Wallace Kuhl & Associates

Report of Findings of
Soil Sampling and Laboratory Analyses
WESTON ELEMENTARY SCHOOL
Ripon, California
WKA No. 12064.02P
April 3, 2019

Prepared for:
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Report of Findings of Soil Sampling and Laboratory Analyses

WESTON ELEMENTARY SCHOOL

Ripon, California

WKA No. 12064.02P

April 3, 2019

Wallace-Kuhl & Associates, on behalf of Ripon Unified School District, has prepared this Report of Findings of Soil Sampling and Laboratory Analyses performed at Weston Elementary School located at 1660 Stanley Drive in Ripon, California. This report was prepared in a manner consistent with the level of care and skill ordinarily exercised by professional geologists and environmental scientists. This report was prepared under the supervision of a California Professional Geologist.

WALLACE•KUHL & ASSOCIATES

PROFESSIONAL GEOLOGIST
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No. #6162
CERTIFIED HYDROGEOLOGIST
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Report of Findings of Soil Sampling and Laboratory Analyses

WESTON ELEMENTARY SCHOOL

Ripon, California

WKA No. 12064.02P

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Report of Findings of Soil Sampling and Laboratory Analyses

WESTON ELEMENTARY SCHOOL

Ripon, California

WKA No. 12064.02P

April 3, 2019

1.0 INTRODUCTION

Wallace-Kuhl and Associates (WKA) has prepared this report to describe field activities, summarize laboratory analytical results, and present conclusions of the Phase II Environmental Site Assessment completed at the Weston Elementary School (herein referred to as Site). The Site is located at 1660 Stanley Drive in Ripon, California. (Figure 1)

2.0 BACKGROUND

WKA reviewed publicly available NETR online historical aerial and Google Earth photo imagery of the School Site and areas in the vicinity of the Site.

Historical aerial photographs dating back to the mid-1960s revealed that the Site has been developed with an orchard since at least 1967. On-site concerns were noted based on the historical orchard at the Site for the potential for residues of historically applied persistent pesticides remaining in surface soil.

WKA identified chlorinated herbicides, organochlorine pesticides (OCPs), arsenic, and lead as chemicals of potential concern (COPCs) that have the potential to impact near surface soils in the lawn areas in the vicinity of the playground areas at the Site.

3.0 OBJECTIVE

The purpose of this Phase II ESA was to evaluate near surface soils in the lawn areas in the vicinity of the playground areas at the Site for COPCs potentially introduced during historical agriculture activities.

4.0 FIELD ACTIVITIES

WKA utilized the State of California, Department of Toxics Substances Control's (DTSC) *Interim Guidance for Sampling Agricultural Properties (Third Revision)* dated August 7, 2008, to guide

selection of the number of sample locations and potential contaminants appropriate for evaluating surface soil at the Site.

4.1 Soil Sampling Method

WKA collected each soil sample using a clean hand auger. The collected soil was transferred into cleanglass jars sealed using Teflon™-lined caps. WKA labeled each container to indicate a unique sample identification and the time and date collected. The soil samples were preserved in a chilled, thermally insulated container during transport to the analytical laboratory with completed chain-of-custody forms.

4.2 Soil Sampling Activities

On March 18, 2019, WKA collected seven soil samples (S1 through S7) from the Site. Prior to collecting the samples, a small section of grass from the lawn was removed to expose the underlying soil at sample locations S1, S2, S3, and S4 through S7. Soil sample S4 was collected from exposed soil located in the immediate vicinity of the onsite irrigation well. The samples were collected from near surface soil at a depth from zero to six inches below ground surface (bgs). The soil was observed to be brown to dark brown, moist, sandy silt. The location of each sample was loaded into a high precision global positioning system receiver (GPSr). The soil sample locations are shown in Figure 2.

5.0 LABORATORY ANALYSES

The soil samples were submitted with a completed chain-of-custody form to California Laboratory Services (a State Water Resources Control Board-certified laboratory) for chemical analyses listed below.

- Chlorinated herbicides using EPA Method 8151A;
- OCPs using EPA Method 8081A;
- Total arsenic using EPA Method 6010B; and,
- Total lead using EPA Method 6010B;

Laboratory reports and chain-of-custody documentation are included in Appendix A.

6.0 FINDINGS

A summary of analytical results of soil samples are presented in Tables 1 through 3. The Department of Toxic Substance Control's Screening Levels (DTSC-SL) and the United States Environmental Protection Agency's Regional Screening Levels (USEPA RSLs) for protecting human health under a residential land use scenario are summarized in Tables 1 through 3. Complete laboratory analytical reports and chain-of-custody documentation are included in Appendix A.

Chlorinated herbicides were not reported at concentrations exceeding their respective reporting limits in the soil samples collected from the Site. The organochlorine pesticide 4,4'-DDE was reported in soil sample S7 at concentrations of 0.0033 milligrams per kilogram (mg/kg). The remaining organochlorine pesticides were not reported at concentrations exceeding their respective reported limits in the soil samples collected from the Site.

Arsenic was reported in the soil samples at concentrations ranging from 1.0 milligrams per kilogram (mg/kg) to 4.0 mg/kg. Lead was reported in soil samples S1 through S7 at concentrations ranging from 2.9 mg/kg to 5.4 mg/kg.

7.0 CONCLUSIONS

WKA collected samples at the Site to evaluate surface soil for potential impacts of chlorinated herbicides, organochlorine pesticides, arsenic, and lead at several locations at the Site.

Chlorinated herbicides and organochlorine pesticides were not reported in soil samples at concentrations at concentrations exceeding their respective DTSC screening levels (SLs) for protecting human health under a residential land use scenario.

Arsenic was reported in the soil samples collected from the Site at concentrations ranging from 1.0 mg/kg to 4.0 mg/kg. These values exceed the DTSC's Human and Ecological Risk Office Human Health Risk Assessment Note 3 Screening Level (DTSC-SL) of 0.11 mg/kg for protecting human health under residential scenario. However, naturally occurring arsenic in California soils often exceeds the residential DTSC-SL. The United States Geological Survey's (USGS) *Geochemical and Mineralogical Maps for the Conterminous United States*, shows that arsenic concentrations in the area of the Site in Ripon range from 4.3 mg/kg to 5.2 mg/kg. The arsenic concentrations reported in Site soil are consistent with typical naturally occurring background arsenic levels in Ripon.

Lead was not reported in the soil samples at concentrations exceeding the DTSC-SL of 80 mg/kg for protecting human health under a residential land use scenario.

Based on results of laboratory analyses of the chemicals of potential concern associated with historical orchard development, WKA has determined that near surface soil at the Site does not pose a significant risk to human health and the environment.

8.0 LIMITATIONS

The statements and results presented in this report are based upon the scope of work described above and on observations made on the dates of WKA's applicable fieldwork. The summary report was prepared in a manner consistent with the level of care and skill ordinarily exercised by Professional Geologists. Work was performed using a degree of skill consistent with that of competent environmental consulting firms performing similar work in the area. No recommendation is made as to the suitability of the property for any purpose. The result of the investigation does not preclude the possibility that materials currently, or in the future, defined as hazardous are present on the site. This report is applicable only to the investigated site and should not be used for any other site. No warranty is expressed or implied.

