First Year Cost Estimate for CCW Toxicity TMDL and OCs TMDL Monitoring Plan

Laboratory Analyses

Dry Weather Sample Collection	Number of Sampling Events	Number of Samples Per Year	QA/QC Samples	Cost Per Sample	Total Cost
WATER					
Conventional Constituents- Freshwater					
Total ammonia	4	85	8	$28	$2,604
Hardness	4	85	8	$25	$2,325
Total Suspended Solids	4	85	8	$25	$2,325
Conventional Constituents - Marine					
Total ammonia	4	4	1	$28	$140
Hardness	4	4	1	$25	$125
Total Suspended Solids	4	4	1	$25	$125
Organics - Freshwater					
OC Pesticides and PCBs and Pyrethroids	4	85	12	$250	$24,250
OP Pesticides	4	85	12	$185	$17,945
Triazines	4	85	12	$50	$4,850
Organics - Marine					
OC Pesticides and PCBs	4	4	12	$225	$3,600
OP Pesticides and Pyrethroids	4	4	12	$275	$4,400
Triazines	4	4	12	$80	$1,280
Toxicity Testing					
Ceriodaphnia dubia	4	25	4	$550	$15,950
Ceriodaphnia dubia Phase I TIEs (1)		10		$6,000	$60,000
Ceriodaphnia dubia Phase II TIEs (1)		3		$4,850	$14,550
Americamysis bahia	4	4	4	$550	$4,400
Americamysis bahia Phase I TIEs (1)		2		$6,000	$12,000
Americamysis bahia Phase II TIEs (1)		1		$4,850	$4,850
STREAMBED SEDIMENT					
Conventional Constituents - Freshwater					
Total ammonia	2	10	2	$45	$540
Percent Moisture	2	10	2	$10	$120
Grain Size Analysis	2	10	2	$80	$960
Total Organic Carbon	2	10	2	$50	$600
Conventional Constituents - Marine					
Total ammonia	2	12	2	$45	$630
Percent Moisture	2	12	2	$10	$140
Grain Size Analysis	2	12	2	$80	$1,120
Total Organic Carbon	2	12	2	$50	$700
Organics - Freshwater					
Particulate Sieving	2	10	2	$50	$600
OC Pesticides and PCBs and Pyrethroids	2	30	6	$250	$9,000
OP Pesticides	2	30	6	$195	$7,020
Triazines	2	30	6	$50	$1,800
Organics and Metals - Marine					
Particulate Sieving	2	12	2	$50	$700
OC Pesticides and PCBs	2	36	6	$225	$9,450
OP Pesticides and Pyrethroids	2	36	6	$305	$12,810
Triazines	2	36	6	$80	$3,360
Acid Volatile Sulfides	2	36	6	$75	$3,150
Simultaneously Extractable Metals (SEM)	2	36	6	$125	$5,250
Toxicity Testing					
Chronic (10 day) Hyalella azteca bulk sediment	2	10	2	$775	$9,300
Chronic (10 day) Hyalella azteca porewater		5		$1,300	$6,500
Chronic (10 day) Hyalella azteca porewater Phase I (1)		3		$8,100	$24,300
Chronic (10 day) Hyalella azteca porewater Phase II (1)		2		$5,300	$10,600
Chronic (10 day) Eohaustorius estuarius bulk sediment	2	12	2	$675	$9,450
Chronic (10 day) Eohaustorius estuarius porewater		6		$1,300	$7,800
Chronic (10 day) Eohaustorius estuarius porewater Phase I (1)		3		$6,600	$19,800
Chronic (10 day) Eohaustorius estuarius porewater Phase II (1)		2		$5,300	$10,600
FISH TISSUE					
Conventional Constituents					
Percent Lipids	2	50	2	$25	$1,300
Organics					
OC Pesticides and PCBs	2	46	2	$200	$9,600
OP Pesticides	2	4	2	$195	$1,170

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Laboratory Analyses - Continued

Wet Weather Sample Collection	Number of Sampling Events	Number of Samples Per Year	QA/QC Samples	Cost Per Sample	Total Cost
WATER					
Conventional Constituents					
Total ammonia	2	46	4	$28	$1,400
Hardness	2	46	4	$25	$1,250
Total Suspended Solids	2	46	4	$25	$1,250
Organics in Water					
OC Pesticides and PCBs	2	46	6	$200	$10,400
OP Pesticides and Pyrethroids	2	46	6	$185	$9,620
Triazines	2	46	6	$50	$2,600
Organics in Suspended Sediment Partitions					
Sample Filtering and Particulate Sieving	2	40	2	$50	$2,100
OC Pesticides and PCBs and Pyrethroids	2	120	2	$250	$30,500
OP Pesticides	2	120	2	$195	$23,790
Triazines	2	120	2	$50	$6,100
Toxicity Testing					
Ceriodaphnia dubia	2	16	2	$400	$7,200
Ceriodaphnia dubia Phase I TIEs (1)		7		$6,000	$42,000
Ceriodaphnia dubia Phase II TIEs (1)		3		$4,850	$14,550
Total Laboratory Analyses Costs					**$497,000**

Labor and Equipment Costs

	Number of Sampling Events	Number of Hours	Average Cost Per Hour	Equipment Rental and Materials	Total Cost
Completion of Monitoring Plan					
Complete monitoring plan		48	$115		$5,520
Cordinate efforts between monitoring programs in CCW		24	$115		$2,760
Water Sampling					
Dry Weather Sample Collection	4	60	$100	$300	$24,300
Wet Weather Sample Collection	2	60	$100	$300	$12,600
Sediment Sampling					
Sample Collection In-Stream	2	112	$100	$600	$23,000
Sample Collection Mugu Lagoon (2)	2			$21,000	$42,000
Fish Tissue Sampling					
Sample Collection In-Stream	2			$10,000	$20,000
Sample Collection Mugu Lagoon (2)	2			$21,000	$42,000
Sample Management					
Sample Event Prep	6	12	$85		$6,120
Post Event Wrap-up	6	8	$85		$4,080
Data analysis and integration of new data	6	20	$125		$15,000
Contract Administration and Project Management (3)					$32,400
Total Labor and Equipment Costs					**$230,000**
Total Costs					**$730,000**

(1) Number of Phase I and II TIEs are based on previous frequency of observed toxicity sufficient to trigger TIEs.
(2) Sample collection in Mugu Lagoon for sediment and fish tissue is approximately $7,000 a day for equipment rental and personel.
(3) Project management costs estimated at 6 hours per month over 1 year. Contract Administrator hours estimated at 1 hour for $4,000 of costs.