APPENDIX 1
ASSESSMENT QUESTIONS AND LINKS TO WATER QUALITY PROGRAMS

The following is a summary of SPoT program elements in the context of the SWAMP Assessment Framework (Bernstein, 2010), with linkages to regulatory and resource management programs that can incorporate SPoT data. The SWAMP Assessment Framework provides guidance and context for developing question-driven monitoring to provide water quality information directly useful for resource management. The beneficial use that is assessed is aquatic life protections and the water body types that are assessed are streams that range from ephemeral creeks to large rivers. This summary states the assessment questions SPoT addresses, and lists the resource management programs to which SPoT provides essential information. Level 1 assessment questions are the highest level, as adopted by SWAMP and the California Water Quality Monitoring Council (Bernstein, 2010; page 8 and Figure 2). The Level 2 assessment questions apply to each of the two Level 1 questions.

LEVEL 1 ASSESSMENT QUESTIONS:

I. Are our aquatic ecosystems healthy?
II. What stressors and processes affect our water quality?

LEVEL 2 ASSESSMENT QUESTIONS FOR BOTH OF THE LEVEL 1 QUESTIONS STATED ABOVE:

I. Are beneficial uses impaired?

Management goal: Determine whether aquatic life beneficial uses in California streams are impaired by sediment-associated chemical pollutants.

Supports: 303(d) listing and 305(b) reporting

Monitoring strategy: Analyze pollutant concentrations and toxicity in sediments collected from targeted depositional areas in 100 large watersheds statewide. Compare toxicity results to narrative standards; compare chemical concentrations to available sediment quality guidelines and threshold effects values.

Certainty / precision: Analytical precision for chemical and toxicological measurements is high. Level of representativeness for all possible sites in the watersheds at all times of the year is moderate and being evaluated through integrated special studies.
Reference conditions: Five reference sites in large watersheds across the state.

Spatial scale: State of California. Results are interpreted on a statewide basis to allow perspective for local and regional analyses by partner programs.

Temporal scale: Surveys on an annual basis over an extended period (> 10 years) to evaluate long-term trends.

II. Are conditions getting better or worse?

Management goal: Determine the magnitude and direction of change in concentrations of sediment-associated chemical pollutants and toxicity.

Supports: Basin Planning, implementation of urban and agricultural management practices, permit reissuance, EPA Measure W.

Monitoring strategy: Survey stream sites in up to 100 large watersheds statewide annually for an extended period (> 10 years). Evaluate temporal trends at each site.

Certainty / precision: Precision is evaluated through integrated special studies that survey three to four additional sites in each of a rotating subset of selected watersheds during three seasons within each year.

Reference conditions: as described above.

Spatial and Temporal Scale: as described above.

III. What is the magnitude and extent of any problems?

Management goal: Determine the number of large California watersheds potentially impaired by sediment-associated chemical pollutants and toxicity, and the magnitude of observed impairment.
Supports: 303(d), TMDL, stormwater permit monitoring, agricultural permit/waiver monitoring

Monitoring strategy: Survey stream sites in 100 large watersheds statewide; provide statewide perspective for local and regional permit and Basin Plan monitoring. Collaborate with statewide and local programs to determine upstream extent of observed impairment.

Certainty / precision: as described above.

Reference conditions: as described above.

Spatial and Temporal Scale: as described above.

IV. What's causing the problem?

Management goal: Determine relationships between stream pollution and watershed land cover. Compare chemical concentrations to observed toxicity, known toxicity thresholds and guideline values.

Supports: 305(b), TMDL, Basin Planning, County land use planning, pesticide surface water regulations and DPR pesticide registration (especially for pyrethroids).

Monitoring strategy: Analyze geospatial and statistical correlations between in-stream pollutant concentrations/toxicity and land cover data extracted for the watersheds draining to the stream sites. Evaluate statistical relationships between measured chemicals and observed toxicity.

Certainty / precision: high (n = 92 for year 2008 correlation analyses).

Reference conditions: Data from reference sites included in correlation gradients.

Spatial and Temporal Scale: as described above.

V. Are solutions working?

Management goal: Relate changes in concentrations and toxicity of sediment-associated pollutants with implementation of water quality management programs and practices.

Supports: TMDL, management practice implementation programs, EPA Measure W, urban and agricultural regulatory programs.

Monitoring strategy: Compare changes in in-stream chemical concentrations and implementation of management strategies and practices.

Certainty / precision: Currently low, due to the limited amount and standardization of quantitative information on implementation of management practices statewide. Efforts are underway to support and standardize reporting of practices implemented, land area affected, volume of water treated, and effectiveness of treatment. It is anticipated that improvements in this area will improve precision of analyses to determine whether implemented solutions are effective.

Reference conditions: Reference sites provide data for watersheds in which solutions are less necessary and fewer new management practices will be implemented.
Spatial and Temporal Scale: as described above.

APPENDIX 2
SPoT 2009-2010 STATION INFORMATION

Station Code	Station Name	Latitude	Longitude	2008	2009	2010	Coordination
103SMHSAR	Smith River @ Sarina Road	41.91340	-124.17162	15-Oct-08	15-Sep-09	19-Oct-10	None
105KLAMKK	Klamath River @ Kamp Klamath	41.51710	-124.03896	15-Oct-08		19-Oct-10	None
109MAD101	Mad River upstream Hwy 101	40.91763	-124.08946	15-Oct-08		20-Oct-10	None
111EELFRN	Eel River @ Fernbridge	40.61129	-124.20407	15-Oct-08		20-Oct-10	None
111EELMYR	Eel River - South Fork @ Meyers Flat	40.26178	-123.88023	14-Oct-08		20-Oct-10	None
113NAVDIM	Navarro River @ Dimmick State Park	39.15911	-123.63861			20-Oct-10	None
113NAVDMC	Navarro River @ Dimmick Campground	39.15693	-123.63427	14-Oct-08			None
114LAGMIR	Laguna de Santa Rosa @ Mirabel	38.49376	-122.89191	14-Oct-08	15-Sep-09		None
114LAGWOH	Laguna de Santa Rosa @ Wohler Street	38.49254	-122.88327			21-Oct-10	None
114RRAXRV	Russian River @ Alexander RV Park	38.66143	-122.83286	14-Oct-08			None
114RRDSDM	Russian River downstream Duncan Mills	38.44750	-123.05583	14-Oct-08		21-Oct-10	None
201LAG125	Lagunitas Creek @ Coast Guard Station	38.06915	-122.79809	13-Aug-08	16-Jun-09	30-Jun-10	Regional Board
201WLK160	Walker Creek Ranch	38.17545	-122.82044	18-Jun-08		30-Jun-10	Regional Board
204ALA020	Alameda Creek east of Alvarado Blvd	37.58200	-122.05200	17-Jun-08		29-Jun-10	Region 2 MRP
204SLE030	San Leandro Creek @ Empire Road	37.72556	-122.18361	17-Jun-08		29-Jun-10	Region 2 MRP
204SMA020	San Mateo Creek @ Gateway Park	37.57028	-122.31861	18-Jun-08	16-Jun-09	30-Jun-10	Region 2 MRP
205COY060	Coyote Creek @ Montague	37.39540	-121.91485	17-Jun-08	16-Jun-09	30-Jun-10	Region 2 MRP
205GUA020	Guadalupe Creek @ USGS Gauging Station 11169025	37.37389	-121.93194	17-Jun-08		30-Jun-10	Region 2 MRP
206SON010	Sonoma Creek @ Hwy 121	38.24050	-122.45127			29-Jun-10	Region 2 MRP
207KIR020	Kirker Creek @ Floodway	38.01650	-121.83881	17-Jun-08		29-Jun-10	Region 2 MRP

Station Code	Station Name	Latitude	Longitude	2008	2009	2010	Coordination
207LAU020	Laurel Creek @ Pintail Drive	38.24830	-122.00668	17-Jun-08		29-Jun-10	Region 2 MRP
207WAL020	Walnut Creek @ Concord Ave O.C.	37.98063	-122.05160	17-Jun-08		29-Jun-10	Region 2 MRP
304SOKxxx	Soquel Creek @ Knob Hill Parking Lot	36.98014	-121.95624	21-Jul-08		02-Jul-10	Regional Board
305THUxxx	Pajaro River @ Thurwachter Road	36.87977	-121.79195	21-Jul-08	16-Jun-09	02-Jul-10	Regional Board
307CMLxxx	Carmel River @ Highway 1	36.53638	-121.91168	17-Jun-08		02-Jul-10	Regional Board
309DAVxxx	Salinas River @ Davis Road	36.64681	-121.70139	17-Jun-08	16-Jun-09	22-Jun-10	Region 3 CMP
309TDWxxx	Tembladero Slough @ Monterey Dunes Way	36.77218	-121.78660	21-Jul-08		21-Jun-10	Region 3 CMP
310ARGxxx	Arroyo Grande Creek @ 22nd Street	35.09521	-120.60625	11-Jun-08		22-Jun-10	Regional Board
310SLBxxx	San Luis Obispo Creek @ San Luis Bay Drive	35.18832	-120.71792	11-Jun-08		21-Jun-10	Regional Board
312SMAxxx	Santa Maria River above Estuary	34.96377	-120.64180	11-Jun-08	16-Jun-09	18-Aug-10	Region 3 CMP
313SAIxxx	San Antonio Creek @ San Antonio Rd West	34.78233	-120.52997	10-Jun-08		21-Jun-10	Regional Board
315ATAxxx	Atascadero Creek @ Ward Drive	34.42345	-119.81929	22-May-08		21-Jun-10	Regional Board
315MISxxx	Mission Creek @ Montecito Street	34.41304	-119.69401	10-Jun-08		22-Jun-10	Regional Board
402VRB0xx	Ventura River Bio 0	34.28173	-119.30669	19-May-08		27-May-10	SMC
403STCBQT	Bouquet Canyon Creek	34.42782	-118.54022			26-May-10	None
403STCBQU	Santa Clara River Upstream Bouquet Canyon Creek	34.42481	-118.54038	19-May-08			None
403STCEST	Santa Clara River Estuary	34.23557	-119.21674	19-May-08		27-May-10	None
403STCSSP	Sespe Creek	34.39414	-118.94096	22-May-08		26-May-10	None
404BLNAxx	Ballona Creek Downstream of Centinela	33.98600	-118.41700	20-May-08	24-Jun-09	26-May-10	SMC
405SGRA2x	San Gabriel River RA-2	33.78708	-118.09367	20-May-08		26-May-10	SMC
408CAL006	Calleguas Creek Main Stem	34.16443	-119.06255	19-May-08			SMC
408CGCS06	Calleguas Creek Below Camrosa WWTP, Site 6	34.17978	-119.04053		24-Jun-09	27-May-10	SMC
412LARWxx	Los Angeles River at Willow	33.80490	-118.20500			26-May-10	None
504BCHROS	Big Chico Creek @ Rose Ave	39.72716	-121.86308	30-Jun-08		18-Aug-10	Regional

Station Code	Station Name	Latitude	Longitude	2008	2009	2010	Coordination
504SACHMN	Sac R @ Hamilton City	39.75110	-121.99798	30-Jun-08		18-Aug-10	Regional
508SACBLF	Sacramento River @ Balls Ferry	40.41762	-122.19334	30-Jun-08		19-Aug-10	Regional
510LSAC08	Clarksburg Marina	38.38312	-121.52057	16-Jul-08		25-Aug-10	Regional
511CAC113	Cache Creek @ Hwy 113	38.72066	-121.76430	20-Aug-08		24-Aug-10	Regional
515SACKNK	Sacramento Slough @ Karnak	38.78456	-121.65439	16-Jul-08		24-Aug-10	Regional
515YBAMVL	Yuba R @ Maryville	39.13421	-121.59290	19-Aug-08	14-Sep-09	24-Aug-10	Regional
519AMNDVY	American R @ Discovery Park	38.60094	-121.50550	16-Jul-08	14-Sep-09	25-Aug-10	Regional
519BERBRY	Bear River @ Berry Rd.	38.96175	-121.54677	19-Aug-08		24-Aug-10	Regional
519FTRNCS	Feather River @ Nicolaus	38.89746	-121.59050	19-Aug-08		24-Aug-10	Regional
520BUTEMR	Butte Slough @ Meridian	39.17007	-121.90046	19-Aug-08			Regional
520BUTPAS	Butte Slough upstream of Pass Road	39.18786	-121.90919			24-Aug-10	Regional
520CBDKLD	Colusa Basin Drain @ Knights Landing	38.80003	-121.72423	20-Aug-08		24-Aug-10	Regional
520SACLSA	Sacramento River at Colusa near Bridge Street	39.21415	-122.00031	19-Aug-08		24-Aug-10	Regional
526PRFALR	Pit River at Cassel-Fall River Road	40.99795	-121.43507	30-Jun-08		19-Aug-10	Regional Board
531SAC001	Cosumnes River at Twin Cities Road	38.29083	-121.37583	22-Jul-08		01-Sep-10	Regional Board
532AMA002	Sutter Creek @ Hwy 49	38.39250	-120.80139			01-Sep-10	Regional Board
532CAL004	Mokelumne River @ Hwy 49	38.31250	-120.72083	22-Jul-08			None
535MER007	Bear Creek near Bert Crane Road	37.25556	-120.65194	23-Jul-08		01-Sep-10	Region 5 ILP
535MER546	Merced River @ River Road	37.34972	-120.95778	23-Jul-08		01-Sep-10	Region 5 ILP
535STC206	Dry Creek @ La Loma Rd.	37.64568	-120.98081	22-Jul-08		01-Sep-10	Region 5 ILP
535STC210	Tuolumne River @ Old LaGrange Bridge	37.66667	-120.46667	22-Jul-08		01-Sep-10	Regional
535STC501	TID 5 Harding Drain @ Carpenter Road	37.46444	-121.03028		15-May-09	08-Jul-10	None
535STC504	SJR @ Crows Landing	37.43323	-121.01597	16-Jul-08		01-Sep-10	Regional Board
541MERECY	Marsh Creek @ East Cypress Crossing	37.99107	-121.69626			08-Jul-10	None