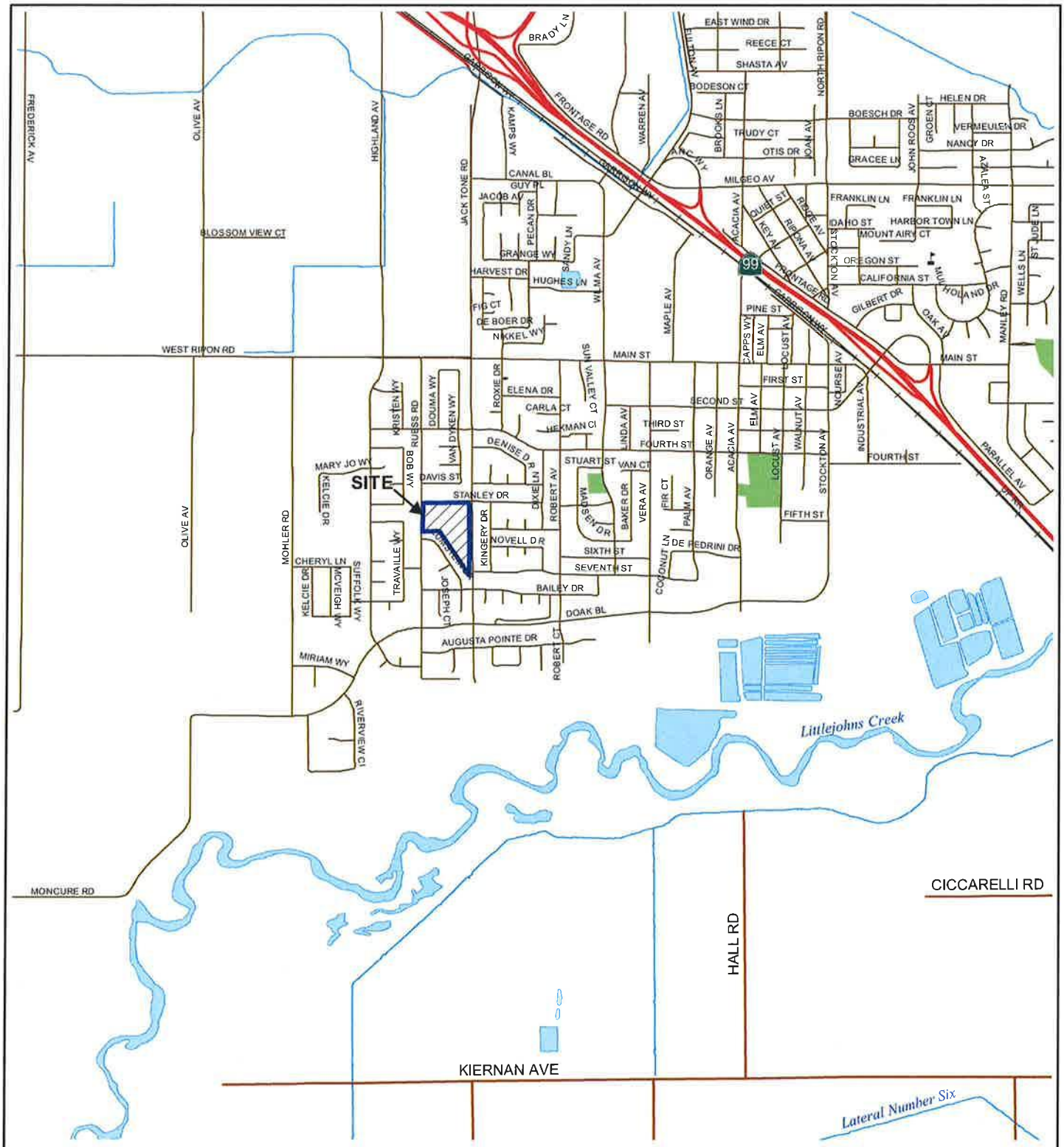
9.0 REFERENCES

The State of California, Department of Toxics Substance Control (DTSC), 2008, *Interim Guidance for Sampling Agricultural Properties (Third Revision)*
https://www.dtsc.ca.gov/Schools/upload/Ag-Guidance-Rev-3-August-7-2008-2.pdf

United States Environmental Protection Agency, 2018, Regional Screening Levels (RSL)
https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables

The State of California, Department of Toxic Substance Control (DTSC), 2018, Human Health Risk Assessment Note 3 – DTSC-Modified Screening Levels (DTSC-SLs), Table 1 Screening Levels for Soil
https://www.dtsc.ca.gov/AssessingRisk/upload/HHRA-Note-3-January-2018.pdf

FIGURES



Street data courtesy of San Joaquin County.
Hydrography courtesy of the U.S. Geological Survey acquired from the GIS Data Depot, December, 2007.
Projection: NAD 83, California State Plane, Zone III

