

APPENDIX I

Revised Postclosure Cost Estimate for Postclosure Permit Application,
Process Water Pond (DTSC, December 13, 2006)



Linda S. Adams
Secretary for
Environmental Protection



Department of Toxic Substances Control

Maureen F. Gorsen, Director
1011 North Grandview Avenue
Glendale, California 91201



Arnold Schwarzenegger
Governor

December 13, 2006

Mr. Stephen J. Mallon
Senior Environmental Services
Environmental Services Department
ConocoPhillips Los Angeles Refinery
1660 West Anaheim Street
Wilmington, California 90744

REVISED POSTCLOSURE COST ESTIMATE FOR POSTCLOSURE PERMIT
APPLICATION, PROCESS WATER POND, CONOCO PHILLIPS LOS ANGELES
REFINERY, CARSON PLANT, CALIFORNIA (EPA ID NUMBER CAD 980881676)

Dear Mr. Mallon:

Pursuant to California Code of Regulations, title 22, section 66265.144, the owner or operator of a hazardous waste disposal unit is required to prepare and submit a detailed written estimate, in current dollars, of the annual cost of postclosure monitoring and maintenance of the facility in accordance with applicable postclosure regulations. The Department of Toxic Substances Control (DTSC), Southern California Permitting and Corrective Action Branch (SCPCAB) has reviewed your postclosure cost estimate based on the postclosure permit application dated May 2006. The postclosure permit application and postclosure cost estimate are deficient. The current cost estimate, based on your May 2006 postclosure permit application is \$1,027,925. SCPCAB has prepared a postclosure cost estimate of \$2,200,000.

SCPCAB developed its post-closure cost estimate using CostPro 5.0. CostPro 5.0 is a computer program developed by Tetra Tech EM, Inc., for the United States Environmental Protection Agency (U.S.EPA), to assist regulatory agencies and the regulated community in preparing closure and postclosure cost estimates for hazardous waste management facilities

We are providing the CostPro worksheet used in developing our postclosure cost estimate for your facility. Please review the enclosures provided with this letter carefully. My staff would be glad to meet with you to discuss any questions you may have regarding our review.

Mr. Stephen J. Mallon
December 13, 2006
Page 2 of 3

The other deficiencies in your postclosure permit application will be sent to you in a separate letter. Please utilize the enclosed information and review your postclosure permit application and postclosure cost by January 15, 2007. The revision of your post-closure plan and provide financial assurance for postclosure is required by California Code of Regulations (CCR), title 22, section 66265.145, to stay in compliance with applicable regulations.

If you have any questions, please contact Mike Eshaghian at (818) 551-2926 or myself at (818) 551-2922.

Sincerely,


Original signed by

Unit Chief
Southern California Permitting and Corrective Action Program
Hazardous waste Management Program

Enclosures

cc: Mr. Marshall Waller
Senior Engineer
1660 West Anaheim Street
Wilmington, California 90744

Mr. Jose Kou, P.E., Chief
Southern California Permitting and Corrective Action Program
Hazardous waste Management Program
Department of Toxic Substances Control
1011 N. Grandview Avenue
Glendale, California 91201

Ms Florence Gharibian
Branch Chief
Statewide Compliance Division
Hazardous Waste Management Program
Department of Toxic Substances Control
1011 N. Grandview Avenue
Glendale, California 91201

Mr. Stephen J. Mallon
December 13, 2006
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cc: Mr. Keith Kihara
Compliance Program Development
Hazardous Waste Management Program
Department of Toxic Substances Control
1001 I Street /P.O. Box 0806
Sacramento, California 95812-0806

Mr. Mike Eshaghian
Southern California Permitting and Corrective Action Program
Hazardous Waste Management Program
Department of Toxic Substances Control
1011 N. Grandview Avenue
Glendale, California 91201

Mr. Satish Gulati
Statewide Compliance Division
Hazardous Waste Management Program
Department of Toxic Substances Control
1011 N. Grandview Avenue
Glendale, California 91201

POST-CLOSURE CARE

PC-1

Facility Name: CONOCO-PHILLIPS

Facility Sequence: 1

11/28/2006

Unit Name: PROCESS WATER POND(PC)

Unit Sequence: 1

SUMMARY WORKSHEET

	Activity	Worksheet Number	Cost
1.	Removal of Leachate	PC-2	\$0
2.	Site Security	PC-3	\$0
3.	Maintenance of Vegetative Cover	PC-4	\$0
4.	Maintenance and Inspection	PC-5	\$0
5.	Groundwater Monitoring	PC-6	\$883,860
6.	Deed Notation	PC-7	\$7,550
7.	Maintenance and Inspection of Asphalt Cover	PC-8	\$318,480
8.	Surface Emission Monitoring	PC-9	\$0
9.	Gas Extraction System and Perimeter Probe Monitoring	PC-10	\$0
10.	User Defined Cost	UD-1	\$400,500
11.	Subtotal of Post-Closure Costs		\$1,610,390
12.	Engineering Expenses	Percent Applied 10.00 %	\$161,039
13.	Certification of Post-Closure	PC-11	\$21,375
14.	Subtotal		\$1,792,804
15.	Contingency Allowance	Percent Applied 20.00 %	\$358,561
TOTAL COST OF POST-CLOSURE CARE (Rounded to		\$2,200,000)	\$2,151,365