Station Code	Station Name	Latitude	Longitude	2008	2009	2010	Coordination
541MER522	San Joaquin River @ Lander Avenue	37.29528	-120.85028	16-Jul-08		01-Sep-10	Region 5 ILP
541MER531	Salt Slough @ Lander Avenue	37.24861	-120.85111	23-Jul-08			Region 5 ILP
541MER542	Mud Slough downstream of San Luis Drain	37.26389	-120.90611	23-Jul-08		08-Jul-10	Regional Board
541SJC501	San Joaquin River @ Airport Way near Vernalis	37.67556	-121.26417	16-Jul-08		01-Sep-10	Regional Board
541STC019	Orestimba Creek @ River Road	37.41389	-121.01417	22-Jul-08		08-Jul-10	Region 5 ILP
541STC516	Del Puerto Creek @ Vineyard Avenue	37.52139	-121.14861			08-Jul-10	None
544SAC002	Mokelumne River @ New Hope Road	38.23611	-121.41889			01-Sep-10	None
551LKI040	Kings River - South Fork	36.25580	-119.85510	29-Apr-08		23-Sep-10	Regional Board
554SKR010	South Fork Kern River @ Fay Ranch Road	35.67240	-118.28996	28-Apr-08		11-Aug-10	None
558CCR010	Cross Creek - Rd. 60 and Hwy 99	36.40437	-119.45697	29-Apr-08		22-Sep-10	Regional Board
558PKC005	Packwood Creek in pond upstream of Road 94	36.27894	-119.35971		05-Jun-09	22-Sep-10	Regional Board
558PKC010	Packwood Creek	36.26900	-119.42110	29-Apr-08			Regional Board
558TUR090	Tule River @ Road 64	36.08837	-119.42891	29-Apr-08		23-Sep-10	Regional Board
603BSP002	Bishop Creek @ East Line St	37.36156	-118.38606	17-Sep-08		06-Oct-10	None
603LOWSED	Lower Owens River near mouth	36.54980	-117.98175	17-Sep-08		07-Oct-10	None
628DEPSED	Deep Creek above Warm Springs	34.34205	-117.17413			12-Aug-10	None
631WWK008	West Walker River @ Topaz	38.54679	-119.49494	23-Sep-08		06-Oct-10	Regional Board
633WCRSED	West Fork Carson River @ Paynesville	38.80885	-119.77725	22-Sep-08		06-Oct-10	None
634UTRSED	Upper Truckee River near inlet to Lake Tahoe	38.93439	-120.00035	22-Sep-08		06-Oct-10	Other
635MARSED	Martis Creek near mouth	39.30211	-120.12135	22-Sep-08		06-Oct-10	None
635TRKSED	Lower Truckee River near CA/NV state line	39.46477	-120.00320			06-Oct-10	None
635TRKSD1	Lower Truckee River upstream of CA/NV line	39.42258	-120.03399	22-Sep-08			None
635TROSED	Trout Creek (Truckee) near mouth	39.33040	-120.16850	22-Sep-08		05-Oct-10	None
637SUS001	Susan River near Litchfield	40.37771	-120.39514	22-Sep-08	14-Sep-09	19-Aug-10	Regional Board

Station Code	Station Name	Latitude	Longitude	2008	2009	2010	Coordination
719CVSCOT	Coachella Valley Stormwater Channel Outlet	33.52444	-116.07778	29-Oct-08	20-Oct-09		Regional Board
723ARGRB1	Alamo River Outlet	33.19920	-115.59710	28-Oct-08	19-Oct-09	06-Oct-10	Regional Board
723NROTWM	New River Outlet	33.10472	-115.66361	28-Oct-08	19-Oct-09	06-Oct-10	Regional Board
801CCPT12	Chino Creek (San Antonio Ck) @ Euclid/Hwy 83	33.94016	-117.65427			25-May-10	None
801SARVRx	Santa Ana River @ Prado Basin Park Rd	33.92927	-117.59532	04-Jun-08		25-May-10	SMC
801SDCxxx	San Diego Creek @ Campus	33.65556	-117.84472	20-May-08	24-Jun-09	26-May-10	SMC
802SJCREF	San Jacinto River - Reference Site	33.73700	-116.82630	04-Jun-08	24-Jun-09	25-May-10	USGS NAWQA
802SJRGxx	San Jacinto River @ Goetz/ TMDL site	33.75110	-117.22400	03-Jun-08			SMC
845SGRDRE	Drainage East of San Gabriel River @ Hwy 22	33.77401	-118.09489	20-May-08			SMC
901SJSJC9	San Juan Creek 9	33.48443	-117.67577	21-May-08		24-May-10	None
902SSMR07	Santa Margarita @ Basilone Rd	33.31117	-117.34538	21-May-08	23-Jun-09	24-May-10	None
904CBAHC6	Agua Hedionda Creek 6	33.14887	-117.29758	21-May-08			None
904ESCOxx	Escondido Creek @ Camino del Norte	33.04829	-117.22602	21-May-08	23-Jun-09	24-May-10	SMC
905SDSDQ9	San Dieguito River 9	32.97877	-117.23506			24-May-10	None
906LPLPC6	Los Penasquitos Creek 6	32.90588	-117.22703			25-May-10	None
906LPSOL4	Soledad Canyon Creek 4	32.90248	-117.22564	21-May-08			None
907SDFRC2	Forrester Creek 2	32.83945	-117.00107	21-May-08			None
907SDRWAR	San Diego River @ Ward Road	32.78032	-117.11046		23-Jun-09	25-May-10	None
911TJHRxx	Tijuana River @ Hollister Rd	32.55142	-117.08394	22-May-08		25-May-10	SMC

APPENDIX 3
QUALITY ASSURANCE INFORMATION

QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)

The data generated for this section were evaluated in the Statewide Stream Pollution Trends (SPoT) report and will be used to determine stream pollution trends for California. Thorough objectives for achieving quality data are outlined in the SWAMP Quality Assurance Program Plan (SWAMP, 2008). In general, data quality is demonstrated through analysis of the following quality control (QC) samples:

- Laboratory method blanks;
- Surrogate spikes;
- Matrix spikes (MSs) and matrix spike duplicates (MSDs);
- Certified reference materials (CRMs)/laboratory control spikes (LCSs);
- Laboratory duplicates (DUP)

Data for Project IDs SWB_SPoT_2009, SWB_SPoT_Pilot_2010, and SWB_SPoT_2010 have been verified according to SWAMP Standard Operating Procedures (SOPs) for chemistry and toxicity data verification. The data verification process determines whether the data are compliant with the individual measurement quality objectives (MQOs) specified in the SWAMP QAPrP. The counts in the following sections represent metal, mercury, selenium, total phosphorus as P, total organic carbon, grain size, organochlorine pesticide, organophosphate pesticide, pyrethroid pesticide, polybrominated diphenyl ether, polychlorinated biphenyl as congener (PCB), and aroclor, and *Hyalella azteca* toxicity test results from SPoT. Data were classified into one of the following classification levels:

Compliant

Data classified as "compliant" meet or exceed all of the MQOs and other data quality requirements specified in the SWAMP QAPrP. These data are considered usable for their intended purpose without additional scrutiny.

Qualified

Data classified as "qualified" do not meet one or more of the MQOs and other data quality requirements specified in the SWAMP QAPrP. These data are considered usable for its intended purpose following an additional assessment to determine the scope and impact of the quality control failure.

Estimated

Data classified as "estimated" are assigned to data batches and sample results that are not considered to be quantifiable. Included in this classification are results qualified with the flags J–Estimated value (EPA Flag).

Screening

Data classified as "screening" are considered non-quantitative and marked as screening and may or may not meet the minimum data quality requirements specified in the SWAMP QAPrP. These data may not be usable for its intended purpose and requires additional assessment

Rejected

Data classified as "rejected" do not meet the minimum data quality requirements specified in the SWAMP QAPrP. These data are not considered usable for its intended purpose.

Not applicable

Data classified as "not applicable" refers to data that were not verified since there were no SWAMP method quality objectives or QC requirements for the specific parameter, or a failure result was reported and could not be verified.

No data have been validated. This section does not attempt to determine whether or not data should be used. Decisions regarding data use can only be made after data validation and comparison to project-specific data quality objectives (DQOs) is performed.

SWAMP criteria for percent recovery (%R) of surrogates, matrix spikes, certified reference materials and relative percent difference (RPD) for field and laboratory duplicates for sediments are presented in Table A3.1.

LABORATORY METHOD BLANKS

Laboratory method blanks are used to evaluate laboratory contamination during sample preparation and analysis. Blank samples undergo the same analytical procedure as samples with at least one blank analyzed per 20 samples. The required frequency was met for all 91 batches with the exception of one TOC batch. These data were classified as qualified.

Data that met the MQO for method blanks are those with values less than the reporting limit (RL) for that particular analyte within each analytical batch. All 168 laboratory method blanks (including one metals filter blank) met the MQO, with the exception of one method blank in batches BBLabs_ ENV2498_S_PAH and WPCL_L-654-727-10_BS625_S_OCH. Ten PAH analytes and one dieldrin were detected above the RL in the method blanks and were classified as "qualified" with regard to the SWAMP QAPrP MQO for laboratory blanks (Table A3.2).

SURROGATE SPIKES

Surrogate spikes are used to assess analyte losses during sample extraction and clean-up procedures, and must be added to every field and quality control sample prior to extraction. Whenever possible, isotopically-labeled analogs of the analytes should be used.

All field samples and QC were spiked with surrogates as required with the exception of sample 906LPLPC6 in batches IIRMES_TO-01-029_S_OCH, IIRMES_TO-01-029_S_PAH, and IIRMES_TO-01-029_S_PCB. Surrogates were not added to the sample analyzed for organochlorine pesticides, polynuclear aromatic hydrocarbons, and polychlorinated biphenyls. All associated analytes in the field sample were classified as qualified with regard to the SWAMP QAPrP MQO for surrogates (Table A3.3).

All surrogate percent recoveries were within the acceptance criteria listed in Table A3.1, with the exception of surrogates spiked in samples analyzed for PAHs, PCBs and organochlorine pesticides (Table A3.4). The associated analytes in these samples were classified as qualified with regard to the SWAMP QAPrP MQO for surrogates.

MATRIX SPIKES AND MATRIX SPIKE DUPLICATES

A laboratory-fortified sample matrix (matrix spike, or MS) and a laboratory fortified sample matrix duplicate (MSD) are both used to evaluate the effect of the sample matrix on the recovery of the target analyte(s). Individually, these samples are used to assess the bias from an environmental sample matrix plus normal method performance. In addition, these duplicate samples can be used collectively to assess analytical precision.

Aliquots of randomly selected field samples were spiked with known amounts of target analytes. The %R of each spike was calculated as follows:

$$\%R = (\text{MS Result} - \text{Sample Result}) / (\text{Expected Value} - \text{Sample Result}) * 100$$

The %R acceptance criteria vary according to analyte groups (Table A3.1).

This process was repeated on the same native samples to create a laboratory fortified MSDs. MSDs were used to assess laboratory precision and accuracy. MS/MSD RPDs were calculated as:

$$RPD = (|(Value1 - Value2)|/(AVERAGE(Value1 + Value2))) * 100$$

where:

Value1 = matrix spike value, and Value2 = matrix spike duplicate value.

According to the SWAMP QAPrP, for conventional, organic and inorganic analyses, at least one MS/MSD pair should be performed per 20 samples or one per batch, whichever is more frequent. All batches met

the frequency with the exception of one batch for pyrethroid pesticides. T his batch was classified as qualified (Table A3.5).

Laboratory batches with MS/MSD %R and RPD values outside of acceptance criteria were either classified as compliant or qualified based on number of QC elements outside criteria. These are presented in Table A3.6. All other MS/MSD %Rs and RPDs were within acceptance criteria.

CERTIFIED REFERENCE MATERIALS AND LABORATORY CONTROL SAMPLES

Certified reference materials (CRMs) and laboratory control samples (LCSs) are analyzed to assess the accuracy of a given analytical method. As required by the SWAMP QAPrP, one CRM or LCS should be analyzed per 20 samples or one per batch, whichever is more frequent. All batches met the frequency with the exception of 23 batches analyzed for various pesticides, PAHs, and PCBs. These batches were classified as qualified (Table A3.7).

Laboratory batches with CRM or LCS %R or RPD values outside of acceptance criteria were either classified as compliant or qualified based on number of QC elements outside criteria. These are presented in Table A3.8. All other CRM and LCS %Rs and RPDs were within acceptance criteria.

LABORATORY DUPLICATES

Laboratory duplicates (DUPs) were analyzed to assess laboratory precision. As required by the SWAMP QAPrP a duplicate of at least one field sample per batch was processed and analyzed. Ten percent of the batches (9 out of 84 total batches) did not include DUPs performed at the required frequency. These included eight total phosphorus batches and one grain size batch, and were classified as qualified (Table A3.9).

The duplicates were compared and an RPD was calculated as described in Section 3.3. RPDs $< 25\%$ were considered acceptable as specified in the QAPrP. All RPDs $> 25\%$ were classified as qualified and are presented in Table A3.10.

FIELD DUPLICATES

Field duplicates are analyzed to assess field homogeneity and field sampling procedures. Field duplicates were sampled at 904ESCOxx in June 2009 and May 2010, 207LAU020 in June 2010, 504BCHRIV in August 2010, 633WCRSED and 103SMHSAR in October 2010, 558PKC001 in January 2011 and 551LKI041 in February 2011. Sediment duplicates were obtained from homogenized field samples.

Field duplicate values were compared to field sample values from each site and RPDs were calculated as described in Section 3.3. RPDs < 25% were considered acceptable as specified in the QAPrP. RPDs > 25% are presented in Table A3.11. All other RPDs were acceptable.

TOXICITY TESTS

All *Hyalella azteca* data were classified as compliant with regard to the SWAMP QAPrP MQO for toxicity tests.

HOLDING TIMES

Five percent of the results (1,778 out of 38,172 total results) were outside the SWAMP QAPrP MQOs for holding times (Table A3.12). Of the 1,778 results, 26 TOC results were classified as estimated since the holding time was exceeded by more than two times and 1752 metal, grain size and PCB results were classified as qualified due holding time exceedances. Sediment metal samples exceeded the 1-year holding time criteria until analysis. Sediment TOC and grain size exceeded the 28 day holding time criteria until analysis. Sediment pyrethroid and PCB samples exceeded the 1-year holding time criteria until extraction. Although data were classified as estimated and qualified it was considered usable for the intended purposes for this report.

QA/QC SUMMARY

There were 38,172 sample results, including; field observations, integrated samples, and field duplicates and laboratory QA/QC samples. Of these:

- 22,644 (59%) were classified as "compliant"
- 14,810 (39%) were classified as "qualified"
- 26 (0.06%) were classified as "estimated"
- 248 (1%) were classified as "screening"
- 0 (0%) were classified as "rejected"; and
- 444 (1%) were classified as "NA", since the field observation results were not verified and results were not reported by the laboratory due to matrix interferences or laboratory error (sample was lost) and could not be verified.

Classification of this dataset is summarized as follows:

- All data presented in Table A3.2 were classified as qualified due to analytes detected at or above the RL in the laboratory blanks.
- All data presented in Tables A3.3, A3.5, A3.7, and A3.9, and 10 was classified as qualified due to insufficient QC samples performed.
- All data presented in Table A3.6 were classified as qualified due to surrogate recovery exceedances.

- All data presented in Tables A3.8, A3.10, A3.11 were classified as qualified due to RPD exceedances.
- Results for samples presented in Table A3.12 were classified as qualified or estimated due to holding time exceedances.
- 407 screening level results (PAH analytes that could not be quantified or PCB aroclors) were classified as qualified.

Data that meet all SWAMP MQOs as specified in the QAPrP are classified as "SWAMP-compliant" and considered usable without further evaluation. Data that fail to meet all program MQOs specified in the SWAMP QAPrP, have analytes not covered in the SWAMP QAPrP, or are insufficiently documented such that supplementary information is required for them to be used in reports are classified as "qualified" non-compliant with the SWAMP QAPrP. No data were classified as rejected for this project. During the data quality assessment (DQA) phase of reporting, end users may find qualified data batches meet project data quality objectives. A 100% completeness level was attained which met the 90% project completeness goal specified in the SWAMP QAPrP.

Table A3-1
Percent recovery (%R) and relative percent difference (RPD) acceptance criteria for different categories of analytes in water and sediment

Analyte Category	% Surrogate Recovery Acceptance Criteria	% MS/MSD Recovery Acceptance Criteria	% CRM & LCS Acceptance Criteria	RPD Criteria (MS/MSD, Laboratory Duplicate, Field Duplicate)
Conventional Constituents	NA	80-120	80-120	25
Trace Metals (Including Mercury)	NA	75-125	75-125	25
Organics (PCBs, OCHs, OPs)	50-150	50-150	50-150	25

Table A3-2
Laboratory method blanks in which analytes were detected above the RL.

