Appendix 7

Pollutants of Concern Sediment Screening 2015
Annual Sampling and Analysis Report

Contra Costa Clean Water Program

Pollutants of Concern Sediment Screening
2015 Annual Sampling and Analysis Report

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Submitted to:

Contra Costa Clean Water Program
255 Glacier Drive
Martinez, California 94553

Submitted by:

ADH Environmental
3065 Porter Street, Suite 101
Soquel, California 95073

1.0 INTRODUCTION

The Contra Costa Clean Water Program (CCCWP) began implementation of an ongoing sediment screening study in spring 2015 to address the Pollutants of Concern (POC) monitoring requirement of the California Regional Water Quality Control Board San Francisco Bay Region Municipal Regional Stormwater NPDES Permit (MRP)[1]. Sampling locations were selected in public right-of-ways, or on private property adjacent to public right of ways, known or suspected of having high opportunity for PCB/mercury control. CCCWP permittees provided information on historic and present day land use, prior monitoring results, and other information to assist CCCWP in developing target sampling locations.

Prior to sample collection, desktop reconnaissance and windshield surveys were conducted to inform the monitoring approach and assist in sampling logistics. Much of the sampling and analysis procedures of this present work originated from the BASMAA Clean Watersheds for a Clean Bay Task 3 study[2].

Samples were screened for 1) total PCB congeners using EPA Method 8082A; 2) total mercury; 3) total organic carbon; and 4) particle size distribution. For quality control/quality assurance purposes, blind field duplicate samples were collected and analyzed, and a selection of samples with PCB congener results above 100 ppb were reanalyzed with a more rigorous test method (EPA Method 1668C).

Figures 1 through 4 provide a geographical overview of the 57 sampling locations throughout Contra Costa County that were sampled between April and September 2015.

[1] California Regional Water Quality Control Board San Francisco Bay Region Municipal Regional Stormwater NPDES Permit, Order No. R2-2015-0049, November 19, 2015.
[2] Sampling and Analysis Plan, Bay Area Stormwater Management Agencies Association Clean Watersheds for a Clean Bay - Implementing the San Francisco Bay's PCBs and Mercury TMDLs with a Focus on Urban Runoff, Task 3. Prepared by Applied Marine Sciences. September 4, 2012.

Figure 1. Sampling Locations – West County

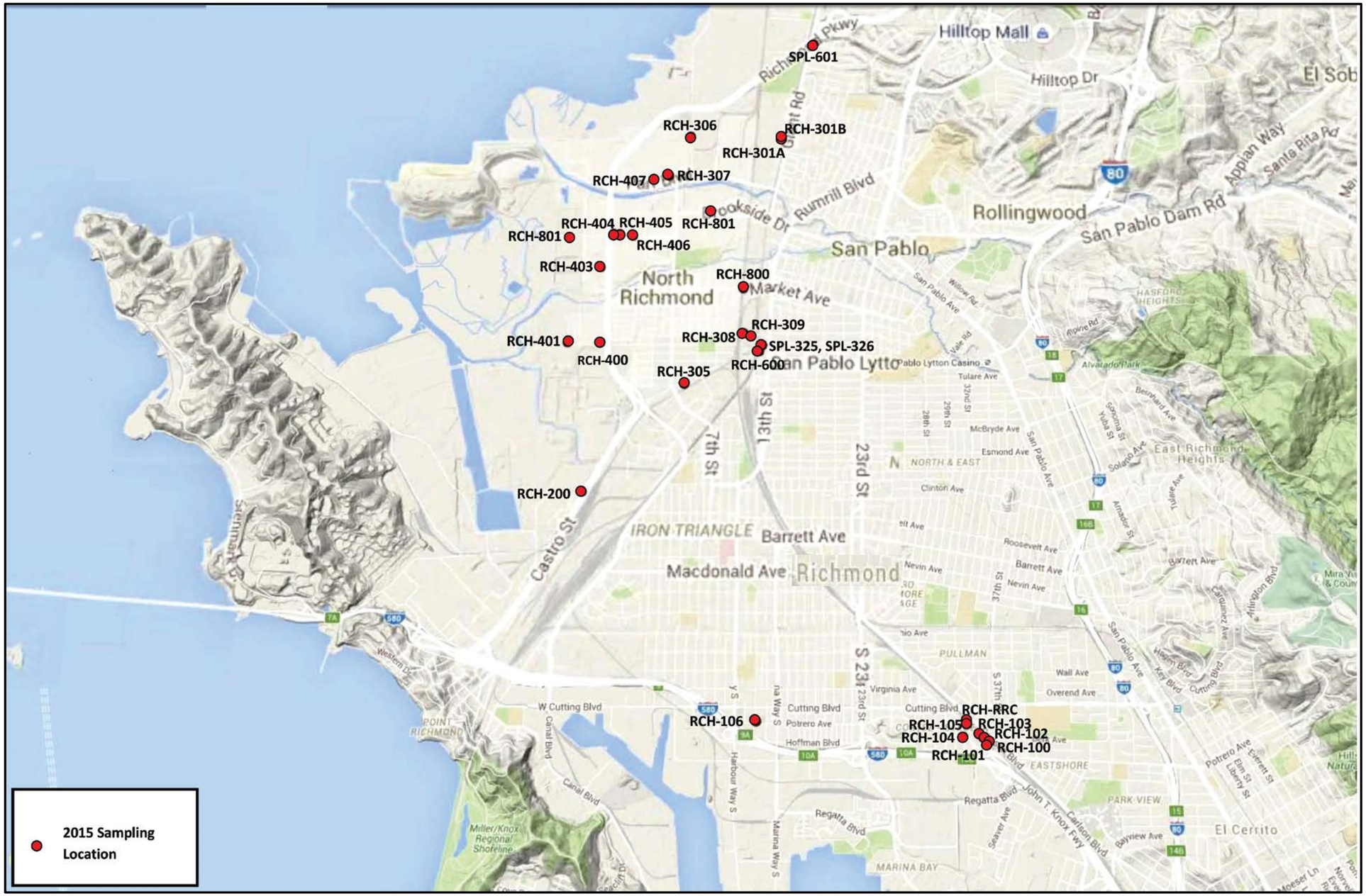


Figure 2. Sampling Locations – Northwest County

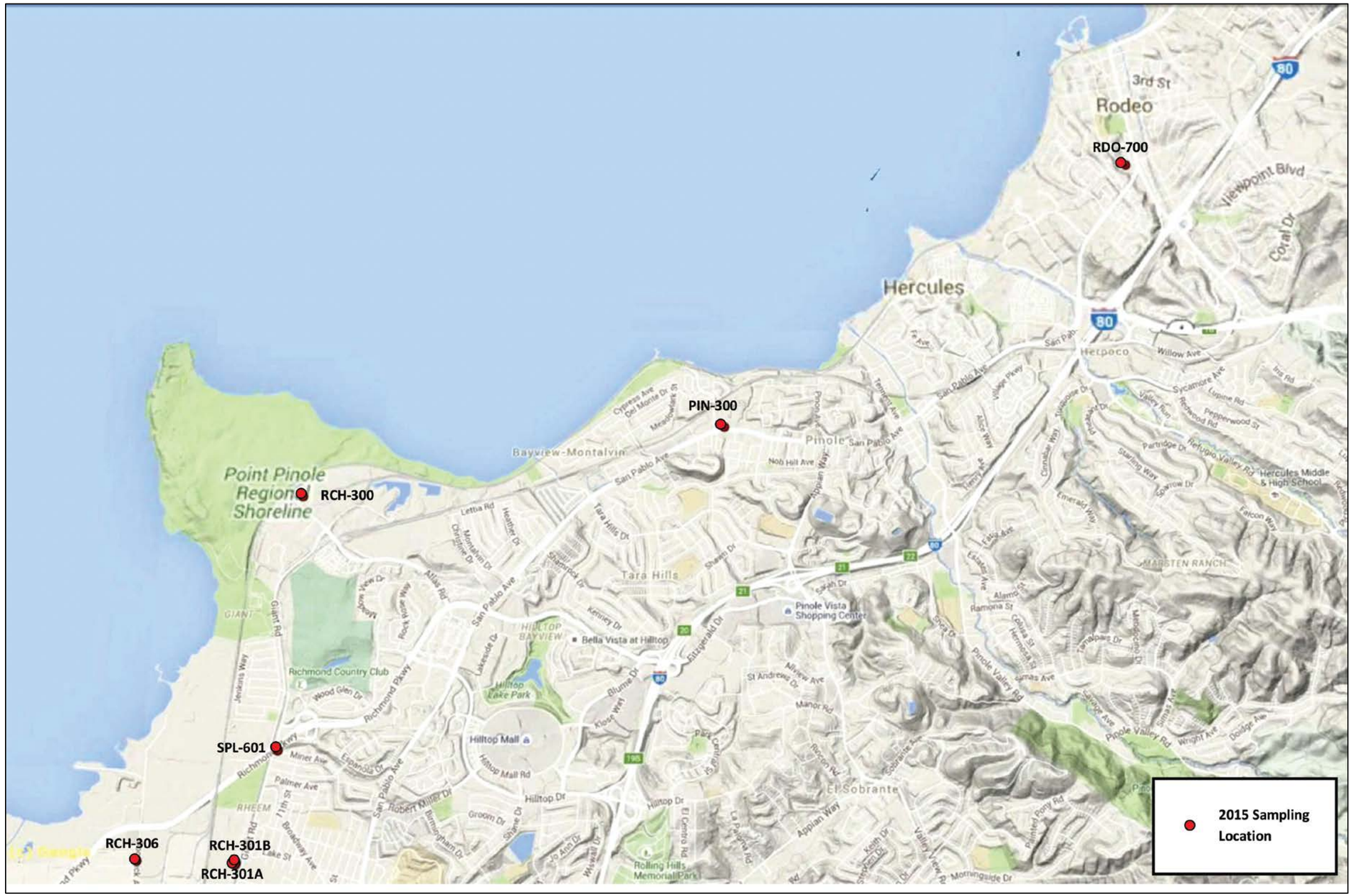


Figure 3. Sampling Locations – North County

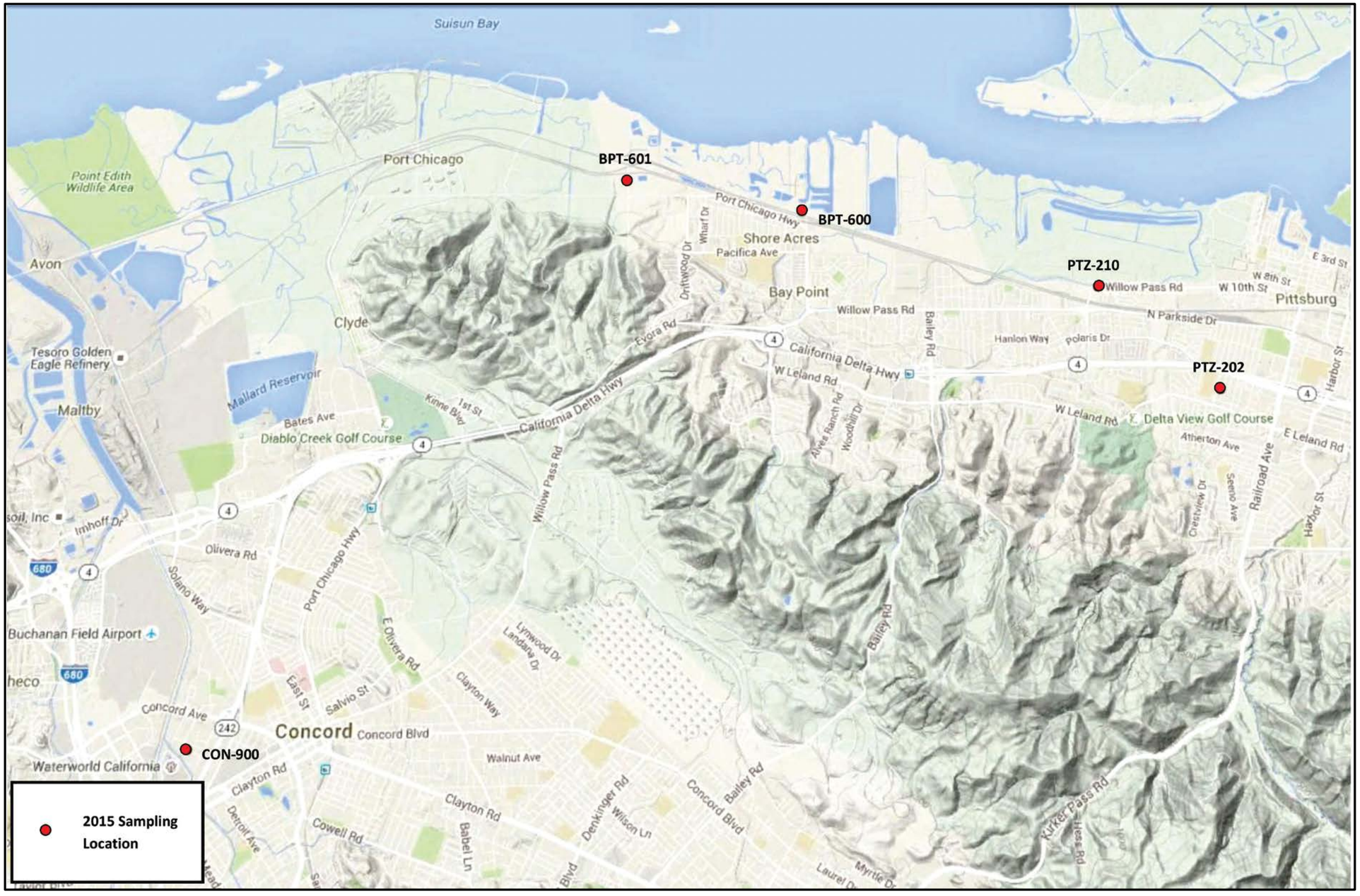
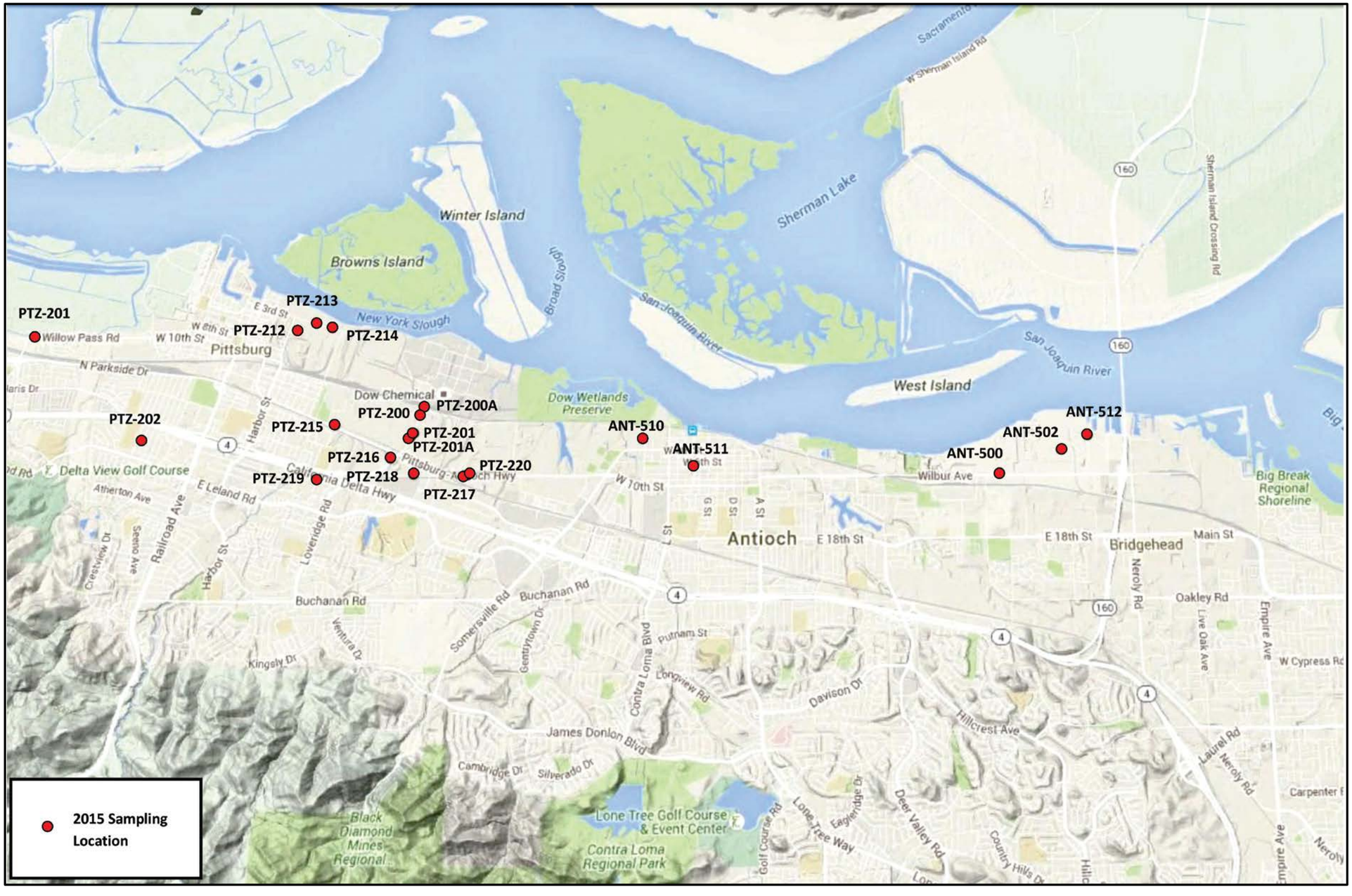


Figure 4. Sampling Locations – Northeast County



2.0 METHODS

The monitoring contractor for CCCWP, ADH Environmental (ADH), implemented the desktop reconnaissance, windshield survey and sampling work under the direction of CCCWP. The following subsections briefly describe field and laboratory methods that were followed in the implementation of this study. For further detail, please refer to the project SAP[3] and QAPP[4].

2.1 Field Methods

General sampling locations adjacent to or within suspected source properties were identified during the desktop reconnaissance and windshield survey phases. Exact sediment sampling locations were determined in the field at the time of sampling based on sediment availability, site accessibility, signs of sediment accumulation/erosion, visible signs of potential contamination (e.g., stained soils), and topographical features which may indicate location of prior disposal (e.g., sediment mounds). Soil sample locations and coordinates were recorded on field datasheets as sampling was conducted.

Sampling implements were cleaned prior to use, and between sampling sites, by washing with non-phosphate detergent, hydrochloric acid, and methanol. Deionized water was used to rinse the implements after each washing agent was applied.

Prior to sediment collection, each sampling point was cleared of vegetation and/or large gravel, if such material was present. Target sediment was scooped with a stainless steel sampling implement (e. g., trowel or spoon) and placed into a stainless steel compositing bucket or tray. In cases where sediment samples were taken from street surfaces or hardscape areas, a small nylon or natural fiber pre-cleaned brush was used in conjunction with a trowel or scoop. After homogenization within the compositing bucket or tray, subsamples were transferred to certified-cleaned, 8-ounce glass jars and cooled to 4 C. Samples were either shipped immediately to ALS Laboratory of Kelso, Washington for analysis or were held at 4 C (particle size distribution samples) and -20 C (all other samples) pending shipping to ALS. Archived samples from each location, and from each composite area if applicable, were collected and stored at ADH Environmental in Soquel, California at 4 or -20 C as appropriate for possible future analysis or re-analysis.

2.2 Laboratory Methods

Australian Laboratory Services (ALS, formerly Columbia Analytical Services) of Kelso, Washington performed all analytical testing. Table 2 presents the study's analytical test types, methods, reporting limits and holding times. Results for PCBs, mercury and TOC were reported on a dry-weight basis.

[3] Contra Costa Clean Water Program, Sampling and Analysis Plan Draft, Pollutants of Concern Monitoring; Pesticides and Toxicity Monitoring: MRP Provisions C.6.f and C.6.g. Prepared by ADH Environmental. January 21, 2016.

[4] Contra Costa Clean Water Program, Quality Assurance Project Plan Draft, Pollutants of Concern Monitoring; Pesticides and Toxicity Monitoring: MRP Provisions C.6.f and C.6.g. Prepared by ADH Environmental. January 26, 2016.

Table 1. Analytical Tests, Methods, Reporting Limits and Holding Times

Analytical Test	Method	Reporting Limit	Holding Time
Total PCBs (RMP 40 congeners)[1]	EPA 8082A	0.5 µg/Kg	1 year
Total PCBs (RMP 40 congeners)[1]	EPA 1668C	0.5 µg/Kg	1 year
Total Mercury	EPA 7471B	5 µg/Kg	1 year
Total Organic Carbon (TOC)	ASTM D4129-05M	0.05 %	28 days
Particle Size Distribution (PSD)[2]	ASTM D422M	0.01 %	28 days

[1] San Francisco Bay Regional Monitoring Program 40 PCB congeners include PCB-8, 18, 28, 31, 33, 44, 49, 52, 56, 60, 66, 70, 74, 87, 95, 97, 99, 101, 105, 110, 118, 128, 132, 138, 141, 149, 151, 153, 156, 158, 170, 174, 177, 180, 183, 187, 194, 195, 201, and 203.
[2] Particle size distribution by the Wentworth scale; percent fines (slit and clay) are less than 62.5 microns.

3.0 QUALITY ASSURANCE / QUALITY CONTROL ANALYSIS

ADH performed verification and validation of all laboratory data per the project draft QAPP and consistent with SWAMP 2008 measurement quality objectives (MQOs)[5].

Of 61 samples collected overall, four were blind field duplicate samples (sample IDs with a "D" as the last character). Duplicate sample relative percent differences (RPDs) for the sum of PCB congeners ranged from 6 to 61 percent; RPDs for mercury ranged from 10 to 16 percent. Given that the distribution of PCBs in Bay Area sediments can display micro-heterogeneity, the RPD range between original and field duplicate samples is considered acceptable.

All samples for all analyses met quality control objectives, with the exception of those samples for PCB congeners shown in Table 2 below. Given that all the quality control issues described in Table 2 show the issues were of minor consequence, the data from these samples are of acceptable quality and have been included in the data set for this annual report.

Table 2. Quality Control Issues and Analysis for PCB Congeners in the 2015 Project Data Set

Lab Sample ID	Issue	Analysis
RCH-450-042215, PTZ-201A-043015	Matrix interference in matrix spike samples for many congeners caused high bias in the matrix spike concentrations.	Recovery in the Laboratory Control Sample was acceptable, indicating the analytical batch was in control. The interference appeared to be minimal.
RCH-400-042215	Matrix spike recovery for a few congeners was outside control criteria.	Recovery in the Laboratory Control Sample was acceptable, indicating the analytical batch was in control.
Samples in service request K1505559, K1505560, K1506492	Method detection limits (MDLs) elevated for most samples due to matrix interference.	Results were flagged in the EDDs indicating matrix interference. This issue is somewhat compensated for by substituting half the MDL in the calculation of the sum of congeners.
Samples in service request K1511190	Recoveries of Laboratory Control Samples for several congeners were outside control criteria.	Based on the method and historic data, the observed recoveries were in the range expected for this procedure.
Samples in service request K1511190	Matrix interference in matrix spike samples for many congeners caused high bias in the matrix spike concentrations. in the case of PCB 18 in sample ANT-552-100115, the Interference completely prevented recovery at the spiked concentration. For a few analytes, matrix spike recoveries were outside control criteria.	Recovery in the Laboratory Control Sample was acceptable, indicating the analytical batch was in control. The interference appeared to be minimal. For PCB 18 in the named sample, there is the potential for low bias in the matrix recoveries. This result was flagged as negatively biased in the EDD.
Laboratory Control Sample (LCS) KWG1505813-3	The upper control criterion was exceeded for PCB 138, indicating a high bias.	The sample data was not significantly affected. No further corrective action was appropriate.
SPL-600-061115	Matrix interference in matrix spike samples for many congeners caused high bias in the matrix spike concentrations.	Based on the magnitude of background contribution, the interference appeared to be minimal.

[5] Surface Water Ambient Monitoring Program Quality Assurance Project Plan. Version 1.0. Prepared for the California State Water Quality Control Board by the SWAMP Quality Assurance Team. September 1, 2008.

4.0 RESULTS

Sediment samples were collected between April and September 2015 at 57 locations throughout Contra Costa County. Table 3 provides a summary of sampling information, including date of collection and sample location coordinates. The sample identifier is formatted according to the following code:

CC-LLL-SSSS-O-D

Where,

CC	=	County code (Contra Costa)
LLL	=	General location (ANT = Antioch, BPT = Bay Point, CON = Concord, PIN = Pinole, PTZ = Pittsburg, RCH = Richmond, RDO = Rodeo, SPL = San Pablo)
SSSS	=	Site designation (alpha-numeric code up to four characters)
O	=	Ownership code (R = public right of way, P = private property, U = unknown)
D	=	Blind field duplicate sample

Table 4 presents analytical results of 61 sediment samples from 2015, including four field duplicate results. Total PCB results were calculated by summing all 40 congeners, including the substitution of half the method detection limit for congeners that were not detected. The substitution of half the method detection limit is consistent with the BASMAA Regional Monitoring Coalition Creek Status Monitoring Program reporting procedures. Values in bold italics indicate the total PCBs results exceed 500 parts per billion (ppb), or that the total mercury results exceed 750 ppb. Exceedances of these action levels indicates that a sampling location meets the concentration criterion of a high opportunity area for PCBs or mercury controls. Four PCBs samples and four mercury samples exceeded the action levels, while only one sample, CC-RCH-401-R, exceeded the action level for both PCBs and mercury.

Although gravel was present in abundant amounts in many samples, it was excluded from test aliquots for PCBs, mercury and TOC determination. This is a standard laboratory practice; by excluding the gravel and pebbles from these tests, we are left with a better estimate of pollutant concentrations that are available for entrainment in stormwater runoff.

Table 5 presents the results of a quality control check on the viability of EPA method 8082A to screen for the presence of PCBs in test sediments. Seven sediment samples exceeding 100 ppb were reanalyzed by the more rigorous EPA method 1668C. Method 1668C uses high-resolution gas chromatography/high-resolution mass spectrometry and suffers less from matrix interference than method 8082A (standard gas chromatography). The analytical cost of method 1668C is nearly three times the cost of method 8082A and, therefore, there is a substantial cost benefit in utilizing the less expensive method for screening purposes. The MRP allows the use of the less expensive method 8082A, provided it is used “as appropriate to address the management information needs.”

To confirm the concentration of PCBs in 2015 samples were accurately determined, CCCWP elected to reanalyze seven archived sediment samples by method 1668C as a quality control check on the viability of method 8082A. Results of the reanalysis are presented in Table 5 and indicate the screening method (8082A) served the intended purpose of accurately identifying sediment that exceeded the 500 parts per billion action level. In five of seven samples, the result by method 1668C was higher by an average of 42

percent than the result by method 8082A; in two of seven samples, the result by method 1668C was lower by an average of 32 percent than the result by method 8082A. Overall, these results are considered to be in good agreement with each other, given the general micro-heterogeneity of PCB distribution in Bay Area sediments. For context in terms of variability of results among the same sample, the average percent difference between original samples and field duplicates was 35 percent.

Table 3. Sample Identifier, Date Sampled, Position Coordinates and Sampling Notes

Sample ID	Date Sampled	Latitude (Deg. N)	Longitude (Deg. W)	Sampling Notes
CC-ANT-500-R	04/30/15	38.01238	121.77036	Local area composite
CC-ANT-501-R	04/30/15	38.01239	122.77729	Local area composite
CC-ANT-502-R	04/30/15	38.01511	121.76111	Local area composite
CC-ANT-510-R	09/30/15	38.01664	121.82357	Local area composite
CC-ANT-511-R	10/01/15	38.01349	121.81588	Local area composite
CC-ANT-512-R	10/01/15	38.01678	121.75701	Local area composite
CC-ANT-512-R-D	10/01/15	38.01678	121.75701	Field duplicate
CC-BPT-600-R	09/29/15	38.03902	121.96115	Local area composite
CC-BPT-601-R	09/29/15	38.04293	121.98805	Local area composite
CC-CON-900-R	06/11/15	37.97577	122.04899	Local area composite
CC-PIN-800-R	06/11/15	38.00531	122.30902	Local area composite
CC-PTZ-200-R	04/30/15	38.01971	121.85702	Local area composite
CC-PTZ-200A-R	04/30/15	38.02069	121.85654	Local area composite
CC-PTZ-201-R	04/30/15	38.01748	121.85775	Local area composite
CC-PTZ-201-R-D	04/30/15	38.01748	121.85775	Field duplicate
CC-PTZ-201A-R	04/30/15	38.01707	121.85822	Local area composite
CC-PTZ-202-R	04/30/15	38.01675	121.89852	Local area composite
CC-PTZ-210-R	09/29/15	38.02942	121.91618	Sampled several points along fence line
CC-PTZ-212-R	09/29/15	38.03007	121.87628	Local area composite
CC-PTZ-213-R	09/29/15	38.03104	121.87352	Local area composite
CC-PTZ-214-R	09/29/15	38.03035	121.87101	Local area composite
CC-PTZ-215-R	09/29/15	38.01847	121.86964	Local area composite
CC-PTZ-216-R	09/29/15	38.01444	121.8611	Local area composite
CC-PTZ-217-R	09/29/15	38.01242	121.84998	Local area composite
CC-PTZ-218-R	09/29/15	38.01253	121.85755	Local area composite
CC-PTZ-219-R	09/29/15	38.01209	121.87191	Local area composite
CC-PTZ-220-R	09/29/15	38.01241	121.84954	Local area composite
CC-RCH-100-R	04/21/15	37.9225	122.33523	Local area composite
CC-RCH-101-R	04/21/15	37.92231	122.33538	Local area composite
CC-RCH-102-R	04/21/15	37.92287	122.33576	Local area composite
CC-RCH-103-R	04/21/15	37.92314	122.33617	Local area composite
CC-RCH-104-R	04/21/15	37.92291	122.33773	Local area composite
CC-RCH-105-R	04/21/15	37.92385	122.33732	Local area composite
CC-RCH-106-R	04/21/15	37.92406	122.35789	Local area composite
CC-RCH-200-R	04/21/15	37.94194	122.37561	Local area composite
CC-RCH-300-P	04/22/15	37.99972	122.35152	Site under construction took samples throughout property; escorted by Joanne Le
CC-RCH-301A-R	04/22/15	37.97147	122.35573	Local area composite; truck path
CC-RCH-301B-R	04/22/15	37.97161	122.35569	Local area composite; horse stables
CC-RCH-305-P	04/22/15	37.95066	122.36551	4-point composite of 1 large property comprised

Table 3. Sample Identifier, Date Sampled, Position Coordinates and Sampling Notes

Sample ID	Date Sampled	Latitude (Deg. N)	Longitude (Deg. W)	Sampling Notes
				of 10 APNs; escorted by Joanne Le: 37.95065, 122.36660 37.95066, 122.36551 37.95055, 122.36627 37.95053, 122.36583
CC-RCH-305-P-D	04/22/15	37.95066	122.36551	Field duplicate
CC-RCH-306-R	04/22/15	37.97175	122.36529	Local area composite
CC-RCH-307-R	04/22/15	37.96828	122.36748	Local area composite
CC-RCH-308-R	04/22/15	37.95487	122.35949	Local area composite; vacant lot with heavy trackout
CC-RCH-309-R	04/22/15	37.95465	122.35885	Local area composite
CC-RCH-400-R-02	04/29/15	37.95413	122.37417	Local area composite
CC-RCH-401-R	04/29/15	37.95411	122.37758	Local area composite
CC-RCH-402-R	04/29/15	37.96031	122.73435	Local area composite
CC-RCH-403-R	04/29/15	37.96043	122.37438	Local area composite
CC-RCH-404-R	04/29/15	37.96331	122.37315	Local area composite
CC-RCH-405-R	04/29/15	37.96327	122.37247	Local area composite
CC-RCH-406-R	04/29/15	37.96311	122.37111	Local area composite
CC-RCH-407-R	04/29/15	37.96801	122.36909	Local area composite
CC-RCH-700-R	06/11/15	37.96492	121.35792	Local area composite
CC-RCH-800-R	09/30/15	37.95861	122.35958	Local area composite
CC-RCH-801-R	09/30/15	37.96521	122.36306	Local area composite
CC-RCH-RRC-P	04/22/15	37.92411	122.33736	4-point composite along railroad lines: 37.95857, 122.35794 37.92410, 122.33736 37.95010, 122.36629 37.97174, 122.35551
CC-RDO-700-R	09/30/15	38.02756	122.26695	Local area composite
CC-SPL-325-P	09/30/15	37.95386	122.35759	Group composite; separate piles of soil on same property as SPL-326-093015; escorted by Amanda Booth
CC-SPL-325-P-D	09/30/15	37.95386	122.35759	Field duplicate
CC-SPL-326-P	09/30/15	37.95352	122.35795	Local area composite; several piles of soil on property, sampled each
CC-SPL-600-P	06/11/15	37.95335	122.35787	Group composite; several piles of soil on property, sampled each
CC-SPL-601-R	06/11/15	37.97995	122.35235	Group composite; sampled at various points around perimeter of property

Table 4. Total PCBs, Total Mercury, Total Organic Carbon and Particle Size Distribution Results

Sample ID	Total PCBs (µg/Kg) [1]	Total Hg (µg/Kg) [2]	TOC (%)	Particle Size Distribution			
				Gravel (%)	Sand (%)	Silt (%)	Clay (%)
CC-ANT-500-R	251.9	328	2.12	3.20	79.53	15.04	2.23
CC-ANT-501-R	3.46	17	0.513	0.94	76.68	21.25	1.13
CC-ANT-502-R	23.66	23	0.53	0.59	95.78	3.40	0.23
CC-ANT-510-R	***2,531***	151	1.86	46.85	36.22	15.43	1.49
CC-ANT-511-R	7.31	178	0.822	63.47	28.02	7.50	1.00
CC-ANT-512-R	6.55	27	0.824	23.46	71.43	4.60	0.51
CC-ANT-512-R-D	5.12	23	0.685	2.58	89.43	6.91	1.08
CC-BPT-600-R	50.21	376	8.42	57.96	24.39	15.28	2.37
CC-BPT-601-R	1.79	78	3.4	63.45	31.34	4.15	1.05
CC-CON-900-R	4.47	111	0.688	26.07	52.69	16.77	4.47
CC-PIN-800-R	3.46	49	1.03	14.38	76.76	7.75	1.11
CC-PTZ-200A-R	19.33	194	1.56	24.91	45.42	27.68	1.99
CC-PTZ-200-R	15.34	227	1.32	58.19	30.84	9.84	1.13
CC-PTZ-201A-R	338.7	287	5.72	1.26	69.23	27.88	1.63
CC-PTZ-201-R	59.91	276	5.27	47.45	33.53	17.61	1.42
CC-PTZ-201-R-D	49.78	240	5.76	13.38	44.86	39.58	2.18
CC-PTZ-202-R	3.07	373	0.537	23.72	54.36	18.91	3.01
CC-PTZ-210-R	***1,061***	109	1.8	2.92	51.17	37.43	8.47
CC-PTZ-212-R	32.46	248	7.56	31.04	54.50	12.55	1.91
CC-PTZ-213-R	54.92	640	1.13	37.76	27.09	31.32	3.82
CC-PTZ-214-R	21.40	***1,670***	10.5	12.98	46.92	30.58	9.52
CC-PTZ-215-R	14.09	151	14.1	56.28	34.35	7.89	1.48
CC-PTZ-216-R	10.48	606	3.34	36.38	48.20	13.18	2.24
CC-PTZ-217-R	6.26	637	1.15	51.17	39.96	7.18	1.70
CC-PTZ-218-R	4.30	229	2.12	5.37	70.48	20.89	3.26
CC-PTZ-219-R	14.03	167	21.9	29.51	53.71	13.83	2.95
CC-PTZ-220-R	18.87	***1,042***	23.14	60.77	32.86	5.39	0.98
CC-RCH-100-R	25.62	129	1.39	17.85	60.63	17.64	3.88
CC-RCH-101-R	34.74	128	6.23	21.56	59.08	17.86	1.49
CC-RCH-102-R	3.52	45	1.13	3.57	32.06	49.06	15.31
CC-RCH-103-R	19.03	84	0.659	24.69	60.99	12.00	2.32
CC-RCH-104-R	123.7	607	1.34	43.23	39.29	14.15	3.33
CC-RCH-105-R	28.05	157	1.01	31.41	61.51	6.16	0.92
CC-RCH-106-R	57.44	470	1.07	33.65	47.16	14.95	4.25
CC-RCH-200-R	34.20	437	1.7	29.67	42.97	24.75	2.62
CC-RCH-300-P	110.7	83	0.864	5.75	53.53	36.95	3.77
CC-RCH-301A-R	13.55	393	3.25	44.67	45.64	8.50	1.19
CC-RCH-301B-R	6.61	402	1.22	48.08	42.20	8.52	1.20
CC-RCH-305-P	26.12	104	2.08	41.37	41.73	15.06	1.84

Table 4. Total PCBs, Total Mercury, Total Organic Carbon and Particle Size Distribution Results

Sample ID	Total PCBs (µg/Kg) [1]	Total Hg (µg/Kg) [2]	TOC (%)	Particle Size Distribution			
				Gravel (%)	Sand (%)	Silt (%)	Clay (%)
CC-RCH-305-P-D	24.62	119	2.27	35.44	46.56	16.09	1.90
CC-RCH-306-R	5.78	94	1.19	22.67	60.61	15.22	1.49
CC-RCH-307-R	84.63	172	1.81	14.01	63.36	21.71	0.92
CC-RCH-308-R	47.16	144	2.91	25.93	54.60	18.21	1.27
CC-RCH-309-R	71.01	540	3.41	41.01	42.52	15.67	0.80
CC-RCH-400-R	12.66	202	2.01	49.52	40.34	8.38	1.75
CC-RCH-401-R	***6,383***	***20,600***	4.42	27.12	35.48	32.51	4.90
CC-RCH-402-R	32.94	511	3.16	40.82	43.49	14.15	1.54
CC-RCH-403-R	30.49	331	1.21	43.34	44.37	11.29	1.00
CC-RCH-404-R	132.8	136	2.4	34.46	57.99	7.55	0.00
CC-RCH-405-R	55.68	161	2.26	54.11	35.87	9.14	0.88
CC-RCH-406-R	7.59	564	0.717	22.95	50.47	20.62	5.96
CC-RCH-407-R	22.76	183	1.13	23.14	66.09	10.23	0.54
CC-RCH-700-R	16.19	207	1.26	32.94	55.53	9.97	1.56
CC-RCH-800-R	29.00	260	1.76	50.52	44.80	4.22	0.46
CC-RCH-801-R	99.49	507	0.936	60.71	29.44	8.05	1.79
CC-RCH-RRC-P	54.22	***930***	1.61	36.31	28.14	28.58	6.97
CC-RDO-700-R	16.00	95	4.51	30.20	59.41	9.10	1.28
CC-SPL-325-P	40.83	196	3.85	29.08	43.33	22.54	5.06
CC-SPL-325-P-D	21.82	216	3.9	46.51	32.96	16.95	3.58
CC-SPL-326-P	84.83	104	4.09	42.27	46.30	10.33	1.09
CC-SPL-600-P	***1,291***	149	5.2	22.29	65.10	11.71	0.89
CC-SPL-601-P	116.2	431	3.33	16.17	56.79	24.16	2.87

[1] Total PCBs values in ***Bold Italics*** exceed 500 ppb.
[2] Total Hg values in ***Bold Italics*** exceed 750 ppb.

Table 5. Comparison of PCB Test Results By Two Analytical Methods: EPA 8082A vs. EPA 1668

Sample ID	Total PCBs (µg/Kg)		Percent Increase or Decrease (%)
	EPA 8082A	EPA 1668C	
CC-ANT-500-U	251.9	467.9	86
CC-PTZ-201A-U	338.7	195.1	-42
CC-RCH-104-U	123.7	159.2	29
CC-RCH-300-U	110.7	162.5	47
CC-RCH-401-U	6,383	5,072	-21
CC-RCH-404-U	132.8	175.0	32
CC-SPL-600-U	1,291	1,631	26