POST-CLOSURE CARE

PC-6

GROUNDWATER SAMPLE - Page 1 of 2

Facility Name: CONOCO-PHILLIPS

Facility Sequence: 1

11/28/2006

Unit Name: PROCESS WATER POND(PC)

Unit Sequence: 1

Form Sequence: 3

1 COLLECTION OF GROUNDWATER SAMPLES			
1.A	Number of sampling locations	4 sample locations	
1.B	Labor and equipment cost per work hour Appropriate level of PPE	\$82.34 /work hr Protection Level D	
1.C	Work rate to collect samples from one sampling location	4.0000 work hr /location	
1.D	Number of hours required to collect all samples	160 work hrs	
1.E	Cost to Collect Groundwater Samples per Event		\$1,317
2 ANALYSIS OF GROUNDWATER SAMPLES			
2.A	Cost to Analyze Groundwater Samples per Event		\$7,531
3 TOTAL GROUNDWATER MONITORING FOR POST-CLOSURE CARE PERIOD			
3 A	Cost of Sampling and Analysis of Groundwater for Post-Closure	\$8,848	
3 B	Number of sampling events per year	1 events /yr	
3 C	Number of years of groundwater monitoring during the post-closure care period	30 years	
TOTAL COST OF GROUNDWATER MONITORING			\$265,440

POST-CLOSURE CARE

PC-6

GROUNDWATER SAMPLE ATTACHMENT- Page 2 of 2

Facility Name: CONOCO-PHILLIPS

Facility Sequence: 1

11/28/2006

Unit Name: PROCESS WATER POND(PC)

Unit Sequence: 1

Cost of Analysis per Sampling Event Reference for Line 2.A and 4.B

Column 1 Analytical Parameter and Method Reference	Column 2 Cost of Analysis (\$) per Parameter	Column 3 Number of Analyses, including QC Analyses	Column 4 Total Cost of Analysis (\$) per Parameter per Event
Organochlorine pesticides & PCBs (EPA 617)	\$156.00	4	\$624.00
Organophosphorous pesticide (SW 3510/SW 8140)	\$187.97	0	\$0.00
Sulfide (EPA 376.1)	\$26.01	0	\$0.00
Cyanide (SW 9010)	\$54.93	4	\$219.72
Dioxins & Dibenzofurans (SW 3550/SW 8280)	\$195.70	4	\$782.80
Metals screen, 25 metals listed in method (EPA	\$1,476.00	4	\$5,904.00
TOTAL COST FOR ANALYSIS OF GROUNDWATER SAMPLES			\$7,531 /event

POST-CLOSURE CARE

PC-6

GROUNDWATER SAMPLE - Page 1 of 2

Facility Name: CONOCO-PHILLIPS

Facility Sequence: 1

11/28/2006

Unit Name: PROCESS WATER POND(PC)

Unit Sequence: 1

Form Sequence: 5

1 COLLECTION OF GROUNDWATER SAMPLES			
1.A	Number of sampling locations	4 sample locations	
1.B	Labor and equipment cost per work hour Appropriate level of PPE	\$92.63 /work hr Protection Level D	
1.C	Work rate to collect samples from one sampling location	4.0000 work hr /location	
1.D	Number of hours required to collect all samples	16.0 work hrs	
1.E	Cost to Collect Groundwater Samples per Event		\$1,482
2 ANALYSIS OF GROUNDWATER SAMPLES			
2.A	Cost to Analyze Groundwater Samples per Event		\$8,825
3 TOTAL GROUNDWATER MONITORING FOR POST-CLOSURE CARE PERIOD			
3.A	Cost of Sampling and Analysis of Groundwater for Post-Closure	\$10,307	
3.B	Number of sampling events per year	2 events /yr	
3.C	Number of years of groundwater monitoring during the post-closure care period	30 years	
TOTAL COST OF GROUNDWATER MONITORING			\$618,420

POST-CLOSURE CARE

PC-6

GROUNDWATER SAMPLE ATTACHMENT- Page 2 of 2

Facility Name: CONOCO-PHILLIPS

Facility Sequence: 1

11/28/2006

Unit Name: PROCESS WATER POND(PC)

Unit Sequence: 1

Cost of Analysis per Sampling Event Reference for Line 2.A and 4.B

Column 1 Analytical Parameter and Method Reference	Column 2 Cost of Analysis (\$) per Parameter	Column 3 Number of Analyses, including QC Analyses	Column 4 Total Cost of Analysis (\$) per Parameter per Event
Base neutral & acid extractable organics (SW	\$359.21	4	\$1,436.84
BTEX purgeable aromatics (SW 5030/SW 8020)	\$75.96	4	\$303.84
Volatile organic analysis (SW 5030/SW 8240)	\$188.83	4	\$755.32
Metals screen, 25 metals listed in method (EPA	\$1,476.00	4	\$5,904.00
Phenols (EPA 604)	\$106.35	4	\$425.40
ce}	\$0.00	4	\$0.00
TOTAL COST FOR ANALYSIS OF GROUNDWATER SAMPLES			\$8,825 /event