Analyte	Result	Res Qual	MDL	RL	Analysis Date	Method Name	Lab	Batch ID
Biphenyl; Total; ng/g dw	0.29	=	0.150	0.150	23-Feb-11	EPA 8270M	BBL	BBLabs_ENV2498_S_PAH
Naphthalenes, C2-; Total; ng/g dw	0.52	=	0.350	0.350	23-Feb-11	EPA 8270M	BBL	BBLabs_ENV2498_S_PAH
Chrysene/ Triphenylene; Total; ng/g dw	0.49	=	0.170	0.170	23-Feb-11	EPA 8270M	BBL	BBLabs_ENV2498_S_PAH
Benz(a)anthracene; Total; ng/g dw	0.29	=	0.130	0.130	23-Feb-11	EPA 8270M	BBL	BBLabs_ENV2498_S_PAH
Methylnaphthalene, 2-; Total; ng/g dw	0.26	=	0.200	0.200	23-Feb-11	EPA 8270M	BBL	BBLabs_ENV2498_S_PAH
Naphthalene; Total; ng/g dw	0.32	=	0.170	0.170	23-Feb-11	EPA 8270M	BBL	BBLabs_ENV2498_S_PAH
Naphthalenes, C3-; Total; ng/g dw	1.03	=	0.350	0.350	23-Feb-11	EPA 8270M	BBL	BBLabs_ENV2498_S_PAH
Dimethylnaphthalene, 2,6-; Total; ng/g dw	0.25	=	0.200	0.200	23-Feb-11	EPA 8270M	BBL	BBLabs_ENV2498_S_PAH
Phenanthrene; Total; ng/g dw	0.16	=	0.150	0.150	23-Feb-11	EPA 8270M	BBL	BBLabs_ENV2498_S_PAH
Dieldrin; Total; ng/g dw	0.934	=	0.604	0.699	24-Feb-11	EPA 8081BM	DFW-WPCL	WPCL_L-654-727-10_BS625_S_OCH

Table A3-3
Laboratory batches in which surrogates were not spiked.

Surrogate	Batch ID	Notes	Laboratory
Tetrachloro-m-xylene(Surrogate); Total; % recovery	IIRMES_TO-01-029_S_OCH	no surrogate spiked in sample 906LPLPC6	CSULB-IIRMES
Naphthalene-d8(Surrogate); Total; % recovery	IIRMES_TO-01-029_S_PAH	no surrogate spiked in sample 906LPLPC6	CSULB-IIRMES
Chrysene-d12(Surrogate); Total; % recovery	IIRMES_TO-01-029_S_PAH	no surrogate spiked in sample 906LPLPC6	CSULB-IIRMES
Phenanthrene-d10(Surrogate); Total; % recovery	IIRMES_TO-01-029_S_PAH	no surrogate spiked in sample 906LPLPC6	CSULB-IIRMES
Acenaphthene-d10(Surrogate); Total; % recovery	IIRMES_TO-01-029_S_PAH	no surrogate spiked in sample 906LPLPC6	CSULB-IIRMES
Perylene-d12(Surrogate); Total; % recovery	IIRMES_TO-01-029_S_PAH	no surrogate spiked in sample 906LPLPC6	CSULB-IIRMES
PCB 198(Surrogate); Total; % recovery	IIRMES_TO-01-029_S_PCB	no surrogate spiked in sample 906LPLPC6	CSULB-IIRMES
PCB 030(Surrogate); Total; % recovery	IIRMES_TO-01-029_S_PCB	no surrogate spiked in sample 906LPLPC6	CSULB-IIRMES
PCB 112(Surrogate); Total; % recovery	IIRMES_TO-01-029_S_PCB	no surrogate spiked in sample 906LPLPC6	CSULB-IIRMES

Table A3-4
Surrogate recoveries that met quality control acceptance criteria.

Surrogate	Station Code	Sample Type	Batch ID	% Recovery	Laboratory
Tetrachloro-m-xylene(Surrogate); Total; % recovery	412LARWxx	Integrated	IIRMES_TO-01-029_S_OCH	43	CSULB-IIRMES
Tetrachloro-m-xylene(Surrogate); Total; % recovery	802SJCREF	Integrated	IIRMES_TO-01-029_S_OCH	36	CSULB-IIRMES
Naphthalene-d8(Surrogate); Total; % recovery	404BLNAxx	Integrated	IIRMES_TO-01-029_S_PAH	38	CSULB-IIRMES
Acenaphthene-d10(Surrogate); Total; % recovery	405SGRA2x	Integrated	IIRMES_TO-01-029_S_PAH	25	CSULB-IIRMES
Naphthalene-d8(Surrogate); Total; % recovery	405SGRA2x	Integrated	IIRMES_TO-01-029_S_PAH	19	CSULB-IIRMES
Acenaphthene-d10(Surrogate); Total; % recovery	412LARWxx	Integrated	IIRMES_TO-01-029_S_PAH	35	CSULB-IIRMES
Naphthalene-d8(Surrogate); Total; % recovery	412LARWxx	Integrated	IIRMES_TO-01-029_S_PAH	4	CSULB-IIRMES
Naphthalene-d8(Surrogate); Total; % recovery	801SARVRx	Integrated	IIRMES_TO-01-029_S_PAH	22	CSULB-IIRMES
Naphthalene-d8(Surrogate); Total; % recovery	905SDSDQ9	MS1	IIRMES_TO-01-029_S_PAH	17	CSULB-IIRMES
Naphthalene-d8(Surrogate); Total; % recovery	905SDSDQ9	MS1	IIRMES_TO-01-029_S_PAH	38	CSULB-IIRMES
Naphthalene-d8(Surrogate); Total; % recovery	LABQA	LabBlank	IIRMES_TO-01-029_S_PAH	48	CSULB-IIRMES
Chrysene-d12(Surrogate); Total; % recovery	310SLBxxx	Integrated	IIRMES_TO-01-073_S_PAH	43	CSULB-IIRMES
Naphthalene-d8(Surrogate); Total; % recovery	310SLBxxx	Integrated	IIRMES_TO-01-073_S_PAH	42	CSULB-IIRMES
Chrysene-d12(Surrogate); Total; % recovery	313SAIxxx	Integrated	IIRMES_TO-01-073_S_PAH	48	CSULB-IIRMES
Chrysene-d12(Surrogate); Total; % recovery	541MER542	Integrated	IIRMES_TO-01-073_S_PAH	47	CSULB-IIRMES
Naphthalene-d8(Surrogate); Total; % recovery	541MER542	Integrated	IIRMES_TO-01-073_S_PAH	0	CSULB-IIRMES
Chrysene-d12(Surrogate); Total; % recovery	541MERECY	Integrated	IIRMES_TO-01-073_S_PAH	41	CSULB-IIRMES
Naphthalene-d8(Surrogate); Total; % recovery	541MERECY	Integrated	IIRMES_TO-01-073_S_PAH	31	CSULB-IIRMES
Chrysene-d12(Surrogate); Total; % recovery	541STC019	Integrated	IIRMES_TO-01-073_S_PAH	43	CSULB-IIRMES
Naphthalene-d8(Surrogate); Total; % recovery	541STC019	Integrated	IIRMES_TO-01-073_S_PAH	3	CSULB-IIRMES
Chrysene-d12(Surrogate); Total; % recovery	541STC516	Integrated	IIRMES_TO-01-073_S_PAH	46	CSULB-IIRMES

Surrogate	Station Code	Sample Type	Batch ID	% Recovery	Laboratory
Chrysene-d12(Surrogate); Total; % recovery	558PKC005	Integrated	IIRMES_TO-01-073_S_PAH	44	CSULB-IIRMES
Chrysene-d12(Surrogate); Total; % recovery	558PKC010	MS1	IIRMES_TO-01-073_S_PAH	49	CSULB-IIRMES
Perylene-d12(Surrogate); Total; % recovery	LABQA	LabBlank	IIRMES_TO-01-073_S_PAH	32	CSULB-IIRMES
Naphthalene-d8(Surrogate); Total; % recovery	204SLE030	Integrated	IIRMES_TO-01-075_S_PAH	49	CSULB-IIRMES
Naphthalene-d8(Surrogate); Total; % recovery	207LAU020	Integrated	IIRMES_TO-01-075_S_PAH	45	CSULB-IIRMES
Naphthalene-d8(Surrogate); Total; % recovery	305THUxxx	Integrated	IIRMES_TO-01-075_S_PAH	46	CSULB-IIRMES
Naphthalene-d8(Surrogate); Total; % recovery	309DAVxxx	Integrated	IIRMES_TO-01-075_S_PAH	29	CSULB-IIRMES
Acenaphthene-d10(Surrogate); Total; % recovery	LABQA	LabBlank	IIRMES_TO-01-075_S_PAH	33	CSULB-IIRMES
Naphthalene-d8(Surrogate); Total; % recovery	LABQA	LabBlank	IIRMES_TO-01-075_S_PAH	0	CSULB-IIRMES
Perylene-d12(Surrogate); Total; % recovery	LABQA	LabBlank	IIRMES_TO-01-075_S_PAH	48	CSULB-IIRMES
Tetrachloro-m-xylene(Surrogate); Total; % recovery	LABQA	LabBlank	IIRMES_TO-01-117_S_OCH	22	CSULB-IIRMES
Acenaphthene-d10(Surrogate); Total; % recovery	LABQA	LabBlank	IIRMES_TO-01-117_S_PAH	1	CSULB-IIRMES
Chrysene-d12(Surrogate); Total; % recovery	LABQA	LabBlank	IIRMES_TO-01-117_S_PAH	26	CSULB-IIRMES
Naphthalene-d8(Surrogate); Total; % recovery	LABQA	LabBlank	IIRMES_TO-01-117_S_PAH	0	CSULB-IIRMES
Perylene-d12(Surrogate); Total; % recovery	LABQA	LabBlank	IIRMES_TO-01-117_S_PAH	19	CSULB-IIRMES
Phenanthrene-d10(Surrogate); Total; % recovery	LABQA	LabBlank	IIRMES_TO-01-117_S_PAH	23	CSULB-IIRMES
Acenaphthene-d10(Surrogate); Total; % recovery	111EELMYR	MS1	IIRMES_TO-01-123_S_PAH	46	CSULB-IIRMES
Acenaphthene-d10(Surrogate); Total; % recovery	111EELMYR	MS1	IIRMES_TO-01-123_S_PAH	48	CSULB-IIRMES
Naphthalene-d8(Surrogate); Total; % recovery	111EELMYR	MS1	IIRMES_TO-01-123_S_PAH	49	CSULB-IIRMES
Naphthalene-d8(Surrogate); Total; % recovery	111EELMYR	MS1	IIRMES_TO-01-123_S_PAH	36	CSULB-IIRMES
Perylene-d12(Surrogate); Total; % recovery	LABQA	LabBlank	IIRMES_TO-01-123_S_PAH	0	CSULB-IIRMES
PCB 030(Surrogate); Total; % recovery	114LAGWOH	Integrated	IIRMES_TO-01-123_S_PCB	34	CSULB-IIRMES
Perylene-d12(Surrogate); Total; % recovery	LABQA	LabBlank	IIRMES_TO-01-125_S_PAH	31	CSULB-IIRMES
DBCE(Surrogate); Total; % recovery	103SMHSAR	MS1	WPCL_L-024-717-09_BS569_S_OCH	41.8	CSULB-IIRMES

Surrogate	Station Code	Sample Type	Batch ID	% Recovery	Laboratory
Tetrachloro-m-xylene(Surrogate); Total; % recovery	412LARWxx	Integrated	IIRMES_TO-01-029_S_OCH	43	CSULB-IIRMES
Tetrachloro-m-xylene(Surrogate); Total; % recovery	802SJCREF	Integrated	IIRMES_TO-01-029_S_OCH	36	CSULB-IIRMES
Naphthalene-d8(Surrogate); Total; % recovery	404BLNAxx	Integrated	IIRMES_TO-01-029_S_PAH	38	CSULB-IIRMES
Acenaphthene-d10(Surrogate); Total; % recovery	405SGRA2x	Integrated	IIRMES_TO-01-029_S_PAH	25	CSULB-IIRMES
Naphthalene-d8(Surrogate); Total; % recovery	405SGRA2x	Integrated	IIRMES_TO-01-029_S_PAH	19	CSULB-IIRMES
Acenaphthene-d10(Surrogate); Total; % recovery	412LARWxx	Integrated	IIRMES_TO-01-029_S_PAH	35	CSULB-IIRMES
Naphthalene-d8(Surrogate); Total; % recovery	412LARWxx	Integrated	IIRMES_TO-01-029_S_PAH	4	CSULB-IIRMES
Naphthalene-d8(Surrogate); Total; % recovery	801SARVRx	Integrated	IIRMES_TO-01-029_S_PAH	22	CSULB-IIRMES
Naphthalene-d8(Surrogate); Total; % recovery	905SDSDQ9	MS1	IIRMES_TO-01-029_S_PAH	17	CSULB-IIRMES
Perylene-d12(Surrogate); Total; % recovery	LABQA	LabBlank	IIRMES_TO-01-123_S_PAH	0	CSULB-IIRMES
PCB 030(Surrogate); Total; % recovery	114LAGWOH	Integrated	IIRMES_TO-01-123_S_PCB	34	CSULB-IIRMES
Perylene-d12(Surrogate); Total; % recovery	LABQA	LabBlank	IIRMES_TO-01-125_S_PAH	31	CSULB-IIRMES
DBCE(Surrogate); Total; % recovery	103SMHSAR	MS1	WPCL_L-024-717-09_BS569_S_OCH	41.8	CSULB-IIRMES

Table A3-5
Batches for which matrix spikes (MS) or matrix spike duplicates (MSD) were not run.

Analyte	Batch ID	Notes	Laboratory
Pyrethroid pesticides	WPCL_L-333-11_S_PYD	QAO: no MS/MSD	DFW-WPCL

Table A3-6
Matrix spikes (MS), matrix spike duplicates (MSD), percent recoveries (%R), and relative percent differences (RPD) that did not meet quality control acceptance criteria. Boldface type indicates values that did not meet the quality control objective.