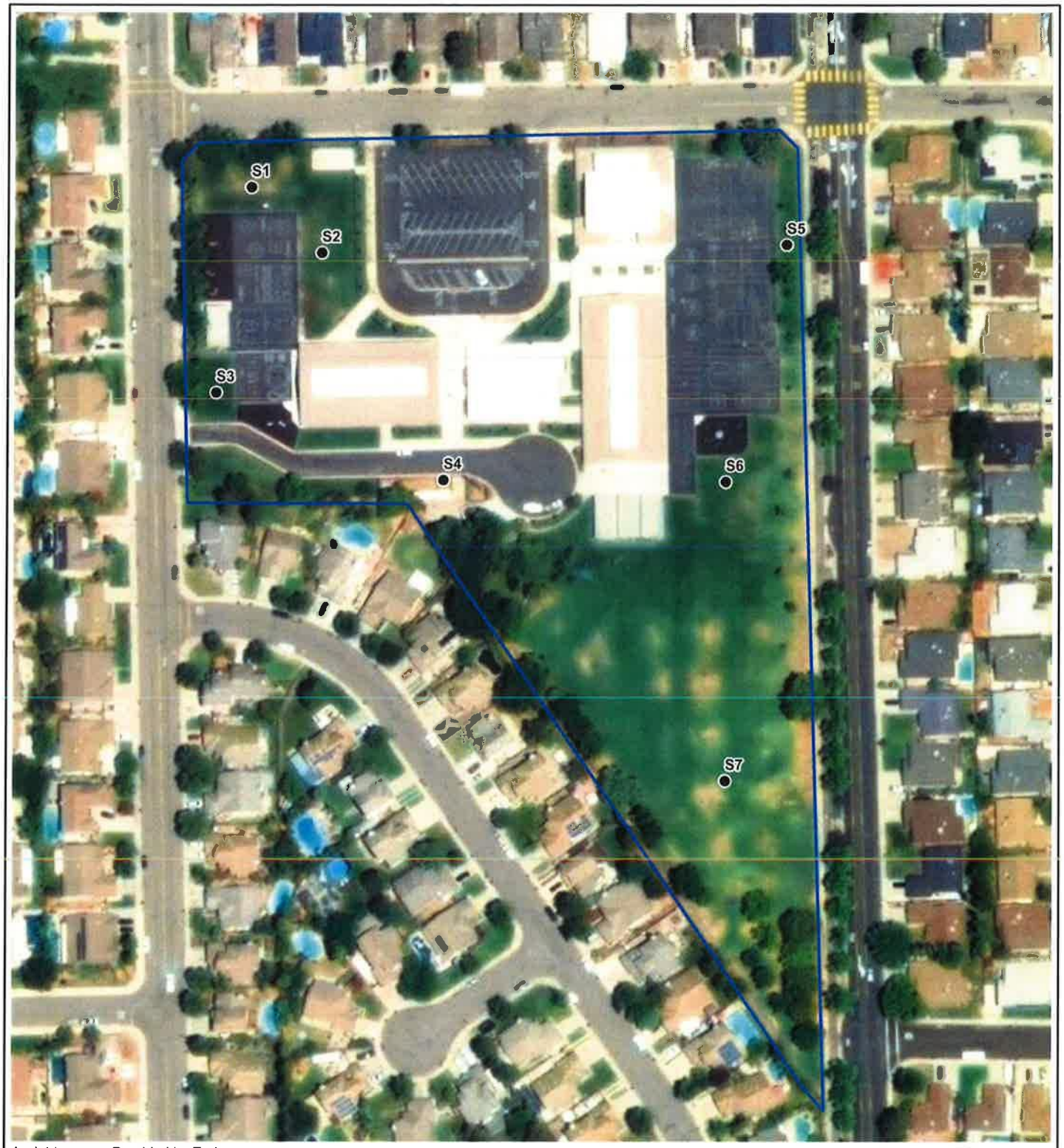
WallaceKuhl & ASSOCIATES

VICINITY MAP

WESTON ELEMENTARY SCHOOL

Rippon, California

FIGURE	1
DRAWN BY	RWO
CHECKED BY	KMB
PROJECT MGR	MAT
DATE	03/19
WKA NO. 12064.02P	



Aerial Imagery Provided by Esri
Site Boundary adapted from Jan Joaquin County Assessors Parcel Data
Point locations Provided by WKA GPSr Records
Projection: NAD 83, California State Plane, Zone II

● Soil Sample Location

Site Boundary

N

0 75 150

Feet

WallaceKuhl & ASSOCIATES

SOIL SAMPLE LOCATION MAP

WESTON ELEMENTARY SCHOOL

Ripon, California

FIGURE	2
DRAWN BY	JWR
CHECKED BY	KMB
PROJECT MGR	MAT
DATE	3/19
WKA NO. 12064.02P	

TABLES

Table 1
Summary of Soil Analytical Results of Arsenic and Lead
WESTON ELEMENTARY SCHOOL
WKA No. 12064.02P

Sample ID	Sample Date	Sample Depth (ft bgs)	EPA Methods 6010B	
			Arsenic	Lead
Concentrations reported in milligrams per kilogram (mg/kg)				
S1	3/18/2019	0 - 0.5	**4.0**	**4.0**
S2	3/18/2019	0 - 0.5	**3.0**	**5.2**
S3	3/18/2019	0 - 0.5	**2.5**	**2.9**
S4	3/18/2019	0 - 0.5	**1.6**	**3.3**
S5	3/18/2019	0 - 0.5	**1.4**	**4.9**
S6	3/18/2019	0 - 0.5	**1.0**	**3.6**
S7	3/18/2019	0 - 0.5	**1.5**	**5.4**
DTSC-SL (Residential)			0.11	80
DTSC-SL (Commercial)			0.36	320
USEPA RSL (Residential)			0.68	N.E.
USEPA RSL (Commercial)			3.0	N.E.

Notes:

U.S. Environmental Protection Agency's Regional Screening Level (USEPA RSL) (May 2018)

Department of Toxic Substance Control's Human and Ecological Risk Office's
Human Health Risk Assessment Note 3 (DTSC-SL) (June 2018)

(<) less than laboratory reporting limit(s)
(bgs) Below ground surface
(N.E.) Not established

Refer to Figure 2 for sample locations

Table 2
Summary of Soil Analytical Results for Organochlorine Pesticides
WESTON ELEMENTARY SCHOOL
WKA No. 12064.02P

Sample ID	Sample Date	Sample Depth (feet bgs)	EPA Method 8081A																			
			4,4'-DDD	4,4'-DDE	4,4'-DDT	Aldrin	alpha-BHC	beta-BHC	Chlordane-technical	delta-BHC	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulfate	Endrin	Endrin aldehyde	gamma-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Mirex	Toxaphene
			Concentrations reported in micrograms per kilogram (µg/kg)																			
S1	3/18/2019	0 - 0.5	<17	<17	<17	<8.5	<8.5	<8.5	<17	<8.5	<8.5	<8.5	<17	<17	<17	<17	<8.5	<8.5	<8.5	<85	<17	<100
S2	3/18/2019	0 - 0.5	<17	<17	<17	<8.5	<8.5	<8.5	<17	<8.5	<8.5	<8.5	<17	<17	<17	<17	<8.5	<8.5	<8.5	<85	<17	<100
S3	3/18/2019	0 - 0.5	<17	<17	<17	<8.5	<8.5	<8.5	<17	<8.5	<8.5	<8.5	<17	<17	<17	<17	<8.5	<8.5	<8.5	<85	<17	<100
S4	3/18/2019	0 - 0.5	<17	<17	<17	<8.5	<8.5	<8.5	<17	<8.5	<8.5	<8.5	<17	<17	<17	<17	<8.5	<8.5	<8.5	<85	<17	<100
S5	3/18/2019	0 - 0.5	<17	<17	<17	<8.5	<8.5	<8.5	<17	<8.5	<8.5	<8.5	<17	<17	<17	<17	<8.5	<8.5	<8.5	<85	<17	<100
S6	3/18/2019	0 - 0.5	<17	<17	<17	<8.5	<8.5	<8.5	<17	<8.5	<8.5	<8.5	<17	<17	<17	<17	<8.5	<8.5	<8.5	<85	<17	<100
S7	3/18/2019	0 - 0.5	<17	3.3	<17	<8.5	<8.5	<8.5	<17	<8.5	<8.5	<8.5	<17	<17	<17	<17	<8.5	<8.5	<8.5	<85	<17	<100
DTSC-SL		Residential	NE	NE	NE	NE	NE	NE	440	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
		Commercial	NE	NE	NE	NE	NE	NE	1500	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
EPA-RSL		Residential	1900	1900	2000	1900	86	300	1700	300	34	470000	NE	NE	19000	NE	570	130	70	320000	36	490
		Commercial	9600	9600	9300	8500	360	1300	7700	1300	140	7000000	NE	NE	250000	NE	2500	630	330	4100000	170	2100

Notes:

(USEPA RSL) U.S. Environmental Protection Agency's Regional Screening Level (May 2018)

(DTSC-SL) Department of Toxic Substance Control's Human and Ecological Risk Office's Human Health Risk Assessment Note 3 (June 2018)

(<) less than laboratory reporting limit(s)
(bgs) Below ground surface
(*NE*) Not established

Refer to Figure 2 for sample locations

Table 3
Summary of Soil Analytical Results Chlorinated Herbicides
WESTON ELEMENTARY SCHOOL
WKA No. 12064.02P

Sample ID	Sample Date	Sample Depth (Units)	EPA Method 8151A										
			2,4,5-T	2,4,5-TP (Silvex)	2,4-D (2,4-Dichlorophenoxyaccetic acid)	2,4-DB	Dalapon	Dicamba	Dichloroprop	Dinoseb	MCPA	MCPP	Pentachlorophenol
Concentrations reported in milligrams per kilograms (mg/kg)													
S1	3/18/2019	0 - 0.5	<0.010	<0.010	<0.050	<0.10	<1.0	<0.010	<0.10	<0.010	<2.0	<2.0	<0.010
S2	3/18/2019	0 - 0.5	<0.010	<0.010	<0.050	<0.10	<1.0	<0.010	<0.10	<0.010	<2.0	<2.0	<0.010
S3	3/18/2019	0 - 0.5	<0.010	<0.010	<0.050	<0.10	<1.0	<0.010	<0.10	<0.010	<2.0	<2.0	<0.010
S4	3/18/2019	0 - 0.5	<0.010	<0.010	<0.050	<0.10	<1.0	<0.010	<0.10	<0.010	<2.0	<2.0	<0.010
S5	3/18/2019	0 - 0.5	<0.010	<0.010	<0.050	<0.10	<1.0	<0.010	<0.10	<0.010	<2.0	<2.0	<0.010
S6	3/18/2019	0 - 0.5	<0.010	<0.010	<0.050	<0.10	<1.0	<0.010	<0.10	<0.010	<2.0	<2.0	<0.010
S7	3/18/2019	0 - 0.5	<0.010	<0.010	<0.050	<0.10	<1.0	<0.010	<0.10	<0.010	<2.0	<2.0	<0.010
DTSC-SL		Residential	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*
		Commerical	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*
EPA-RSL		Residential	*630*	*510*	*700*	*NE*	*1,900*	*1,900*	*NE*	*63*	*32*	*63*	*1.0*
		Commerical	*8,200*	*6,600*	*9,600*	*NE*	*25,000*	*25,000*	*NE*	*820*	*410*	*820*	*4.0*