POST-CLOSURE CARE

PC-7

DEED NOTATION - Page 1 of 1

Facility Name: CONOCO-PHILLIPS

Facility Sequence: 1 11/28/2006

Unit Name: PROCESS WATER POND(PC)

Unit Sequence: 1 Form Sequence: 1

1	Attorney fees	\$7,550	
2	Clerical and deed filing fees	\$0	
TOTAL COST OF DEED NOTATION			\$7,550

Post-Closure Notice

POST-CLOSURE CARE

PC-8

MAINTENANCE AND INSPECTION OF OF ASPHALT COVER - Page 1 of 1

Facility Name: CONOCO-PHILLIPS

Facility Sequence: 1

11/28/2006

Unit Name: PROCESS WATER POND(PC)

Unit Sequence: 1 Form Sequence: 1

1 MAINTENANCE OF ASPHALT COVER			
1.A	Area of asphalt cover	4,500.0 yd ²	
1.B	Cost of sealcoating asphalt cover per yd ²	\$2.28 /yd ²	
1.C	Cost of one sealcoating event	\$10,260 /event	
1.D	Number of sealcoating events during the post-closure care period	30 events	
1.E	Cost to Maintain Asphalt Cover		\$307,800
2 POST-CLOSURE INSPECTION			
2.A	Cost of conducting one inspection	\$177.75/inspection	
2.B	Number of inspections per year	2 inspections/year	
2.C	Cost of conducting post-closure care inspections per year	\$356 /year	
2.D	Number of years in post-closure care period	30 years	
2.E	Cost to Conduct Inspections Over the Post-Closure Care Period		\$10,680
TOTAL COST OF MAINTENANCE AND INSPECTION			\$318,480

POST-CLOSURE CARE

PC-11

CERTIFICATION OF COMPLETION OF POST-CLOSURE CARE- Page 1 of 1

Facility Name: CONOCO-PHILLIPS

Facility Sequence: 1 11/28/2006

Unit Name: PROCESS WATER POND(PC)

Unit Sequence: 1 Form Sequence: 1

1	Number of units requiring certification of completion of post-closure care	1	
2	Cost of certification of completion of post-closure care per unit	\$21,375	
TOTAL COST OF CERTIFICATION OF POST-CLOSURE CARE			\$21,375

USER DEFINED ACTIVITY

UD-1

Page 1 of 1

Facility Name: CONOCO-PHILLIPS

Facility Sequence: 1

11/28/2006

Unit Name: PROCESS WATER POND(PC)

Unit Sequence: 1

Form Sequence: 1

NAME OF CLOSURE OR POST-CLOSURE ACTIVITY		Groundwater Monitoring Purging 4 wells	
1	Number of units of work to be performed	0	gallons
2	Appropriate level of PPE Labor, material, and equipment cost per work hour	Protection Level D \$0.00 /work hour	
3	Work rate to perform one unit of activity	0 0000	work hour/ unit
4	Number of hours required to perform activity	0.0	work hours
5	Cost to conduct activity		\$0
6	Other cost(s) associated with this activity		
	Description		Cost
	6.A Shipping and Disposal of 4 drums per event for 30		\$24,000
	6.B Protective Wear \$50 per event		\$1,500
	6.C Sampling Equipment \$1000 per year		\$30,000
TOTAL COST OF USER DEFINED ACTIVITY			\$55,500

4 drums per event twice a year for 30 years at \$100 per drum (\$24000)

USER DEFINED ACTIVITY

UD-1

Page 1 of 1

Facility Name: CONOCO-PHILLIPS

Facility Sequence: 1

11/28/2006

Unit Name: PROCESS WATER POND(PC)

Unit Sequence: 1

Form Sequence: 2

NAME OF CLOSURE OR POST-CLOSURE ACTIVITY		Stormwater Collection and Pumping	
1	Number of units of work to be performed	0	feet
2	Appropriate level of PPE	Protection Level D	
	Labor, material, and equipment cost per work hour	\$0.00 /work hour	
3	Work rate to perform one unit of activity	0.0000 work-hour/unit	
4	Number of hours required to perform activity	0.0 work hours	
5	Cost to conduct activity	\$0	
6	Other cost(s) associated with this activity		
	Description	Cost	
	6.A Stormwater collection and pumping \$11,500 per	\$345,000	
	6.B <input type="checkbox"/>	\$0	
	6.C <input type="checkbox"/>	\$0	
TOTAL COST OF USER DEFINED ACTIVITY		\$345,000	

This number was taken from post closure permit application.