Analyte	Station Code	Sample Date	Lab Batch ID	MS %R	MSD %R	RPD	Lab
Disulfoton; Total; ng/g dw	905SDSDQ9	24-May-10	**20**	**21**	5	IIRMES_TO-01-029_S_OP	CSULB-IIRMES
Phorate; Total; ng/g dw	905SDSDQ9	24-May-10	**43**	**39**	8	IIRMES_TO-01-029_S_OP	
Acenaphthene; Total; ng/g dw	905SDSDQ9	24-May-10	61	85	**33**	IIRMES_TO-01-029_S_PAH	
Acenaphthylene; Total; ng/g dw	905SDSDQ9	24-May-10	**41**	68	**50**	IIRMES_TO-01-029_S_PAH	
Anthracene; Total; ng/g dw	905SDSDQ9	24-May-10	60	78	**27**	IIRMES_TO-01-029_S_PAH	
Benzo(a)pyrene; Total; ng/g dw	905SDSDQ9	24-May-10	59	86	**37**	IIRMES_TO-01-029_S_PAH	
Biphenyl; Total; ng/g dw	905SDSDQ9	24-May-10	**40**	56	**34**	IIRMES_TO-01-029_S_PAH	
Dibenz(a,h)anthracene; Total; ng/g dw	905SDSDQ9	24-May-10	78	103	**28**	IIRMES_TO-01-029_S_PAH	
Dibenzothiophene; Total; ng/g dw	905SDSDQ9	24-May-10	80	107	**29**	IIRMES_TO-01-029_S_PAH	
Dimethylnaphthalene, 2,6-; Total; ng/g dw	905SDSDQ9	24-May-10	**45**	67	**40**	IIRMES_TO-01-029_S_PAH	
Fluoranthene; Total; ng/g dw	905SDSDQ9	24-May-10	94	124	**27**	IIRMES_TO-01-029_S_PAH	
Methylnaphthalene, 1-; Total; ng/g dw	905SDSDQ9	24-May-10	41	57	**32**	IIRMES_TO-01-029_S_PAH	
Methylnaphthalene, 2-; Total; ng/g dw	905SDSDQ9	24-May-10	**31**	**46**	**39**	IIRMES_TO-01-029_S_PAH	
Naphthalene; Total; ng/g dw	905SDSDQ9	24-May-10	**28**	**43**	**41**	IIRMES_TO-01-029_S_PAH	
Perylene; Total; ng/g dw	905SDSDQ9	24-May-10	61	79	**26**	IIRMES_TO-01-029_S_PAH	
Phenanthrene; Total; ng/g dw	905SDSDQ9	24-May-10	94	121	**26**	IIRMES_TO-01-029_S_PAH	
Pyrene; Total; ng/g dw	905SDSDQ9	24-May-10	97	126	**26**	IIRMES_TO-01-029_S_PAH	
Trimethylnaphthalene, 2,3,5-; Total; ng/g dw	905SDSDQ9	24-May-10	71	96	**30**	IIRMES_TO-01-029_S_PAH	
DDT(p,p'); Total; ng/g dw	558PKC010	23-Sep-10	**31**	79	**32**	IIRMES_TO-01-073_S_OCH	

Analyte	Station Code	Sample Date	Lab Batch ID	MS %R	MSD %R	RPD	Lab
Methoxychlor; Total; ng/g dw	558PKC010	23-Sep-10	**25**	**25**	0	IIRMES_TO-01-073_S_OCH	CSULB-IIRMES
Chlorpyrifos; Total; ng/g dw	558PKC010	23-Sep-10	71	**46**	**41**	IIRMES_TO-01-073_S_OP	
Demeton-s; Total; ng/g dw	558PKC010	23-Sep-10	**30**	**41**	**31**	IIRMES_TO-01-073_S_OP	
Disulfoton; Total; ng/g dw	558PKC010	23-Sep-10	**16**	**18**	10	IIRMES_TO-01-073_S_OP	
Parathion, Methyl; Total; ng/g dw	558PKC010	23-Sep-10	84	63	**28**	IIRMES_TO-01-073_S_OP	
Phorate; Total; ng/g dw	558PKC010	23-Sep-10	**10**	**12**	22	IIRMES_TO-01-073_S_OP	
Anthracene; Total; ng/g dw	558PKC010	23-Sep-10	**39**	**40**	1	IIRMES_TO-01-073_S_PAH	
Biphenyl; Total; ng/g dw	558PKC010	23-Sep-10	**46**			IIRMES_TO-01-073_S_PAH	
Dimethylnaphthalene, 2,6-; Total; ng/g dw	558PKC010	23-Sep-10	**49**			IIRMES_TO-01-073_S_PAH	
Methylnaphthalene, 2-; Total; ng/g dw	558PKC010	23-Sep-10	**47**			IIRMES_TO-01-073_S_PAH	
Naphthalene; Total; ng/g dw	558PKC010	23-Sep-10			4	IIRMES_TO-01-073_S_PAH	
PCB 189; Total; ng/g dw	558PKC010	23-Sep-10	65	95	**38**	IIRMES_TO-01-073_S_PCB	
PCB 194; Total; ng/g dw	558PKC010	23-Sep-10	66	105	**47**	IIRMES_TO-01-073_S_PCB	
PCB 209; Total; ng/g dw	558PKC010	23-Sep-10	89	64	**32**	IIRMES_TO-01-073_S_PCB	
Endrin Aldehyde; Total; ng/g dw	205COY060	30-Jun-10		**48**	5	IIRMES_TO-01-075_S_OCH	
Methoxychlor; Total; ng/g dw	205COY060	30-Jun-10	**44**	**39**	11	IIRMES_TO-01-075_S_OCH	
Bolstar; Total; ng/g dw	205COY060	30-Jun-10	89	59	**40**	IIRMES_TO-01-075_S_OP	
Disulfoton; Total; ng/g dw	205COY060	30-Jun-10	**44**	**35**	24	IIRMES_TO-01-075_S_OP	
Fenchlorphos; Total; ng/g dw	205COY060	30-Jun-10	77	54	**36**	IIRMES_TO-01-075_S_OP	
Fenthion; Total; ng/g dw	205COY060	30-Jun-10	78	60	**26**	IIRMES_TO-01-075_S_OP	
Phorate; Total; ng/g dw	205COY060	30-Jun-10	**16**	**17**	6	IIRMES_TO-01-075_S_OP	
Tokuthion; Total; ng/g dw	205COY060	30-Jun-10	86	54	**45**	IIRMES_TO-01-075_S_OP	
Trichloronate; Total; ng/g dw	205COY060	30-Jun-10	74	53	**33**	IIRMES_TO-01-075_S_OP	

Analyte	Station Code	Sample Date	Lab Batch ID	MS %R	MSD %R	RPD	Lab
Methylphenanthrene, 1-; Total; ng/g dw	205COY060	30-Jun-10	**48**			IIRMES_TO-01-075_S_PAH	CSULB-IIRMES
PCB 081; Total; ng/g dw	205COY060	30-Jun-10	86	60	**36**	IIRMES_TO-01-075_S_PCB	
PCB 099; Total; ng/g dw	205COY060	30-Jun-10	106	80	**28**	IIRMES_TO-01-075_S_PCB	
PCB 123; Total; ng/g dw	205COY060	30-Jun-10	85	62	**32**	IIRMES_TO-01-075_S_PCB	
PCB 149; Total; ng/g dw	205COY060	30-Jun-10	92	71	**26**	IIRMES_TO-01-075_S_PCB	
Endrin Aldehyde; Total; ng/g dw	504BCHBID	18-Aug-10	**0**	75	**200**	IIRMES_TO-01-115_S_OCH	
Endrin; Total; ng/g dw	504BCHBID	18-Aug-10	110	141	**30**	IIRMES_TO-01-115_S_OCH	
HCH, beta; Total; ng/g dw	504BCHBID	18-Aug-10	**37**	**41**	14	IIRMES_TO-01-115_S_OCH	
Perthane; Total; ng/g dw	504BCHBID	18-Aug-10	117	145	**26**	IIRMES_TO-01-115_S_OCH	
Demeton-s; Total; ng/g dw	504BCHBID	18-Aug-10	**0**	**0**	0	IIRMES_TO-01-115_S_OP	
Dichlorvos; Total; ng/g dw	504BCHBID	18-Aug-10	106	**12**	**157**	IIRMES_TO-01-115_S_OP	
Phorate; Total; ng/g dw	504BCHBID	18-Aug-10	**0**	**25**	**200**	IIRMES_TO-01-115_S_OP	
Tetrachlorvinphos; Total; ng/g dw	504BCHBID	18-Aug-10	**160**	**158**	4	IIRMES_TO-01-115_S_OP	
DDT(o,p'); Total; ng/g dw	633WCRSED	06-Oct-10			23	IIRMES_TO-01-117_S_OCH	
DDT(p,p'); Total; ng/g dw	633WCRSED	06-Oct-10	**29**	**21**	**28**	IIRMES_TO-01-117_S_OCH	
Endrin Aldehyde; Total; ng/g dw	633WCRSED	06-Oct-10		**47**	8	IIRMES_TO-01-117_S_OCH	
HCH, beta; Total; ng/g dw	633WCRSED	06-Oct-10	**49**			IIRMES_TO-01-117_S_OCH	
Heptachlor; Total; ng/g dw	633WCRSED	06-Oct-10	**63**	**45**	**29**	IIRMES_TO-01-117_S_OCH	
Methoxychlor; Total; ng/g dw	633WCRSED	06-Oct-10	**30**	**29**	1	IIRMES_TO-01-117_S_OCH	
Bolstar; Total; ng/g dw	633WCRSED	06-Oct-10	**12**	**0**	0	IIRMES_TO-01-117_S_OP	
Chlorpyrifos; Total; ng/g dw	633WCRSED	06-Oct-10	**11**	**6**	**47**	IIRMES_TO-01-117_S_OP	
Demeton-s; Total; ng/g dw	633WCRSED	06-Oct-10	**36**	**43**	22	IIRMES_TO-01-117_S_OP	
Disulfoton; Total; ng/g dw	633WCRSED	06-Oct-10	**6**	**7**	22	IIRMES_TO-01-117_S_OP	

Analyte	Station Code	Sample Date	Lab Batch ID	MS %R	MSD %R	RPD	Lab
Fenchlorphos; Total; ng/g dw	633WCRSED	06-Oct-10	49	43	10	IIRMES_TO-01-117_S_OP	CSULB-IIRMES
Fensulfothion; Total; ng/g dw	633WCRSED	06-Oct-10		35	34	IIRMES_TO-01-117_S_OP	
Fenthion; Total; ng/g dw	633WCRSED	06-Oct-10	44	34	21	IIRMES_TO-01-117_S_OP	
Malathion; Total; ng/g dw	633WCRSED	06-Oct-10		44	23	IIRMES_TO-01-117_S_OP	
Parathion, Methyl; Total; ng/g dw	633WCRSED	06-Oct-10		48	26	IIRMES_TO-01-117_S_OP	
Phorate; Total; ng/g dw	633WCRSED	06-Oct-10	7	5	28	IIRMES_TO-01-117_S_OP	
Tokuthion; Total; ng/g dw	633WCRSED	06-Oct-10	31	21	34	IIRMES_TO-01-117_S_OP	
Trichloronate; Total; ng/g dw	633WCRSED	06-Oct-10	28	19	31	IIRMES_TO-01-117_S_OP	
Benzo(a)pyrene; Total; ng/g dw	633WCRSED	06-Oct-10		42	15	IIRMES_TO-01-117_S_PAH	
Benzo(e)pyrene; Total; ng/g dw	633WCRSED	06-Oct-10		45	19	IIRMES_TO-01-117_S_PAH	
Perylene; Total; ng/g dw	633WCRSED	06-Oct-10	42	36	12	IIRMES_TO-01-117_S_PAH	
Demeton-s; Total; ng/g dw	111EELMYR	20-Oct-10	22	22	1	IIRMES_TO-01-123_S_OP	
Disulfoton; Total; ng/g dw	111EELMYR	20-Oct-10	34	32	5	IIRMES_TO-01-123_S_OP	
Fenthion; Total; ng/g dw	111EELMYR	20-Oct-10	102	69	38	IIRMES_TO-01-123_S_OP	
Mevinphos; Total; ng/g dw	111EELMYR	20-Oct-10	77	107	33	IIRMES_TO-01-123_S_OP	
Phorate; Total; ng/g dw	111EELMYR	20-Oct-10	7	7	3	IIRMES_TO-01-123_S_OP	
Acenaphthene; Total; ng/g dw	111EELMYR	20-Oct-10	42	0	200	IIRMES_TO-01-123_S_PAH	
Acenaphthylene; Total; ng/g dw	111EELMYR	20-Oct-10	37	16	80	IIRMES_TO-01-123_S_PAH	
Biphenyl; Total; ng/g dw	111EELMYR	20-Oct-10	19	22	15	IIRMES_TO-01-123_S_PAH	
Dimethylnaphthalene, 2,6-; Total; ng/g dw	111EELMYR	20-Oct-10	13	2	200	IIRMES_TO-01-123_S_PAH	
Methylnaphthalene, 1-; Total; ng/g dw	111EELMYR	20-Oct-10	4	21	200	IIRMES_TO-01-123_S_PAH	
Methylnaphthalene, 2-; Total; ng/g dw	111EELMYR	20-Oct-10	0	0	0	IIRMES_TO-01-123_S_PAH	
Methylphenanthrene, 1-; Total; ng/g dw	111EELMYR	20-Oct-10	48			IIRMES_TO-01-123_S_PAH	

Analyte	Station Code	Sample Date	Lab Batch ID	MS %R	MSD %R	RPD	Lab
Naphthalene; Total; ng/g dw	111EELMYR	20-Oct-10	**31**	**13**	**200**	IIRMES_TO-01-123_S_PAH	CSULB-IIRMES
Trimethylnaphthalene, 2,3,5-; Total; ng/g dw	111EELMYR	20-Oct-10	**29**	**18**	**48**	IIRMES_TO-01-123_S_PAH	
PCB 003; Total; ng/g dw	111EELMYR	20-Oct-10	77	58	**27**	IIRMES_TO-01-123_S_PCB	
PCB 008; Total; ng/g dw	111EELMYR	20-Oct-10	89	63	**34**	IIRMES_TO-01-123_S_PCB	
Demeton-s; Total; ng/g dw	114RRDSDM	21-Oct-10	**42**	**41**	0	IIRMES_TO-01-125_S_OP	
Phorate; Total; ng/g dw	114RRDSDM	21-Oct-10	**37**	**38**	4	IIRMES_TO-01-125_S_OP	
Trichloronate; Total; ng/g dw	114RRDSDM	21-Oct-10	**29**	**31**	6	IIRMES_TO-01-125_S_OP	
Benzo(a)pyrene; Total; ng/g dw	114RRDSDM	21-Oct-10	**46**			IIRMES_TO-01-125_S_PAH	
PBDE 085; Total; ng/g dw	504BCHROS	18-Aug-10	99	74	**28**	IIRMES_TO-01-125_S_PBDE	
Manganese; Total; mg/Kg dw	801SARVRx	25-May-10	70.2	100	**35.2**	MPSL-DFG_2010Dig54_S_TM	MPSL-DFW
Manganese; Total; mg/Kg dw	312SMAxxx	18-Aug-10	**93**	**93.2**	**38.2**	MPSL-DFG_2011Dig03_S_TM	
Chromium; Total; mg/Kg dw	504SACHMN	18-Aug-10	92.5	**74.9**	20.1	MPSL-DFG_2011Dig06_S_TM	
Manganese; Total; mg/Kg dw	504SACHMN	18-Aug-10	97	75.1	**25.5**	MPSL-DFG_2011Dig06_S_TM	
Manganese; Total; mg/Kg dw	554SKR010	11-Aug-10	**69.4**			MPSL-DFG_2011Dig07_S_TM	
Manganese; Total; mg/Kg dw	628DEPSED	12-Aug-10	**63.8**	**69.1**	8.01	MPSL-DFG_2011Dig08_S_TM	
Silver; Total; mg/Kg dw	628DEPSED	12-Aug-10	97.4	**159**	**48**	MPSL-DFG_2011Dig08_S_TM	
Manganese; Total; mg/Kg dw	508SACBLF	19-Aug-10	**73.2**	**68.1**	7.23	MPSL-DFG_2011Dig10_S_TM	
Zinc; Total; mg/Kg dw	508SACBLF	19-Aug-10		**74.1**	1.39	MPSL-DFG_2011Dig10_S_TM	

Analyte	Station Code	Sample Date	Lab Batch ID	MS %R	MSD %R	RPD	Lab
Lead; Total; mg/Kg dw	519FTRNCS	24-Aug-10	127	98.8	**25.3**	MPSL-DFG_2011Dig12_S_TM	MPSL-DFW
Silver; Total; mg/Kg dw	519FTRNCS	24-Aug-10	92.8	124	**28.9**	MPSL-DFG_2011Dig12_S_TM	
Aldrin; Total; ng/g dw	103SMHSAR	15-Sep-09	**218**	**206**	6.1	WPCL_L-024-717-09_BS569_S_OCH	DFW-WPCL
Dieldrin; Total; ng/g dw	103SMHSAR	15-Sep-09	**160**	**165**	2.8	WPCL_L-024-717-09_BS569_S_OCH	
Oxychlordane; Total; ng/g dw	103SMHSAR	15-Sep-09	**165**	**160**	3.4	WPCL_L-024-717-09_BS569_S_OCH	
Tedion; Total; ng/g dw	103SMHSAR	15-Sep-09	**226**	**206**	9.9	WPCL_L-024-717-09_BS569_S_OCH	
PCB 008; Total; ng/g dw	103SMHSAR	15-Sep-09	70	101	**34**	WPCL_L-024-717-09_BS569_S_PCB	
PCB 018; Total; ng/g dw	103SMHSAR	15-Sep-09	74.3	100	**28**	WPCL_L-024-717-09_BS569_S_PCB	
Aldrin; Total; ng/g dw	309DAVxxx	16-Jun-09		**157**	20	WPCL_L-717-09_BS570_S_OCH	
Chlordane, cis-; Total; ng/g dw	309DAVxxx	16-Jun-09	96.5	85.8	**33**	WPCL_L-717-09_BS570_S_OCH	
Chlordane, trans-; Total; ng/g dw	309DAVxxx	16-Jun-09	93.2	91.2	**26**	WPCL_L-717-09_BS570_S_OCH	
DDE(o,p'); Total; ng/g dw	309DAVxxx	16-Jun-09	96.6	83.3	**40**	WPCL_L-717-09_BS570_S_OCH	
DDMU(p,p'); Total; ng/g dw	309DAVxxx	16-Jun-09	94.5	84.6	**37**	WPCL_L-717-09_BS570_S_OCH	
DDT(o,p'); Total; ng/g dw	309DAVxxx	16-Jun-09	94.3	80.8	**34**	WPCL_L-717-09_BS570_S_OCH	
Endosulfan I; Total; ng/g dw	309DAVxxx	16-Jun-09	79.2	80.2	**36**	WPCL_L-717-09_BS570_S_OCH	
Endrin; Total; ng/g dw	309DAVxxx	16-Jun-09	80.7	83	**35**	WPCL_L-717-09_BS570_S_OCH	
HCH, alpha ; Total; ng/g dw	309DAVxxx	16-Jun-09	83.1	80.4	**41**	WPCL_L-717-09_BS570_S_OCH	
HCH, beta; Total; ng/g dw	309DAVxxx	16-Jun-09	77.8	74	**43**	WPCL_L-717-09_BS570_S_OCH	
HCH, gamma; Total; ng/g dw	309DAVxxx	16-Jun-09	86	82.4	**42**	WPCL_L-717-09_BS570_S_OCH	
Heptachlor; Total; ng/g dw	309DAVxxx	16-Jun-09	65	65.1	**37**	WPCL_L-717-09_BS570_S_OCH	
Hexachlorobenzene; Total; ng/g dw	309DAVxxx	16-Jun-09	70.1	68.9	**37**	WPCL_L-717-09_BS570_S_OCH	
Methoxychlor; Total; ng/g dw	309DAVxxx	16-Jun-09	88.9	90.1	**37**	WPCL_L-717-09_BS570_S_OCH	

Analyte	Station Code	Sample Date	Lab Batch ID	MS %R	MSD %R	RPD	Lab
Mirex; Total; ng/g dw	309DAVxxx	16-Jun-09	75.8	74.9	39	WPCL_L-717-09_BS570_S_OCH	DFW-WPCL
Nonachlor, cis-; Total; ng/g dw	309DAVxxx	16-Jun-09	85.7	88.8	28	WPCL_L-717-09_BS570_S_OCH	
Nonachlor, trans-; Total; ng/g dw	309DAVxxx	16-Jun-09	97	90	32	WPCL_L-717-09_BS570_S_OCH	
Oxadiazon; Total; ng/g dw	309DAVxxx	16-Jun-09	106	97	39	WPCL_L-717-09_BS570_S_OCH	
Tedion; Total; ng/g dw	309DAVxxx	16-Jun-09	524	463	49	WPCL_L-717-09_BS570_S_OCH	
PBDE 017; Total; ng/g dw	309DAVxxx	16-Jun-09	75.7	77	36	WPCL_L-717-09_BS570_S_PBDE	
PBDE 028; Total; ng/g dw	309DAVxxx	16-Jun-09	63.4	62.6	39	WPCL_L-717-09_BS570_S_PBDE	
PBDE 066; Total; ng/g dw	309DAVxxx	16-Jun-09	66.7	71	32	WPCL_L-717-09_BS570_S_PBDE	
PBDE 099; Total; ng/g dw	309DAVxxx	16-Jun-09	73.7	323	67	WPCL_L-717-09_BS570_S_PBDE	
PBDE 138; Total; ng/g dw	309DAVxxx	16-Jun-09	68.9	75.2	29	WPCL_L-717-09_BS570_S_PBDE	
PBDE 183; Total; ng/g dw	309DAVxxx	16-Jun-09	80.8	85.6	32	WPCL_L-717-09_BS570_S_PBDE	
PCB 008; Total; ng/g dw	309DAVxxx	16-Jun-09	89.6	89.1	38	WPCL_L-717-09_BS570_S_PCB	
PCB 018; Total; ng/g dw	309DAVxxx	16-Jun-09	91.9	91.2	38	WPCL_L-717-09_BS570_S_PCB	
PCB 027; Total; ng/g dw	309DAVxxx	16-Jun-09	92	92.3	37	WPCL_L-717-09_BS570_S_PCB	
PCB 028; Total; ng/g dw	309DAVxxx	16-Jun-09	94.5	92.1	38	WPCL_L-717-09_BS570_S_PCB	
PCB 029; Total; ng/g dw	309DAVxxx	16-Jun-09	93.1	91.8	39	WPCL_L-717-09_BS570_S_PCB	
PCB 031; Total; ng/g dw	309DAVxxx	16-Jun-09	95	93.7	38	WPCL_L-717-09_BS570_S_PCB	
PCB 033; Total; ng/g dw	309DAVxxx	16-Jun-09	99.3	97.6	38	WPCL_L-717-09_BS570_S_PCB	
PCB 044; Total; ng/g dw	309DAVxxx	16-Jun-09	101	97.6	38	WPCL_L-717-09_BS570_S_PCB	
PCB 049; Total; ng/g dw	309DAVxxx	16-Jun-09	92.5	92	36	WPCL_L-717-09_BS570_S_PCB	
PCB 052; Total; ng/g dw	309DAVxxx	16-Jun-09	93.9	90.5	36	WPCL_L-717-09_BS570_S_PCB	
PCB 056; Total; ng/g dw	309DAVxxx	16-Jun-09	96	94	39	WPCL_L-717-09_BS570_S_PCB	
PCB 060; Total; ng/g dw	309DAVxxx	16-Jun-09	91	87.5	41	WPCL_L-717-09_BS570_S_PCB	

Analyte	Station Code	Sample Date	Lab Batch ID	MS %R	MSD %R	RPD	Lab
PCB 064; Total; ng/g dw	309DAVxxx	16-Jun-09	90	87	40	WPCL_L-717-09_BS570_S_PCB	DFW-WPCL
PCB 066; Total; ng/g dw	309DAVxxx	16-Jun-09	94.4	86.6	44	WPCL_L-717-09_BS570_S_PCB	
PCB 070; Total; ng/g dw	309DAVxxx	16-Jun-09	93.3	85.6	40	WPCL_L-717-09_BS570_S_PCB	
PCB 074; Total; ng/g dw	309DAVxxx	16-Jun-09	88.7	82	43	WPCL_L-717-09_BS570_S_PCB	
PCB 077; Total; ng/g dw	309DAVxxx	16-Jun-09	89.8	89	38	WPCL_L-717-09_BS570_S_PCB	
PCB 087; Total; ng/g dw	309DAVxxx	16-Jun-09	92.9	92.3	33	WPCL_L-717-09_BS570_S_PCB	
PCB 095; Total; ng/g dw	309DAVxxx	16-Jun-09	101	95.2	35	WPCL_L-717-09_BS570_S_PCB	
PCB 097; Total; ng/g dw	309DAVxxx	16-Jun-09	96.4	95.8	35	WPCL_L-717-09_BS570_S_PCB	
PCB 099; Total; ng/g dw	309DAVxxx	16-Jun-09	93.8	92.3	35	WPCL_L-717-09_BS570_S_PCB	
PCB 101; Total; ng/g dw	309DAVxxx	16-Jun-09	98.7	98.5	29	WPCL_L-717-09_BS570_S_PCB	
PCB 105; Total; ng/g dw	309DAVxxx	16-Jun-09	96.5	90.9	37	WPCL_L-717-09_BS570_S_PCB	
PCB 110; Total; ng/g dw	309DAVxxx	16-Jun-09	103	91.1	35	WPCL_L-717-09_BS570_S_PCB	
PCB 114; Total; ng/g dw	309DAVxxx	16-Jun-09	86.8	85	40	WPCL_L-717-09_BS570_S_PCB	
PCB 118; Total; ng/g dw	309DAVxxx	16-Jun-09	97.3	89.7	35	WPCL_L-717-09_BS570_S_PCB	
PCB 126; Total; ng/g dw	309DAVxxx	16-Jun-09	89.8	84.9	43	WPCL_L-717-09_BS570_S_PCB	
PCB 128; Total; ng/g dw	309DAVxxx	16-Jun-09	99.4	96.5	37	WPCL_L-717-09_BS570_S_PCB	
PCB 137; Total; ng/g dw	309DAVxxx	16-Jun-09	94.2	88.6	43	WPCL_L-717-09_BS570_S_PCB	
PCB 138; Total; ng/g dw	309DAVxxx	16-Jun-09	105	93.3	36	WPCL_L-717-09_BS570_S_PCB	
PCB 141; Total; ng/g dw	309DAVxxx	16-Jun-09	91	88.3	38	WPCL_L-717-09_BS570_S_PCB	
PCB 146; Total; ng/g dw	309DAVxxx	16-Jun-09	91.7	87.1	42	WPCL_L-717-09_BS570_S_PCB	
PCB 149; Total; ng/g dw	309DAVxxx	16-Jun-09	98.6	93.5	34	WPCL_L-717-09_BS570_S_PCB	
PCB 151; Total; ng/g dw	309DAVxxx	16-Jun-09	91.7	86.1	41	WPCL_L-717-09_BS570_S_PCB	
PCB 153; Total; ng/g dw	309DAVxxx	16-Jun-09	104	99.3	32	WPCL_L-717-09_BS570_S_PCB	

Analyte	Station Code	Sample Date	Lab Batch ID	MS %R	MSD %R	RPD	Lab
PCB 156; Total; ng/g dw	309DAVxxx	16-Jun-09	95.8	82.8	**49**	WPCL_L-717-09_BS570_S_PCB	DFW-WPCL
PCB 157; Total; ng/g dw	309DAVxxx	16-Jun-09	94.3	88.4	**44**	WPCL_L-717-09_BS570_S_PCB	
PCB 158; Total; ng/g dw	309DAVxxx	16-Jun-09	92.4	83.8	**44**	WPCL_L-717-09_BS570_S_PCB	
PCB 169; Total; ng/g dw	309DAVxxx	16-Jun-09	79.8	74.1	**45**	WPCL_L-717-09_BS570_S_PCB	
PCB 170; Total; ng/g dw	309DAVxxx	16-Jun-09	96.5	85.2	**46**	WPCL_L-717-09_BS570_S_PCB	
PCB 174; Total; ng/g dw	309DAVxxx	16-Jun-09	104	92.5	**45**	WPCL_L-717-09_BS570_S_PCB	
PCB 177; Total; ng/g dw	309DAVxxx	16-Jun-09	102	91.2	**46**	WPCL_L-717-09_BS570_S_PCB	
PCB 180; Total; ng/g dw	309DAVxxx	16-Jun-09	106	95.6	**39**	WPCL_L-717-09_BS570_S_PCB	
PCB 183; Total; ng/g dw	309DAVxxx	16-Jun-09	96.1	93.1	**39**	WPCL_L-717-09_BS570_S_PCB	
PCB 187; Total; ng/g dw	309DAVxxx	16-Jun-09	100	92.5	**40**	WPCL_L-717-09_BS570_S_PCB	
PCB 189; Total; ng/g dw	309DAVxxx	16-Jun-09	101	93.7	**45**	WPCL_L-717-09_BS570_S_PCB	
PCB 194; Total; ng/g dw	309DAVxxx	16-Jun-09	98.9	92.7	**41**	WPCL_L-717-09_BS570_S_PCB	
PCB 195; Total; ng/g dw	309DAVxxx	16-Jun-09	95.5	92.8	**40**	WPCL_L-717-09_BS570_S_PCB	
PCB 198/199; Total; ng/g dw	309DAVxxx	16-Jun-09	95.3	95.2	**38**	WPCL_L-717-09_BS570_S_PCB	
PCB 200; Total; ng/g dw	309DAVxxx	16-Jun-09	93	97.2	**33**	WPCL_L-717-09_BS570_S_PCB	
PCB 201; Total; ng/g dw	309DAVxxx	16-Jun-09	95.8	97.5	**32**	WPCL_L-717-09_BS570_S_PCB	
PCB 203; Total; ng/g dw	309DAVxxx	16-Jun-09	106	101	**42**	WPCL_L-717-09_BS570_S_PCB	
PCB 206; Total; ng/g dw	309DAVxxx	16-Jun-09	98	99.3	**35**	WPCL_L-717-09_BS570_S_PCB	
PCB 209; Total; ng/g dw	309DAVxxx	16-Jun-09	94.6	98.5	**34**	WPCL_L-717-09_BS570_S_PCB	
Arsenic; Total; mg/Kg dw	901S45253	18-May-10		**130**	10.14	MPSL-DFG_2010Dig53_S_TM	MPSL-DFW

Analyte	Station Code	Sample Date	Lab Batch ID	MS %R	MSD %R	RPD	Lab
Endrin; Total; ng/g dw	723ARDP3A	06-Oct-10		**154**	5.5	WPCL_L-654-727-10_ BS625_S_OCH	DFW-WPCL

Table A3-7
Batches for which certified reference material (CRM) or laboratory control spike (LCS) samples were not run.

Analyte	Batch ID	Notes	Laboratory
Organochlorine pesticides	IIRMES_TO-01-029_S_OCH	QAO: not all compounds in CRM - no LCS	CSULB-IIRMES
Organophosphorus pesticides	IIRMES_TO-01-029_S_OP	QAO: no CRM or LCS	CSULB-IIRMES
Polynuclear Aromatic Hydrocarbons	IIRMES_TO-01-029_S_PAH	QAO: no CRM or LCS	CSULB-IIRMES
Polybrominated Diphenyl Ethers	IIRMES_TO-01-029_S_PBDE	QAO: no CRM or LCS	CSULB-IIRMES
Polychlorinated Biphenyls	IIRMES_TO-01-029_S_PCB	QAO: not all compounds in CRM - no LCS	CSULB-IIRMES
Organochlorine pesticides	IIRMES_TO-01-073_S_OCH	QAO: no CRM or LCS	CSULB-IIRMES
Organophosphorus pesticides	IIRMES_TO-01-073_S_OP	QAO: no CRM or LCS	CSULB-IIRMES
Polynuclear Aromatic Hydrocarbons	IIRMES_TO-01-073_S_PAH	QAO: no CRM or LCS	CSULB-IIRMES
Polychlorinated Biphenyls	IIRMES_TO-01-073_S_PCB	QAO: no CRM or LCS	CSULB-IIRMES
Organochlorine pesticides	IIRMES_TO-01-075_S_OCH	QAO: no CRM or LCS for some analytes	CSULB-IIRMES
Organophosphorus pesticides	IIRMES_TO-01-075_S_OP	QAO: no CRM or LCS	CSULB-IIRMES
Polynuclear Aromatic Hydrocarbons	IIRMES_TO-01-075_S_PAH	QAO: no CRM or LCS for acenapthylene or dibenzothiophene	CSULB-IIRMES
Polybrominated Diphenyl Ethers	IIRMES_TO-01-075_S_PBDE	QAO: no CRM or LCS	CSULB-IIRMES
Polychlorinated Biphenyls	IIRMES_TO-01-075_S_PCB	QAO: not all spiked in CRM no LCS analyzed for missing analytes	CSULB-IIRMES
Organochlorine pesticides	IIRMES_TO-01-115_S_OCH	QAO: no CRM or LCS for some compounds	CSULB-IIRMES
Organophosphorus pesticides	IIRMES_TO-01-115_S_OP	QAO: no CRM or LCS	CSULB-IIRMES
Polychlorinated Biphenyls	IIRMES_TO-01-115_S_PCB	QAO: not all spiked in CRM no LCS analyzed for missing analytes	CSULB-IIRMES
Organochlorine pesticides	IIRMES_TO-01-117_S_OCH	QAO: no CRM or LCS for some compounds	CSULB-IIRMES
Organophosphorus pesticides	IIRMES_TO-01-117_S_OP	QAO: no CRM or LCS	CSULB-IIRMES

Analyte	Batch ID	Notes	Laboratory
Polynuclear Aromatic Hydrocarbons	IIRMES_TO-01-117_S_PAH	QAO: no CRM or LCS for acenapthylene or 2,3,5-Trimethylnaphthalene	CSULB-IIRMES
Polychlorinated Biphenyls	IIRMES_TO-01-117_S_PCB	QAO: not all spiked in CRM no LCS analyzed for missing analytes	CSULB-IIRMES
Organochlorine pesticides	IIRMES_TO-01-123_S_OCH	QAO: no CRM or LCS for some compounds	CSULB-IIRMES
Organophosphorus pesticides	IIRMES_TO-01-123_S_OP	QAO: no CRM or LCS	CSULB-IIRMES
Polynuclear Aromatic Hydrocarbons	IIRMES_TO-01-123_S_PAH	QAO: no CRM or LCS for acenapthylene or 2,3,5-Trimethylnaphthalene	CSULB-IIRMES
Polychlorinated Biphenyls	IIRMES_TO-01-123_S_PCB	QAO: not all spiked in CRM no LCS analyzed for missing analytes	CSULB-IIRMES
Organochlorine pesticides	IIRMES_TO-01-125_S_OCH	QAO: no CRM or LCS for some compounds	CSULB-IIRMES
Organophosphorus pesticides	IIRMES_TO-01-125_S_OP	QAO: no CRM or LCS	CSULB-IIRMES
Polynuclear Aromatic Hydrocarbons	IIRMES_TO-01-125_S_PAH	QAO: no CRM or LCS for acenapthylene or 2,3,5-Trimethylnaphthalene	CSULB-IIRMES
Polybrominated Diphenyl Ethers	IIRMES_TO-01-125_S_PBDE	QAO: no CRM or LCS	CSULB-IIRMES
Organochlorine pesticides	WPCL_L-717-09_BS570_S_OCH	QAO: changed BT code to LST more appropriate, no LCS for compounds that were lost	CSULB-IIRMES
Polybrominated Diphenyl Ethers	WPCL_L-717-09_BS570_S_PBDE	QAO: no CRM or LCS	CSULB-IIRMES

Table A3-8
Batches containing certified reference material (CRM) or laboratory control spike (LCS) that did not meet quality control acceptance criteria.

Analyte	Station Code	Batch ID	% Recovery	Laboratory
DDD(p,p'); Total; ng/g dw	3534-CRM1	IIRMES_TO-01-029_S_OCH	66	CSULB-IIRMES
Hexachlorobenzene; Total; ng/g dw	3534-CRM1	IIRMES_TO-01-029_S_OCH	172	CSULB-IIRMES
Benzo(g,h,i)perylene; Total; ng/g dw	3534-CRM1	IIRMES_TO-01-029_S_PAH	68	CSULB-IIRMES
Chrysene; Total; ng/g dw	3534-CRM1	IIRMES_TO-01-029_S_PAH	133	CSULB-IIRMES
Dibenz(a,h)anthracene; Total; ng/g dw	3534-CRM1	IIRMES_TO-01-029_S_PAH	134	CSULB-IIRMES
PCB 066; Total; ng/g dw	3534-CRM1	IIRMES_TO-01-029_S_PCB	0	CSULB-IIRMES
DDD(p,p'); Total; ng/g dw	3535-CRM1	IIRMES_TO-01-075_S_OCH	64	CSULB-IIRMES
DDE(p,p'); Total; ng/g dw	3535-CRM1	IIRMES_TO-01-075_S_OCH	138	CSULB-IIRMES
DDT(p,p'); Total; ng/g dw	3535-CRM1	IIRMES_TO-01-075_S_OCH	0	CSULB-IIRMES
Benzo(g,h,i)perylene; Total; ng/g dw	3535-CRM1	IIRMES_TO-01-075_S_PAH	66	CSULB-IIRMES

Analyte	Station Code	Batch ID	% Recovery	Laboratory
PCB 066; Total; ng/g dw	3535-CRM1	IIRMES_TO-01-075_S_PCB	0	CSULB-IIRMES
PCB 195; Total; ng/g dw	2502-CRM1	IIRMES_TO-01-115_S_PCB	0	CSULB-IIRMES
Hexachlorobenzene; Total; ng/g dw	3487-CRM1	IIRMES_TO-01-123_S_OCH	0	CSULB-IIRMES
Acenaphthene; Total; ng/g dw	3487-CRM1	IIRMES_TO-01-123_S_PAH	46	CSULB-IIRMES
Dibenz(a,h)anthracene; Total; ng/g dw	3487-CRM1	IIRMES_TO-01-123_S_PAH	132	CSULB-IIRMES
Zinc; Total; mg/Kg dw	srm 1646a 16	MPSL-DFG_2010Dig75_S_TM	70.1	MPSL-DFW
Zinc; Total; mg/Kg dw	srm 1646a 16	MPSL-DFG_2011Dig03_S_TM	67	MPSL-DFW
Zinc; Total; mg/Kg dw	srm 1646a 16	MPSL-DFG_2011Dig06_S_TM	73.6	MPSL-DFW
Zinc; Total; mg/Kg dw	srm 1646a 17	MPSL-DFG_2011Dig07_S_TM	74	MPSL-DFW
Aluminum; Total; mg/Kg dw	srm pacs2 97	MPSL-DFG_2011Dig08_S_TM	46	MPSL-DFW
DDT(p,p'); Total; ng/g dw	L-717-09-SRM 1944-BS 569	WPCL_L-024-717-09_BS569_S_OCH	160	DFW-WPCL
Resmethrin; Total; ng/g dw	L-333-11-LCSD	WPCL_L-333-11_S_PYD	46	DFW-WPCL
Chlordane, trans-; Total; ng/g dw	L-654-10-SRM 1944-BS 625	WPCL_L-654-727-10_BS625_S_OCH	264	DFW-WPCL
DDT(p,p'); Total; ng/g dw	L-654-10-SRM 1944-BS 625	WPCL_L-654-727-10_BS625_S_OCH	145	DFW-WPCL
PCB 018; Total; ng/g dw	L-654-10-SRM 1944-BS 625	WPCL_L-654-727-10_BS625_S_PCB	145	DFW-WPCL
PCB 028; Total; ng/g dw	L-654-10-SRM 1944-BS 625	WPCL_L-654-727-10_BS625_S_PCB	156	DFW-WPCL
PCB 049; Total; ng/g dw	L-654-10-SRM 1944-BS 625	WPCL_L-654-727-10_BS625_S_PCB	138	DFW-WPCL
PCB 099; Total; ng/g dw	L-654-10-SRM 1944-BS 625	WPCL_L-654-727-10_BS625_S_PCB	69.6	DFW-WPCL
PCB 170; Total; ng/g dw	L-654-10-SRM 1944-BS 625	WPCL_L-654-727-10_BS625_S_PCB	59.7	DFW-WPCL
Acenaphthene; Total; ng/g dw	L-669-09-SRM 1944-BS 590	WPCL_L-669-717-09_BS590_S_PAH	37.4	DFW-WPCL
Anthracene; Total; ng/g dw	L-669-09-SRM 1944-BS 590	WPCL_L-669-717-09_BS590_S_PAH	47.1	DFW-WPCL
Benz(a)anthracene; Total; ng/g dw	L-669-09-SRM 1944-BS 590	WPCL_L-669-717-09_BS590_S_PAH	46.2	DFW-WPCL
Benzo(a)pyrene; Total; ng/g dw	L-669-09-SRM 1944-BS 590	WPCL_L-669-717-09_BS590_S_PAH	47.6	DFW-WPCL
Benzo(b)fluoranthene; Total; ng/g dw	L-669-09-SRM 1944-BS 590	WPCL_L-669-717-09_BS590_S_PAH	59.6	DFW-WPCL
Benzo(e)pyrene; Total; ng/g dw	L-669-09-SRM 1944-BS 590	WPCL_L-669-717-09_BS590_S_PAH	57.3	DFW-WPCL
Benzo(k)fluoranthene; Total; ng/g dw	L-669-09-SRM 1944-BS 590	WPCL_L-669-717-09_BS590_S_PAH	51.1	DFW-WPCL
Biphenyl; Total; ng/g dw	L-669-09-SRM 1944-BS 590	WPCL_L-669-717-09_BS590_S_PAH	44.7	DFW-WPCL
Chrysene; Total; ng/g dw	L-669-09-SRM 1944-BS 590	WPCL_L-669-717-09_BS590_S_PAH	52.9	DFW-WPCL

Analyte	Station Code	Batch ID	% Recovery	Laboratory
Fluoranthene; Total; ng/g dw	L-669-09-SRM 1944-BS 590	WPCL_L-669-717-09_BS590_S_PAH	66.8	DFW-WPCL
Fluorene; Total; ng/g dw	L-669-09-SRM 1944-BS 590	WPCL_L-669-717-09_BS590_S_PAH	36.8	DFW-WPCL
Naphthalene; Total; ng/g dw	L-669-09-SRM 1944-BS 590	WPCL_L-669-717-09_BS590_S_PAH	51.7	DFW-WPCL
Perylene; Total; ng/g dw	L-669-09-SRM 1944-BS 590	WPCL_L-669-717-09_BS590_S_PAH	46.1	DFW-WPCL
Phenanthrene; Total; ng/g dw	L-669-09-SRM 1944-BS 590	WPCL_L-669-717-09_BS590_S_PAH	67.6	DFW-WPCL
Pyrene; Total; ng/g dw	L-669-09-SRM 1944-BS 590	WPCL_L-669-717-09_BS590_S_PAH	57.1	DFW-WPCL
Chlordane, trans-; Total; ng/g dw	L-717-09-SRM 1944-BS 570	WPCL_L-717-09_BS570_S_OCH	246	DFW-WPCL
DDT(p,p'); Total; ng/g dw	L-717-09-SRM 1944-BS 570	WPCL_L-717-09_BS570_S_OCH	146	DFW-WPCL
Hexachlorobenzene; Total; ng/g dw	L-717-09-SRM 1944-BS 570	WPCL_L-717-09_BS570_S_OCH	57.9	DFW-WPCL
PCB 170; Total; ng/g dw	L-717-09-SRM 1944-BS 570	WPCL_L-717-09_BS570_S_PCB	59.3	DFW-WPCL

Table A3-9
Batches for which laboratory duplicates (DUP) were not run.

Analyte	Batch ID	Notes	Laboratory
Grain Size	IIRMES_GC01-043_S_GS	No Duplicate	CSULB-IIRMES
Phosphorus as P; Total; mg/Kg dw	CALSCI_10-09-1335a_S_PO4	No Duplicate	CSULB-IIRMES
Phosphorus as P; Total; mg/Kg dw	CALSCI_10-09-1335b_S_PO4	No Duplicate	CSULB-IIRMES
Phosphorus as P; Total; mg/Kg dw	CALSCI_10-09-1335c_S_PO4	No Duplicate	CSULB-IIRMES
Phosphorus as P; Total; mg/Kg dw	CALSCI_10-09-1335d_S_PO4	No Duplicate	CSULB-IIRMES
Phosphorus as P; Total; mg/Kg dw	CALSCI_10-11-0117_S_PO4	No Duplicate	CSULB-IIRMES
Phosphorus as P; Total; mg/Kg dw	CALSCI_10-11-0118_S_PO4	No Duplicate	CSULB-IIRMES
Phosphorus as P; Total; mg/Kg dw	CLS_5842_S_TPHOS	No Duplicate (LCS, LCSD performed)	CLS
Phosphorus as P; Total; mg/Kg dw	CLS_5843_S_TPHOS	No Duplicate (LCS, LCSD performed)	CLS

Table A3-10
Laboratory duplicate samples that did not meet quality control acceptance criteria.

Analyte	Station Code	Sample Date	% Value	Duplicate Value	RPD	Laboratory	Batch ID
Clay; <0.0039 mm; %	201WLK160	30-Jun-10	10.5	14.5	32	IIRMES_GC01-026_S_GS	CSULB-IIRMES
Sand; 0.0625 to <2.0 mm; %	201WLK160	30-Jun-10	52	38.6	30	IIRMES_GC01-026_S_GS	CSULB-IIRMES
Clay; <0.0039 mm; %	207WAL020	29-Jun-10	9	12.3	31	IIRMES_GC01-034_S_GS	CSULB-IIRMES
Clay; <0.0039 mm; %	541MERECY	08-Jul-10	19.4	15	26	IIRMES_GC01-034_S_GS	CSULB-IIRMES
Sand; 0.0625 to <2.0 mm; %	637SUS001	19-Aug-10	0.7	0.3	80	IIRMES_GC01-037_S_GS	CSULB-IIRMES
Total Organic Carbon; None; % dw	000NONPJ	18-Aug-10	1.5	0.85	55	IIRMES_GC01-045_S_TOC	CSULB-IIRMES
Clay; <0.0039 mm; %	504BCHBID	24-Feb-11	6.2	9	37	IIRMES_GC01-063_S_GS	CSULB-IIRMES
DDE(p,p'); Total; ng/g dw	558PKC010	23-Sep-10	10.3	7.4	33	IIRMES_TO-01-073_S_OCH	CSULB-IIRMES
Benz(a)anthracene; Total; ng/g dw	205COY060	30-Jun-10	9.9	12.8	26	IIRMES_TO-01-075_S_PAH	CSULB-IIRMES
Perylene; Total; ng/g dw	633WCRSED	06-Oct-10	7.8	10.3	28	IIRMES_TO-01-117_S_PAH	CSULB-IIRMES
Methylphenanthrene, 1-; Total; ng/g dw	111EELMYR	20-Oct-10	11.9	8.4	34	IIRMES_TO-01-123_S_PAH	CSULB-IIRMES
Phenanthrene; Total; ng/g dw	111EELMYR	20-Oct-10	34.8	26.6	27	IIRMES_TO-01-123_S_PAH	CSULB-IIRMES
Phenanthrene; Total; ng/g dw	114RRDSDM	21-Oct-10	11	7.8	34	IIRMES_TO-01-125_S_PAH	CSULB-IIRMES
PBDE 099; Total; ng/g dw	504BCHROS	18-Aug-10	2.02	1.46	32	IIRMES_TO-01-125_S_PBDE	CSULB-IIRMES
Cadmium; Total; mg/Kg dw	907S01434	13-May-09	0.27	0.2	31.8	MPSL-DFG_2009Dig24_S_TM	MPSL-DFW
Lead; Total; mg/Kg dw	907S01434	13-May-09	10.7	7.87	30.3	MPSL-DFG_2009Dig24_S_TM	MPSL-DFW
Aluminum; Total; mg/Kg dw	558PKC005	05-Jun-09	82564	57423	36	MPSL-DFG_2010Dig14_S_TM	MPSL-DFW
Arsenic; Total; mg/Kg dw	558PKC005	05-Jun-09	8.94	4.81	60.1	MPSL-DFG_2010Dig14_S_TM	MPSL-DFW
Chromium; Total; mg/Kg dw	558PKC005	05-Jun-09	69.8	39.1	56.4	MPSL-DFG_2010Dig14_S_TM	MPSL-DFW

Analyte	Station Code	Sample Date	% Value	Duplicate Value	RPD	Laboratory	Batch ID
Silver; Total; mg/Kg dw	558PKC005	05-Jun-09	0.28	0.42	40.8	MPSL-DFG_2010Dig14_S_TM	MPSL-DFW
Aluminum; Total; mg/Kg dw	723NROTWM	19-Oct-09	28557	37517	27.1	MPSL-DFG_2010Dig15_S_TM	MPSL-DFW
Silver; Total; mg/Kg dw	535STC501	15-May-09	0.24	0.39	49.5	MPSL-DFG_2010Dig19_S_TM	MPSL-DFW
Cadmium; Total; mg/Kg dw	801SARVRx	25-May-10	0.11	0.18	48	MPSL-DFG_2010Dig54_S_TM	MPSL-DFW
Cadmium; Total; mg/Kg dw	504BCHROS	18-Aug-10	0.12	0.2	54.5	MPSL-DFG_2010Dig75_S_TM	MPSL-DFW
Silver; Total; mg/Kg dw	312SMAxxx	18-Aug-10	0.2	0.42	69.7	MPSL-DFG_2011Dig03_S_TM	MPSL-DFW
Aluminum; Total; mg/Kg dw	504SACHMN	18-Aug-10	53970	20763	88.9	MPSL-DFG_2011Dig06_S_TM	MPSL-DFW
Manganese; Total; mg/Kg dw	504SACHMN	18-Aug-10	458	316	36.7	MPSL-DFG_2011Dig06_S_TM	MPSL-DFW
Silver; Total; mg/Kg dw	504SACHMN	18-Aug-10	0.24	0.45	60.3	MPSL-DFG_2011Dig06_S_TM	MPSL-DFW
Cadmium; Total; mg/Kg dw	554SKR010	11-Aug-10	0.1	0.13	26	MPSL-DFG_2011Dig07_S_TM	MPSL-DFW
Aluminum; Total; mg/Kg dw	628DEPSED	12-Aug-10	43632	33817	25.3	MPSL-DFG_2011Dig08_S_TM	MPSL-DFW
Arsenic; Total; mg/Kg dw	628DEPSED	12-Aug-10	5.16	2.26	33.8	MPSL-DFG_2011Dig08_S_TM	MPSL-DFW
Chromium; Total; mg/Kg dw	628DEPSED	12-Aug-10	17.4	8.26	31.1	MPSL-DFG_2011Dig08_S_TM	MPSL-DFW
Copper; Total; mg/Kg dw	628DEPSED	12-Aug-10	21.8	14.7	31.5	MPSL-DFG_2011Dig08_S_TM	MPSL-DFW
Manganese; Total; mg/Kg dw	628DEPSED	12-Aug-10	1258	707	30	MPSL-DFG_2011Dig08_S_TM	MPSL-DFW
Nickel; Total; mg/Kg dw	628DEPSED	12-Aug-10	11.4	7.4	30	MPSL-DFG_2011Dig08_S_TM	MPSL-DFW

Analyte	Station Code	Sample Date	% Value	Duplicate Value	RPD	Laboratory	Batch ID
Silver; Total; mg/Kg dw	508SACBLF	19-Aug-10	0.41	0.72	54.4	MPSL-DFG_2011Dig10_S_TM	MPSL-DFW
Chlordane, trans-; Total; ng/g dw	904ESCOxx	23-Jun-09	2.97	2.21	29	WPCL_L-024-717-09_BS569_S_OCH	DFW-WPCL
Oxadiazon; Total; ng/g dw	904ESCOxx	23-Jun-09	40.9	2.82	170	WPCL_L-024-717-09_BS569_S_OCH	DFW-WPCL
Bifenthrin; Total; ng/g dw	535STC501	08-Jul-10	0.848	1.14	29	WPCL_L-520-11_BS655_S_PYD	DFW-WPCL
Benzo(k)fluoranthene; Total; ng/g dw	904ESCOxx	23-Jun-09	18.9	14.5	26	WPCL_L-669-717-09_BS590_S_PAH	DFW-WPCL
Dimethylnaphthalene, 2,6-; Total; ng/g dw	904ESCOxx	23-Jun-09	1.71	6.85	120	WPCL_L-669-717-09_BS590_S_PAH	DFW-WPCL
Fluorenes, C1-; Total; ng/g dw	904ESCOxx	23-Jun-09	3.98	5.76	37	WPCL_L-669-717-09_BS590_S_PAH	DFW-WPCL
Fluorenes, C3-; Total; ng/g dw	904ESCOxx	23-Jun-09	21.6	12.9	50	WPCL_L-669-717-09_BS590_S_PAH	DFW-WPCL
Methylfluorene, 1-; Total; ng/g dw	904ESCOxx	23-Jun-09	1.1	1.47	29	WPCL_L-669-717-09_BS590_S_PAH	DFW-WPCL
Naphthalenes, C2-; Total; ng/g dw	904ESCOxx	23-Jun-09	4	9.89	85	WPCL_L-669-717-09_BS590_S_PAH	DFW-WPCL
Phenanthrene/Anthracene, C4-; Total; ng/g dw	904ESCOxx	23-Jun-09	7.97	12.3	43	WPCL_L-669-717-09_BS590_S_PAH	DFW-WPCL
Chlordane, trans-; Total; ng/g dw	305THUxxx	16-Jun-09	3.88	3	26	WPCL_L-717-09_BS570_S_OCH	DFW-WPCL
DDE(o,p'); Total; ng/g dw	305THUxxx	16-Jun-09	5.3	4.01	28	WPCL_L-717-09_BS570_S_OCH	DFW-WPCL
DDE(p,p'); Total; ng/g dw	305THUxxx	16-Jun-09	209	154	30	WPCL_L-717-09_BS570_S_OCH	DFW-WPCL
DDMU(p,p'); Total; ng/g dw	305THUxxx	16-Jun-09	14.1	10.9	26	WPCL_L-717-09_BS570_S_OCH	DFW-WPCL
DDT(o,p'); Total; ng/g dw	305THUxxx	16-Jun-09	14	10.1	32	WPCL_L-717-09_BS570_S_OCH	DFW-WPCL
DDT(p,p'); Total; ng/g dw	305THUxxx	16-Jun-09	58.7	43.2	30	WPCL_L-717-09_BS570_S_OCH	DFW-WPCL
Clay; <0.0039 mm; %	201WLK160	30-Jun-10	10.5	14.5	32	IIRMES_GC01-026_S_GS	CSULB-IIRMES
Sand; 0.0625 to <2.0 mm; %	201WLK160	30-Jun-10	52	38.6	30	IIRMES_GC01-026_S_GS	CSULB-IIRMES
Clay; <0.0039 mm; %	207WAL020	29-Jun-10	9	12.3	31	IIRMES_GC01-034_S_GS	CSULB-IIRMES
Clay; <0.0039 mm; %	541MERECY	08-Jul-10	19.4	15	26	IIRMES_GC01-034_S_GS	CSULB-IIRMES
Sand; 0.0625 to <2.0 mm; %	637SUS001	19-Aug-10	0.7	0.3	80	IIRMES_GC01-037_S_GS	CSULB-IIRMES
Total Organic Carbon; None; % dw	000NONPJ	18-Aug-10	1.5	0.85	55	IIRMES_GC01-045_S_TOC	CSULB-IIRMES

Analyte	Station Code	Sample Date	% Value	Duplicate Value	RPD	Laboratory	Batch ID
Clay; <0.0039 mm; %	504BCHBID	24-Feb-11	6.2	9	37	IIRMES_GC01-063_S_GS	CSULB-IIRMES
DDE(p,p'); Total; ng/g dw	558PKC010	23-Sep-10	10.3	7.4	33	IIRMES_TO-01-073_S_OCH	CSULB-IIRMES
Benz(a)anthracene; Total; ng/g dw	205COY060	30-Jun-10	9.9	12.8	26	IIRMES_TO-01-075_S_PAH	CSULB-IIRMES
Perylene; Total; ng/g dw	633WCRSED	06-Oct-10	7.8	10.3	28	IIRMES_TO-01-117_S_PAH	CSULB-IIRMES
Methylphenanthrene, 1-; Total; ng/g dw	111EELMYR	20-Oct-10	11.9	8.4	34	IIRMES_TO-01-123_S_PAH	CSULB-IIRMES
Phenanthrene; Total; ng/g dw	111EELMYR	20-Oct-10	34.8	26.6	27	IIRMES_TO-01-123_S_PAH	CSULB-IIRMES
Phenanthrene; Total; ng/g dw	114RRDSDM	21-Oct-10	11	7.8	34	IIRMES_TO-01-125_S_PAH	CSULB-IIRMES
PBDE 099; Total; ng/g dw	504BCHROS	18-Aug-10	2.02	1.46	32	IIRMES_TO-01-125_S_PBDE	CSULB-IIRMES
Cadmium; Total; mg/Kg dw	907S01434	13-May-09	0.27	0.2	31.8	MPSL-DFG_2009Dig24_S_TM	MPSL-DFW
Lead; Total; mg/Kg dw	907S01434	13-May-09	10.7	7.87	30.3	MPSL-DFG_2009Dig24_S_TM	MPSL-DFW
Aluminum; Total; mg/Kg dw	558PKC005	05-Jun-09	82564	57423	36	MPSL-DFG_2010Dig14_S_TM	MPSL-DFW
Arsenic; Total; mg/Kg dw	558PKC005	05-Jun-09	8.94	4.81	60.1	MPSL-DFG_2010Dig14_S_TM	MPSL-DFW
Chromium; Total; mg/Kg dw	558PKC005	05-Jun-09	69.8	39.1	56.4	MPSL-DFG_2010Dig14_S_TM	MPSL-DFW
Silver; Total; mg/Kg dw	558PKC005	05-Jun-09	0.28	0.42	40.8	MPSL-DFG_2010Dig14_S_TM	MPSL-DFW
Aluminum; Total; mg/Kg dw	723NROTWM	19-Oct-09	28557	37517	27.1	MPSL-DFG_2010Dig15_S_TM	MPSL-DFW
Silver; Total; mg/Kg dw	535STC501	15-May-09	0.24	0.39	49.5	MPSL-DFG_2010Dig19_S_TM	MPSL-DFW
Cadmium; Total; mg/Kg dw	801SARVRx	25-May-10	0.11	0.18	48	MPSL-DFG_2010Dig54_S_TM	MPSL-DFW
Cadmium; Total; mg/Kg dw	504BCHROS	18-Aug-10	0.12	0.2	54.5	MPSL-DFG_2010Dig75_S_TM	MPSL-DFW
Silver; Total; mg/Kg dw	312SMAxxx	18-Aug-10	0.2	0.42	69.7	MPSL-DFG_2011Dig03_S_TM	MPSL-DFW

Analyte	Station Code	Sample Date	% Value	Duplicate Value	RPD	Laboratory	Batch ID
Aluminum; Total; mg/Kg dw	504SACHMN	18-Aug-10	53970	20763	88.9	MPSL-DFG_2011Dig06_S_TM	MPSL-DFW
Manganese; Total; mg/Kg dw	504SACHMN	18-Aug-10	458	316	36.7	MPSL-DFG_2011Dig06_S_TM	MPSL-DFW
Silver; Total; mg/Kg dw	504SACHMN	18-Aug-10	0.24	0.45	60.3	MPSL-DFG_2011Dig06_S_TM	MPSL-DFW
Cadmium; Total; mg/Kg dw	554SKR010	11-Aug-10	0.1	0.13	26	MPSL-DFG_2011Dig07_S_TM	MPSL-DFW
Aluminum; Total; mg/Kg dw	628DEPSED	12-Aug-10	43632	33817	25.3	MPSL-DFG_2011Dig08_S_TM	MPSL-DFW
Arsenic; Total; mg/Kg dw	628DEPSED	12-Aug-10	5.16	2.26	33.8	MPSL-DFG_2011Dig08_S_TM	MPSL-DFW
Chromium; Total; mg/Kg dw	628DEPSED	12-Aug-10	17.4	8.26	31.1	MPSL-DFG_2011Dig08_S_TM	MPSL-DFW
Copper; Total; mg/Kg dw	628DEPSED	12-Aug-10	21.8	14.7	31.5	MPSL-DFG_2011Dig08_S_TM	MPSL-DFW
Manganese; Total; mg/Kg dw	628DEPSED	12-Aug-10	1258	707	30	MPSL-DFG_2011Dig08_S_TM	MPSL-DFW
Nickel; Total; mg/Kg dw	628DEPSED	12-Aug-10	11.4	7.4	30	MPSL-DFG_2011Dig08_S_TM	MPSL-DFW
Silver; Total; mg/Kg dw	508SACBLF	19-Aug-10	0.41	0.72	54.4	MPSL-DFG_2011Dig10_S_TM	MPSL-DFW
Chlordane, trans-; Total; ng/g dw	904ESCOxx	23-Jun-09	2.97	2.21	29	WPCL_L-024-717-09_BS569_S_OCH	DFW-WPCL
Oxadiazon; Total; ng/g dw	904ESCOxx	23-Jun-09	40.9	2.82	170	WPCL_L-024-717-09_BS569_S_OCH	DFW-WPCL
Bifenthrin; Total; ng/g dw	535STC501	08-Jul-10	0.848	1.14	29	WPCL_L-520-11_BS655_S_PYD	DFW-WPCL
Benzo(k)fluoranthene; Total; ng/g dw	904ESCOxx	23-Jun-09	18.9	14.5	26	WPCL_L-669-717-09_BS590_S_PAH	DFW-WPCL
Dimethylnaphthalene, 2,6-; Total; ng/g dw	904ESCOxx	23-Jun-09	1.71	6.85	120	WPCL_L-669-717-09_BS590_S_PAH	DFW-WPCL
Fluorenes, C1-; Total; ng/g dw	904ESCOxx	23-Jun-09	3.98	5.76	37	WPCL_L-669-717-09_BS590_S_PAH	DFW-WPCL
Fluorenes, C3-; Total; ng/g dw	904ESCOxx	23-Jun-09	21.6	12.9	50	WPCL_L-669-717-09_BS590_S_PAH	DFW-WPCL
Methylfluorene, 1-; Total; ng/g dw	904ESCOxx	23-Jun-09	1.1	1.47	29	WPCL_L-669-717-09_BS590_S_PAH	DFW-WPCL

Analyte	Station Code	Sample Date	% Value	Duplicate Value	RPD	Laboratory	Batch ID
Naphthalenes, C2-; Total; ng/g dw	904ESCOxx	23-Jun-09	4	9.89	85	WPCL_L-669-717-09_BS590_S_PAH	DFW-WPCL
Phenanthrene/Anthracene, C4-; Total; ng/g dw	904ESCOxx	23-Jun-09	7.97	12.3	43	WPCL_L-669-717-09_BS590_S_PAH	DFW-WPCL
Chlordane, trans-; Total; ng/g dw	305THUxxx	16-Jun-09	3.88	3	26	WPCL_L-717-09_BS570_S_OCH	DFW-WPCL
DDE(o,p'); Total; ng/g dw	305THUxxx	16-Jun-09	5.3	4.01	28	WPCL_L-717-09_BS570_S_OCH	DFW-WPCL
DDE(p,p'); Total; ng/g dw	305THUxxx	16-Jun-09	209	154	30	WPCL_L-717-09_BS570_S_OCH	DFW-WPCL
DDMU(p,p'); Total; ng/g dw	305THUxxx	16-Jun-09	14.1	10.9	26	WPCL_L-717-09_BS570_S_OCH	DFW-WPCL
Aluminum; Total; mg/Kg dw	901S45253	18-May-10	45860	72098	44.5	MPSL-DFG_2010Dig53_S_TM	MPSL-DFW
Manganese; Total; mg/Kg dw	901S45253	18-May-10	1246	2439	64.7	MPSL-DFG_2010Dig53_S_TM	MPSL-DFW
Cadmium; Total; mg/Kg dw	904S01814	15-Jun-10	0.21	0.29	32	MPSL-DFG_2010Dig63_S_TM	MPSL-DFW
Aluminum; Total; mg/Kg dw	907S09286	15-Jun-10	36559	48440	27.95	MPSL-DFG_2010Dig60_S_TM	MPSL-DFW

Table A3-11
Laboratory duplicate samples that did not meet quality control acceptance criteria.

Analyte	Station Code	Date	Field Sample	Field Duplicate	RPD	Laboratory
Aluminum; Total; mg/Kg dw	103SMHSAR	19-Oct-10	16954	12816	28	MPSL-DFW
Cadmium; Total; mg/Kg dw	103SMHSAR	19-Oct-10	0.13	0.23	56	MPSL-DFW
Mercury; Total; mg/Kg dw	103SMHSAR	19-Oct-10	0.07	0.095	30	MPSL-DFW
Phosphorus as P; Total; mg/Kg dw	103SMHSAR	19-Oct-10	260	1.1	198	CSULB-IIRMES
Silver; Total; mg/Kg dw	103SMHSAR	19-Oct-10	0.2	0.57	96	MPSL-DFW
Total Organic Carbon; None; % dw	103SMHSAR	19-Oct-10	3.14	1.62	64	CSULB-IIRMES
Copper; Total; mg/Kg dw	207LAU020	29-Jun-10	34	42.4	34	MPSL-DFW
Manganese; Total; mg/Kg dw	207LAU020	29-Jun-10	1477	1477	43	MPSL-DFW
Nickel; Total; mg/Kg dw	207LAU020	29-Jun-10	31.9	42.5	28	MPSL-DFW
Pyrene; Total; ng/g dw	207LAU020	29-Jun-10	7.8	10.4	29	CSULB-IIRMES
Zinc; Total; mg/Kg dw	207LAU020	29-Jun-10	154	154	47	MPSL-DFW

Total Organic Carbon; None; % dw	504BCHRIV	18-Aug-10	1.39	0.87	46	CSULB-IIRMES
Mercury; Total; mg/Kg dw	633WCRSED	06-Oct-10	0.022	0.034	43	MPSL-DFW
Chlordane, cis-; Total; ng/g dw	904ESCOxx	23-Jun-09	4.82	2.78	54	DFW-WPCL
Chlordane, trans-; Total; ng/g dw	904ESCOxx	23-Jun-09	5.28	2.97	56	DFW-WPCL
Nonachlor, trans-; Total; ng/g dw	904ESCOxx	23-Jun-09	5.01	3.28	42	DFW-WPCL
Oxadiazon; Total; ng/g dw	904ESCOxx	23-Jun-09	4.24	40.9	162	DFW-WPCL
Bifenthrin; Total; ng/g dw	904ESCOxx	24-May-10	13.9	28.9	70	DFW-WPCL
Permethrin, cis-; Total; ng/g dw	904ESCOxx	24-May-10	3.76	6.96	60	DFW-WPCL
Cadmium, Total mg/Kg dw	207LAU020	29/Jun/2010	0.16	0.28	55	MPSL-DFW
Chromium, Total mg/Kg dw	207LAU020	29/Jun/2010	39.3	51.8	27	MPSL-DFW
Copper, Total mg/Kg dw	207LAU020	29/Jun/2010	24.9	34	31	MPSL-DFW
Lead, Total mg/Kg dw	207LAU020	29/Jun/2010	13.6	17.8	27	MPSL-DFW
Manganese, Total mg/Kg dw	207LAU020	29/Jun/2010	632	1796	96	MPSL-DFW
Nickel, Total mg/Kg dw	207LAU020	29/Jun/2010	24.6	32.6	28	MPSL-DFW
Silver, Total mg/Kg dw	207LAU020	29/Jun/2010	0.21	0.3	35	MPSL-DFW
Zinc, Total mg/Kg dw	207LAU020	29/Jun/2010	80.8	115	35	MPSL-DFW
Cadmium, Total mg/Kg dw	904ESCOxx	24/ May/2010	1.54	2.12	32	MPSL-DFW
Manganese, Total mg/Kg dw	904ESCOxx	24/ May/2010	645	1460	77	MPSL-DFW
Silver, Total mg/Kg dw	904ESCOxx	24/ May/2010	0.22	0.33	40	MPSL-DFW
Aluminum, Total mg/Kg dw	904ESCOxx	24/ May/2010	71056	112269	45	MPSL-DFW
Arsenic, Total mg/Kg dw	904ESCOxx	24/ May/2010	4.46	7.12	46	MPSL-DFW
Cadmium, Total mg/Kg dw	904ESCOxx	24/ May/2010	1.68	2.5	39	MPSL-DFW
Chromium, Total mg/Kg dw	904ESCOxx	24/ May/2010	26.0	37.3	36	MPSL-DFW
Manganese, Total mg/Kg dw	904ESCOxx	24/ May/2010	593	959	47	MPSL-DFW
Nickel, Total mg/Kg dw	904ESCOxx	24/ May/2010	12.6	18.9	40	MPSL-DFW
Silver, Total mg/Kg dw	904ESCOxx	24/ May/2010	0.21	0.41	65	MPSL-DFW
Zinc, Total mg/Kg dw	904ESCOxx	24/ May/2010	112	162	36	MPSL-DFW

Table A3-12
Samples that exceeded holding time, sampling date, and related analyte group.

Station	Sample Date	Analyte Group
103SMHSAR	15-Sep-09	Polychlorinated Biphenyls
103SMHSAR	15-Sep-09	Total Organic Carbon
103SMHSAR	19-Oct-10	Polybrominated Diphenyl Ethers
114LAGMIR	15-Sep-09	Polychlorinated Biphenyls
114LAGMIR	15-Sep-09	Total Organic Carbon
201LAG125	16-Jun-09	Polychlorinated Biphenyls
201LAG125	16-Jun-09	Total Organic Carbon
201LAG125	30-Jun-10	Pyrethroid Pesticides
201WLK160	30-Jun-10	Pyrethroid Pesticides
204ALA020	29-Jun-10	Pyrethroid Pesticides
204SLE030	29-Jun-10	Pyrethroid Pesticides
204SMA020	16-Jun-09	Polychlorinated Biphenyls
204SMA020	16-Jun-09	Total Organic Carbon
204SMA020	30-Jun-10	Pyrethroid Pesticides
205COY060	16-Jun-09	Polychlorinated Biphenyls
205COY060	16-Jun-09	Total Organic Carbon
205COY060	30-Jun-10	Pyrethroid Pesticides
205GUA020	30-Jun-10	Pyrethroid Pesticides
206SON010	29-Jun-10	Pyrethroid Pesticides
207KIR020	29-Jun-10	Pyrethroid Pesticides
207LAU020	29-Jun-10	Pyrethroid Pesticides
207WAL020	29-Jun-10	Pyrethroid Pesticides
304SOKxxx	02-Jul-10	Pyrethroid Pesticides
305THUxxx	16-Jun-09	Total Organic Carbon
305THUxxx	02-Jul-10	Pyrethroid Pesticides
307CMLxxx	02-Jul-10	Pyrethroid Pesticides
309DAVxxx	16-Jun-09	Total Organic Carbon
309DAVxxx	22-Jun-10	Pyrethroid Pesticides
309TDWxxx	21-Jun-10	Pyrethroid Pesticides
310ARGxxx	22-Jun-10	Pyrethroid Pesticides
310SLBxxx	21-Jun-10	Pyrethroid Pesticides
312SMAxxx	16-Jun-09	Total Organic Carbon
312SMAxxx	18-Aug-10	Pyrethroid Pesticides
313SAIxxx	21-Jun-10	Pyrethroid Pesticides
315ATAxxx	21-Jun-10	Pyrethroid Pesticides
315MISxxx	22-Jun-10	Pyrethroid Pesticides

Station	Sample Date	Analyte Group
402VRB0xx	27-May-10	Pyrethroid Pesticides
403STCBQT	26-May-10	Pyrethroid Pesticides
403STCEST	27-May-10	Pyrethroid Pesticides
403STCSSP	26-May-10	Pyrethroid Pesticides
404BLNAxx	24-Jun-09	Total Organic Carbon
405SGRA2x	26-May-10	Pyrethroid Pesticides
408CGCS06	24-Jun-09	Total Organic Carbon
408CGCS06	27-May-10	Pyrethroid Pesticides
412LARWxx	26-May-10	Pyrethroid Pesticides
504BCHBID	18-Aug-10	Pyrethroid Pesticides
504BCHNOR	18-Aug-10	Pyrethroid Pesticides
504BCHRIV	18-Aug-10	Pyrethroid Pesticides
504BCHROS	18-Aug-10	Pyrethroid Pesticides
504SACHMN	18-Aug-10	Pyrethroid Pesticides
508SACBLF	19-Aug-10	Pyrethroid Pesticides
510LSAC08	25-Aug-10	Pyrethroid Pesticides
511CAC113	24-Aug-10	Pyrethroid Pesticides
515SACKNK	24-Aug-10	Pyrethroid Pesticides
515YBAMVL	14-Sep-09	Total Organic Carbon
515YBAMVL	24-Aug-10	Pyrethroid Pesticides
519AMNDVY	14-Sep-09	Total Organic Carbon
519AMNDVY	25-Aug-10	Pyrethroid Pesticides
519BERBRY	24-Aug-10	Pyrethroid Pesticides
519FTRNCS	24-Aug-10	Pyrethroid Pesticides
520BUTPAS	24-Aug-10	Pyrethroid Pesticides
520CBDKLU	24-Aug-10	Pyrethroid Pesticides
526PRFALR	19-Aug-10	Pyrethroid Pesticides
531SAC001	01-Sep-10	Pyrethroid Pesticides
532AMA002	01-Sep-10	Pyrethroid Pesticides
535MER007	01-Sep-10	Pyrethroid Pesticides
535MER546	01-Sep-10	Pyrethroid Pesticides
535STC206	01-Sep-10	Pyrethroid Pesticides
535STC210	01-Sep-10	Pyrethroid Pesticides
535STC501	15-May-09	Total Metals
535STC501	15-May-09	Grain Size
535STC501	15-May-09	Organophosphorus Pesticides
535STC501	15-May-09	Total Organic Carbon
535STC501	15-May-09	Total Metals
535STC501	08-Jul-10	Pyrethroid Pesticides
535STC504	01-Sep-10	Pyrethroid Pesticides
541MER522	01-Sep-10	Pyrethroid Pesticides

Station	Sample Date	Analyte Group
541MER542	08-Jul-10	Pyrethroid Pesticides
541MERECY	08-Jul-10	Pyrethroid Pesticides
541SJC501	01-Sep-10	Pyrethroid Pesticides
541STC019	08-Jul-10	Pyrethroid Pesticides
541STC516	08-Jul-10	Pyrethroid Pesticides
544SAC002	01-Sep-10	Pyrethroid Pesticides
554SKR010	11-Aug-10	Pyrethroid Pesticides
558PKC005	05-Jun-09	Organophosphorus Pesticides
558PKC005	05-Jun-09	Organophosphorus Pesticides
558PKC005	05-Jun-09	Total Organic Carbon
628DEPSED	12-Aug-10	Pyrethroid Pesticides
637SUS001	14-Sep-09	Total Organic Carbon
637SUS001	19-Aug-10	Pyrethroid Pesticides
719CVSCOT	20-Oct-09	Total Organic Carbon
723ARGRB1	19-Oct-09	Total Organic Carbon
723NROTWM	19-Oct-09	Total Organic Carbon
801CCPT12	25-May-10	Pyrethroid Pesticides
801SARVRx	25-May-10	Pyrethroid Pesticides
801SDCxxx	24-Jun-09	Total Organic Carbon
801SDCxxx	26-May-10	Pyrethroid Pesticides
802SJCREF	24-Jun-09	Total Organic Carbon
802SJCREF	25-May-10	Pyrethroid Pesticides
901SJSJC9	24-May-10	Pyrethroid Pesticides
902SSMR07	23-Jun-09	Total Organic Carbon
902SSMR07	24-May-10	Pyrethroid Pesticides
904ESCOxx	23-Jun-09	Polychlorinated Biphenyls
904ESCOxx	23-Jun-09	Total Organic Carbon
904ESCOxx	24-May-10	Pyrethroid Pesticides
905SDSDQ9	24-May-10	Pyrethroid Pesticides
906LPLPC6	25-May-10	Pyrethroid Pesticides
907SDRWAR	23-Jun-09	Total Organic Carbon
907SDRWAR	25-May-10	Pyrethroid Pesticides
911TJHRxx	25-May-10	Pyrethroid Pesticides

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