Notes:

(USEPA RSL) U.S. Environmental Protection Agency's Regional Screening Levels for Constituents in Soil (May 2018)

(DTSC-SL) Department of Toxic Substance Control's Human and Ecological Risk Office's Human Health Risk Assessment (HHRA) Note 3 Recommended Screening Levels for Constituents in Soil (June 2018)

APPENDIX A

Laboratory Analytical Reports
and
Chain-of-Custody Documentation

CALIFORNIA LABORATORY SERVICES

Committed. Responsive. Flexible.

April 01, 2019

CLS Work Order #: 19C0953
COC #:

Matthew Taylor
Wallace Kuhl & Associates- West Sacramento
3050 Industrial Boulevard
West Sacramento, CA 95691

Project Name: Weston Elementary School

Enclosed are the results of analyses for samples received by the laboratory on 03/18/19 14:30. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that the results are in compliance both technically and for completeness.

Analytical results are attached to this letter. Please call if we can provide additional assistance.

Sincerely,

James Liang, Ph.D.
Laboratory Director

CA SWRCB ELAP Accreditation/Registration number 1233

1100953

WK

3050 Industrial Blvd
West Sacramento, CA 95691
Tel. 916.372.1434
Fax 916.372.2565

Lab No. ______ Page 1 of 2

Chain-of-Custody Record and Analysis Request

WKA Carbon Copy addresses
kbalasek@wallace-kuhl.com
dnakamoto@wallace-kuhl.com

California EDF Report? ☐ Yes ☑ No

Project Contact (Hardcopy or PDF To): Matthew Taylor
WKA Email Address: mtaylor@wallace-kuhl.com

Company / Address: see above

Phone No.: see above | Fax No.: see above
Project Number: 12064.02P | P.O. No.:

Recommended but not mandatory to complete this section
Sampling Company Log Code:
Global ID:
EDF Deliverable To (Email Address):

Weston Elementary School
Project Address

Sampler Signature: [signature]

Sample Designation	Sampling Date	Sampling Time	Container: 500ml Poly	Container: 250ml Poly	Container: 8 oz glass jar	Container: 500ml POLY	Container: AMBER	Preservative: HNO3	Preservative: H2SO4	Preservative: ICE	Matrix: WATER	Matrix: SOIL	Chlorinated Herbicides EPA Method 8151A	Organochlorine Pesticides EPA Method 808	Arsenic EPA Method 6010B	Lead EPA Method 6010B	TAT (12Hr / 24 Hr / 48Hr / 72 Hr / 1 WK ◉ / 2WK)
S1	3/18/2019	9:47			x					x		x	X	X	X	X	x
S2	3/18/2019	9:53			x					x		x	X	X	X	X	x
S3	3/18/2019	9:57			x					x		x	X	X	X	X	x
S4	3/18/2019	8:30			x					x		x	X	X	X	X	x
S5	3/18/2019	9:21			x					x		x	X	X	X	X	x
S6	3/18/2019	9:08			x					x		x	X	X	X	X	x
S7	3/18/2019	8:42			x					x		x	X	X	X	X	x
S8	3/18/2019	9:41			x					x		x	Hold				
S9	3/18/2019	9:27			x					x		x	Hold				
S10	3/18/2019	9:15			x					x		x	Hold				
S11	3/18/2019	10:05			x					x		x	Hold				
S12	3/18/2019	9:30			x					x		x	Hold				

For Lab Use Only

Relinquished by	Date	Time	Received by
[signature]	3/18/19	14:__	[signature]
	3/18/19	14:16	Received by Laboratory: [signature]

Remarks

Bill to: Wallace-Kuhl & Associates c/o
WKA Contact and swilliams@wallace-kuhl.com

19C0953

3050 Industrial Blvd
West Sacramento, CA 95691
Tel: 916.372.1434
Fax: 916.372.2565

Lab No: _____ Page 2 of 2

WKA Carbon Copy addresses
kbalasek@wallace-kuhl.com
dnakamoto@wallace-kuhl.com

California EDF Report? ☐ Yes ☑ No

Chain-of-Custody Record and Analysis Request

Project Contact (Hardcopy or PDF To): Matthew Taylor

WKA Email Address: mtaylor@wallace-kuhl.com

Company / Address: see above	Recommended but not mandatory to complete this section **Sampling Company Log Code:**
Phone No.: see above **Fax No.:** see above	**Global ID:**
Project Number: 12064.02P **P.O. No.:**	**EDF Deliverable To (Email Address):**
Weston Elementary School	**Sampler Signature:**

Project Address:

Sample Designation

Sample Designation	Date	Time	Container: 500-mL Poly	250 mL Poly*	8 oz glass jar	500ml POLY	AMBER	Preservative: HNO3	H2SO4	ICE			Matrix: WATER	SOIL	Analysis Request: Chlorinated Herbicides EPA Method 8151A	Organochlorine Pesticides EPA Method 8081	Arsenic EPA Method 6010B	Lead EPA Method 6010B	TAT
S13	3/18/2019	9:48			X					X				X	Hold				
S14	3/18/2019	10:08			X					X				X	Hold				
S15	3/18/2019	9:33			X					X				X	Hold				
S16	3/18/2019	10:17			X					X				X	Hold				

TAT: ☐ 12Hr ☐ 24 Hr ☐ 48Hr ☐ 72 Hr ◉ 1 WK ☐ 2WK

For Lab Use Only

	Date	Time	Received by
Relinquished by:	3/18/19		
Relinquished by:			
Relinquished by:	3/19/19	4:10	Received by Laboratory:

Remarks:

Bill to: Wallace-Kuhl & Associates c/o
WKA Contact and swilliams@wallace-kuhl.com

Wallace Kuhl & Associates- West Sacramento	Project:	Weston Elementary School	
3050 Industrial Boulevard	Project Number:	12064.02P	**CLS Work Order #: 19C0953**
West Sacramento, CA 95691	Project Manager:	Matthew Taylor	COC #:

Chlorinated Herbicides by EPA Method 8151A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S1 (19C0953-01) Soil Sampled: 03/18/19 09:47 Received: 03/18/19 14:30									
2,4,5-T	ND	0.010	mg/kg	1	1902389	03/25/19	03/28/19	EPA 8151A	
2,4,5-TP (Silvex)	ND	0.010	"	"	"	"	"	"	
2,4-D (2,4-Dichlorophenoxyacetic acid)	ND	0.050	"	"	"	"	"	"	
2,4-DB	ND	0.10	"	"	"	"	"	"	
Dalapon	ND	1.0	"	"	"	"	"	"	
Dicamba	ND	0.010	"	"	"	"	"	"	
Dichloroprop	ND	0.10	"	"	"	"	"	"	
Dinoseb	ND	0.010	"	"	"	"	"	"	
MCPA	ND	2.0	"	"	"	"	"	"	
MCPP	ND	2.0	"	"	"	"	"	"	
Pentachlorophenol	ND	0.010	"	"	"	"	"	"	
Surrogate: 2,4-DCAA		*55 %*		*50-150*	"	"	"	"	
S2 (19C0953-02) Soil Sampled: 03/18/19 09:53 Received: 03/18/19 14:30									
2,4,5-T	ND	0.010	mg/kg	1	1902389	03/25/19	03/28/19	EPA 8151A	
2,4,5-TP (Silvex)	ND	0.010	"	"	"	"	"	"	
2,4-D (2,4-Dichlorophenoxyacetic acid)	ND	0.050	"	"	"	"	"	"	
2,4-DB	ND	0.10	"	"	"	"	"	"	
Dalapon	ND	1.0	"	"	"	"	"	"	
Dicamba	ND	0.010	"	"	"	"	"	"	
Dichloroprop	ND	0.10	"	"	"	"	"	"	
Dinoseb	ND	0.010	"	"	"	"	"	"	
MCPA	ND	2.0	"	"	"	"	"	"	
MCPP	ND	2.0	"	"	"	"	"	"	
Pentachlorophenol	ND	0.010	"	"	"	"	"	"	
Surrogate: 2,4-DCAA		*111 %*		*50-150*	"	"	"	"	

Wallace Kuhl & Associates- West Sacramento	Project:	Weston Elementary School	
3050 Industrial Boulevard	Project Number:	12064.02P	**CLS Work Order #: 19C0953**
West Sacramento, CA 95691	Project Manager:	Matthew Taylor	COC #:

Chlorinated Herbicides by EPA Method 8151A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S3 (19C0953-03) Soil Sampled: 03/18/19 09:57 Received: 03/18/19 14:30									
2,4,5-T	ND	0.010	mg/kg	1	1902389	03/25/19	03/28/19	EPA 8151A	
2,4,5-TP (Silvex)	ND	0.010	"	"	"	"	"	"	
2,4-D (2,4-Dichlorophenoxyacctic acid)	ND	0.050	"	"	"	"	"	"	
2,4-DB	ND	0.10	"	"	"	"	"	"	
Dalapon	ND	1.0	"	"	"	"	"	"	
Dicamba	ND	0.010	"	"	"	"	"	"	
Dichloroprop	ND	0.10	"	"	"	"	"	"	
Dinoseb	ND	0.010	"	"	"	"	"	"	
MCPA	ND	2.0	"	"	"	"	"	"	
MCPP	ND	2.0	"	"	"	"	"	"	
Pentachlorophenol	ND	0.010	"	"	"	"	"	"	
Surrogate: 2,4-DCAA		*53 %*	*50-150*		"	"	"	"	
S4 (19C0953-04) Soil Sampled: 03/18/19 08:30 Received: 03/18/19 14:30									
2,4,5-T	ND	0.010	mg/kg	1	1902389	03/25/19	03/28/19	EPA 8151A	
2,4,5-TP (Silvex)	ND	0.010	"	"	"	"	"	"	
2,4-D (2,4-Dichlorophenoxyacetic acid)	ND	0.050	"	"	"	"	"	"	
2,4-DB	ND	0.10	"	"	"	"	"	"	
Dalapon	ND	1.0	"	"	"	"	"	"	
Dicamba	ND	0.010	"	"	"	"	"	"	
Dichloroprop	ND	0.10	"	"	"	"	"	"	
Dinoseb	ND	0.010	"	"	"	"	"	"	
MCPA	ND	2.0	"	"	"	"	"	"	
MCPP	ND	2.0	"	"	"	"	"	"	
Pentachlorophenol	ND	0.010	"	"	"	"	"	"	
Surrogate: 2,4-DCAA		*75 %*	*50-150*		"	"	"	"	

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Wallace Kuhl & Associates- West Sacramento	Project:	Weston Elementary School	
3050 Industrial Boulevard	Project Number:	12064.02P	**CLS Work Order #: 19C0953**
West Sacramento, CA 95691	Project Manager:	Matthew Taylor	COC #:

Chlorinated Herbicides by EPA Method 8151A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S5 (19C0953-05) Soil Sampled: 03/18/19 09:21 Received: 03/18/19 14:30									
2,4,5-T	ND	0.010	mg/kg	1	1902389	03/25/19	03/28/19	EPA 8151A	
2,4,5-TP (Silvex)	ND	0.010	"	"	"	"	"	"	
2,4-D (2,4-Dichlorophenoxyacetic acid)	ND	0.050	"	"	"	"	"	"	
2,4-DB	ND	0.10	"	"	"	"	"	"	
Dalapon	ND	1.0	"	"	"	"	"	"	
Dicamba	ND	0.010	"	"	"	"	"	"	
Dichloroprop	ND	0.10	"	"	"	"	"	"	
Dinoseb	ND	0.010	"	"	"	"	"	"	
MCPA	ND	2.0	"	"	"	"	"	"	
MCPP	ND	2.0	"	"	"	"	"	"	
Pentachlorophenol	ND	0.010	"	"	"	"	"	"	
Surrogate: 2,4-DCAA		*57 %*	*50-150*		"	"	"	"	
S6 (19C0953-06) Soil Sampled: 03/18/19 09:08 Received: 03/18/19 14:30									
2,4,5-T	ND	0.010	mg/kg	1	1902389	03/25/19	03/28/19	EPA 8151A	
2,4,5-TP (Silvex)	ND	0.010	"	"	"	"	"	"	
2,4-D (2,4-Dichlorophenoxyacetic acid)	ND	0.050	"	"	"	"	"	"	
2,4-DB	ND	0.10	"	"	"	"	"	"	
Dalapon	ND	1.0	"	"	"	"	"	"	
Dicamba	ND	0.010	"	"	"	"	"	"	
Dichloroprop	ND	0.10	"	"	"	"	"	"	
Dinoseb	ND	0.010	"	"	"	"	"	"	
MCPA	ND	2.0	"	"	"	"	"	"	
MCPP	ND	2.0	"	"	"	"	"	"	
Pentachlorophenol	ND	0.010	"	"	"	"	"	"	
Surrogate: 2,4-DCAA		*56 %*	*50-150*		"	"	"	"	

Wallace Kuhl & Associates- West Sacramento	Project:	Weston Elementary School	
3050 Industrial Boulevard	Project Number:	12064.02P	**CLS Work Order #: 19C0953**
West Sacramento, CA 95691	Project Manager:	Matthew Taylor	COC #:

Chlorinated Herbicides by EPA Method 8151A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S7 (19C0953-07) Soil Sampled: 03/18/19 08:42 Received: 03/18/19 14:30									
2,4,5-T	ND	0.010	mg/kg	1	1902389	03/25/19	03/28/19	EPA 8151A	
2,4,5-TP (Silvex)	ND	0.010	"	"	"	"	"	"	
2,4-D (2,4-Dichlorophenoxyacetic acid)	ND	0.050	"	"	"	"	"	"	
2,4-DB	ND	0.10	"	"	"	"	"	"	
Dalapon	ND	1.0	"	"	"	"	"	"	
Dicamba	ND	0.010	"	"	"	"	"	"	
Dichloroprop	ND	0.10	"	"	"	"	"	"	
Dinoseb	ND	0.010	"	"	"	"	"	"	
MCPA	ND	2.0	"	"	"	"	"	"	
MCPP	ND	2.0	"	"	"	"	"	"	
Pentachlorophenol	ND	0.010	"	"	"	"	"	"	
Surrogate: 2,4-DCAA		*60 %*		*50-150*	"	"	"	"	

Wallace Kuhl & Associates- West Sacramento	Project:	Weston Elementary School	
3050 Industrial Boulevard	Project Number:	12064.02P	**CLS Work Order #: 19C0953**
West Sacramento, CA 95691	Project Manager:	Matthew Taylor	COC #:

Metals by EPA 6000/7000 Series Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S1 (19C0953-01) Soil Sampled: 03/18/19 09:47 Received: 03/18/19 14:30									
Arsenic	**4.0**	1.0	mg/kg	1	1902328	03/22/19	03/22/19	EPA 6010B	
Lead	**4.0**	2.5	"	"	"	"	"	"	
S2 (19C0953-02) Soil Sampled: 03/18/19 09:53 Received: 03/18/19 14:30									
Arsenic	**3.0**	1.0	mg/kg	1	1902328	03/22/19	03/22/19	EPA 6010B	
Lead	**5.2**	2.5	"	"	"	"	"	"	
S3 (19C0953-03) Soil Sampled: 03/18/19 09:57 Received: 03/18/19 14:30									
Arsenic	**2.5**	1.0	mg/kg	1	1902328	03/22/19	03/22/19	EPA 6010B	
Lead	**2.9**	2.5	"	"	"	"	"	"	
S4 (19C0953-04) Soil Sampled: 03/18/19 08:30 Received: 03/18/19 14:30									
Arsenic	**1.6**	1.0	mg/kg	1	1902328	03/22/19	03/22/19	EPA 6010B	
Lead	**3.3**	2.5	"	"	"	"	"	"	
S5 (19C0953-05) Soil Sampled: 03/18/19 09:21 Received: 03/18/19 14:30									
Arsenic	**1.4**	1.0	mg/kg	1	1902328	03/22/19	03/22/19	EPA 6010B	
Lead	**4.9**	2.5	"	"	"	"	"	"	
S6 (19C0953-06) Soil Sampled: 03/18/19 09:08 Received: 03/18/19 14:30									
Arsenic	**1.0**	1.0	mg/kg	1	1902328	03/22/19	03/22/19	EPA 6010B	
Lead	**3.6**	2.5	"	"	"	"	"	"	
S7 (19C0953-07) Soil Sampled: 03/18/19 08:42 Received: 03/18/19 14:30									
Arsenic	**1.5**	1.0	mg/kg	1	1902328	03/22/19	03/22/19	EPA 6010B	
Lead	**5.4**	2.5	"	"	"	"	"	"	

Wallace Kuhl & Associates- West Sacramento	Project:	Weston Elementary School	
3050 Industrial Boulevard	Project Number:	12064.02P	**CLS Work Order #: 19C0953**
West Sacramento, CA 95691	Project Manager:	Matthew Taylor	COC #:

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S1 (19C0953-01) Soil Sampled: 03/18/19 09:47 Received: 03/18/19 14:30									**QRL-8**
4,4'-DDD	ND	17	µg/kg	5	1902253	03/20/19	03/21/19	EPA 8081A	
4,4'-DDE	ND	17	"	"	"	"	"	"	
4,4'-DDT	ND	17	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
alpha-BHC	ND	8.5	"	"	"	"	"	"	
beta-BHC	ND	8.5	"	"	"	"	"	"	
Chlordane-technical	ND	17	"	"	"	"	"	"	
delta-BHC	ND	8.5	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	8.5	"	"	"	"	"	"	
Endosulfan II	ND	17	"	"	"	"	"	"	
Endosulfan sulfate	ND	17	"	"	"	"	"	"	
Endrin	ND	17	"	"	"	"	"	"	
Endrin aldehyde	ND	17	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	8.5	"	"	"	"	"	"	
Heptachlor	ND	8.5	"	"	"	"	"	"	
Heptachlor epoxide	ND	8.5	"	"	"	"	"	"	
Methoxychlor	ND	85	"	"	"	"	"	"	
Mirex	ND	17	"	"	"	"	"	"	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*75 %*	*52-141*		"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*82 %*	*46-139*		"	"	"	"	
S2 (19C0953-02) Soil Sampled: 03/18/19 09:53 Received: 03/18/19 14:30									**QRL-8**
4,4'-DDD	ND	17	µg/kg	5	1902253	03/20/19	03/21/19	EPA 8081A	
4,4'-DDE	ND	17	"	"	"	"	"	"	
4,4'-DDT	ND	17	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
alpha-BHC	ND	8.5	"	"	"	"	"	"	
beta-BHC	ND	8.5	"	"	"	"	"	"	

Wallace Kuhl & Associates- West Sacramento	Project:	Weston Elementary School	
3050 Industrial Boulevard	Project Number:	12064.02P	**CLS Work Order #: 19C0953**
West Sacramento, CA 95691	Project Manager:	Matthew Taylor	COC #:

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S2 (19C0953-02) Soil Sampled: 03/18/19 09:53 Received: 03/18/19 14:30									**QRL-8**
Chlordane-technical	ND	17	µg/kg	5	1902253	"	03/21/19	EPA 8081A	
delta-BHC	ND	8.5	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	8.5	"	"	"	"	"	"	
Endosulfan II	ND	17	"	"	"	"	"	"	
Endosulfan sulfate	ND	17	"	"	"	"	"	"	
Endrin	ND	17	"	"	"	"	"	"	
Endrin aldehyde	ND	17	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	8.5	"	"	"	"	"	"	
Heptachlor	ND	8.5	"	"	"	"	"	"	
Heptachlor epoxide	ND	8.5	"	"	"	"	"	"	
Methoxychlor	ND	85	"	"	"	"	"	"	
Mirex	ND	17	"	"	"	"	"	"	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*98 %*		*52-141*	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*106 %*		*46-139*	"	"	"	"	
S3 (19C0953-03) Soil Sampled: 03/18/19 09:57 Received: 03/18/19 14:30									**QRL-8**
4,4'-DDD	ND	17	µg/kg	5	1902253	03/20/19	03/21/19	EPA 8081A	
4,4'-DDE	ND	17	"	"	"	"	"	"	
4,4'-DDT	ND	17	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
alpha-BHC	ND	8.5	"	"	"	"	"	"	
beta-BHC	ND	8.5	"	"	"	"	"	"	
Chlordane-technical	ND	17	"	"	"	"	"	"	
delta-BHC	ND	8.5	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	8.5	"	"	"	"	"	"	
Endosulfan II	ND	17	"	"	"	"	"	"	
Endosulfan sulfate	ND	17	"	"	"	"	"	"	

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Wallace Kuhl & Associates- West Sacramento	Project:	Weston Elementary School	
3050 Industrial Boulevard	Project Number:	12064.02P	**CLS Work Order #: 19C0953**
West Sacramento, CA 95691	Project Manager:	Matthew Taylor	COC #:

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S3 (19C0953-03) Soil Sampled: 03/18/19 09:57 Received: 03/18/19 14:30									**QRL-8**
Endrin	ND	17	µg/kg	5	1902253	"	03/21/19	EPA 8081A	
Endrin aldehyde	ND	17	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	8.5	"	"	"	"	"	"	
Heptachlor	ND	8.5	"	"	"	"	"	"	
Heptachlor epoxide	ND	8.5	"	"	"	"	"	"	
Methoxychlor	ND	85	"	"	"	"	"	"	
Mirex	ND	17	"	"	"	"	"	"	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*59 %*	*52-141*		"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*65 %*	*46-139*		"	"	"	"	
S4 (19C0953-04) Soil Sampled: 03/18/19 08:30 Received: 03/18/19 14:30									**QRL-8**
4,4'-DDD	ND	17	µg/kg	5	1902253	03/20/19	03/21/19	EPA 8081A	
4,4'-DDE	ND	17	"	"	"	"	"	"	
4,4'-DDT	ND	17	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
alpha-BHC	ND	8.5	"	"	"	"	"	"	
beta-BHC	ND	8.5	"	"	"	"	"	"	
Chlordane-technical	ND	17	"	"	"	"	"	"	
delta-BHC	ND	8.5	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	8.5	"	"	"	"	"	"	
Endosulfan II	ND	17	"	"	"	"	"	"	
Endosulfan sulfate	ND	17	"	"	"	"	"	"	
Endrin	ND	17	"	"	"	"	"	"	
Endrin aldehyde	ND	17	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	8.5	"	"	"	"	"	"	
Heptachlor	ND	8.5	"	"	"	"	"	"	
Heptachlor epoxide	ND	8.5	"	"	"	"	"	"	
Methoxychlor	ND	85	"	"	"	"	"	"	

Wallace Kuhl & Associates- West Sacramento	Project:	Weston Elementary School	
3050 Industrial Boulevard	Project Number:	12064.02P	**CLS Work Order #: 19C0953**
West Sacramento, CA 95691	Project Manager:	Matthew Taylor	COC #:

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S4 (19C0953-04) Soil Sampled: 03/18/19 08:30 Received: 03/18/19 14:30									**QRL-8**
Mirex	ND	17	µg/kg	5	1902253	"	03/21/19	EPA 8081A	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*159 %*	*52-141*		"	"	"	"	*QS-4*
Surrogate: Tetrachloro-meta-xylene		*150 %*	*46-139*		"	"	"	"	*QS-4*
S5 (19C0953-05) Soil Sampled: 03/18/19 09:21 Received: 03/18/19 14:30									**QRL-8**
4,4′-DDD	ND	17	µg/kg	5	1902253	03/20/19	03/21/19	EPA 8081A	
4,4′-DDE	ND	17	"	"	"	"	"	"	
4,4′-DDT	ND	17	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
alpha-BHC	ND	8.5	"	"	"	"	"	"	
beta-BHC	ND	8.5	"	"	"	"	"	"	
Chlordane-technical	ND	17	"	"	"	"	"	"	
delta-BHC	ND	8.5	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	8.5	"	"	"	"	"	"	
Endosulfan II	ND	17	"	"	"	"	"	"	
Endosulfan sulfate	ND	17	"	"	"	"	"	"	
Endrin	ND	17	"	"	"	"	"	"	
Endrin aldehyde	ND	17	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	8.5	"	"	"	"	"	"	
Heptachlor	ND	8.5	"	"	"	"	"	"	
Heptachlor epoxide	ND	8.5	"	"	"	"	"	"	
Methoxychlor	ND	85	"	"	"	"	"	"	
Mirex	ND	17	"	"	"	"	"	"	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*100 %*	*52-141*		"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*100 %*	*46-139*		"	"	"	"	

Wallace Kuhl & Associates- West Sacramento	Project:	Weston Elementary School	
3050 Industrial Boulevard	Project Number:	12064.02P	**CLS Work Order #: 19C0953**
West Sacramento, CA 95691	Project Manager:	Matthew Taylor	COC #:

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S6 (19C0953-06) Soil Sampled: 03/18/19 09:08 Received: 03/18/19 14:30									**QRL-8**
4,4'-DDD	ND	17	µg/kg	5	1902253	03/20/19	03/21/19	EPA 8081A	
4,4'-DDE	ND	17	"	"	"	"	"	"	
4,4'-DDT	ND	17	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
alpha-BHC	ND	8.5	"	"	"	"	"	"	
beta-BHC	ND	8.5	"	"	"	"	"	"	
Chlordane-technical	ND	17	"	"	"	"	"	"	
delta-BHC	ND	8.5	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	8.5	"	"	"	"	"	"	
Endosulfan II	ND	17	"	"	"	"	"	"	
Endosulfan sulfate	ND	17	"	"	"	"	"	"	
Endrin	ND	17	"	"	"	"	"	"	
Endrin aldehyde	ND	17	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	8.5	"	"	"	"	"	"	
Heptachlor	ND	8.5	"	"	"	"	"	"	
Heptachlor epoxide	ND	8.5	"	"	"	"	"	"	
Methoxychlor	ND	85	"	"	"	"	"	"	
Mirex	ND	17	"	"	"	"	"	"	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*86 %*	*52-141*		"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*84 %*	*46-139*		"	"	"	"	
S7 (19C0953-07) Soil Sampled: 03/18/19 08:42 Received: 03/18/19 14:30									
4,4'-DDD	ND	3.3	µg/kg	1	1902253	03/20/19	03/21/19	EPA 8081A	
4,4'-DDE	**3.3**	3.3	"	"	"	"	"	"	
4,4'-DDT	ND	3.3	"	"	"	"	"	"	
Aldrin	ND	1.0	"	"	"	"	"	"	
alpha-BHC	ND	1.7	"	"	"	"	"	"	
beta-BHC	ND	1.7	"	"	"	"	"	"	

Wallace Kuhl & Associates- West Sacramento	Project:	Weston Elementary School	
3050 Industrial Boulevard	Project Number:	12064.02P	**CLS Work Order #: 19C0953**
West Sacramento, CA 95691	Project Manager:	Matthew Taylor	COC #:

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S7 (19C0953-07) Soil Sampled: 03/18/19 08:42 Received: 03/18/19 14:30									
Chlordane-technical	ND	3.3	µg/kg	1	1902253	"	03/21/19	EPA 8081A	
delta-BHC	ND	1.7	"	"	"	"	"	"	
Dieldrin	ND	1.0	"	"	"	"	"	"	
Endosulfan I	ND	1.7	"	"	"	"	"	"	
Endosulfan II	ND	3.3	"	"	"	"	"	"	
Endosulfan sulfate	ND	3.3	"	"	"	"	"	"	
Endrin	ND	3.3	"	"	"	"	"	"	
Endrin aldehyde	ND	3.3	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	1.7	"	"	"	"	"	"	
Heptachlor	ND	1.7	"	"	"	"	"	"	
Heptachlor epoxide	ND	1.7	"	"	"	"	"	"	
Methoxychlor	ND	17	"	"	"	"	"	"	
Mirex	ND	3.3	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*90 %*	*52-141*		"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*89 %*	*46-139*		"	"	"	"	

Wallace Kuhl & Associates- West Sacramento	Project:	Weston Elementary School	
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West Sacramento, CA 95691	Project Manager:	Matthew Taylor	COC #:

Chlorinated Herbicides by EPA Method 8151A - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1902389 - EPA 8151A										
Blank (1902389-BLK1)				Prepared: 03/25/19 Analyzed: 03/28/19						
2,4-D (2,4-Dichlorophenoxyacetic acid)	ND	0.050	mg/kg							
Dalapon	ND	1.0	"							
2,4-DB	ND	0.10	"							
Dicamba	ND	0.010	"							
Dichloroprop	ND	0.10	"							
Dinoseb	ND	0.010	"							
MCPA	ND	2.0	"							
MCPP	ND	2.0	"							
Pentachlorophenol	ND	0.010	"							
2,4,5-T	ND	0.010	"							
2,4,5-TP (Silvex)	ND	0.010	"							
Surrogate: 2,4-DCAA	*0.0503*		"	*0.0500*		*101*	*50-150*			
LCS (1902389-BS1)				Prepared: 03/25/19 Analyzed: 03/28/19						
Dicamba	0.0291	0.010	mg/kg	0.0250		116	50-150			
Dichloroprop	0.0290	0.10	"	0.0250		116	50-150			
Surrogate: 2,4-DCAA	*0.0558*		"	*0.0500*		*112*	*50-150*			
LCS Dup (1902389-BSD1)				Prepared: 03/25/19 Analyzed: 03/28/19						
Dicamba	0.0300	0.010	mg/kg	0.0250		120	50-150	3	30	
Dichloroprop	0.0302	0.10	"	0.0250		121	50-150	4	30	
Surrogate: 2,4-DCAA	*0.0624*		"	*0.0500*		*125*	*50-150*			
Matrix Spike (1902389-MS1)	**Source: 19C0953-04**			Prepared: 03/25/19 Analyzed: 03/28/19						
Dicamba	0.0181	0.010	mg/kg	0.0250	ND	72	50-150			
Dichloroprop	0.0250	0.10	"	0.0250	ND	100	50-150			
Surrogate: 2,4-DCAA	*0.0362*		"	*0.0500*		*72*	*50-150*			

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Chlorinated Herbicides by EPA Method 8151A - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1902389 - EPA 8151A										
Matrix Spike Dup (1902389-MSD1)	**Source: 19C0953-04**			Prepared: 03/25/19 Analyzed: 03/28/19						
Dicamba	0.0173	0.010	mg/kg	0.0250	ND	69	50-150	4	30	
Dichloroprop	0.0260	0.10	"	0.0250	ND	104	50-150	4	30	
Surrogate: 2,4-DCAA	*0.0254*		"	*0.0500*		*51*	*50-150*			

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Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1902328 - EPA 3050B										
Blank (1902328-BLK1)				Prepared & Analyzed: 03/22/19						
Arsenic	ND	1.0	mg/kg							
Lead	ND	2.5	"							
LCS (1902328-BS1)				Prepared & Analyzed: 03/22/19						
Arsenic	102	1.0	mg/kg	100		102	75-125			
Lead	107	2.5	"	100		107	75-125			
Matrix Spike (1902328-MS1)	**Source: 19C0953-01**			Prepared & Analyzed: 03/22/19						
Arsenic	76.1	1.0	mg/kg	100	4.03	72	75-125			QM-5
Lead	70.1	2.5	"	100	4.01	66	75-125			QM-4X
Matrix Spike Dup (1902328-MSD1)	**Source: 19C0953-01**			Prepared & Analyzed: 03/22/19						
Arsenic	88.9	1.0	mg/kg	100	4.03	85	75-125	15	30	
Lead	81.6	2.5	"	100	4.01	78	75-125	15	30	

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Organochlorine Pesticides by EPA Method 8081A - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1902253 - LUFT-DHS GCNV										
Blank (1902253-BLK1)				Prepared: 03/20/19 Analyzed: 03/21/19						
Aldrin	ND	1.0	µg/kg							
alpha-BHC	ND	1.7	"							
beta-BHC	ND	1.7	"							
gamma-BHC (Lindane)	ND	1.7	"							
delta-BHC	ND	1.7	"							
Chlordane-technical	ND	3.3	"							
4,4'-DDD	ND	3.3	"							
4,4'-DDE	ND	3.3	"							
4,4'-DDT	ND	3.3	"							
Dieldrin	ND	1.0	"							
Endosulfan I	ND	1.7	"							
Endosulfan II	ND	3.3	"							
Endosulfan sulfate	ND	3.3	"							
Endrin	ND	3.3	"							
Endrin aldehyde	ND	3.3	"							
Heptachlor	ND	1.7	"							
Heptachlor epoxide	ND	1.7	"							
Methoxychlor	ND	17	"							
Mirex	ND	3.3	"							
Toxaphene	ND	20	"							
Surrogate: Tetrachloro-meta-xylene	*7.91*		"	*8.33*		*95*	*46-139*			
Surrogate: Decachlorobiphenyl	*8.99*		"	*8.33*		*108*	*52-141*			
LCS (1902253-BS1)				Prepared: 03/20/19 Analyzed: 03/21/19						
Aldrin	11.5	1.0	µg/kg	16.7		69	47-132			
gamma-BHC (Lindane)	12.8	1.7	"	16.7		77	56-133			
4,4'-DDT	12.2	3.3	"	16.7		73	46-137			
Dieldrin	13.2	1.0	"	16.7		79	44-143			
Endrin	12.7	3.3	"	16.7		76	30-147			
Heptachlor	11.2	1.7	"	16.7		67	33-148			
Surrogate: Tetrachloro-meta-xylene	*7.08*		"	*8.33*		*85*	*46-139*			

Wallace Kuhl & Associates- West Sacramento	Project:	Weston Elementary School	
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Organochlorine Pesticides by EPA Method 8081A - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1902253 - LUFT-DHS GCNV										
LCS (1902253-BS1)				Prepared: 03/20/19 Analyzed: 03/21/19						
Surrogate: Decachlorobiphenyl	*8.17*		*µg/kg*	*8.33*		*98*	*52-141*			
LCS Dup (1902253-BSD1)				Prepared: 03/20/19 Analyzed: 03/21/19						
Aldrin	11.7	1.0	µg/kg	16.7		70	47-132	2	30	
gamma-BHC (Lindane)	13.2	1.7	"	16.7		79	56-133	3	30	
4,4'-DDT	12.0	3.3	"	16.7		72	46-137	2	30	
Dieldrin	12.7	1.0	"	16.7		76	44-143	4	30	
Endrin	12.1	3.3	"	16.7		73	30-147	5	30	
Heptachlor	11.4	1.7	"	16.7		68	33-148	2	30	
Surrogate: Tetrachloro-meta-xylene	*7.71*		*"*	*8.33*		*92*	*46-139*			
Surrogate: Decachlorobiphenyl	*8.76*		*"*	*8.33*		*105*	*52-141*			
Matrix Spike (1902253-MS1)	**Source: 19C0953-04**			Prepared: 03/20/19 Analyzed: 03/21/19						
Aldrin	15.2	5.0	µg/kg	16.7	ND	91	47-138			
gamma-BHC (Lindane)	14.2	8.5	"	16.7	ND	85	38-144			
4,4'-DDT	14.4	17	"	16.7	ND	86	41-157			
Dieldrin	15.7	5.0	"	16.7	ND	94	46-155			
Endrin	14.2	17	"	16.7	ND	85	34-149			
Heptachlor	16.0	8.5	"	16.7	ND	96	36-155			
Surrogate: Tetrachloro-meta-xylene	*20.2*		*"*	*20.8*		*97*	*46-139*			
Surrogate: Decachlorobiphenyl	*21.9*		*"*	*20.8*		*105*	*52-141*			
Matrix Spike Dup (1902253-MSD1)	**Source: 19C0953-04**			Prepared: 03/20/19 Analyzed: 03/21/19						
Aldrin	16.0	5.0	µg/kg	16.7	ND	96	47-138	5	35	
gamma-BHC (Lindane)	15.5	8.5	"	16.7	ND	93	38-144	9	35	
4,4'-DDT	16.5	17	"	16.7	ND	99	41-157	14	35	
Dieldrin	16.4	5.0	"	16.7	ND	99	46-155	5	35	
Endrin	20.9	17	"	16.7	ND	126	34-149	38	35	QM-7
Heptachlor	17.2	8.5	"	16.7	ND	103	36-155	7	35	
Surrogate: Tetrachloro-meta-xylene	*23.0*		*"*	*20.8*		*111*	*46-139*			
Surrogate: Decachlorobiphenyl	*24.0*		*"*	*20.8*		*115*	*52-141*			

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Notes and Definitions

QS-4	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QRL-8	The extract of this sample was dark and/or oily. Therefore, the sample was analyzed with a dilution and the reporting limit was raised for all target compounds.
QM-7	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS and/or LCSD recovery.
QM-5	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
QM-4X	The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit (or method detection limit when specified)
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference