148	0.145	0.15	99	97	70-130	1.83	20
Aroclor1260	0.162	0.156	0.15	108	104	70-130	3.81	20
Surrogate Recovery								
Decachlorobiphenyl	0.0594	0.0555	0.050	119	111	70-130	6.86	20

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CHAIN-OF-CUSTODY RECORD

WorkOrder: 1712281 **ClientCode: ESL**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☑ EQuIS ☐ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag
☑ Detection Summary ☑ Dry-Weight

Report to:
Trevor Marion
Essel Environmental Consulting
351 California Street, Ste. 615
San Francisco, CA 94104
(707) 494-4883 FAX: 510-380-6610

Email: trevormarion@esseltek.com
cc/3rd Party: jwarren@esseltek.com; tbarazoto@esselte
PO:
ProjectNo: 17178; Twin Rivers Demo

Bill to:
Nik Lahiri
Essel Environmental Consulting
351 California Street, Ste. 615
San Francisco, CA 94104
tnnkbmax@sbcglobal.net; nlahiri@essel

Requested TAT: 3 days;

Date Received: **12/07/2017**
Date Logged: **12/07/2017**

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
1712281-001	1220-PCB-1	Solid	12/6/2017 00:00	☐	A											
1712281-002	1220-PCB-2	Solid	12/6/2017 00:00	☐	A											
1712281-003	1220-PCB-3	Solid	12/6/2017 00:00	☐	A											
1712281-004	1220-PCB-4	Solid	12/6/2017 00:00	☐	A											
1712281-005	1220-PCB-5	Solid	12/6/2017 00:00	☐	A											
1712281-006	1220-PCB-6	Solid	12/6/2017 00:00	☐	A											

Test Legend:

1	8082_PCB_Solid	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.

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WORK ORDER SUMMARY

Client Name: ESSEL ENVIRONMENTAL CONSULTING
Client Contact: Trevor Marion
Contact's Email: trevormarion@esseltek.com
Project: 17178; Twin Rivers Demo
Comments:
Work Order: 1712281
QC Level: LEVEL 2
Date Logged: 12/7/2017

☐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
1712281-001A	1220-PCB-1	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	12/6/2017	3 days		☐	
1712281-002A	1220-PCB-2	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	12/6/2017	3 days		☐	
1712281-003A	1220-PCB-3	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	12/6/2017	3 days		☐	
1712281-004A	1220-PCB-4	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	12/6/2017	3 days		☐	
1712281-005A	1220-PCB-5	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	12/6/2017	3 days		☐	
1712281-006A	1220-PCB-6	Solid	SW8082 (PCBs Only)	1	Plastic Baggie, Extra Small	☐	12/6/2017	3 days		☐	

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.

1712281

Turn Around Time: 72 hrs

Send results via: TrevorMarion@Esseltek.com, Nlahiri@esseltek.com, Tbarazoto@esseltek.com, Tmiller@esseltek.com, Jwarren@esseltek.com

Essel Technology Services, Inc.
351 California Street, Suite 615
San Francisco, CA 94104
Phone: 415-938-7002

RUSH

PCB paint

ESSEL ENVIRONMENTAL ENGINEERING & CONSULTING

Chain of Custody Form

~~Asbestos/Lead/Mold Bulk Sampling~~

Project No: 17178	Date: 12/6/17	Client Name: SHRA
Laboratory Submitted To: Mclanpbell		
Relinquished By: Trevor M	Date: 12/6/17	Project Name: Twin Rivers Demo Survey - PCB
Print Name:		
Relinquished to:	Date:	Project Location: 1220 McCarthy Ct- Sacramento, CA
~~Print Name:~~ Received @ MAI by:	12/7/17 0817	

Homogeneous Material Group	Sample Number	Material description	Sample Location	Condition Friability	Quantity
1220	-PCB-1	Beige Paint on DW wall	kitchen - wall N		
	-2	Wht Paint on wood window sill	LvRm - E		
	-3	Wht Paint on wood sideboard	~~Stairs~~ stairs sideboard - interior		
	-4	Wht Paint on wood handrail	Stairs left side		
	-5	Beige on wood column	Outside front door		
	-6	Green Paint ext stucco	Outside front door		

Sampled by: Trevor Marion Date: 12/6/17

Dropped off: 12/7/17 8:10am

Comments: _____

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Sample Receipt Checklist

Client Name:	**Essel Environmental Consulting**	Date and Time Received	**12/7/2017 08:17**
Project Name:	**17178; Twin Rivers Demo**	Date Logged:	**12/7/2017**
		Received by:	Maria Venegas
WorkOrder №:	**1712281** Matrix: Solid	Logged by:	Jena Alfaro
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	☐		
COC agrees with Quote?	Yes	☐	No	☐	NA	☑

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	☐	NA	☐
Sample/Temp Blank temperature	Temp:				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	☑		

UCMR 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	☑

Comments: