



Department of Energy
 Richland Operations Office
 P.O. Box 550
 Richland, Washington 99352

0049919

Incoming: 9859396

OCT 29 1998

99-EAP-009

Ms. Laura J. Cusack
 Hanford Facility RCRA Permit Manager
 Nuclear Waste Program
 State of Washington
 Department of Ecology
 1315 West Fourth Avenue
 Kennewick, Washington 99336



Dear Ms. Cusack:

FISCAL YEAR 1998 PROJECTIONS OF ANTICIPATED COSTS FOR CLOSURE AND/OR POSTCLOSURE FOR HANFORD FACILITY TREATMENT, STORAGE, AND/OR DISPOSAL UNITS

Enclosed is the "Fiscal Year 1998 Projections of Anticipated Costs for Closure and/or Postclosure for Hanford Facility Treatment, Storage, and/or Disposal Units (Annual Report)." This Annual Report is being submitted by October 31, 1998, the compliance due date established in Conditions II.H.1. and II.H.2. of the Hanford Facility Resource Conservation and Recovery Act Permit, Dangerous Waste Portion.

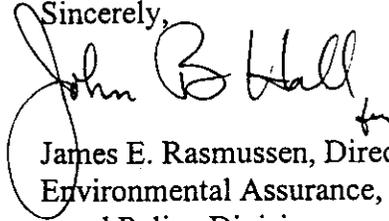
Should you have any questions regarding this Annual Report, please contact Ellen M. Mattlin, U.S. Department of Energy, Richland Operations Office, on (509) 376-2385; Fred A. Ruck III,

Ms. Laura J. Cusack
99-EAP-009

-2-

Fluor Daniel Hanford, Inc., on (509) 376-9876; Alice K. Ikenberry, Pacific Northwest National Laboratory, on (509) 373-5638; or Roger J. Landon, Bechtel Hanford, Inc., on (509) 372-9209.

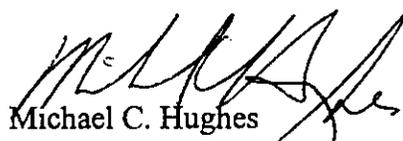
Sincerely,



James E. Rasmussen, Director
Environmental Assurance, Permits,
and Policy Division
DOE Richland Operations Office



William D. Adair, Director
Environmental Protection
Responsible Party for
Fluor Daniel Hanford, Inc.



Michael C. Hughes
Vice President, Operations
Bechtel Hanford, Inc.



Richard S. Watkins, Director
Environment, Safety, and Health
Pacific Northwest National Laboratory

Enclosures:

1. Fiscal Year 1998 Projections of
Anticipated Costs for Closure and/or
Postclosure for TSD Units
2. Table 1, Status of TSD Units

cc w/encls:

R. J. Landon, BHI
J. G. Woolard, BHI
S. J. Ingle, CHI
J. R. Wilkinson, CTUIR
D. R. Sherwood, EPA
W. D. Adair, FDH
S. M. Price, FDH
Donna L. Powaukee, NPT
E. L. Grohs, PNNL
H. T. Tilden, PNNL
D. B. Jensen, WMH
Russell Jim, YIN

cc w/o encls:

M. C. Hughes, BHI
L. M. Johnson, BHI
R. T. Swenson, BHI
F. A. Ruck III, FDH
A. K. Ikenberry, PNNL
S. P. Luttrell, PNNL
R. H. Engelmann, WMH
J. A. Winterhalder, WMH

ENCLOSURE

**Fiscal Year 1998 Projections of Anticipated Costs for Closure and/or Postclosure
for Treatment, Storage, and/or Disposal Units included in the
Hanford Facility Resource Conservation and Recovery Act Permit,
Dangerous Waste Portion**

including

**Table 1,
Status of Treatment, Storage, and/or Disposal Units
in the Hanford Facility Resource Conservation and Recovery Act Permit,
Dangerous Waste Portion, Revision 4A**

**FISCAL YEAR 1998 PROJECTIONS OF ANTICIPATED COSTS FOR CLOSURE
AND/OR POSTCLOSURE FOR TREATMENT, STORAGE, AND/OR DISPOSAL
UNITS INCLUDED IN THE HANFORD FACILITY RESOURCE CONSERVATION
AND RECOVERY ACT PERMIT, DANGEROUS WASTE PORTION**

INTRODUCTION AND BACKGROUND:

Conditions II.H.1. and II.H.2. of the Hanford Facility Resource Conservation and Recovery Act Permit (HF RCRA Permit), Dangerous Waste Portion (DW Portion), require the annual reporting of projections of anticipated costs for closure and/or postclosure, including postclosure monitoring and maintenance, for treatment, storage and/or disposal (TSD) units incorporated into Part III (Unit-Specific Conditions for Operating Units), Part V (Unit-Specific Conditions for Units Undergoing Closure), or Part VI (Unit-Specific Conditions for Units in Post-Closure) of the HF RCRA Permit, DW Portion. The Fiscal Year (FY) 1998 Projections of Anticipated Costs for Closure and/or Postclosure for Hanford Facility Treatment, Storage, and/or Disposal Units (Annual Report) addresses an additional four TSD units that were incorporated into the HF RCRA Permit, DW Portion, during FY 1998 (October 1, 1997 through September 30, 1998). The total number of TSD units incorporated into the HF RCRA Permit is now 22.

The organization of this Annual Report is consistent with the approach that was approved by Mr. Moses N. Jaraysi of the State of Washington, Department of Ecology (Ecology) at the October 3, 1995, HF RCRA Permit Steering Committee Meeting, and confirmed by an Ecology memo dated January 12, 1996. This approach entails the reporting of projections of anticipated closure and/or postclosure costs for the 22 TSD units incorporated into the HF RCRA Permit, DW Portion, in accordance with the status of a TSD unit, categorized as follows:

- ☐ Anticipated closure-cost projection has been submitted for a TSD unit in a previous annual report; no significant change in the approach to closure has been made since that submittal; the cost projection includes an escalation factor only.
- ☐ Anticipated closure-cost projection has been submitted for a TSD unit in a previous annual report; a significant change in the approach to closure has been made, since that submittal, to warrant a full-cost projection revision.
- ☐ Clean closure certification documentation has been submitted for a TSD unit; however, administrative or indefinite (referred to as "other") costs remain.
- ☐ Clean closure certification documentation has been submitted for a TSD unit; no additional costs remain and an update of an anticipated closure cost projection no longer is needed.
- ☐ No anticipated closure-cost projection has previously been submitted for a TSD unit; a new cost projection is provided.

In this FY 1998 Annual Report, Table 1 delineates which TSD units fall into each of these categories. Table 1 combines the second and last categories above into the column entitled "New Estimate Provided." For this FY 1998 Annual Report, this same column also includes some projections of anticipated costs for TSD units that are submitting a revision of an earlier projection of anticipated costs for the purposes of adjusting specific cost elements.

In previous years, this Annual Report has been certified by the U.S. Department of Energy, Richland Operations Office (RL) and the Permittees prior to delivery to Ecology. At the February 10, 1998, Permit Steering Committee Meeting, RL and the Permittees requested that Ecology accept the Annual Report without certification. Ecology agreed with the request, and signed a Class 1 Permit Modification in April 1998 to allow submittal with a transmittal letter instead of submittal as a certified package.

The anticipated closure and/or postclosure cost projections for the cited TSD units co-operated by Bechtel Hanford, Inc. (BHI) were originally completed in accordance with the Baselines and Funds Management System Procedure. Adjustments have been made for FY 1998 to more accurately reflect the costs for specific closure and/or postclosure tasks. BHI used EXCEL (trademark) spreadsheets to construct their estimates, together with lookup tables for insertion of labor rates for particular crafts/professions. Basic information in the estimates for performance of the tasks came from the BHI technical and planning personnel. Labor rates used in the BHI estimates are based on current Hanford Site rates for both contractor and subcontractor personnel at the time the estimate was constructed. Materials prices are based on locally available stock and equipment.

The updated anticipated closure-cost projection for the cited TSD unit co-operated by Fluor Daniel Hanford, Inc. (FDH) originally were completed using the methodology of the RL Implementing Directive (ID) 5700.3, "Project Cost Estimating, Analysis, and Cost Standardization." The new anticipated closure-cost projections for the TSD units co-operated by FDH were completed using the same methodology. The same interactive estimating program was used for FY 1998.

The new anticipated closure-cost projections for the cited TSD units co-operated by Pacific Northwest National Laboratory (Pacific Northwest) were completed using the methodology of the RL Implementing Directive (ID) 5700.3, "Project Cost Estimating, Analysis, and Cost Standardization" and the same interactive estimating program used in previous years.

Each of the anticipated closure and/or postclosure cost projections has been reviewed by BHI, Pacific Northwest, and FDH's major sub-contractors for their respective TSD units.

DEVELOPMENT DESCRIPTION:

A generic interpretative description also is provided with this Projection of Anticipated Closure and/or Postclosure Costs. A description of the general basis for the projected costs is presented in the "Closure and/or Postclosure Activities" section.

For the following discussion, refer to Table 1 of this Annual Report. Please note that any projections of anticipated costs are estimates, and are based on knowledge that is current during issuance of this Annual Report. Projections of anticipated costs may change in subsequent annual reports based on any of the following: change in costs of labor and materials, change in negotiated closure strategy, change in Hanford Site budgetary priorities, or an expanded knowledge of estimate details reported in previous annual reports.

For ease of reference, the Permittees co-operating a TSD unit with RL appear in brackets following the name of the TSD unit for which that Permittee had responsibilities during FY 1998: Bechtel Hanford, Inc. (BHI), Fluor Daniel Hanford, Inc. (FDH), or Pacific Northwest National Laboratory (Pacific Northwest, represented by PNNL in Table 1). Any major subcontractor company managing a TSD unit for co-operator FDH also appears in brackets following the name of the TSD unit for which they had responsibilities during FY 1998:

B&W Hanford Company (BWHC), or Waste Management Federal Services of Hanford, Inc. (WMH). Actions performed by former co-operator and Permittee Westinghouse Hanford Company (WHC) are also indicated where appropriate. Information on each TSD unit can be found in this report in order of appearance below.

One "escalation only" projection is included in this report for the TSD units that have been incorporated into the HF RCRA Permit, DW Portion, for which the original strategy of pursuing closure has not been changed:

- 616 Nonradioactive Dangerous Waste Storage Facility (616) [WMH for FDH]

Complete cost estimates were submitted for this TSD unit in the FY 1994 Annual Report on projection of anticipated costs submitted on October 31, 1994. This unit currently has no closing date identified, and the current update uses an escalation factor only.

Nine new projections of anticipated costs are included in this report:

- 305-B Storage Facility (305-B) [Pacific Northwest]
- Liquid Effluent Retention Facility (LERF) [WMH for FDH]
- 200 Area Effluent Treatment Facility (200 Area ETF) [WMH for FDH]
- 242-A Evaporator (242-A Evaporator) [WMH for FDH]
- 325 Hazardous Waste Treatment Units (325 HWTU) [Pacific Northwest]
- 183-H Solar Evaporation Basins (183-H) [BHI]
- 105-DR Large Sodium Fire Facility (105-DR) [BWHC for FDH]
- 303-K Storage Facility (303-K) [BWHC for FDH]
- 300 Area Process Trenches (300 APT) [BHI]

Revised costs are being supplied for four TSD units (305-B, 183-H, 303-K, and 300 APT) which previously were reported on when they were incorporated into the HF RCRA Permit, DW Portion. Four TSD units (LERF, 200 Area ETF, 242-A Evaporator, and 325 HWTU) are newly incorporated into the HF RCRA Permit, DW Portion during FY 1998, and are being reported on for the first time. A portion of 105-DR was clean closed (1996), and the costs for the remainder

of the TSD unit were deferred in the previous Annual Report. Those remaining costs for 105-DR have now been developed, and are reported in this Annual Report for the first time.

One projection is included for a TSD unit that has been incorporated into the HF RCRA Permit, DW Portion, and which has administrative or other costs left to accomplish closure

- Plutonium Uranium Extraction (PUREX) Storage Tunnels (PUREX Tunnels) [BWHC for FDH]

This TSD unit has its entire estimate deferred until a future date when a definitive closure strategy will be devised.

In addition to the projection of anticipated costs discussed in the previous paragraphs, the following eleven TSD units currently are incorporated into the HF RCRA Permit and have been accepted by Ecology as clean closed:

- 300 Area Solvent Evaporator [WHC]
- 2727-S Storage Facility [WHC]
- Simulated High-Level Waste Slurry Treatment and Storage [Pacific Northwest]
- 218-E-8 Borrow Pit Demolition Site [WHC]
- 200 West Area Ash Pit Demolition Site [WHC]
- 2101-M Pond [WHC]
- 216-B-3 Expansion Ponds [WHC]
- Hanford Patrol Academy Demolition Sites [WHC]
- 304 Concretion Facility [WHC]
- 4843 Alkali Metal Storage Facility [BWHC for FDH]
- 3718-F Alkali Metal Treatment and Storage Area [BWHC for FDH].

No further costs are anticipated; therefore, none are presented in this report. Additionally, if the TSD unit was presented in a previous annual report with no further costs pending, the separate page report on that individual TSD unit will no longer be provided in this Annual Report.

CLOSURE AND/OR POSTCLOSURE ACTIVITIES:

The projections of anticipated closure and/or postclosure costs are developed using both Hanford Facility and offsite subcontractor expertise and costs. Where Hanford Facility costs were used it was assumed that similar costs would be incurred if the work was conducted by subcontractors. Projections of the anticipated closure and/or postclosure costs take into consideration, where appropriate, labor and equipment; contractors for excavation, treatment, and disposal of dangerous waste; TSD unit and equipment decontamination; equipment removal; sampling and analysis of concrete and soil; inspections and maintenance; groundwater monitoring; and oversight of all closure and/or postclosure activities by an independent registered professional engineer. These projections do not include costs that already have been incurred prior to September 30, 1998.

Projections of anticipated closure and/or postclosure costs assume that workers have received appropriate training in dangerous waste cleanup in compliance with Occupational Safety and Health Administration Standards (29 Code of Federal Regulations [CFR] Part 1910.120(e)) and/or job-specific training for a particular task. Further, it is assumed that outside consultants (i.e., professional engineers) will possess demonstrated experience in closure of TSD units and cleanup of dangerous waste sites.

COST BASIS:

Projections of anticipated closure and/or postclosure costs were developed, wherever possible, using actual operations, closure, and experience on the Hanford Site. These costs were obtained from personal interviews, memorandums, and financial planning records. Other sources used for past projections that have been updated with an escalation factor have included the "R.S. Means Estimating Guide 1995" and the "Kaiser Financial Information of Craft Labor Rates." No costs for salvage value, either of equipment or of nondangerous waste, have been incorporated into these projections.

INVENTORY ELIMINATION COSTS:

Projections of anticipated closure and/or postclosure costs for the removal, treatment, transportation, and onsite or offsite disposal of remaining inventory after waste is no longer accepted at the TSD unit are based on the maximum waste inventory for that specific TSD unit.

UPDATING OF PROJECTIONS OF ANTICIPATED CLOSURE AND/OR POSTCLOSURE COSTS:

Projections of anticipated closure and/or postclosure costs that are updated with an escalation factor are based on previously submitted cost estimates and the latest revision of the closure and/or postclosure plans, adjusted for inflation for FY 1998. Projections of anticipated closure and/or postclosure costs also will be updated if a change to the closure and/or postclosure plan increases the cost of closing the unit. These projections will be updated annually to reflect the current status of the TSD unit in terms of closure and/or postclosure plan documentation or actual closure and/or postclosure activities.

Table 1: Status of Treatment, Storage, and/or Disposal Units
in the Hanford Facility Resource Conservation and Recovery Act Permit,
Dangerous Waste Portion, Rev. 4A

TSD Unit Name (Managing Subcontractor and/or Co-operator Name)	Previously Provided: Escalation Factor Only	New Estimate Provided Combined Category	Administrative or Other Costs Remaining	Clean-Closed (FY): No Estimate Needed	Projections of Anticipated Closure and/or Postclosure Costs Based on FY 1998
616 Nonradioactive Dangerous Waste Storage Facility (WMH for FDH)	X				\$1,785,058.00
305-B Storage Facility (PNNL)		X			\$3,500,000.00
PUREX Storage Tunnels (B&W for FDH) ¹			X ¹		¹ \$0.00
LERF (WMH for FDH)		X			\$3,652,000.00
200 Area ETF (WMH for FDH)		X			\$1,250,000.00
242-A Evaporator (WMH for FDH)		X			\$1,068,000.00
325 Hazardous Waste Treatment Units (PNNL)		X			\$7,300,000.00
183-H Solar Evaporation Basins (BHI)		X			\$2,030,046.00
300 Area Solvent Evaporator (FDH) ²				X (1995)	\$0.00
2727-S Storage Facility (FDH) ²				X (1995)	\$0.00
Simulated High-Level Waste Slurry Treatment/Storage (PNNL)				X (1995)	\$0.00
218-E-8 Borrow Pit Demolition Site (FDH) ²				X (1996)	\$0.00
200 West Area Ash Pit Demolition Site (FDH) ²				X (1996)	\$0.00
2101-M Pond (FDH) ²				X (1996)	\$0.00
216-B-3 Expansion Ponds (FDH) ²				X (1995)	\$0.00

Table I: Status of Treatment, Storage, and/or Disposal Units
in the Hanford Facility Resource Conservation and Recovery Act Permit,
Dangerous Waste Portion, Rev. 4A

TSD Unit Name (Managing Subcontractor and/or Co-operator Name)	Previously Provided: Escalation Factor Only	New Estimate Provided Combined Category	Administrative or Other Costs Remaining	Clean-Closed (FY): No Estimate Needed	Projections of Anticipated Closure and/or Postclosure Costs Based on FY 1998
Hanford Patrol Academy Demolition Sites (FDH) ²				X (1996)	\$0.00
105-DR Large Sodium Fire Facility (BHI) ³		X ³			\$1,766,246.00
304 Concretion Facility (FDH) ²				X (1996)	\$0.00
4843 Alkali Metal Storage Facility (BWHC for FDH)				X (1997)	\$0.00
3718-F Alkali Metal Treatment and Storage Area (BWHC for FDH)				X (1998)	\$0.00
303-K Storage Facility (BWHC for FDH)		X			\$314,382.00
300 Area Process Trenches (BHI)		X			\$3,604,519.00
TOTAL					\$26,270,251.00

¹For the Plutonium Uranium Extraction (PUREX) Storage Tunnels (Chapter 3, Part III, DW Portion), managed by B&W Hanford Co. (BWHC) for co-operator Fluor Daniel Hanford, Inc. (FDH), essentially all of the closure costs remain. As agreed with Ecology, the PUREX Storage Tunnels projection of anticipated costs is deferred until a future date when a definitive closure strategy is devised. The projection of anticipated costs will be presented in a future annual report when it is available.

²These TSD units were clean closed by WHC.

³For the 105-DR Large Sodium Fire Facility (Chapter 10, Part V, DW Portion), transferred to co-operator Bechtel Hanford, Inc (BHI) in FY 1998, a portion of the TSD unit is clean closed. For the rest of the unit, essentially all of the closure costs remain. As agreed by Ecology, the remaining portion will be closed during the decommissioning and decontamination of the 105-DR Reactor. Costs for this decommissioning and decontamination have been developed, and are being reported here for the first time.

616 NONRADIOACTIVE DANGEROUS WASTE STORAGE FACILITY

The closure strategy/approach has not changed for this TSD unit. The costs for this TSD unit have been adjusted by an escalation or inflation factor in accordance with the following:

Adjustment of 2.8% performed on FY 1995 dollars for FY 1996 Annual Report

Adjustment of 2.8% performed on FY 1996 dollars for FY 1997 Annual Report

Adjustment of 2.1% performed on FY 1997 dollars for FY 1998 Annual Report

This inflation factor would not take into account changes in specific cost elements included in the October 31, 1994, estimate. The total estimated costs for closure are now \$1.8 million (1998 dollars).

Closure for this TSD unit is being discussed, but is not yet scheduled. Complete updated estimates will be included in future reports if the closure strategy/approach should significantly change, or if a closure date is established.

305-B STORAGE FACILITY

The closure strategy/approach has not changed for this TSD unit. The closure costs for this TSD unit have been revised for FY 1998 to correct specific cost elements. The sampling and analysis costs have been corrected to accurately reflect current analytical costs that will be associated with properly designating the decontamination wastes, as well as required verification sampling that will be performed at time of closure. Another area of concern that was adjusted to reflect current costs was the disposal costs of the waste that could potentially be in storage at the time for closure. All of the costs associated with equipment, supplies, and current disposal costs for hazardous, as well as mixed waste were factored into the FY 1998 revision. One other area that was adjusted to reflect current costs were the man hours that would be required to remove, package, and dispose of all waste that could be present in the facility at the time of closure. The total estimated costs for closure are now \$3.5 million (1998 dollars).

This TSD unit is not scheduled for closure within the next five years. Updated estimates will be included in future annual reports if the closure strategy/approach should change significantly or if a closure date is established.

FLUOR DANIEL NORTHWEST, INC.
 PNNL
 JOB NO. 65100801/1059
 FILE NO. Z612SAA1

** TEST - INTERACTIVE ESTIMATING **
 305-B STORAGE UNIT CLOSURE
 STUDY
 PHMCR01 - PROJECT COST SUMMARY

PAGE 1 OF 9
 DATE 09/04/98 07:25:20
 BY R.W.OHRT

SORT	DESCRIPTION	ESCALATED TOTAL COST	CONTINGENCY %	TOTAL	TOTAL DOLLARS
=====	=====	=====	=====	=====	=====
PNNL	PACIFIC NW NATIONAL LABORATORY	2,590,000	34	880,000	3,470,000
=====					
	SUBTOTAL	2,590,000	34	880,000	3,470,000
=====					
SITE	SITE ALLOCATIONS	0	0	0	0
	(ADJUSTED/ROUNDED)	+10,000		+20,000	+30,000
=====					
	TOTAL	2,600,000	34	900,000	3,500,000

TYPE OF ESTIMATE	STUDY	SEPTEMBER 4, 1998	REMARKS:
FDNW LEAD ESTIMATOR	<i>Ro</i>	ESTIMATING MANAGER	<i>James H. Seiger</i>
PROJECT MANAGER	<i>Cl Somers</i>		
CLIENT	<i>GENE Grohs</i>		

(ROUNDED/ADJUSTED TO THE NEAREST " 10,000 / 100,000 " - PERCENTAGES NOT RECALCULATED TO REFLECT ROUNDING)

FLUOR DANIEL NORTHWEST, INC
 PNNL
 JOB NO. 65100801/1059
 FILE NO. Z612SAA1

** TEST - INTERACTIVE ESTIMATING **
 305-B STORAGE UNIT CLOSURE
 STUDY
 PHMCR02 - WORK BREAKDOWN STRUCTURE (WBS) SUMMARY

PAGE 2 OF 9
 DATE 09/04/98 07:25:22
 BY R.W.OHRT

WBS	DESCRIPTION	ESTIMATE SUBTOTAL	ESCALATION % TOTAL	SUB TOTAL	CONTINGENCY % TOTAL	SUB TOTAL	SITE ALLOCAT'N	TOTAL DOLLARS
111100	CLOSURE PLAN PREPARATION	300000	0.00	0	25	75000	0	375000
111200	CLOSURE CERTIFICATION	50000	0.00	0	25	12500	0	62500
	SUBTOTAL 111 PNNL ENGINEERING	350000	0.00	0	25	87500	0	437500
121100	WIPE SAMPLING	369800	0.00	0	35	129430	0	499230
121200	SOIL SAMPLING	105600	0.00	0	35	36960	0	142560
121300	SOIL SAMPLE DATA	24000	0.00	0	35	8400	0	32400
121400	VERIFICATION SAMPLING: BUILDING	110900	0.00	0	35	38815	0	149715
121500	VERIFICATION SAMPLING: SOIL	31700	0.30	0	35	11095	0	42795
	SUBTOTAL 121 SAMPLING / TESTING	642000	0.00	0	35	224700	0	866700
	SUBTOTAL 1 ASSESSMENT	992000	0.00	0	31	312200	0	1304200
211100	DECOMMISSIONING WORK PLAN	47675	0.00	0	35	16686	0	64361
	SUBTOTAL 211 REMEDIAL DESIGN	47675	0.00	0	35	16686	0	64361
212100	REMOVAL & DISPOSAL OF WASTE	1043201	0.00	0	35	365120	0	1408321
212200	DECONTAMINATE BUILDING	87211	0.00	0	35	30523	0	117734
212300	DECONTAMINATE BUILDING EQUIPMENT	13298	0.00	0	35	4654	0	17952
212400	EXCAVATION & DISPOSAL: SOIL	53593	0.00	0	35	18757	0	72350
212600	SITE RESTORATION	39954	0.00	0	50	19977	0	59931
	SUBTOTAL 212 REMEDIAL CONSTRUCTION	1237257	0.00	0	35	439033	0	1676290
213100	CONSTRUCTION ENGR/INSP	123700	0.00	0	35	43295	0	166995
	SUBTOTAL 2 CLEANUP	1408632	0.00	0	35	499014	0	1907646
310000	PROJECT MANAGEMENT	185600	0.00	0	35	64960	0	250560
PROJECT TOTAL		2,586,232	0.00	0	34	876,174	0	3,462,406

1. ESTIMATE PURPOSE

=====

▼ ORDER OF MAGNITUDE ESTIMATE: THIS ESTIMATE WILL TO BE USED FOR BUDGETING PURPOSES ONLY.

2. ESTIMATE TECHNICAL BASIS

=====

- A. THIS ESTIMATE HAS BEEN PREPARED FOR THE 305-B STORAGE UNIT CLOSURE PROJECT AS REQUESTED BY FDNW PROJECT MANAGEMENT.
B. A DESCRIPTION OF THE TECHNICAL SCOPE OF WORK MAY BE FOUND IN THE FOLLOWING REFERENCE DOCUMENTS:
▼ REQUEST FOR ESTIMATE, DATED AUGUST 26, 1998.

3. ESTIMATE METHODOLOGY

=====

A. DIRECT COSTS:

A BOTTOMS-UP TECHNIQUE HAS BEEN UTILIZED IN THE PREPARATION OF THIS ESTIMATE.

- (1) CONSTRUCTION LABOR, MATERIAL AND EQUIPMENT UNITS HAVE BEEN ESTIMATED BASED UPON ONE OR MORE OF THE FOLLOWING STANDARD COMMERCIAL ESTIMATING RESOURCES, PUBLISHED ESTIMATING MANUALS/DATABASES: ▼IN HOUSE DATABASES ▼R.S. MEANS ▼ RICHARDSON'S PROCESS PLANT CONSTRUCTION ESTIMATING STANDARDS ▼ NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION, INC. (NECA) MANUAL OF LABOR UNITS ▼ ELECTRICAL RESOURCES, INC. ELECTRICAL ESTIMATING PRICE AND LABOR MANUAL. THE UNITS MAY HAVE BEEN FACTORED/ADJUSTED BY THE ESTIMATOR AS APPROPRIATE TO REFLECT INFLUENCES BY CONTRACT, WORK SITE, OR OTHER IDENTIFIED PROJECT OR SPECIAL CONDITIONS.

B. DIRECT COST FACTORS:

- (1) SALES TAX HAS BEEN APPLIED TO ALL MATERIALS AND EQUIPMENT PURCHASES AT 8%.
(2) NO WAREHOUSING COSTS ARE SHOWN SINCE THEY ARE CONSIDERED TO BE INCLUDED IN THE MATERIAL PROCUREMENT RATE (MPR).
(4) SPECIAL WORK PROCEDURE (SWP) FACTORS ARE APPLIED AGAINST DIRECT LABOR FOR ACTUAL TIME LOST DUE TO THE PERSONNEL PROTECTIVE EQUIPMENT AND PROCEDURES. THE RATES WHICH HAVE BEEN APPLIED ARE AS FOLLOWS:
▼ PROTECTIVE CLOTHING FACTOR HAS BEEN APPLIED = 15%
▼ MASK WORK = 85% PLUS 15% FOR PROTECTIVE CLOTHING.

C. RATES:

- (1) PNNL LABOR RATES HAVE BEEN PROVIDED BY PNNL.

D. SITE ALLOCATIONS FACTORS:

SITE ALLOCATION FACTORS ARE NOT INCLUDED.

4. ESCALATION

=====

ESCALATION IS NOT INCLUDED DUE TO THE LACK OF A CONSTRUCTION SCHEDULE.

5. CONTINGENCY

=====

A. DEFINITION OF CONTINGENCY AS PROVIDED BY DOE

"CONTINGENCY COVERS COSTS THAT MAY RESULT FROM INCOMPLETE DESIGN, UNFORESSEEN AND UNPREDICTABLE CONDITIONS, OR UNCERTAINTIES WITHIN THE DEFINED PROJECT SCOPE. THE AMOUNT OF CONTINGENCY WILL DEPEND ON THE STATUS OF DESIGN, PROCUREMENT, AND CONSTRUCTION; AND THE COMPLEXITY AND UNCERTAINTIES OF THE COMPONENT PARTS OF THE PROJECT. CONTINGENCY IS NOT TO BE USED TO AVOID MAKING AN ACCURATE ASSESSMENT OF EXPECTED COST" (OFFICE OF WASTE MANAGEMENT (PM-20) COST AND SCHEDULE GUIDE.

B. CONTINGENCY ALLOWANCE GUIDELINES

THE DOE GUIDELINE CONTINGENCY ALLOWANCE FOR A:
▼ PLANNING ESTIMATE - STANDARD = 20% - 30%
▼ PLANNING ESTIMATE - EXPERIMENTAL/SPECIAL CONDITIONS = UP TO 50%

C. METHODOLOGY

CONTINGENCY IS EVALUATED AT THE LOWEST WORK BREAKDOWN STRUCTURE (WBS) LEVEL WITHIN THE COST ESTIMATE DETAILS. IT IS SUMMARIZED AT UPPER WBS LEVELS AND REPORTED ON THE SUMMARY REPORTS.

D. ANALYSIS

AN ASSESSMENT OF DESIGN MATURITY, WORK COMPLEXITY AND PROJECT UNCERTAINTIES HAS BEEN PERFORMED. AN EXPLANATION OF THIS ASSESSMENT AND CONTINGENCY RATES WHICH HAVE BEEN ADDED TO THE COST OF WORK ARE AS FOLLOWS:

WBS #111XXX "PNNL ENGINEERING": A CONTINGENCY OF 25% HAS BEEN APPLIED TO ALLOW FOR UNFORSEEN REGULATORY CONDITIONS WHEN FACILITY CLOSURE IS DUE TO OCCUR.
WBS #121XXX "SAMPLING/TESTING": A CONTINGENCY OF 35% HAS BEEN APPLIED TO ALLOW FOR UNFORSEEN REGULATORY CONDITIONS WHEN FACILITY CLOSURE IS DUE TO OCCUR.
WBS #212XXX "REMEDIAL CONSTR.": A CONTINGENCY OF 35% HAS BEEN APPLIED TO ALLOW FOR UNFORSEEN REGULATORY CONDITIONS WHEN FACILITY CLOSURE IS DUE TO OCCUR.
WBS #213100 "CONSTR. E&I": A CONTINGENCY OF 35% HAS BEEN APPLIED TO ALLOW FOR UNFORSEEN REGULATORY CONDITIONS WHEN FACILITY CLOSURE IS DUE TO OCCUR.
WBS #310000 "PROJ MANAGEMENT": A CONTINGENCY OF 35% HAS BEEN APPLIED TO ALLOW FOR UNFORSEEN REGULATORY CONDITIONS WHEN FACILITY CLOSURE IS DUE TO OCCUR.

6. ROUNDING

=====

THE PROJECT COST SUMMARY REPORT IS SUMMARIZED AND ADJUSTED/ROUNDED AS FOLLOWS:
THE ESCALATED TOTAL COST COLUMN, CONTINGENCY TOTAL COLUMN AND TOTAL DOLLARS COLUMN SUB-TOTALS ARE SUMMARIZED BY CONTRACTOR. THE COLUMN SUBTOTALS ARE ADJUSTED/ROUNDED TO THE NEAREST \$1,000/\$10,000. THE PROJECT TOTAL SUMMARY LINE TOTALS ARE ADJUSTED/ROUNDED TO THE NEAREST \$10,000/\$100,000.

7. REMARKS

=====

MAJOR ASSUMPTIONS WHICH HAVE BEEN MADE IN THE PREPARATION OF THIS ESTIMATE ARE AS FOLLOWS:

- A.) THIS ESTIMATE IS BASED ON A PREVIOUS 305 B STORAGE UNIT CLOSURE ESTIMATE, FILE #Z264SAP2, DATED 9/18/95. MATERIAL AND LABOR COSTS HAVE BEEN UPDATED WHERE NECESSARY TO 1998 LEVELS.
- B.) PNNL PERSONNEL WILL PERFORM ALL ACTIVITIES. MANHOUR AND MATERIAL ESTIMATES HAVE BEEN PROVIDED BY PNNL.
- C.) PNNL CRAFT AND ENGINEERING RATES FOR FY-98 INCLUDE ALL MARK-UPS, AND HAVE BEEN PROVIDED BY PNNL.
- D.) WBS STRUCTURE FOLLOWS PRECEDENT OF NRDWL CLOSURE ESTIMATES AND SUBSEQUENT ESTIMATES DONE FOR RCRA CLOSURES.
- E.) CLOSURE PLAN COSTS, CLOSURE CERTIFICATION COSTS, SAMPLE QUANTITIES AND WORK PLAN COSTS WERE BASED ON PREVIOUS CLOSURES OF SIMILAR SCOPE OR PRORATED AMOUNT THEREOF.
- F.) CLOSURE ACTIVITIES WERE BASED ON AN ENGINEERS BEST GUESS. THESE STRATEGIES ARE SUBJECT TO CHANGE AS NEW TECHNOLOGY BECOMES AVAILABLE OR EXISTING CONDITIONS CHANGE AT TIME OF CLOSURE.
- G.) SOME AREAS OF DIFFICULTY AFFECTING THE COST ESTIMATE INCLUDE PREDICTING DECON EFFECTIVENESS AND POSSIBLE FUTURE RAD SPILLS, WHICH WOULD IMPACT JOB DURATION, RINSATE VOLUME, AND RAD DOSE LEVELS.
- H.) ESTIMATE IS BASED ON FY-98 DOLLARS.

FLUOR DANIEL NORTHWEST, INC.
 PNNL
 JOB NO. 65100801/1059
 FILE NO. Z612SAA1

** IEST - INTERACTIVE ESTIMATING **
 305-B STORAGE UNIT CLOSURE
 STUDY
 PHMCR04 - COMPANY/WBS SUMMARY

PAGE 5 OF 9
 DATE 09/04/98 07:25:25
 BY R.W.OHRT

SORT CODE/WBS	DESCRIPTION	ESTIMATE SUBTOTAL	ESCALATION % TOTAL	SUB TOTAL	CONTINGENCY % TOTAL	SUB TOTAL	SITE ALLOCATION	TOTAL DOLLARS		
PNNL	PACIFIC NW NATIONAL LABORATORY									
111100	CLOSURE PLAN PREPARATION	300000	0.00	0	300000	25	75000	375000	0	375000
111200	CLOSURE CERTIFICATION	50000	0.00	0	50000	25	12500	62500	0	62500
	SUBTOTAL 111 PNNL ENGINEERING	350000	0.00	0	350000	25	87500	437500	0	437500
121100	WIPE SAMPLING	369800	0.00	0	369800	35	129430	499230	0	499230
121200	SOIL SAMPLING	105600	0.00	0	105600	35	36960	142560	0	142560
121300	SOIL SAMPLE DATA	24000	0.00	0	24000	35	8400	32400	0	32400
121400	VERIFICATION SAMPLING: BUILDING	110900	0.00	0	110900	35	38815	149715	0	149715
121500	VERIFICATION SAMPLING: SOIL	31700	0.00	0	31700	35	11095	42795	0	42795
	SUBTOTAL 121 SAMPLING / TESTING	642000	0.00	0	642000	35	224700	866700	0	866700
	SUBTOTAL 1 ASSESSMENT	992000	0.00	0	992000	31	312200	1304200	0	1304200
211100	DECOMMISSIONING WORK PLAN	47675	0.00	0	47675	35	16686	64361	0	64361
	SUBTOTAL 211 REMEDIAL DESIGN	47675	0.00	0	47675	35	16686	64361	0	64361
212100	REMOVAL & DISPOSAL OF WASTE	1043201	0.00	0	1043201	35	365120	1408321	0	1408321
212200	DECONTAMINATE BUILDING	87211	0.00	0	87211	35	30523	117734	0	117734
212300	DECONTAMINATE BUILDING EQUIPMENT	13298	0.00	0	13298	35	4654	17952	0	17952
212400	EXCAVATION & DISPOSAL: SOIL	53593	0.00	0	53593	35	18757	72350	0	72350
212600	SITE RESTORATION	39954	0.00	0	39954	50	19977	59931	0	59931
	SUBTOTAL 212 REMEDIAL CONSTRUCTION	1237257	0.00	0	1237257	35	439033	1676290	0	1676290
213100	CONSTRUCTION ENGR/INSP	123700	0.00	0	123700	35	43295	166995	0	166995
	SUBTOTAL 2 CLEANUP	1408632	0.00	0	1408632	35	499014	1907646	0	1907646
310000	PROJECT MANAGEMENT	185600	0.00	0	185600	35	64960	250560	0	250560
	TOTAL PNNL PACIFIC NW NATIONAL LABORAT	2586232	0.00	0	2586232	34	876174	1462406	0	1462406

FLUOR DANIEL NORTHWEST, INC.
 PNNL
 JOB NO. 65100801/1059
 FILE NO. 2612SAA1

** IEST - INTERACTIVE ESTIMATING **
 305-B STORAGE UNIT CLOSURE
 STUDY
 PHMCR04 - COMPANY/WBS SUMMARY

PAGE 6 OF 9
 DATE 09/04/98 07:25:26
 BY R.W.OHRT

ESTIMATE	ESCALATION	SUB	CONTINGENCY	SUB	SITE	TOTAL
SUBTOTAL	% TOTAL	TOTAL	% TOTAL	TOTAL	ALLOCAT'N	DOLLARS
2,586,232	0.00	2,586,232	34	876,174	0	3,462,406
PROJECT TOTAL						

FLUOR DANIEL NORTHWEST, INC.
 PNNL
 JOB NO. 65100801/1059
 FILE NO. Z612SAA1

** FIRST - INTERACTIVE ESTIMATING **
 305-B STORAGE UNIT CLOSURE
 STUDY
 PHMCRO5 - CONSTRUCTION MANAGEMENT/OTHER COST SUMMARY

PAGE 7 OF 9
 DATE 09/04/98 07:25:28
 BY R.W.OHRT

WBS	DESCRIPTION	ESTIMATE SUBTOTAL	CONSTRUCTION %	MANAGEMENT TOTAL	OTHER COSTS	SUB TOTAL	TOTAL
-----	-----	-----	-----	-----	-----	-----	-----
111100	CLOSURE PLAN PREPARATION	300000	0.00	0	0	0	300000
111200	CLOSURE CERTIFICATION	50000	0.00	0	0	0	50000
	SUBTOTAL 111 PNNL ENGINEERING	350000		0	0	0	350000
121100	WIPE SAMPLING	369800	0.00	0	0	0	369800
121200	SOIL SAMPLING	105600	0.00	0	0	0	105600
121300	SOIL SAMPLE DATA	24000	0.00	0	0	0	24000
121400	VERIFICATION SAMPLING: BUILDING	110900	0.00	0	0	0	110900
121500	VERIFICATION SAMPLING: SOIL	31700	0.00	0	0	0	31700
	SUBTOTAL 121 SAMPLING / TESTING	642000		0	0	0	642000
	SUBTOTAL 1 ASSESSMENT	992000		0	0	0	992000
211100	DECOMMISSIONING WORK PLAN	47675	0.00	0	0	0	47675
	SUBTOTAL 211 REMEDIAL DESIGN	47675		0	0	0	47675
212100	REMOVAL & DISPOSAL OF WASTE	1043201	0.00	0	0	0	1043201
212200	DECONTAMINATE BUILDING	87211	0.00	0	0	0	87211
212300	DECONTAMINATE BUILDING EQUIPMENT	13298	0.00	0	0	0	13298
212400	EXCAVATION & DISPOSAL: SOIL	53593	0.00	0	0	0	53593
212600	SITE RESTORATION	39954	0.00	0	0	0	39954
	SUBTOTAL 212 REMEDIAL CONSTRUCTION	1237257		0	0	0	1237257
213100	CONSTRUCTION ENGR/INSP	123700	0.00	0	0	0	123700
	SUBTOTAL 2 CLEANUP	1408632		0	0	0	1408632
310000	PROJECT MANAGEMENT	185600	0.00	0	0	0	185600
PROJECT TOTAL		2,586,232		0	0	0	2,586,232

FLUOR DANIEL NORTHWEST, INC
 PNNL
 JOB NO. 65100801/1059
 FILE NO. Z612SAA1

** BEST INTERACTIVE ESTIMATING **
 305-B STORAGE UNIT CLOSURE
 STUDY
 PNMCR06 - SITE ALLOCATIONS BY WBS

PAGE 8 OF 9
 DATE 09/04/98 07:25:39
 BY R.W.OHRT

WBS	DESCRIPTION	ESTIMATE SUBTOTAL	DYN EQ.USAGE	FDH GFS/G&A CONST.MGMT	FDH MPR F.F./S.C.	FDH GFS/G&A LABOR	FDH MPR/G&A MATERIAL	SITE ALLOC SUBTOTAL
111100	CLOSURE PLAN PREPARATION	100000	0	0	0	0	0	0
111200	CLOSURE CERTIFICATION	50000	0	0	0	0	0	0
	SUBTOTAL 111 PNNL ENGINEERING	350000	0	0	0	0	0	0
121100	WIPE SAMPLING	369800	0	0	0	0	0	0
121200	SOIL SAMPLING	105600	0	0	0	0	0	0
121300	SOIL SAMPLE DATA	24000	0	0	0	0	0	0
121400	VERIFICATION SAMPLING: BUILDING	110900	0	0	0	0	0	0
121500	VERIFICATION SAMPLING: SOIL	31700	0	0	0	0	0	0
	SUBTOTAL 121 SAMPLING / TESTING	642000	0	0	0	0	0	0
	SUBTOTAL 1 ASSESSMENT	992000	0	0	0	0	0	0
211100	DECOMMISSIONING WORK PLAN	47675	0	0	0	0	0	0
	SUBTOTAL 211 REMEDIAL DESIGN	47675	0	0	0	0	0	0
212100	REMOVAL & DISPOSAL OF WASTE	1043201	0	0	0	0	0	0
212200	DECONTAMINATE BUILDING	87211	0	0	0	0	0	0
212300	DECONTAMINATE BUILDING EQUIPMENT	13298	0	0	0	0	0	0
212400	EXCAVATION & DISPOSAL: SOIL	53593	0	0	0	0	0	0
212600	SITE RESTORATION	39954	0	0	0	0	0	0
	SUBTOTAL 212 REMEDIAL CONSTRUCTION	1237257	0	0	0	0	0	0
213100	CONSTRUCTION ENGR/INSP	123700	0	0	0	0	0	0
	SUBTOTAL 2 CLEANUP	1408632	0	0	0	0	0	0
310000	PROJECT MANAGEMENT	185600	0	0	0	0	0	0
	PROJECT TOTAL	2,586,232	0	0	0	0	0	0

FLUOR DANIEL NORTHWEST, INC.
 PNNL
 JOB NO. 65100801/1059
 FILE NO. Z612SAA1

** TEST - INTERACTIVE ESTIMATING **
 305-B STORAGE UNIT CLOSURE
 STUDY

PAGE 9 OF 9
 DATE 09/04/98 07:25:30
 BY R.W.OHRT

PRMCR07 - SITE ALLOCATION ESCALATION/CONTINGENCY REPORT

WBS	DESCRIPTION	SITE ALLOC SUBTOTAL	ESCALATION % TOTAL	SUB TOTAL	CONTINGENCY % TOTAL	TOTAL DOLLARS
111100	CLOSURE PLAN PREPARATION	0	0.00	0	0	0
111200	CLOSURE CERTIFICATION	0	0.00	0	0	0
	SUBTOTAL 111 PNNL ENGINEERING	0	0.00	0	0	0
121100	WIPE SAMPLING	0	0.00	0	0	0
121200	SOIL SAMPLING	0	0.00	0	0	0
121300	SOIL SAMPLE DATA	0	0.00	0	0	0
121400	VERIFICATION SAMPLING: BUILDING	0	0.00	0	0	0
121500	VERIFICATION SAMPLING: SOIL	0	0.00	0	0	0
	SUBTOTAL 121 SAMPLING / TESTING	0	0.00	0	0	0
	SUBTOTAL 1 ASSESSMENT	0	0.00	0	0	0
211100	DECOMMISSIONING WORK PLAN	0	0.00	0	0	0
	SUBTOTAL 211 REMEDIAL DESIGN	0	0.00	0	0	0
212100	REMOVAL & DISPOSAL OF WASTE	0	0.00	0	0	0
212200	DECONTAMINATE BUILDING	0	0.00	0	0	0
212300	DECONTAMINATE BUILDING EQUIPMENT	0	0.00	0	0	0
212400	EXCAVATION & DISPOSAL: SOIL	0	0.00	0	0	0
212600	SITE RESTORATION	0	0.00	0	0	0
	SUBTOTAL 212 REMEDIAL CONSTRUCTION	0	0.00	0	0	0
213100	CONSTRUCTION ENGR/INSP	0	0.00	0	0	0
	SUBTOTAL 2 CLEANUP	0	0.00	0	0	0
310000	PROJECT MANAGEMENT	0	0.00	0	0	0
PROJECT TOTAL		0	0.00	0	0	0

FLUOR DANIEL NORTHWEST, INC.
 PNNL
 JOB NO. 65100001/1059
 FILE NO. Z612SAA1

** TEST - INTERACTIVE ESTIMATING **
 305-B STORAGE UNIT CLOSURE
 STUDY

PAGE 1
 DATE 09/04/98 07:25:33
 BY R.W.OHRT

PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
111100	CLOSURE PLAN PREPARATION										
111100.00	TECHNICAL SERVICES										
111100.0000000	***** CLOSURE PLAN *****	000	0	0	0	0	0	0	0	0	0
111100.00000002	THE PREPARATION OF THE CLOSURE PLAN FOR THE 305-B FACILITY INCLUDES: 1.5 FULL TIME EQUIVALENTS FOR 14 MONTHS.	000	1 LS	0	0	0	0	300000	0	0	300000
111100.00000003	ALSO INCLUDED IS : PREPARATION OF WASTE INVENTORY, SAMPLING	000	0	0	0	0	0	0	0	0	0
111100.00000004	ANALYSIS PLAN, HEALTH AND SAFETY PLAN, AND QUALITY ASSURANCE PROJECT PLAN.	000	0	0	0	0	0	0	0	0	0
SUBTOTAL TECHNICAL SERVICES					0	0	0	300,000	0	0	300,000
TOTAL COST CODE 00000					0	0	0	300,000	0	0	300,000
WBS 111100											
(ESCALATION 0.00% - CONTINGENCY 25.00 %)											300,000
TOTAL WBS 111100 CLOSURE PLAN PREPARATION					0	0	0	300,000	0	0	300,000

FLUOR DANIEL NORTHWEST, INC.
 FNHL
 JOB NO. 65100801/1059
 FILE NO. Z612SAA1

** TEST - INTERACTIVE ESTIMATING **
 305-B STORAGE UNIT CLOSURE
 STUDY
 PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 2
 DATE 09/04/98 07:25:33
 BY R.W.OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
111200	CLOSURE CERTIFICATION										
111200.00	TECHNICAL SERVICES										
111200.00000000	***** CLOSURE CERTIFICATION *****	000	0	0	0	0	0	0	0	0	0
111200.00000002	PREPARATION BY A PROFESSIONAL ENGINEER.	000	1 LS	0	0	0	0	50000	0	0	50000
SUBTOTAL	TECHNICAL SERVICES			0	0	0	0	50,000	0	0	50,000
TOTAL	COST CODE 00000 WBS 111200 (ESCALATION 0.00% - CONTINGENCY 25.00 %)			0	0	0	0	50,000	0	0	50,000
TOTAL WBS 111200	CLOSURE CERTIFICATION			0	0	0	0	50,000	0	0	50,000

FLUOR DANIEL NORTHWEST, INC.
 FNML
 JOB NO. 65100801/1059
 FILE NO. Z612SAA1

** IPST - INTERACTIVE ESTIMATING **
 305-B STORAGE UNIT CLOSURE
 STUDY

PAGE 3
 DATE 09/04/98 07:25:33
 BY R.W.OHRT

PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
121100	WIPE SAMPLING										
121100.00	TECHNICAL SERVICES										
121100.00000000	***** WIPE SAMPLES *****	000	0	0	0	0	0	0	0	0	0
121100.00000002	COLLECT WIPE SAMPLES @ \$300 EA.	000	86 EA	0	0	0	0	25800	0	0	25800
121100.00000003	SAMPLE ANALYTICAL COSTS @ \$4000 EA.	000	86 EA	0	0	0	0	344000	0	0	344000

SUBTOTAL	TECHNICAL SERVICES			0	0	0	0	369,800	0	0	369,800

TOTAL	COST CODE 00000 WBS 121100 (ESCALATION 0.001 - CONTINGENCY 35.00 %)			0	0	0	0	369,800	0	0	369,800

TOTAL WBS 121100	WIPE SAMPLING			0	0	0	0	369,800	0	0	369,800

FLUOR DANIEL NORTHWEST, INC.
 PNNL
 JOB NO. 65100801/1059
 FILE NO. Z612SAA1

** IEST - INTERACTIVE ESTIMATING **
 305-B STORAGE UNIT CLOSURE
 STUDY
 PHMCRO8 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 4
 DATE 09/04/98 07:25:33
 BY R.W.OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
121200	SOIL SAMPLING										
121200.00	TECHNICAL SERVICES										
121200.00000000	***** SOIL SAMPLING *****	000	0	0	0	0	0	0	0	0	0
121200.00000001	FROM OFF-LOADING PAD, 5' X 5' GRID, SIZE = 20' X 30'.	000	0	0	0	0	0	0	0	0	0
121200.00000002	COLLECT SOIL SAMPLES @ \$400 EA.	000	24 EA	0	0	0	0	9600	0	0	9600
121200.00000004	ANALYTICAL COSTS @ \$4000 EA.	000	24 EA	0	0	0	0	96000	0	0	96000
SUBTOTAL	TECHNICAL SERVICES			0	0	0	0	105,600	0	0	105,600
TOTAL	COST CODE 00000 WBS 121200 (ESCALATION 0.00% - CONTINGENCY 35.00%)			0	0	0	0	105,600	0	0	105,600
TOTAL WBS 121200	SOIL SAMPLING			0	0	0	0	105,600	0	0	105,600

FLUOR DANIEL NORTHWEST, INC.
 PNNL
 JOB NO. 65100801/1059
 FILE NO. 2612SAA1

** TEST - INTERACTIVE ESTIMATING **
 305-B STORAGE UNIT CLOSURE
 STUDY
 PHMCROS - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 5
 DATE 09/04/98 07:25:33
 BY R.W.OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
121300	SOIL SAMPLE DATA										
121300.00	TECHNICAL SERVICES										
121300.0000000	***** SOIL SAMPLE DATA VALIDATION *****	000	0	0	0	0	0	0	0	0	0
121300.0000002	\$1000/SAMPLE INCLUDES DATA PACKAGE VALIDATION -21 DAYS, REVIEW OF DATA PACKAGE, SUMMARY REPORT & REPORT	000	24 EA	0	0	0	0	24000	0	0	24000
121300.0000003	REVIEW.	000	0	0	0	0	0	0	0	0	0
SUBTOTAL TECHNICAL SERVICES				0	0	0	0	24,000	0	0	24,000
TOTAL COST CODE 00000				0	0	0	0	24,000	0	0	24,000
WBS 121300 (ESCALATION 0.00% - CONTINGENCY 35.00 %)											24,000
TOTAL WBS 121300 SOIL SAMPLE DATA				0	0	0	0	24,000	0	0	24,000

FLUOR DANIEL NORTHWEST, INC.
 PNNL
 JOB NO. 65100801/1059
 FILE NO. Z612SAA1

** TEST INTERACTIVE ESTIMATING **
 305-B STORAGE UNIT CLOSURE
 STUDY
 PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 6
 DATE 09/04/98 07:25:34
 BY R.W.OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
121400	VERIFICATION SAMPLING: BUILDING										
121400.00	TECHNICAL SERVICES										
121400.0000000	***** VERIFICATION SAMPLING: BLDG ***** 30% OF WBS 121100	000	1 LS	0	0	0	0	110900	0	0	110900
SUBTOTAL	TECHNICAL SERVICES			0	0	0	0	110,900	0	0	110,900
TOTAL	COST CODE 00000 WBS 121400 (ESCALATION 0.00% - CONTINGENCY 35.00 %)			0	0	0	0	110,900	0	0	110,900
TOTAL WBS 121400	VERIFICATION SAMPLING: BUILDING			0	0	0	0	110,900	0	0	110,900

FLUOR DANIEL NORTHWEST, INC
 PNNL
 JOB NO. 65100201/1059
 FILE NO. Z612SAA1

** IEST - INTERACTIVE ESTIMATING **
 305-B STORAGE UNIT CLOSURE
 STUDY

PAGE 7
 DATE 09/04/98 07:25:34
 BY R.W.OHRT

PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
121500	VERIFICATION SAMPLING: SOIL										
121500.00	TECHNICAL SERVICES										
121500.00000000	***** VERIFICATION SAMPLING: SOIL ***** 30% OF WBS 121200	000	1 LS	0	0	0	0	31700	0	0	31700

SUBTOTAL	TECHNICAL SERVICES			0	0	0	0	31,700	0	0	31,700

TOTAL	COST CODE 00000 WBS 121500 (ESCALATION 0.00% - CONTINGENCY 35.00 %)			0	0	0	0	31,700	0	0	31,700

TOTAL WBS 121500	VERIFICATION SAMPLING: SOIL			0	0	0	0	31,700	0	0	31,700

FLUOR DANIEL NORTHWEST, INC.
 PNNL
 JOB NO. 65100801/1059
 FILE NO. Z612SAA1

** IEST - INTERACTIVE ESTIMATING **
 305-B STORAGE UNIT CLOSURE
 STUDY

PAGE 8
 DATE 09/04/98 07:25:34
 BY R.W.OHRT

PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
211100	DECOMMISSIONING WORK PLAN										
211100.00	TECHNICAL SERVICES										
211100.0000000	***** DECOMMISSIONING WORK PLAN *****	400	0	0	0	0	0	0	0	0	0
211100.0000002	APPROX. 3-1/2 MAN MONTHS FOR DOCUMENT PREPARATION	400	1 LS	536	37675	0	0	0	0	0	37675
211100.0000003	TECHNICAL PUBLICATION SUPPORT.	400	1 LS	0	0	0	0	10000	0	0	10000
SUBTOTAL TECHNICAL SERVICES				536	37,675	0	0	10,000	0	0	47,675
TOTAL COST CODE 46000 WBS 211100 (ESCALATION 0.00% - CONTINGENCY 35.00 %)				536	37,675	0	0	10,000	0	0	47,675
TOTAL WBS 211100 DECOMMISSIONING WORK PLAN				536	37,675	0	0	10,000	0	0	47,675

FLUOR DANIEL NORTHWEST, INC.
 PNNL
 JOB NO. 65100801/1059
 FILE NO. Z612SAA1

** IEST - INTERACTIVE ESTIMATING **
 305-B STORAGE UNIT CLOSURE
 STUDY

PAGE 9
 DATE 09/04/98 07:25:34
 BY R.W.OHRT

PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
212100	REMOVAL & DISPOSAL OF WASTE										
212100.02	SITWORK										
212100.0200000	***** REMOVAL AND DISPOSAL *****	460	0	0	0	0	0	0	0	0	0
212100.0200001	REMOVAL AND DISPOSAL OF WASTE IN FACILITY AT TIME OF CLOSURE.	460	0	0	0	0	0	0	0	0	0
212100.0200002	ALLOWANCE FOR 10 MEN FOR 45 DAYS	460	1 LS	3600	253044	0	0	0	0	0	253044
212100.0200004	BURIAL COST FOR 27,000 GAL OF HAZARDOUS WASTE.	460	6175 CF	0	0	0	0	449997	0	0	449997
212100.0200006	BURIAL COST FOR 3,000 GAL OF RMW.	460	200 CF	0	0	0	0	230000	0	0	230000
212100.0200008	BARREL COST	460	850 EA	0	0	0	102000	0	0	0	102000

SUBTOTAL	SITWORK			3,600		0		679,997		0	
	SALES TAX 8.00 %				253,044		102,000		0		1,035,041
							8160		0		8160

TOTAL	COST CODE 46002			3,600		0		679,997		0	
	WBS 212100				253,044		110,160		0		1,043,201
	(ESCALATION 0.00% - CONTINGENCY 35.00 %)										

TOTAL WBS 212100	REMOVAL & DISPOSAL OF WASTE			3,600		0		679,997		0	
					253,044		110,160		0		1,043,201

FLUOR DANIEL NORTHWEST, INC.
 FNWL
 JOB NO. 65100801/1059
 FILE NO. Z612SAA1

** IEST - INTERACTIVE ESTIMATING **
 305-B STORAGE UNIT CLOSURE
 STUDY

PAGE 10
 DATE 09/04/98 07:25:34
 BY R.W.OHRT

PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
212200	DECONTAMINATE BUILDING										
212200.02	SITWORK										
212200.0200000	***** BUILDING DECONTAMINATION *****	460 M	0	0	0	0	0	0	0	0	0
212200.0200002	DECONTAMINATE BASEMENT, 2 MEN - 3 DAYS	460 M	1 LS	48	3374	6000	0	0	0	0	9374
212200.0200004	RINSATE DISPOSAL COST	460 M	13 CF	0	0	0	0	780	0	0	780
212200.0200006	DRUM COST	460 M	2 EA	0	0	0	240	0	0	0	240
212200.0200012	DECONTAMINATE WASTE STORAGE CELLS, 2 MEN - 7 DAYS.	460 M	1 LS	112	7872	14000	0	0	0	0	21872
212200.0200014	RINSATE DISPOSAL COST	460 M	16 CF	0	0	0	0	960	0	0	960
212200.0200016	DRUM COST	460 M	2 EA	0	0	0	240	0	0	0	240
212200.0200022	DECONTAMINATE HIGH BAY 2 MEN - 4 DAYS.	460 M	1 LS	64	4499	8000	0	0	0	0	12499
212200.0200024	RINSATE DISPOSAL COST	460 M	27 CF	0	0	0	0	1620	0	0	1620
212200.0200026	DRUM COST	460 M	4 EA	0	0	0	480	0	0	0	480
212200.0200032	DECONTAMINATE SUMPS 2 MEN - 5 DAYS.	460 M	1 LS	80	5623	10000	0	0	0	0	15623
212200.0200034	RINSATE DISPOSAL COST	460 M	26 CF	0	0	0	0	1560	0	0	1560
212200.0200036	DRUM COST	460 M	4 EA	0	0	0	480	0	0	0	480

SUBTOTAL	SITWORK	(MASK)		304		38,000		4,920		0	
	SWP 100.00%			304	21,368		1,440		0		65,729
	SALES TAX 8.00 %				21368						21368
							115		0		115

TOTAL	COST CODE 46002			608		38,000		4,920		0	
	WBS 212200				42,736		1,555		0		87,211
	(ESCALATION 0.00% + CONTINGENCY 35.00 %)										

TOTAL WBS 212200	DECONTAMINATE BUILDING			608		38,000		4,920		0	
					42,736		1,555		0		87,211

FLUOR DANIEL NORTHWEST, INC.
 PNNL
 JCB NO. 65100801/1059
 FILE NO. 2612SAA1

** IEST - INTERACTIVE ESTIMATING **
 305-B STORAGE UNIT CLOSURE
 STUDY
 PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 11
 DATE 09/04/98 07:25:34
 BY R.W.OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
212300	DECONTAMINATE BUILDING EQUIPMENT										
212300.02	SITWORK										
212300.0200000	***** EQUIPMENT DECONTAMINATION *****										
212300.0200002	2 MEN - 3 DAYS	460 M	1 LS	48	3374	6000	0	0	0	0	9374
212300.0200004	RINSATE DISPOSAL COST	460 M	7 CF	0	0	0	0	420	0	0	420
212300.0200006	DRUM COST	460 M	1 EA	0	0	0	120	0	0	0	120

SUBTOTAL	SITWORK		(MASK)	48		6,000		420		0	
	SWP 100.00%			48	3,374		120		0		9,914
	SALES TAX 8.00 %				3374		9		0		9

TOTAL	COST CODE 46002			96		6,000		420		0	
	WBS 212300				6,748		129		0		13,297
	(ESCALATION 0.00% - CONTINGENCY 35.00 %)										

TOTAL WBS 212300	DECONTAMINATE BUILDING EQUIPMENT			96	6,748	6,000	129	420	0	0	13,297

FLUOR DANIEL NORTHWEST, INC
 PNNL
 JOB NO. 65100801/1059
 FILE NO. 2612SAA1

** TEST - INTERACTIVE ESTIMATING **
 305-B STORAGE UNIT CLOSURE
 STUDY

PAGE 12
 DATE 09/04/98 07:25:34
 BY R.W.OHRT

PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
212400	EXCAVATION & DISPOSAL: SOIL										
212400.02	SITWORK										
212400.0200000	***** EXCAVATION & DISPOSAL - SOIL *****	460 W	0	0	0	0	0	0	0	0	0
	ASSUME THAT THE ONLY SPILL										
212400.0200001	TO SOIL WOULD BE AT THE CONCRETE DRIVEWAY, AND..	460 W	0	0	0	0	0	0	0	0	0
	1) AREA OF DRIVEWAY = 600 SF										
	2) SOIL CONTAMINATED TO 12"										
212400.0200002	3) THEREFORE CONCRETE AND SOIL VOLUME = 600 CF	460 W	0	0	0	0	0	0	0	0	0
212400.0200004	BREAK UP CONCRETE, DISPOSE OF RUBBLE AND SOIL. 5 MEN - 2 DAYS	460 W	1 LS	80	5623	500	0	0	0	0	6123
212400.0200006	BURIAL COST	460 W	600 CF	0	0	0	0	36000	0	0	16000
212400.0200008	DRUM COST	460 W	82 EA	0	0	0	9840	0	0	0	9840

SUBTOTAL	SITWORK	(SWP)		80	5,623	500	9,840	36,000	0	0	51,963
	SWP 15.00%			12	843						843
	SALES TAX 8.00 %						787				787

TOTAL	COST CODE 46002			92	6,466	500	10,627	36,000	0	0	53,593
	WBS 212400										
	(ESCALATION 0.00% - CONTINGENCY 35.00 %)										

TOTAL WBS 212400	EXCAVATION & DISPOSAL: SOIL			92	6,466	500	10,627	36,000	0	0	53,593

FLUOR DANIEL NORTHWEST, INC.
 FNNL
 JOB NO. 65100801/1059
 FILE NO. 2612SAA1

** IEST - INTERACTIVE ESTIMATING **
 305-B STORAGE UNIT CLOSURE
 STUDY

PAGE 13
 DATE 09/04/98 07:25:34
 BY R.W.CHRT

PHMCROR - ESTIMATE DETAIL BY WBS / COST CODE

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
212600	SITE RESTORATION										
212600.02	SITWORK										
212600.0200000	***** SITE RESTORATION *****	460	0	0	0	0	0	0	0	0	0
212600.0200002	SITE PREP, CONCRETE PATCH WORK, PAINT INTERIOR, PLACE CLEAN FILL IN EXCAVATION. ALLOW 5 MEN - 3 WEEKS	460	1 LS	530	37254	0	2500	0	0	0	39754
SUBTOTAL	SITWORK			530	37,254	0	2,500	0	0	0	39,754
	SALES TAX 8.00 %						200		0		200
TOTAL	COST CODE 46002 WBS 212600 (ESCALATION 0.00% - CONTINGENCY 50.00 %)			530	37,254	0	2,700	0	0	0	39,954
TOTAL WBS 212600	SITE RESTORATION			530	37,254	0	2,700	0	0	0	39,954

FLUOR DANIEL NORTHWEST, INC.
 FNNL
 JOB NO. 65100801/1059
 FILE NO. 2612SAA1

** IEST - INTERACTIVE ESTIMATING **
 305-B STORAGE UNIT CLOSURE
 STUDY

PAGE 14
 DATE 09/04/98 07:25:35
 BY R.W.OHRT

PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
213100	CONSTRUCTION ENGR/INSP										
213100.00	TECHNICAL SERVICES										
213100.0000000	***** CONSTRUCTION ENGR/INSP ***** @ 10% OF CONSTRUCTION COSTS	460	1 LS	0	0	0	0	123700	0	0	123700

SUBTOTAL	TECHNICAL SERVICES			0	0	0	0	123,700	0	0	123,700

TOTAL	COST CODE 46000 WBS 213100 (ESCALATION 0.00% - CONTINGENCY 35.00 %)			0	0	0	0	123,700	0	0	123,700

TOTAL WBS 213100	CONSTRUCTION ENGR/INSP			0	0	0	0	123,700	0	0	123,700

FLUOR DANIEL NORTHWEST, INC.
 FNWL
 JOB NO. 65100801/1059
 FILE NO. Z612SAA1

** IEST - INTERACTIVE ESTIMATING **
 305-B STORAGE UNIT CLOSURE
 STUDY

PAGE 15
 DATE 09/04/98 07:25:35
 BY R.W.OHRT

PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
310000	PROJECT MANAGEMENT										
310000.00	TECHNICAL SERVICES										
310000.0000000	***** PROJECT MANAGEMENT ***** @ 15% OF CONSTRUCTION COSTS	460	1 LS	0	0	0	0	185600	0	0	185600
SUBTOTAL	TECHNICAL SERVICES			0	0	0	0	185,600	0	0	185,600
TOTAL	COST CODE 46000 WBS 310000 (ESCALATION 0.00% - CONTINGENCY 35.00 %)			0	0	0	0	185,600	0	0	185,600
TOTAL WBS 310000	PROJECT MANAGEMENT			0	0	0	0	185,600	0	0	185,600

FLUOR DANIEL NORTHWEST, INC.
 PHNL
 JOB NO. 65100801/1059
 FILE NO. 2612SAA1

** IEST - INTERACTIVE ESTIMATING **
 305-B STORAGE UNIT CLOSURE
 STUDY

PAGE 16
 DATE 09/04/98 07:26:35
 BY R.W.OHRT

PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB- CONTRACT	EQUIP- MENT	OH&P / B & I	TOTAL DOLLARS
REPORT TOTAL				5,462	383,923	44,500	125,172	2,032,637	0		2,586,232

PUREX STORAGE TUNNELS

Closure of this TSD unit is expected to occur during decommissioning and decontamination of the PUREX Plant. The closure strategy for the TSD unit has not been finalized. When these costs become available, they will be included in a future annual report.

LIQUID EFFLUENT RETENTION FACILITY

This TSD unit is not scheduled for closure within the next five years. The anticipated life of this TSD unit is approximately 30 years. Updated estimates will be included in future annual reports if the closure strategy/approach should change significantly or if a closure date is established. The total estimated costs for closure are approximately \$3.7 million (1998 dollars). This does not include the cost to operate the 200 Area Effluent Treatment Facility to treat waste generated during LERF closure activities.

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. Z610SAA1
 FILE NO. Z610SAA1

** TEST - INTERACTIVE ESTIMATING **
 LIQUID EFFLUENT RETENTION FACILITY (LERF) CLOSURE
 STUDY ESTIMATE
 PHMCR01 - PROJECT COST SUMMARY

PAGE 1 OF 10
 DATE 09/15/98 10:50:09
 BY R.W.OHRT

SORT	DESCRIPTION	ESCALATED	CONTINGENCY		TOTAL
		TOTAL COST	%	TOTAL	DOLLARS
BHI	BECHTEL HANFORD INC.	75,000	35	26,000	101,000
LMHC	LOCKHEED MARTIN HANFORD CORP.	208,000	35	73,000	281,000
LMSI	LOCKHEED MARTIN SERVICES, INC.	10,000	25	3,000	13,000
WMH	WASTE MANAGEMENT HANFORD	2,417,000	34	832,000	3,249,000
WMNW	WASTE MANAGEMENT NORTHWEST	6,000	35	2,000	8,000
TOTAL ESTIMATED CONSTRUCTION COSTS (TECC)		2,716,000	34	936,000	3,652,000

TYPE OF ESTIMATE	STUDY ESTIMATE	SEPTEMBER 15, 1998	REMARKS:
FDNW LEAD ESTIMATOR	<i>20</i>	ESTIMATING MANAGER	ALL COSTS IN FY 1998 DOLLARS, NO ESCALATION HAS BEEN APPLIED
PROJECT MANAGER	<i>R.H. [Signature]</i>	<i>9-16-98</i>	
CLIENT	<i>Mark W. Bowman</i>	<i>9-17-98</i>	

(ROUNDED/ADJUSTED TO THE NEAREST " 1,000 / 10,000 " - PERCENTAGES NOT RECALCULATED TO REFLECT ROUNDING)

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. Z610SAA1
 FILE NO. Z610SAA1

** TEST INTERACTIVE ESTIMATING **
 LIQUID EFFLUENT RETENTION FACILITY (LERF) CLOSURE
 STUDY ESTIMATE
 PHMCR02 - WORK BREAKDOWN STRUCTURE (WBS) SUMMARY

PAGE 2 OF 10
 DATE 09/15/98 10:50:17
 BY R.W.OHRT

WBS	DESCRIPTION	ESTIMATE SUBTOTAL	ESCALATION % TOTAL	SUB TOTAL	CONTINGENCY % TOTAL	SUB TOTAL	SITE ALLOCAT'N	TOTAL DOLLARS
111100	CLOSURE PLAN PREPARATION	125000	0.00	0	25	31250	0	156250
111200	CLOSURE CERTIFICATION	30000	0.00	0	25	7500	0	37500
	SUBTOTAL 11 WMH ENGINEERING	155000	0.00	0	25	38750	0	193750
340100	WMH DECONTAMINATION	1436129	0.00	0	35	502646	0	1938775
	SUBTOTAL 34 DECONTAMINATION	1436129	0.00	0	35	502646	0	1938775
350100	WMH DISPOSAL COSTS	910500	0.00	0	35	318675	0	1229175
	SUBTOTAL 35 DISPOSAL COSTS	910500	0.00	0	35	318675	0	1229175
400000	WMH PROJECT MANAGEMENT	215400	0.00	0	35	75390	0	290790
	SUBTOTAL 40 PROJECT MANAGEMENT	215400	0.00	0	35	75390	0	290790
PROJECT TOTAL		2,717,029	0.00	0	34	935,461	0	3,652,490

1. ESTIMATE PURPOSE

=====

ORDER OF MAGNITUDE ESTIMATE: THIS ESTIMATE WILL BE USED FOR BUDGETING PURPOSES ONLY.

2. ESTIMATE TECHNICAL BASIS

=====

- A. THIS ESTIMATE HAS BEEN PREPARED FOR THE LIQUID EFFLUENT RETENTION FACILITY (LERF) CLOSURE AS REQUESTED BY WASTE MANAGEMENT HANFORD.
- B. A DESCRIPTION OF THE TECHNICAL SCOPE OF WORK MAY BE FOUND IN THE FOLLOWING REFERENCE DOCUMENTS:
DOE/RL-97-03 REVISION 1, HANFORD FACILITY DANGEROUS WASTE PERMIT APPLICATION, LERF.
SCOPE OF WORK DESCRIPTION "CLOSURE PLAN STEPS FOR LERF" UNDATED, UNTITLED.
- C. THE FOLLOWING CONSTRAINTS AND/OR SPECIAL CONDITIONS EXIST: HAZARDOUS AND RADIOLOGICAL CONDITIONS, CONFINED SPACES.
- D. THIS ESTIMATE ALSO UTILIZES A STANDARD FDNW DEFINED CODE OF ACCOUNTS.

3. ESTIMATE METHODOLOGY

=====

A. DIRECT COSTS:

A BOTTOMS-UP TECHNIQUE HAS BEEN UTILIZED IN THE PREPARATION OF THIS ESTIMATE.

- (1) CONSTRUCTION LABOR, MATERIAL AND EQUIPMENT UNITS HAVE BEEN ESTIMATED BASED UPON ONE OR MORE OF THE FOLLOWING STANDARD COMMERCIAL ESTIMATING RESOURCES, PUBLISHED ESTIMATING MANUALS/DATABASES: IN HOUSE DATABASES, R.S. MEANS, RICHARDSON'S PROCESS PLANT CONSTRUCTION ESTIMATING STANDARDS AND PREVIOUS CLOSURE COST ESTIMATES. THE UNITS MAY HAVE BEEN FACTORED/ADJUSTED BY THE ESTIMATOR AS APPROPRIATE TO REFLECT INFLUENCES BY CONTRACT, WORK SITE, OR OTHER IDENTIFIED PROJECT OR SPECIAL CONDITIONS.
- (2) FLUOR DANIEL HANFORD & PROJECT HANFORD MANAGEMENT CONTRACT (PHMC) SUBCONTRACTOR DIRECT COSTS FOR WASTE MANAGEMENT HANFORD AND BECHTEL HANFORD, INC. HAVE BEEN INCORPORATED INTO THIS ESTIMATE.

B. DIRECT COST FACTORS:

- (1) SALES TAX HAS BEEN APPLIED TO ALL MATERIALS AND EQUIPMENT PURCHASES AT 8%.
- (2) NO WAREHOUSING COSTS ARE SHOWN SINCE THEY ARE CONSIDERED TO BE INCLUDED IN THE MATERIAL PROCUREMENT RATE (MPR)

C. RATES:

- (1) PHMC SUBCONTRACTOR STANDARD LABOR RATES ARE THOSE LISTED IN THE FINANCIAL DATA SYSTEM (FDS) FDST 321R REPORT ORGANIZATION RATES PLUS ADDERS.

4. ESCALATION

=====

ESCALATION OF COSTS HAS NOT BEEN DONE, ALL COSTS ARE SHOWN IN CURRENT FY98 DOLLARS

5. CONTINGENCY

=====

A. DEFINITION OF CONTINGENCY AS PROVIDED BY DOE

"CONTINGENCY COVERS COSTS THAT MAY RESULT FROM INCOMPLETE DESIGN, UNFORESEEN AND UNPREDICTABLE CONDITIONS, OR UNCERTAINTIES WITHIN THE DEFINED PROJECT SCOPE. THE AMOUNT OF CONTINGENCY WILL DEPEND ON THE STATUS OF DESIGN, PROCUREMENT, AND CONSTRUCTION; AND THE COMPLEXITY AND UNCERTAINTIES OF THE COMPONENT PARTS OF THE PROJECT. CONTINGENCY IS NOT TO BE USED TO AVOID MAKING AN ACCURATE ASSESSMENT OF EXPECTED COST" (OFFICE OF WASTE MANAGEMENT (EM 30) COST AND SCHEDULE GUIDE.

B. CONTINGENCY ALLOWANCE GUIDELINES

THE DOE GUIDELINE CONTINGENCY ALLOWANCE FOR AN ORDER OF MAGNITUDE ESTIMATE OR PLANNING ESTIMATE WITH SPECIAL CONDITIONS IS UP TO 50%.

C. METHODOLOGY

CONTINGENCY IS EVALUATED AT THE LOWEST WORK BREAKDOWN STRUCTURE (WBS) LEVEL WITHIN THE COST ESTIMATE DETAILS. IT IS SUMMARIZED AT UPPER WBS LEVELS AND REPORTED ON THE SUMMARY REPORTS.

D. ANALYSIS

AN ASSESSMENT OF DESIGN MATURITY, WORK COMPLEXITY AND PROJECT UNCERTAINTIES HAS BEEN PERFORMED. AN EXPLANATION OF THIS ASSESSMENT AND CONTINGENCY RATES WHICH HAVE BEEN ADDED TO THE COST OF WORK ARE AS FOLLOWS:

WBS 111 CLOSURE PLANNING	A CONTINGENCY OF 25% HAS BEEN APPLIED AS THE CONTAMINATION FOUND 30 YEARS IN THE FUTURE CAN BE UNPREDICTABLE.
WBS 340 DECONTAMINATION	A CONTINGENCY OF 35% HAS BEEN APPLIED BECAUSE UNFORESEEN EVENTS TAKING PLACE BEFORE CLOSURE CAN GREATLY AFFECT THE AMOUNT OF EFFORT NEEDED TO ACHIEVE APPROPRIATE CLEANLINESS.
WBS 350 DISPOSAL COSTS	DISPOSAL COSTS RECEIVE A 35% CONTINGENCY BECAUSE DISPOSAL COSTS ARE DIRECTLY RELATED TO THE AMOUNT OF CONTAMINATION EXPECTED TO BE FOUND. ONE UNEXPECTED LEAK WOULD CAUSE DISPOSAL COSTS TO ESCALATE.
WBS 400 PROJECT MANAGEMENT	A 35% CONTINGENCY HAS BEEN APPLIED FOR PROJECT MANAGEMENT BECAUSE ANY POTENTIAL GROWTH TO THE PROJECT DUE TO THE UNKNOWN CONDITIONS AS MENTIONED ABOVE WILL HAVE A SIMILAR AFFECT ON THIS WBS.

6. ROUNDING

=====

THE PROJECT COST SUMMARY REPORT IS SUMMARIZED AND ADJUSTED/ROUNDED AS FOLLOWS:
THE ESCALATED TOTAL COST COLUMN, CONTINGENCY TOTAL COLUMN AND TOTAL DOLLARS COLUMN SUB-TOTALS ARE SUMMARIZED BY CONTRACTOR. THE COLUMN SUBTOTALS ARE ADJUSTED/ROUNDED TO THE NEAREST \$1,000/\$10,000. THE PROJECT TOTAL SUMMARY LINE TOTALS ARE ADJUSTED/ROUNDED TO THE NEAREST \$10,000/\$100,000

7. REMARKS

=====

MAJOR ASSUMPTIONS WHICH HAVE BEEN MADE IN THE PREPARATION OF THIS ESTIMATE ARE AS FOLLOWS:

- A.) THE EIF WILL BE AVAILABLE TO RECEIVE WASTE FROM FLUSHING/DECONTAMINATING ACTIVITIES.
- B.) DECONTAMINATION WILL NOT BE PERFORMED ON THE LERF COVERS, LINERS, AND PIPING/INSTRUMENTATION IN THE BASINS
- C.) THE PRIMARY LINERS WILL LEAK, PARTIALLY CONTAMINATING THE DRAINAGE LAYERS (GRAVEL & GEONET).
- D.) THE SECONDARY LINER WILL NOT HAVE ANY HOLES/LEAKS. SO DECONTAMINATION/SAMPLING OF THE SUBLAYER AND SOIL WILL NOT BE REQUIRED.

FLUOR DANIEL NORTHWEST, INC.
WASTE MANAGEMENT HANFORD
JOB NO. Z610SAA1
FILE NO. Z610SAA1

** TEST - INTERACTIVE ESTIMATING **
LIQUID EFFLUENT RETENTION FACILITY (LERF) CLOSURE
STUDY ESTIMATE
PHMCR03 - ESTIMATE BASIS SHEET

PAGE 5 OF 10
DATE 09/15/98 10:23:57
BY R.W.OHRT

7. REMARKS (CONT'D)

=====

E.) THE TRANSFER PIPING AND CATCH BASIN PIPING CAN BE DECONTAMINATED AND WILL NOT HAVE TO BE REMOVED.
REQUIRED.

F.) THE CATCH BASINS WILL NOT HAVE ANY CRACKS THROUGH THE CONCRETE, SO DECONTAMINATION/SAMPLING OF THE SOIL WILL NOT BE
REQUIRED.

G.) COSTS FOR WASTE DISPOSAL WERE FURNISHED BY WMH.

FLUOR DANIEL NORTHWEST, INC
WASTE MANAGEMENT HANFORD
JOB NO. Z610SAA1
FILE NO. Z610SAA1

** IEST - INTERACTIVE ESTIMATING **
LIQUID EFFLUENT RETENTION FACILITY (LERF) CLOSURE
STUDY ESTIMATE
PHMCR04 - COMPANY/WBS SUMMARY

PAGE 6 OF 10
DATE 09/15/98 10:50:22
BY R.W.OHRT

SORT CODE/WBS	DESCRIPTION	ESTIMATE SUBTOTAL	ESCALATION % TOTAL	SUB TOTAL	CONTINGENCY % TOTAL	SUB TOTAL	SITE ALLOCAT'N	TOTAL DOLLARS
BHI	BECHTEL HANFORD INC.							
340100	WMH DECONTAMINATION	75000	0.00	0	75000	35	26250	101250
	TOTAL BHI BECHTEL HANFORD INC.	75000	0.00	0	75000	35	26250	101250
LMHC	LOCKHEED MARTIN HANFORD CORP.							
340100	WMH DECONTAMINATION	208319	0.00	0	208319	35	72912	281231
	SUBTOTAL 34 DECONTAMINATION	283319	0.00	0	283319	35	99162	382481
	TOTAL LMHC LOCKHEED MARTIN HANFORD COR	208319	0.00	0	208319	35	72912	281231
LMSI	LOCKHEED MARTIN SERVICES, INC.							
111100	CLOSURE PLAN PREPARATION	10000	0.00	0	10000	25	2500	12500
	TOTAL LMSI LOCKHEED MARTIN SERVICES, I	10000	0.00	0	10000	25	2500	12500
WMH	WASTE MANAGEMENT HANFORD							
111100	CLOSURE PLAN PREPARATION	115000	0.00	0	115000	25	28750	143750
111200	CLOSURE CERTIFICATION	30000	0.00	0	30000	25	7500	37500
	SUBTOTAL 11 WMH ENGINEERING	155000	0.00	0	155000	25	38750	193750
340100	WMH DECONTAMINATION	1146417	0.00	0	1146417	35	401246	1547663
	SUBTOTAL 34 DECONTAMINATION	1146417	0.00	0	1146417	35	401246	1547663
350100	WMH DISPOSAL COSTS	910500	0.00	0	910500	35	318675	1229175
	SUBTOTAL 35 DISPOSAL COSTS	910500	0.00	0	910500	35	318675	1229175
400000	WMH PROJECT MANAGEMENT	215400	0.00	0	215400	35	75390	290790

FLUOR DANIEL NORTHWEST, INC.
WASTE MANAGEMENT HANFORD
JOB NO. Z610SAA1
FILE NO. Z610SAA1

** TEST - INTERACTIVE ESTIMATING **
LIQUID EFFLUENT RETENTION FACILITY (LERF) CLOSURE
STUDY ESTIMATE
PHMCR04 - COMPANY/WBS SUMMARY

PAGE 7 OF 10
DATE 09/15/98 10:50:22
BY R.W.OHRT

SORT CODE/WBS	DESCRIPTION	ESTIMATE SUBTOTAL	ESCALATION % TOTAL	SUB TOTAL	CONTINGENCY % TOTAL	SUB TOTAL	SITE ALLOCATION	TOTAL DOLLARS		
	SUBTOTAL 40 PROJECT MANAGEMENT	215400	0.00	0	215400	35	75390	290790	0	290790
	TOTAL WMH WASTE MANAGEMENT HANFORD	2417317	0.00	0	2417317	34	831561	3248878	0	3248878
WMNW	WASTE MANAGEMENT NORTHWEST									
340100	WMH DECONTAMINATION	6393	0.00	0	6393	35	2238	8631	0	8631
	SUBTOTAL 34 DECONTAMINATION	6393	0.00	0	6393	35	2238	8631	0	8631
	TOTAL WMNW WASTE MANAGEMENT NORTHWEST	6393	0.00	0	6393	35	2238	8631	0	8631
PROJECT TOTAL		2,717,029	0.00	0	2,717,029	34	935,461	3,652,490	0	3,652,490

FLUOR DANIEL NORTHWEST, INC.
WASTE MANAGEMENT HANFORD
JOB NO. Z610SAA1
FILE NO. Z610SAA1

*** IEST INTERACTIVE ESTIMATING ***
LIQUID EFFLUENT RETENTION FACILITY (LERF) CLOSURE
STUDY ESTIMATE
PHMCR05 - CONSTRUCTION MANAGEMENT/OTHER COST SUMMARY

PAGE 8 OF 10
DATE 09/15/98 10:50:27
BY R.W.OHRT

WBS	DESCRIPTION	ESTIMATE SUBTOTAL	CONSTRUCTION %	MANAGEMENT TOTAL	OTHER COSTS	SUB TOTAL	TOTAL
=====	=====	=====	=====	=====	=====	=====	=====
111100	CLOSURE PLAN PREPARATION	125000	0.00	0	0	0	125000
111200	CLOSURE CERTIFICATION	30000	0.00	0	0	0	30000
	SUBTOTAL 11 WMH ENGINEERING	155000		0	0	0	155000
340100	WMH DECONTAMINATION	1436129	0.00	0	0	0	1436129
	SUBTOTAL 34 DECONTAMINATION	1436129		0	0	0	1436129
350100	WMH DISPOSAL COSTS	910500	0.00	0	0	0	910500
	SUBTOTAL 35 DISPOSAL COSTS	2346629		0	0	0	2346629
400000	WMH PROJECT MANAGEMENT	215400	0.00	0	0	0	215400
	SUBTOTAL 40 PROJECT MANAGEMENT	215400		0	0	0	215400
PROJECT TOTAL		2,717,029		0	0	0	2,717,029

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. Z610SAA1
 FILE NO. Z610SAA1

** TEST - INTERACTIVE ESTIMATING **
 LIQUID EFFLUENT RETENTION FACILITY (LERF) CLOSURE
 STUDY ESTIMATE
 PHMCR06 - SITE ALLOCATIONS BY WBS

PAGE 9 OF 11
 DATE 09/15/98 10:49:58
 BY R.W.OHRT

WBS	DESCRIPTION	ESTIMATE SUBTOTAL	DYN EQ. USAGE	FDH GPS/G&A CONST. MGMT	FDH MPR F.P./S.C.	FDH GPS/G&A LABOR	FDH MPR/G&A MATERIAL	SITE ALLOC SUBTOTAL
111100	CLOSURE PLAN PREPARATION	125000	0	0	0	0	0	0
111200	CLOSURE CERTIFICATION	30000	0	0	0	0	0	0
	SUBTOTAL 11 WMH ENGINEERING	155000	0	0	0	0	0	0
340100	WMH DECONTAMINATION	1436129	0	0	0	0	0	0
	SUBTOTAL 34 DECONTAMINATION	1436129	0	0	0	0	0	0
350100	WMH DISPOSAL COSTS	910500	0	0	0	0	0	0
	SUBTOTAL 35 DISPOSAL COSTS	910500	0	0	0	0	0	0
400000	WMH PROJECT MANAGEMENT	215400	0	0	0	0	0	0
	SUBTOTAL 40 PROJECT MANAGEMENT	215400	0	0	0	0	0	0
PROJECT TOTAL		2,717,029	0	0	0	0	0	0

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. Z610SAA1
 FILE NO. Z610SAA1

** IEST INTERACTIVE ESTIMATING **
 LIQUID EFFLUENT RETENTION FACILITY (LERF) CLOSURE
 STUDY ESTIMATE
 PHMCR07 - SITE ALLOCATION ESCALATION/CONTINGENCY REPORT

PAGE 10 OF 10
 DATE 09/15/98 10:50:31
 BY R.W.OHRT

WBS	DESCRIPTION	SITE ALLOC		ESCALATION		SUB		CONTINGENCY		TOTAL
		SUBTOTAL		%	TOTAL	TOTAL		%	TOTAL	DOLLARS
111100	CLOSURE PLAN PREPARATION	0		0.00	0	0		0	0	0
111200	CLOSURE CERTIFICATION	0		0.00	0	0		0	0	0
	SUBTOTAL 11 WMH ENGINEERING	0		0.00	0	0		0	0	0
340100	WMH DECONTAMINATION	0		0.00	0	0		0	0	0
	SUBTOTAL 34 DECONTAMINATION	0		0.00	0	0		0	0	0
350100	WMH DISPOSAL COSTS	0		0.00	0	0		0	0	0
	SUBTOTAL 35 DISPOSAL COSTS	0		0.00	0	0		0	0	0
400300	WMH PROJECT MANAGEMENT	0		0.00	0	0		0	0	0
	SUBTOTAL 40 PROJECT MANAGEMENT	0		0.00	0	0		0	0	0
PROJECT TOTAL		0		0.00	0	0		0	0	0

FLUOR DANIEL NORTHWEST, INC.
WASTE MANAGEMENT HANFORD
JOB NO. Z610SAA1
FILE NO. Z610SAA1

** IEST - INTERACTIVE ESTIMATING **
LIQUID EFFLUENT RETENTION FACILITY (LERF) CLOSURE
STUDY ESTIMATE
PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 1
DATE 09/15/98 10:50:37
BY R.W.GHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
111100	CLOSURE PLAN PREPARATION										
111100.90	HOME OFFICE										
111100.9000100	CLOSURE PLAN COSTS PER "STANDARDIZED COST ESTIMATE FOR CLOSURE PLAN DEVELOPMENT" DATED 6/3/98.	000	0	0	0	0	0	0	0	0	0
111100.9000102	CLOSURE PLAN PREPARATION	000	0	0	0	0	0	0	0	0	0
	310 DAY DURATION										
111100.9000104	WMH ENVIRONMENTAL SUPPORT	000	1 LS	654	36000	0	0	0	0	0	36000
111100.9000106	WMH TWRS	000	1 LS	222	12000	0	0	0	0	0	12000
111100.9000108	WMH ANALYTICAL SERVICES	000	1 LS	36	2000	0	0	0	0	0	2000
111100.9000110	LMSI MEDIA SERVICES	000	1 LS	0	0	0	0	2000	0	0	2000
111100.9000112	LMSI DUPLICATION	000	1 LS	0	0	0	0	3000	0	0	3000
111100.9000202	RESPOND TO ECOLOGY NOD COMMENTS	000	0	0	0	0	0	0	0	0	0
	90 DAY DURATION										
111100.9000203	WMH ENVIRONMENTAL SUPPORT	000	1 LS	226	13000	0	0	0	0	0	13000
111100.9000206	WMH TWRS	000	1 LS	97	5000	0	0	0	0	0	5000
111100.9000208	WMH ANALYTICAL SERVICES	000	1 LS	36	2000	0	0	0	0	0	2000
111100.9000212	LMSI DUPLICATION	000	1 LS	0	0	0	0	1000	0	0	1000
111100.9000302	RESOLUTION OF NOD COMMENTS	000	0	0	0	0	0	0	0	0	0
	270 DAY DURATION										
111100.9000304	WMH ENVIRONMENTAL SUPPORT	000	1 LS	490	27000	0	0	0	0	0	27000
111100.9000306	WMH TWRS	000	1 LS	217	12000	0	0	0	0	0	12000
111100.9000308	WMH ANALYTICAL SERVICES	000	1 LS	52	3000	0	0	0	0	0	3000
111100.9000310	LMSI MEDIA SERVICES	000	1 LS	0	0	0	0	1000	0	0	1000
111100.9000312	LMSI DUPLICATION	000	1 LS	0	0	0	0	2000	0	0	2000
111100.9000402	INCORPORATE CLOSURE PLAN INTO PERMIT	000	0	0	0	0	0	0	0	0	0
	270 DAY DURATION										
111100.9000403	WMH ENVIRONMENTAL SUPPORT	000	1 LS	40	2000	0	0	0	0	0	2000
111100.9000406	WMH TWRS	000	1 LS	16	1000	0	0	0	0	0	1000
111100.9000410	LMSI MEDIA SERVICES	000	1 LS	0	0	0	0	500	0	0	500

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. Z610SAA1
 FILE NO. Z610SAA1

** IEST - INTERACTIVE ESTIMATING **
 LIQUID EFFLUENT RETENTION FACILITY (LERF) CLOSURE
 STUDY ESTIMATE
 PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 2
 DATE 09/15/98 10:50:37
 BY R.W.OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
111100.9000412	LMSI MEDIA SERVICES	000	1 LS	0	0	0	0	500	0	0	500

SUBTOTAL	HOME OFFICE			2,086		0		10,000		0	
					115,000		0		0		125,000

TOTAL	COST CODE 00090			2,086		0		10,000		0	
	WBS 111100				115,000		0		0		125,000
	(ESCALATION 0.00% - CONTINGENCY 25.00 %)										

TOTAL WBS 111100	CLOSURE PLAN PREPARATION			2,086		0		10,000		0	
					115,000		0		0		125,000

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. Z610SAA1
 FILE NO. Z610SAA1

** IEST INTERACTIVE ESTIMATING **
 LIQUID EFFLUENT RETENTION FACILITY (LERF) CLOSURE
 STUDY ESTIMATE
 PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 3
 DATE 09/15/98 10:50:17
 BY R.W.OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP MENT	OH&P / B & I	TOTAL DOLLARS
111200	CLOSURE CERTIFICATION										
111200.90	HOME OFFICE										
111200.9000000	***** CLOSURE CERTIFICATION *****	000	0	0	0	0	0	0	0	0	0
111200.9000002	PREPARATION BY A PROFESSIONAL ENGINEER, PER CUSTOMER.	000	1 L/S	0	0	0	0	30000	0	0	30000

SUBTOTAL	HOME OFFICE			0	0	0	0	30,000	0	0	30,000

TOTAL	COST CODE 00090			0	0	0	0	30,000	0	0	30,000
	WBS 111200				0		0		0		30,000
	(ESCALATION 0.00% - CONTINGENCY 25.00 %)										

TOTAL WBS 111200	CLOSURE CERTIFICATION			0	0	0	0	30,000	0	0	30,000

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. Z610SAA1
 FILE NO. Z610SAA1

** TEST - INTERACTIVE ESTIMATING **
 LIQUID EFFLUENT RETENTION FACILITY LERF CLOSURE
 STUDY ESTIMATE
 PHMCR08 ESTIMATE DETAIL BY WBS / COST CODE

PAGE 4
 DATE 09/15/98 10:50:37
 BY R.W.OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
340100	WMH DECONTAMINATION										
340100.06	ENVIRONMENTAL WORK										
340100.0600200	***** FLUSH 242-A TO LERF TRANSFER PIPE *****	501	0	0	0	0	0	0	0	0	0
340100.0600202	FLUSH MAIN TRANSFER AND BASIN 43 PIPING ONCE, ALLOW A 6 MAN CREW 6 DAYS.	501	0	0	0	0	0	0	0	0	0
340100.0600204	1 PIC	501	1 LS	48	2868	0	0	0	0	0	2868
340100.0600206	2 HPT'S	501	1 LS	96	4587	0	0	0	0	0	4587
340100.0600208	3 PLANT OPER. PERSONNEL	501	1 LS	144	4038	0	0	0	0	0	4038
340100.0600212	FLUSH BASIN 42 PIPING WITH ONE FLUSH, ALLOW A 6 MAN CREW 6 DAYS.	501	0	0	0	0	0	0	0	0	0
340100.0600214	1 PIC	501	1 LS	48	2868	0	0	0	0	0	2868
340100.0600216	2 HPT'S	501	1 LS	96	4587	0	0	0	0	0	4587
340100.0600218	3 PLANT OPER. PERSONNEL	501	1 LS	144	4038	0	0	0	0	0	4038
340100.0600222	FLUSH BASIN 44 PIPING WITH ONE FLUSH, ALLOW A 6 MAN CREW 6 DAYS.	501	0	0	0	0	0	0	0	0	0
340100.0600224	1 PIC	501	1 LS	48	2868	0	0	0	0	0	2868
340100.0600226	2 HPT'S	501	1 LS	96	4587	0	0	0	0	0	4587
340100.0600228	3 PLANT OPER. PERSONNEL	501	1 LS	144	4038	0	0	0	0	0	4038
340100.0600230	PULL 4 SAMPLES PER BASIN, 12 TOTAL	501	1 LS	36	1009	0	0	0	0	0	1009
340100.0600232	SAMPLE ANALYSIS	501	12 EA	0	0	0	0	24000	0	0	24000
340100.0600400	***** REMOVE AND DISPOSE OF LERF COVERS *****	501	0	0	0	0	0	0	0	0	0
340100.0600402	CUT OUT COVER, ROLL UP AND PUT INTO BARRELS, 100,000 SF BY 60 MIL THICK. DISPOSE OF AS RMW. ASSUME 12 MAN CREW FOR 2 WEEKS PER BASIN.	501	0	0	0	0	0	0	0	0	0
340100.0600404	1 PIC	501	3 LS	240	14338	0	0	0	0	0	14338
340100.0600406	2 HPT'S	501	3 LS	480	22934	0	0	0	0	0	22934
340100.0600408	12 PLANT OPER. PERSONNEL	501	3 LS	2880	80755	0	0	0	0	0	80755
340100.0600420	DRUM COST, ASSUMING 1000 SF PER DRUM @ 100,000 SF PER	501	300 EA	0	0	0	36000	0	0	0	36000

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. Z610SAA1
 FILE NO. Z610SAA1

** IEST - INTERACTIVE ESTIMATING **
 LIQUID EFFLUENT RETENTION FACILITY (LERF) CLOSURE
 STUDY ESTIMATE
 PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 6
 DATE 09/15/98 10:50:37
 BY R.W.OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
	AS RMW. ASSUME 12 MAN CREW										
340100.0600803	FOR 2 WEEKS PER BASIN.	501	0	0	0	0	0	0	0	0	0
340100.0600804	1 PIC	501	3 LS	240	14338	0	0	0	0	0	14338
340100.0600806	2 HPT'S	501	3 LS	480	22934	0	0	0	0	0	22934
340100.0600808	12 PLANT OPER. PERSONNEL	501	3 LS	2880	80755	0	0	0	0	0	80755
340100.0600810	DRUM COST, ASSUMING 1000 SF PER DRUM @ 100,000 SF PER BASIN X 3 BASINS.	501	300 EA	0	0	0	36000	0	0	0	36000
340100.0600812	CUT OUT BENTONITE CARPET, PUT INTO BARRELS, 100,000 SF BY 1/4" THICK. DISPOSE OF AS RMW. ASSUME 12 MAN CREW	501	0	0	0	0	0	0	0	0	0
340100.0600813	FOR 4 WEEKS PER BASIN.	501	0	0	0	0	0	0	0	0	0
340100.0600814	1 PIC	501	3 LS	480	28675	0	0	0	0	0	28675
340100.0600816	2 HPT'S	501	3 LS	960	45869	0	0	0	0	0	45869
340100.0600818	12 PLANT OPER. PERSONNEL	501	3 LS	5760	161510	0	0	0	0	0	161510
340100.0600820	DRUM COST, ASSUMING 400 SF PER DRUM @ 100,000 SF PER BASIN X 3 BASINS.	501	750 EA	0	0	0	90000	0	0	0	90000
340100.0600832	CUT OUT GEOTEXTILE FABRIC, PUT INTO BARRELS, 100,000 SF BY 70 MIL THICK. DISPOSE OF AS RMW. ASSUME 12 MAN CREW	501	0	0	0	0	0	0	0	0	0
340100.0600833	FOR 2 WEEKS PER BASIN.	501	0	0	0	0	0	0	0	0	0
340100.0600834	1 PIC	501	3 LS	240	14338	0	0	0	0	0	14338
340100.0600836	2 HPT'S	501	3 LS	480	22934	0	0	0	0	0	22934
340100.0600838	12 PLANT OPER. PERSONNEL	501	3 LS	2880	80755	0	0	0	0	0	80755
340100.0600840	DRUM COST, ASSUMING 1000 SF PER DRUM @ 100,000 SF PER BASIN X 3 BASINS.	501	300 EA	0	0	0	36000	0	0	0	36000
340100.0600900	***** REMOVE /DISPOSE LEACHATE PIPING *****	501	0	0	0	0	0	0	0	0	0
340100.0600910	CUT, SPLIT AND DRUM LEACHATE PIPING, 2 RISERS PER BASIN, 4" & 10" X 100 LF, PLASTIC. ALLOW 3 CREW DAYS PER BASIN.	501	0	0	0	0	0	0	0	0	0
340100.0600911	ASSUME 8 DRUMS RMW WASTE PER BASIN.	501	0	0	0	0	0	0	0	0	0
340100.0600912	1 PIC	501	3 LS	72	4301	0	0	0	0	0	4301
340100.0600914	2 HPT'S	501	3 LS	144	6880	0	0	0	0	0	6880

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. Z610SAA1
 FILE NO. Z610SAA1

** IEST - INTERACTIVE ESTIMATING **
 LIQUID EFFLUENT RETENTION FACILITY (LERF) CLOSURE
 STUDY ESTIMATE
 PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 8
 DATE 09/15/98 10:50:38
 BY R.W.OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
MARK ANY HOLES. ALLOW THREE CREW DAYS PER BASIN.											
340100.0601206	1 PIC	501	3 LS	72	4301	0	0	0	0	0	4301
340100.0601208	2 HPT'S	501	3 LS	144	6880	0	0	0	0	0	6880
340100.0601210	3 PLANT OPER. PERSONNEL	501	3 LS	216	6057	0	0	0	0	0	6057
340100.0601212	2 INSPECTORS	501	3 LS	144	8603	0	0	0	0	0	8603
340100.0601300	*****	501	0	0	0	0	0	0	0	0	0
DECONTAMINATE SECONDARY LINER AREAS											

340100.0601301	DECONTAMINATE CONTAMINATED AREAS BY WIPING DOWN WITH RAGS. ALLOW ONE CREW WEEK PER BASIN.	501	0	0	0	0	0	0	0	0	0
340100.0601322	1 PIC	501	3 LS	120	7169	0	0	0	0	0	7169
340100.0601324	2 HPT'S	501	3 LS	240	11467	0	0	0	0	0	11467
340100.0601326	4 PLANT OPER. PERSONNEL	501	3 LS	480	13459	0	0	0	0	0	13459
340100.0601400	*****	501	0	0	0	0	0	0	0	0	0
INSPECT DECONTAMINATED AREAS OF SECONDARY LINER											

340100.0601402	VISUALLY INSPECT SECONDARY LINER TO CONFIRM SURFACES ARE CLEAN. ALLOW THREE CREW DAYS PER BASIN.	501	0	0	0	0	0	0	0	0	0
340100.0601406	1 PIC	501	3 LS	72	4301	0	0	0	0	0	4301
340100.0601408	2 HPT'S	501	3 LS	144	6880	0	0	0	0	0	6880
340100.0601410	3 PLANT OPER. PERSONNEL	501	3 LS	216	6057	0	0	0	0	0	6057
340100.0601412	2 INSPECTORS	501	3 LS	144	8603	0	0	0	0	0	8603
340100.0601500	*****	501	0	0	0	0	0	0	0	0	0
CLOSE PIPING											

340100.0601501	CLOSE THE CATCH BASIN PIPING AND LERF TO ETF PIPING. FLUSH ONCE AND SAMPLE. ASSUME 6 CREW DAYS.	501	0	0	0	0	0	0	0	0	0
340100.0601506	1 PIC	501	1 LS	48	2868	0	0	0	0	0	2868
340100.0601508	2 HPT'S	501	1 LS	96	4587	0	0	0	0	0	4587
340100.0601510	6 PLANT OPER. PERSONNEL	501	1 LS	288	8076	0	0	0	0	0	8076
340100.0601512	2 SAMPLERS	501	1 LS	96	2692	0	0	0	0	0	2692
340100.0601520	SAMPLING ANALYSIS	501	4 EA	0	0	0	0	8000	0	0	8000
340100.0601600	*****	501	0	0	0	0	0	0	0	0	0
DECONTAMINATE CATCH BASIN											

FLUOR DANIEL NORTHWEST, INC.
WASTE MANAGEMENT HANFORD
JOB NO. Z610SAA1
FILE NO. Z610SAA1

** IEST - INTERACTIVE ESTIMATING **
LIQUID EFFLUENT RETENTION FACILITY (LERF) CLOSURE
STUDY ESTIMATE
PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 9
DATE 09/15/98 10:50:38
BY R.W.OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
CONCRETE											
340100.0601602	BHI TO SCABBLE ALL THREE CATCH BASINS. 48' X 13' X 1'H, REMOVE 1/4" (3 EA) FOR 16 CF PER BASIN (RMW).	501	1 LS	0	0	0	0	75000	0	0	75000
340100.0601604	WMH CREW TO SUPPORT BHI ACTIVITIES, ASSUME ONE WEEK DURATION.	501	0	0	0	0	0	0	0	0	0
340100.0601606	1 PIC	501	1 LS	40	2390	0	0	0	0	0	2390
340100.0601608	2 HPT'S	501	1 LS	40	1911	0	0	0	0	0	1911
340100.0601610	6 PLANT OPER. PERSONNEL	501	1 LS	240	6730	0	0	0	0	0	6730
340100.0601620	DRUM COST, ALLOW 4 CF/DRUM	501	12 EA	0	0	0	1440	0	0	0	1440
SUBTOTAL ENVIRONMENTAL WORK				26,948		0		275,000		0	
SALES TAX 8.00 %					925,127		218,520		0		1,418,647
							17481		0		17481
TOTAL COST CODE 50106				26,948		0		275,000		0	
WBS 340100					925,127		236,001		0		1,436,128
(ESCALATION 0.00% - CONTINGENCY 35.00 %)											
TOTAL WBS 340100 WMH DECONTAMINATION				26,948		0		275,000		0	
					925,127		236,001		0		1,436,128

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. Z610SAA1
 FILE NO. Z610SAA1

** IEST - INTERACTIVE ESTIMATING **
 LIQUID EFFLUENT RETENTION FACILITY (LERF) CLOSURE
 STUDY ESTIMATE
 PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 10
 DATE 09/15/98 10:50:38
 BY R.W.OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
350100	WMH DISPOSAL COSTS										
350100.99	DISPOSAL COSTS										
350100.9900440	DRUMMED COVER DISPOSAL, RMW. 300 DRUMS AT \$500 EA. FROM LERF COVER.	501	300 EA	0	0	0	0	150000	0	0	150000
350100.9900640	DRUMMED PIPING DISPOSAL, RMW. 75 DRUMS AT \$500 EA. FROM BASIN RISERS/INSTRU.	501	75 EA	0	0	0	0	37500	0	0	37500
350100.9900810	DRUMMED PRIMARY LINER DISPOSAL, RMW. 300 DRUMS AT \$500. EA FROM 3 LERF BASINS.	501	300 EA	0	0	0	0	150000	0	0	150000
350100.9900820	DRUMMED BENTONITE CARPET DISPOSAL, RMW. 750 DRUMS AT \$500. EA FROM 3 LERF BASINS.	501	750 EA	0	0	0	0	375000	0	0	375000
350100.9900840	DRUMMED GEOTEXTILE FABRIC DISPOSAL, RMW. 300 DRUMS AT \$500. EA FROM 3 LERF BASINS.	501	300 EA	0	0	0	0	150000	0	0	150000
350100.9900940	DRUMMED LEACHATE PIPING, RMW. 24 DRUMS AT \$500. EA FOR 3 LERF BASINS.	501	24 EA	0	0	0	0	12000	0	0	12000
350100.9901120	DISPOSAL COST FOR 60 DRUMS OF GRAVEL FROM BASINS, RMW.	501	60 EA	0	0	0	0	30000	0	0	30000
350100.9901620	DISPOSAL COSTS FOR DRUMS OF CONCRETE DEBRIS FROM CATCH BASIN, ASSUMED 100#/CF AND 4 CF/DRUM.	501	12 EA	0	0	0	0	6000	0	0	6000
SUBTOTAL DISPOSAL COSTS					0	0	0	910,500	0	0	910,500
TOTAL COST CODE 50199					0	0	0	910,500	0	0	910,500
WBS 350100						0	0		0		910,500
(ESCALATION 0.00% - CONTINGENCY 35.00 %)											
TOTAL WBS 350100 WMH DISPOSAL COSTS					0	0	0	910,500	0	0	910,500

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. Z610SAA1
 FILE NO. Z610SAA1

** IEST - INTERACTIVE ESTIMATING **
 LIQUID EFFLUENT RETENTION FACILITY (LERF) CLOSURE
 STUDY ESTIMATE
 PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 11
 DATE 09/15/98 10:50:38
 BY R.W.OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
400000	WMH PROJECT MANAGEMENT										
400000.90	HOME OFFICE										
400000.9000000	***** PROJECT MANAGEMENT *****	501	1 LS	0	0	0	0	215400	0	0	215400
400000.9000001	@ 15% OF DECONTAMINATION COSTS (WBS 340100)	501	0	0	0	0	0	0	0	0	0

SUBTOTAL	HOME OFFICE			0	0	0	0	215,400	0	0	215,400

TOTAL	COST CODE 50190			0	0	0	0	215,400	0	0	215,400
	WBS 400000				0		0		0		215,400
	(ESCALATION 0.00% - CONTINGENCY 35.00 %)										

TOTAL WBS 400000	WMH PROJECT MANAGEMENT			0	0	0	0	215,400	0	0	215,400

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. Z610SAA1
 FILE NO. Z610SAA1

** IEST - INTERACTIVE ESTIMATING **
 LIQUID EFFLUENT RETENTION FACILITY (LERF) CLOSURE
 STUDY ESTIMATE
 PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 12
 DATE 09/15/98 10:50:38
 BY R.W.OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB- CONTRACT	EQUIP- MENT	OH&P / B & I	TOTAL DOLLARS

REPORT TOTAL				29,034	1,040,127	0	236,001	1,440,900	0	0	2,717,028

200 AREA EFFLUENT TREATMENT FACILITY

This TSD unit is not scheduled for closure within the next five years. The anticipated life of this TSD unit is approximately 30 years, with closure anticipated in approximately 2024. Updated estimates will be included in future annual reports if the closure strategy/approach should change significantly or if a closure date is established. The total estimated costs for closure are approximately \$1.3 million (1998 dollars).

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. 65100700
 FILE NO. Z609SAA2

** IEST - INTERACTIVE ESTIMATING **
 200 AREA EFFLUENT TREATMENT FACILITY (ETF) CLOSURE
 STUDY ESTIMATE
 PHMCR01 - PROJECT COST SUMMARY

PAGE 1 OF 10
 DATE 09/15/98 10:29:28
 BY SMF/R.W. OHRT

SORT	DESCRIPTION	ESCALATED TOTAL COST	CONTINGENCY %	CONTINGENCY TOTAL	TOTAL DOLLARS
BHI	BECHTEL HANFORD INCORP.	100,000	35	40,000	140,000
LMHC	LOCKHEED MARTIN HANFORD CORP.	60,000	35	20,000	80,000
LMSI	LOCKHEED MARTIN SERVICES, INC.	10,000	25	0	10,000
WMH	WASTE MANAGEMENT HANFORD	590,000	32	190,000	780,000
WMNW	WASTE MANAGEMENT NORTHWEST	180,000	35	60,000	240,000
TOTAL ESTIMATED CONSTRUCTION COSTS (TECC)		940,000	33	310,000	1,250,000

TYPE OF ESTIMATE	STUDY ESTIMATE	SEPTEMBER 15, 1998	REMARKS: ALL COSTS IN FY98 DOLLARS, NO ESCALATION HAS BEEN APPLIED. ESTIMATE IS BASED ON 'CLOSURE PLAN STEPS FOR 200 AREA ETF' (NO DATE - RECEIVED 8/28/98) AND COMMENTS ON FIRST ISSUE OF THIS ESTIMATE. SEE ASSUMPTIONS IN THE PHMCR03 REPORT.
FDNW LEAD ESTIMATOR	<i>SA.</i>	ESTIMATING MANAGER <i>James G. Seign</i>	
PROJECT MANAGER	<i>R. J. Ego</i>	<i>9-16-98</i>	
CLIENT	<i>Mark W. Bowman</i>	<i>9-17-98</i>	

(ROUNDED/ADJUSTED TO THE NEAREST " 10,000 / 100,000 " - PERCENTAGES NOT RECALCULATED TO REFLECT ROUNDING)

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. 65100700
 FILE NO. Z609SAA2

** IEST - INTERACTIVE ESTIMATING **
 200 AREA EFFLUENT TREATMENT FACILITY (ETF) CLOSURE
 STUDY ESTIMATE
 PHMCRO2 - WORK BREAKDOWN STRUCTURE (WBS) SUMMARY

PAGE 2 OF 10
 DATE 09/15/98 10:29:32
 BY SMF/R.W. OHRT

WBS	DESCRIPTION	ESTIMATE SUBTOTAL	ESCALATION % TOTAL	SUB TOTAL	CONTINGENCY % TOTAL	SUB TOTAL	SITE ALLOCAT'N	TOTAL DOLLARS
111100	CLOSURE PLAN PREPARATION	125000	0.00	0	25	31250	0	156250
111200	CLOSURE CERTIFICATION WMH	30000	0.00	0	25	7500	0	37500
	SUBTOTAL 11 ENGINEERING	155000	0.00	0	25	38750	0	193750
	SUBTOTAL 1 ASSESSMENT	155000	0.00	0	25	38750	0	193750
340430	EMPTY AND FLUSH BULK CHEMICAL TANKS	49539	0.00	0	35	17338	0	66877
340440	CLOSE LOAD-IN TANKS	22566	0.00	0	35	7898	0	30464
340450	CLOSE SURGE TANK	33935	0.00	0	35	11877	0	45812
340460	CLOSE MAIN TREATMENT TRAIN UNITS	128860	0.00	0	35	45101	0	173961
340470	CLOSE SUMPS AND TANKS	24740	0.00	0	35	8659	0	33399
340480	CLOSE EVAPORATOR SYSTEM	46442	0.00	0	35	16254	0	62696
340490	CLOSE THIN FILM DRYER SYSTEM	55787	0.00	0	35	19525	0	75312
3404A0	REMOVE PUMPS, SAMPLERS, PIPING, ETC	35494	0.00	0	35	12422	0	47916
3404B0	DECONTAMINATE FLOORS AND WALLS	145460	0.00	0	35	50911	0	196371
	SUBTOTAL 3404 DECON/ CLEANUP	542823	0.00	0	35	189988	0	732811
350000	DISPOSAL COSTS (BURIAL) WMH	102820	0.00	0	35	35987	0	138807
360000	LMHC HPT	53131	0.00	0	35	18595	0	71726
400000	PROJECT MANAGEMENT WMH	81452	0.00	0	35	28508	0	109960
PROJECT TOTAL		935,226	0.00	0	33	311,829	0	1,247,055

FLUOR DANIEL NORTHWEST, INC.
WASTE MANAGEMENT HANFORD
JOB NO. 65100700
FILE NO. Z609SAA2

** IEST - INTERACTIVE ESTIMATING **
200 AREA EFFLUENT TREATMENT FACILITY (ETF) CLOSURE
STUDY ESTIMATE
PHMCRO3 - ESTIMATE BASIS SHEET

PAGE 3 OF 10
DATE 09/15/98
BY SMF/RWO

1. ESTIMATE PURPOSE

STUDY ESTIMATE: THIS ESTIMATE WILL BE USED FOR BUDGETING PURPOSES ONLY.

2. ESTIMATE TECHNICAL BASIS

- A. THIS ESTIMATE HAS BEEN PREPARED FOR THE ETF CLOSURE PROJECT AS REQUESTED BY JASON ADLER.
B. A DESCRIPTION OF THE TECHNICAL SCOPE OF WORK MAY BE FOUND IN THE FOLLOWING REFERENCE DOCUMENTS:
CLOSURE PLAN FOR 200 AREA ETF
C. WORK SCOPE NOT INCLUDED IN THIS ESTIMATE: NO SOIL REMOVAL; NO CONCRETE SCABBLING EXCEPT IN TFD & 4% MAKEUP DIKE.
D. THE FOLLOWING CONSTRAINTS AND/OR SPECIAL CONDITIONS EXIST: ALL LABOR IN THE ESTIMATE INCLS. ALL FACTORS AS REQUIRED.
E. THIS ESTIMATE UTILIZES AN ESTIMATE WORK BREAKDOWN STRUCTURE WHICH INTERFACES WITH THE CLOSURE PLAN AS PROVIDED BY THE CUSTOMER.
F. THIS ESTIMATE ALSO UTILIZES A STANDARD FDNW DEFINED CODE OF ACCOUNTS.

3. ESTIMATE METHODOLOGY

A. DIRECT COSTS:

A BOTTOMS-UP TECHNIQUE ANALYSIS TECHNIQUE HAS BEEN UTILIZED IN THE PREPARATION OF THIS ESTIMATE.

(1) CONSTRUCTION LABOR, MATERIAL AND EQUIPMENT UNITS HAVE BEEN ESTIMATED BASED UPON ONE OR MORE OF THE FOLLOWING STANDARD COMMERCIAL ESTIMATING RESOURCES, PUBLISHED ESTIMATING MANUALS/DATABASES: vIN HOUSE DATABASES THE UNITS MAY HAVE BEEN FACTORED/ADJUSTED BY THE ESTIMATOR AS APPROPRIATE TO REFLECT INFLUENCES BY CONTRACT, WORK SITE, OR OTHER IDENTIFIED PROJECT OR SPECIAL CONDITIONS.

(2) FLUOR DANIEL HANFORD & PROJECT HANFORD MANAGEMENT CONTRACT (PHMC) SUBCONTRACTOR DIRECT COSTS FOR WASTE MANAGEMENT HANFORD HAVE BEEN PUT INTO THIS ESTIMATE.

B. DIRECT COST FACTORS:

- (1) SALES TAX HAS BEEN APPLIED TO ALL MATERIALS AND EQUIPMENT PURCHASES AT 8%.
(5) SPECIAL WORK PROCEDURE (SWP) FACTORS ARE INCLUDED IN THE MANHOURS ESTIMATED.

C. RATES:

(1) PHMC SUBCONTRACTOR STANDARD LABOR RATES ARE THOSE LISTED IN THE FINANCIAL DATA SYSTEM (FDS) FDST 321R REPORT ORGANIZATION RATES PLUS ADDERS.

D. SITE ALLOCATIONS FACTORS:

NONE

NO FACTORS APPLIED OTHER THAT TAX AND CONTINGENCY

4. ESCALATION

ESCALATION:

NO ESCALATION APPLIED PER DIRECTION OF CUSTOMER

5. CONTINGENCY

A. DEFINITION OF CONTINGENCY AS PROVIDED BY DOE

"CONTINGENCY COVERS COSTS THAT MAY RESULT FROM INCOMPLETE DESIGN, UNFORESEEN AND UNPREDICTABLE CONDITIONS, OR UNCERTAINTIES WITHIN THE DEFINED PROJECT SCOPE. THE AMOUNT OF CONTINGENCY WILL DEPEND ON THE STATUS OF DESIGN, PROCUREMENT, AND CONSTRUCTION; AND THE COMPLEXITY AND UNCERTAINTIES OF THE COMPONENT PARTS OF THE PROJECT. CONTINGENCY IS NOT TO BE USED TO AVOID MAKING AN ACCURATE ASSESSMENT OF EXPECTED COST" (OFFICE OF WASTE MANAGEMENT (EM-30) COST AND SCHEDULE GUIDE.

B. CONTINGENCY ALLOWANCE GUIDELINES

THE DOE GUIDELINE CONTINGENCY ALLOWANCE FOR A PLANNING ESTIMATE - SPECIAL CONDITIONS = UP TO 50%

C. METHODOLOGY

CONTINGENCY IS EVALUATED AT THE LOWEST WORK BREAKDOWN STRUCTURE (WBS) LEVEL WITHIN THE COST ESTIMATE DETAILS. IT IS SUMMARIZED AT UPPER WBS LEVELS AND REPORTED ON THE SUMMARY REPORTS.

D. ANALYSIS

AN ASSESSMENT OF DESIGN MATURITY, WORK COMPLEXITY AND PROJECT UNCERTAINTIES HAS BEEN PERFORMED. AN EXPLANATION OF THIS ASSESSMENT AND CONTINGENCY RATES WHICH HAVE BEEN ADDED TO THE COST OF WORK ARE AS FOLLOWS:

WBS 111 CLOSURE PLANNING	A CONTINGENCY OF 25% HAS BEEN APPLIED AS THE CONTAMINATION FOUND AT THE END OF A 30 YEAR RUN CAN VARY WIDELY FROM OUR ASSUMPTIONS.
WBS 340 DECON / CLEANUP	A CONTINGENCY OF 35% HAS BEEN APPLIED AS THE CONTAMINATION FOUND AT THE END OF A 30 YEAR RUN CAN VARY WIDELY FROM OUR ASSUMPTIONS AND AFFECT THE EFFORT REQUIRED FOR CLEANUP. ACTIVITIES LIKE FLOOR SCABBING WILL VARY IN DIFFICULTY DEPENDING ON CONTAMINATION DEPTH.
WBS 350 DISPOSAL COSTS	A CONTINGENCY OF 35% HAS BEEN APPLIED AS THE CONTAMINATION FOUND AT THE END OF A 30 YEAR RUN CAN VARY WIDELY FROM OUR ASSUMPTIONS. FACTOR BASED ON CHOSEN DECON WBS FACTOR.
WBS 360 LMHC HPT	A CONTINGENCY OF 35% HAS BEEN APPLIED AS THE CONTAMINATION FOUND AT THE END OF A 30 YEAR RUN CAN VARY WIDELY FROM OUR ASSUMPTIONS. FACTOR BASED ON CHOSEN DECON WBS FACTOR.
WBS 400 PROJECT MANAGEMENT	A CONTINGENCY OF 35% HAS BEEN APPLIED AS THE CONTAMINATION FOUND AT THE END OF A 30 YEAR RUN CAN VARY WIDELY FROM OUR ASSUMPTIONS. FACTOR BASED ON CHOSEN DECON WBS FACTOR.

6. ROUNDING

THE PROJECT COST SUMMARY REPORT IS SUMMARIZED AND ADJUSTED/ROUNDED AS FOLLOWS:
THE ESCALATED TOTAL COST COLUMN, CONTINGENCY TOTAL COLUMN AND TOTAL DOLLARS COLUMN SUB-TOTALS ARE SUMMARIZED BY CONTRACTOR. THE COLUMN SUBTOTALS ARE ADJUSTED/ROUNDED TO THE NEAREST \$1,000/\$10,000. THE PROJECT TOTAL SUMMARY LINE TOTALS ARE ADJUSTED/ROUNDED TO THE NEAREST \$10,000/\$100,000.

7. REMARKS

MAJOR ASSUMPTIONS WHICH HAVE BEEN MADE IN THE PREPARATION OF THIS ESTIMATE ARE AS FOLLOWS:

A.) WASTE SOLUTION WHICH CANNOT BE PROCESSED AT THE FACILITY WILL BE REMOVED FROM THE SITE.

FLUOR DANIEL NORTHWEST, INC.
WASTE MANAGEMENT HANFORD
JOB NO. 65100700
FILE NO. Z609SAA2

** IEST - INTERACTIVE ESTIMATING **
200 AREA EFFLUENT TREATMENT FACILITY (ETF) CLOSURE
STUDY ESTIMATE
PHMCRO3 - ESTIMATE BASIS SHEET

PAGE 5 OF 10
DATE 09/15/98
BY SMF/RWO

- B.) THE VERIFICATION TANKS WILL NOT REQUIRE DECONTAMINATION, SAMPLING OR INSPECTION.
- C.) THE VESSELS AT THE ETF CAN BE DECONTAMINATED USING WATER/STEAM/CHEMICALS AND DO NOT HAVE TO BE REMOVED. MISCELLANEOUS EQUIPMENT WHICH CANNOT BE DECONTAMINATED WILL BE REMOVED. BUT ONLY THOSE ITEMS LISTED AS SUCH IN THE CLOSURE PLAN STEPS FOR 200 EAST ETF ARE ESTIMATED TO BE REMOVED.
- D.) THERE ARE NO CRACKS IN THE CONCRETE FLOOR THAT WOULD HAVE ALLOWED CONTAMINATION TO ESCAPE TO THE ENVIRONMENT. NO SOIL SAMPLING/ DECONTAMINATING OF SOIL WILL BE REQUIRED.
- E.) EXCEPT FOR THE THIN FILM DRYER, THE EXTERIOR OF THE EQUIPMENT WILL NOT BE SIGNIFICANTLY CONTAMINATED. BUT COULD STILL REQUIRE CLEANING.
- F.) THE FLOORS AND WALLS WILL NOT BE, EXCEPT FOR THE THIN FILM DRYER ROOM AND 4% CHEMICAL MAKEUP AREA, SIGNIFICANTLY CONTAMINATED. CONCRETE SCABBLING REQUIRED ONLY IN TFD ROOM AND 4% MAKEUP DIKE.
- G.) NO BURNOUT; NO HIGH DOSE AREAS. ALL SWP FACTORS INCLUDED IN THE ESTIMATED MANHOURS.
- H.) A DECON WORK CREW IS MADE UP OF 5 NON-EXEMPT AND 1 EXEMPT (PIC) WASTE MANAGEMENT HANFORD WORKERS.
- I.) RATES OF USE OF RINSATE (FLUSH) ARE BASED ON AN EARLIER APPROVED PLANT DECON ESTIMATE. SEE ESTIMATE E-008-94-RWO.
- J.) ENGINEERING IS BY WASTE MANAGEMENT HANFORD.
- K.) WHERE SECONDARY CONTAINMENT BASINS ARE CLEANED THEY ARE CLEARLY MARKED IN THE ESTIMATE.

FLUOR DANIEL NORTHWEST, INC.
WASTE MANAGEMENT HANFORD
JOB NO. 65100700
FILE NO. Z609SAAZ

** IEST - INTERACTIVE ESTIMATING **
200 AREA EFFLUENT TREATMENT FACILITY (ETF) CLOSURE
STUDY ESTIMATE
PHMCR04 - COMPANY/WBS SUMMARY

PAGE 6 OF 10
DATE 09/15/98 10:29:34
BY SMF/R.W. OHRT

SORT CODE/WBS	DESCRIPTION	ESTIMATE SUBTOTAL	ESCALATION % TOTAL	SUB TOTAL	CONTINGENCY % TOTAL	SUB TOTAL	SITE ALLOCAT'N	TOTAL DOLLARS
=====	=====	=====	=====	=====	=====	=====	=====	=====
BHI	BECHTEL HANFORD INCORP.							
3404B0	DECONTAMINATE FLOORS AND WALLS	100000	0.00	0	35	35000	135000	0
	TOTAL BHI BECHTEL HANFORD INCORP.	100000	0.00	0	35	35000	135000	0
LMHC	LOCHEED MARTIN HANFORD CORP.							
3404B0	DECONTAMINATE FLOORS AND WALLS	7645	0.00	0	35	2675	10320	0
	SUBTOTAL 3404 DECON/ CLEANUP	107645	0.00	0	35	37675	145320	0
360000	LMHC HPT	53131	0.00	0	35	18595	71726	0
	TOTAL LMHC LOCHEED MARTIN HANFORD CORP	60776	0.00	0	35	21271	82047	0
LMSI	LOCHEED MARTIN SERVICES, INC.							
111100	CLOSURE PLAN PREPARATION	7000	0.00	0	25	1750	8750	0
	TOTAL LMSI LOCHEED MARTIN SERVICES, IN	7000	0.00	0	25	1750	8750	0
WMH	WASTE MANAGEMENT HANFORD							
111100	CLOSURE PLAN PREPARATION	118000	0.00	0	25	29500	147500	0
111200	CLOSURE CERTIFICATION WMH	30000	0.00	0	25	7500	37500	0
	SUBTOTAL 11 ENGINEERING	155000	0.00	0	25	38750	193750	0
	SUBTOTAL 1 ASSESSMENT	155000	0.00	0	25	38750	193750	0
340430	EMPTY AND FLUSH BULK CHEMICAL TA	33539	0.00	0	35	11738	45277	0
340440	CLOSE LOAD-IN TANKS	10566	0.00	0	35	3698	14264	0
340450	CLOSE SURGE TANK	21935	0.00	0	35	7677	29612	0
340460	CLOSE MAIN TREATMENT TRAIN UNITS	64860	0.00	0	35	22701	87561	0
340470	CLOSE SUMPS AND TANKS	8740	0.00	0	35	3059	11799	0
340480	CLOSE EVAPORATOR SYSTEM	22442	0.00	0	35	7854	30296	0
340490	CLOSE THIN FILM DRYER SYSTEM	31787	0.00	0	35	11125	42912	0
3404A0	REMOVE PUMPS, SAMPLERS, PIPING, ETC	35494	0.00	0	35	12422	47916	0

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. 65100700
 FILE NO. Z609SAA2

** TEST - INTERACTIVE ESTIMATING **
 200 AREA EFFLUENT TREATMENT FACILITY (ETF) CLOSURE
 STUDY ESTIMATE
 PHMCR04 - COMPANY/WBS SUMMARY

PAGE 7 OF 10
 DATE 09/15/98 10:29:35
 BY SMF/R.W. OHRT

SORT CODE/WBS	DESCRIPTION	ESTIMATE SUBTOTAL	ESCALATION % TOTAL	SUB TOTAL	CONTINGENCY % TOTAL	SUB TOTAL	SITE ALLOCAT'N	TOTAL DOLLARS
340480	DECONTAMINATE FLOORS AND WALLS	25815	0.00	0	35	9035	0	34850
	SUBTOTAL 3404 DECON/ CLEANUP	255178	0.00	0	35	89312	0	344490
350000	DISPOSAL COSTS (BURIAL) WMH	102820	0.00	0	35	35987	0	138807
400000	PROJECT MANAGEMENT WMH	81452	0.00	0	35	28508	0	109960
	TOTAL WMH WASTE MANAGEMENT HANFORD	587450	0.00	0	32	190807	0	778257
WMNW WASTE MANAGEMENT NORTHWEST								
340430	EMPTY AND FLUSH BULK CHEMICAL TA	16000	0.00	0	35	5600	0	21600
340440	CLOSE LOAD-IN TANKS	12000	0.00	0	35	4200	0	16200
340450	CLOSE SURGE TANK	12000	0.00	0	35	4200	0	16200
340460	CLOSE MAIN TREATMENT TRAIN UNITS	64000	0.00	0	35	22400	0	86400
340470	CLOSE SUMPS AND TANKS	16000	0.00	0	35	5600	0	21600
340480	CLOSE EVAPORATOR SYSTEM	24000	0.00	0	35	8400	0	32400
340490	CLOSE THIN FILM DRYER SYSTEM	24000	0.00	0	35	8400	0	32400
340480	DECONTAMINATE FLOORS AND WALLS	12000	0.00	0	35	4200	0	16200
	SUBTOTAL 3404 DECON/ CLEANUP	180000	0.00	0	35	63000	0	243000
	TOTAL WMNW WASTE MANAGEMENT NORTHWEST	180000	0.00	0	35	63000	0	243000

PROJECT TOTAL		935,226	0.00	0	33	311,829	0	1,247,055

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HAMFORD
 JOB NO. 65100700
 FILE NO. Z609SAA2

** TEST - INTERACTIVE ESTIMATING **
 200 AREA EFFLUENT TREATMENT FACILITY (ETF) CLOSURE
 STUDY ESTIMATE
 PHMCR05 - CONSTRUCTION MANAGEMENT/OTHER COST SUMMARY

PAGE 8 OF 10
 DATE 09/15/98 10:29:38
 BY SMF/R.W. OHRT

WBS	DESCRIPTION	ESTIMATE SUBTOTAL	CONSTRUCTION % TOTAL	CONSTRUCTION MANAGEMENT TOTAL	OTHER COSTS	SUB TOTAL	TOTAL
=====	=====	=====	=====	=====	=====	=====	=====
111100	CLOSURE PLAN PREPARATION	125000	0.00	0	0	0	125000
111200	CLOSURE CERTIFICATION WMH	30000	0.00	0	0	0	30000
	SUBTOTAL 11 ENGINEERING	155000		0	0	0	155000
	SUBTOTAL 1 ASSESSMENT	155000		0	0	0	155000
340430	EMPTY AND FLUSH BULK CHEMICAL TANKS	49539	0.00	0	0	0	49539
340440	CLOSE LOAD-IN TANKS	22566	0.00	0	0	0	22566
340450	CLOSE SURGE TANK	33935	0.00	0	0	0	33935
340460	CLOSE MAIN TREATMENT TRAIN UNITS	128860	0.00	0	0	0	128860
340470	CLOSE SUMPS AND TANKS	24740	0.00	0	0	0	24740
340480	CLOSE EVAPORATOR SYSTEM	46442	0.00	0	0	0	46442
340490	CLOSE THIN FILM DRYER SYSTEM	55787	0.00	0	0	0	55787
3404A0	REMOVE PUMPS, SAMPLERS, PIPING, ETC	35494	0.00	0	0	0	35494
3404B0	DECONTAMINATE FLOORS AND WALLS	145460	0.00	0	0	0	145460
	SUBTOTAL 3404 DECON/ CLEANUP	542823		0	0	0	542823
350000	DISPOSAL COSTS (BURIAL) WMH	102820	0.00	0	0	0	102820
360000	LMHC HPT	53131	0.00	0	0	0	53131
400000	PROJECT MANAGEMENT WMH	81452	0.00	0	0	0	81452
PROJECT TOTAL		935,226		0	0	0	935,226

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. 65100700
 FILE NO. 2609SAA2

** IEST - INTERACTIVE ESTIMATING **
 200 AREA EFFLUENT TREATMENT FACILITY (ETF) CLOSURE
 STUDY ESTIMATE
 PHMCR06 - SITE ALLOCATIONS BY WBS

PAGE 9 OF 10
 DATE 09/15/98 10:29:18
 BY SMF/R.W. DHRT

WBS	DESCRIPTION	ESTIMATE SUBTOTAL	DYN EQ.USAGE	FDH GFS/G&A CONST.MGMT	FDH MPR F.P./S.C.	FDH GFS/G&A LABOR	FDH MPR/G&A MATERIAL	SITE ALLOC SUBTOTAL
111100	CLOSURE PLAN PREPARATION	125000	0	0	0	0	0	0
111200	CLOSURE CERTIFICATION WMH	30000	0	0	0	0	0	0
	SUBTOTAL 11 ENGINEERING	155000	0	0	0	0	0	0
	SUBTOTAL 1 ASSESSMENT	155000	0	0	0	0	0	0
340430	EMPTY AND FLUSH BULK CHEMICAL TANKS	49539	0	0	0	0	0	0
340440	CLOSE LOAD-IN TANKS	22566	0	0	0	0	0	0
340450	CLOSE SURGE TANK	33935	0	0	0	0	0	0
340460	CLOSE MAIN TREATMENT TRAIN UNITS	128860	0	0	0	0	0	0
340470	CLOSE SUMPS AND TANKS	24740	0	0	0	0	0	0
340480	CLOSE EVAPORATOR SYSTEM	46442	0	0	0	0	0	0
340490	CLOSE THIN FILM DRYER SYSTEM	55787	0	0	0	0	0	0
3404A0	REMOVE PUMPS, SAMPLERS, PIPING, ETC	35494	0	0	0	0	0	0
3404B0	DECONTAMINATE FLOORS AND WALLS	145460	0	0	0	0	0	0
	SUBTOTAL 3404 DECON/ CLEANUP	542823	0	0	0	0	0	0
350000	DISPOSAL COSTS (BURIAL) WMH	102820	0	0	0	0	0	0
360000	LMHC HPT	53131	0	0	0	0	0	0
400000	PROJECT MANAGEMENT WMH	81452	0	0	0	0	0	0
PROJECT TOTAL		935,226	0	0	0	0	0	0

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. 65100700
 FILE NO. Z609SAA2

** TEST - INTERACTIVE ESTIMATING **
 200 AREA EFFLUENT TREATMENT FACILITY (ETF) CLOSURE
 STUDY ESTIMATE
 PHMCRO7 - SITE ALLOCATION ESCALATION/CONTINGENCY REPORT

PAGE 10 OF 10
 DATE 09/15/98 10:29:41
 BY SMF/R.W. OHRT

WBS	DESCRIPTION	SITE ALLOC SUBTOTAL	ESCALATION % TOTAL	SUB TOTAL	CONTINGENCY % TOTAL	TOTAL DOLLARS
=====	=====	=====	=====	=====	=====	=====
111100	CLOSURE PLAN PREPARATION	0	0.00	0	0	0
111200	CLOSURE CERTIFICATION WMH	0	0.00	0	0	0
	SUBTOTAL 11 ENGINEERING	0	0.00	0	0	0
	SUBTOTAL 1 ASSESSMENT	0	0.00	0	0	0
340430	EMPTY AND FLUSH BULK CHEMICAL TANKS	0	0.00	0	0	0
340440	CLOSE LOAD-IN TANKS	0	0.00	0	0	0
340450	CLOSE SURGE TANK	0	0.00	0	0	0
340460	CLOSE MAIN TREATMENT TRAIN UNITS	0	0.00	0	0	0
340470	CLOSE SUMPS AND TANKS	0	0.00	0	0	0
340480	CLOSE EVAPORATOR SYSTEM	0	0.00	0	0	0
340490	CLOSE THIN FILM DRYER SYSTEM	0	0.00	0	0	0
3404A0	REMOVE PUMPS, SAMPLERS, PIPING, ETC	0	0.00	0	0	0
3404B0	DECONTAMINATE FLOORS AND WALLS	0	0.00	0	0	0
	SUBTOTAL 3404 DECON/ CLEANUP	0	0.00	0	0	0
350000	DISPOSAL COSTS (BURIAL) WMH	0	0.00	0	0	0
360000	LMHC HPT	0	0.00	0	0	0
400000	PROJECT MANAGEMENT WMH	0	0.00	0	0	0
=====						
PROJECT TOTAL		0	0.00	0	0	0

FLUOR DANIEL NORTHWEST, INC.
WASTE MANAGEMENT HANFORD
JOB NO. 65100700
FILE NO. Z609SAA2

** TEST - INTERACTIVE ESTIMATING **
200 AREA EFFLUENT TREATMENT FACILITY (ETF) CLOSURE
STUDY ESTIMATE
PHMCRO8 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 1
DATE 09/15/98 10:29:45
BY SMF/R.W. OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
111100	CLOSURE PLAN PREPARATION										
111100.90	HOME OFFICE										
111100.9000003	***** CLOSURE PLAN (PER CUSTOMER SUPPLIED 'STAN- DARDIZED COST ESTIMATE FOR CLOSURE PLAN DEVELOPMENT' *****	000	0	0	0	0	0	0	0	0	0
111100.9000004	***** CLOSURE PLAN PREPARATION WASTE MANAGEMENT PERSONNEL (DURATION 310 DAYS; ECOLOGY REVIEW 90 DAYS) LMSI GRAPHICS \$2K LMSI DUPLICATION \$3K *****	000	912 MH	912	50000	0	0	0	0	0	50000
111100.9000008	***** RESPOND TO ECOLOGY MOD COMMENTS *****	000	1 LS	0	0	0	0	5000	0	0	5000
111100.9000023	***** WASTE MANAGEMENT PERSONNEL (DURATION 90 DAYS; ECOLOGY REVIEW 90 DAYS) LMSI DUPLICATION \$3K *****	000	359 MH	359	20000	0	0	0	0	0	20000
111100.9000028	***** RESOLUTION OF ECOLOGY COMMENTS *****	000	1 LS	0	0	0	0	1000	0	0	1000
111100.9000043	***** WASTE MANAGEMENT PERSONNEL (DURATION 270 DAYS; ECOLOGY REVIEW 60 DAYS) LMSI GRAPHICS \$1K LMSI DUPLICATION \$2K *****	000	759 MH	759	42000	0	0	0	0	0	42000
111100.9000046	***** INCORPORATE CLOSURE PLAN *****	000	1 LS	0	0	0	0	3000	0	0	3000
111100.9000048	***** PERMIT WASTE MANAG.PERSONL. (DURATION 90 DAYS) *****	000	0	0	0	0	0	0	0	0	0
111100.9000063	***** PERMIT LMSI GRAPHICS \$500 LMSI PHOTO LAB \$500 *****	000	56 MH	56	3000	0	0	0	0	0	3000
111100.9000068	*****	000	1 LS	0	0	0	0	1000	0	0	1000
SUBTOTAL HOME OFFICE				2,086	115,000	0	0	10,000	0	0	125,000

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. 65100700
 FILE NO. Z609SAA2

** IEST - INTERACTIVE ESTIMATING **
 200 AREA EFFLUENT TREATMENT FACILITY (ETF) CLOSURE
 STUDY ESTIMATE
 PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 2
 DATE 09/15/98 10:29:45
 BY SNF/R.W. OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
TOTAL	COST CODE 00090 WBS 111100 (ESCALATION 0.00% - CONTINGENCY 25.00 %)			2,086	115,000	0	0	10,000	0	0	125,000
TOTAL WBS 111100	CLOSURE PLAN PREPARATION			2,086	115,000	0	0	10,000	0	0	125,000

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. 65100700
 FILE NO. Z609SAA2

** IEST - INTERACTIVE ESTIMATING **
 200 AREA EFFLUENT TREATMENT FACILITY (ETF) CLOSURE
 STUDY ESTIMATE
 PHMCRO8 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 3
 DATE 09/15/98 10:29:45
 BY SMF/R.W. OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
111200	CLOSURE CERTIFICATION WMH										
111200.90	HOME OFFICE										
111200.9000080	***** CLOSURE CERTIFICATION *****	000	0	0	0	0	0	0	0	0	0
111200.9000082	PREPARATION BY A PROFESSIONAL ENGINEER (CUSTOMER SUPPLIED NO.)	000	1 LS	0	0	0	0	30000	0	0	30000

SUBTOTAL	HOME OFFICE			0		0		30,000		0	30,000

TOTAL	COST CODE 00090 WBS 111200 (ESCALATION 0.00% - CONTINGENCY 25.00 %)			0		0		30,000		0	30,000

TOTAL WBS 111200	CLOSURE CERTIFICATION WMH			0		0		30,000		0	30,000

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. 65100700
 FILE NO. 2609SAA2

** IEST - INTERACTIVE ESTIMATING **
 200 AREA EFFLUENT TREATMENT FACILITY (ETF) CLOSURE
 STUDY ESTIMATE
 PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 4
 DATE 09/15/98 10:29:45
 BY SMF/R.W. OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
340430	EMPTY AND FLUSH BULK CHEMICAL TANKS										
340430.06	ENVIRONMENTAL WORK										
340430.0600303	##### NOTE: THIS ESTI- MATE FIGURES THAT SPECIFIC CLEANING WILL BE REQUIRED BEYOND JUST RUNNING A LIQUID THRU THE SYSTEM	501	0	0	0	0	0	0	0	0	0
340430.0600304	ATTENTION WAS GIVEN TO THE 'CLOSURE SECTION ' (CHAP 11) OF THE DOE/RL-97-03 DOCUMENT	501	0	0	0	0	0	0	0	0	0
340430.0600305	*****	501	0	0	0	0	0	0	0	0	0
340430.0600306	EMPTY & FLUSH BULK CHEMICAL TANKS *****	501	0	0	0	0	0	0	0	0	0
340430.0600307	LOAD OUT NaOH & s2HO4, H2O2, 4% NaOH, & 4% H2SO4 TANKS	501	1 LS	64	2167	0	200	0	0	0	2367
340430.0600309	DECON USING WATER/STEAM/- CHEMICALS	501	0	0	0	0	0	0	0	0	0
340430.0600312	WASH DOWN INSIDE & EXTERIOR OF TANKS, SET UP & TEAR DOWN SCAFFOLDING, DRUM WASTE RINSATE	501	0	0	0	0	0	0	0	0	0
340430.0600316	ALLOW 6 MAN CREW X 10 DAYS	501	1 LS	480	16253	0	0	0	0	0	16253
340430.0600318	DRUM COSTS FOR RINSATE	501	8 EA	0	0	0	880	0	0	0	880
340430.0600330	CLOSE BULK CHEMICAL TANKS CONCR SECONDARY CONTAINMENT: *****	501	0	0	0	0	0	0	0	0	0
340430.0600331	SAMPLES OF FLUSH SOLUTION	501	8 EA	0	0	0	0	16000	0	0	16000
340430.0600332	DECON USING WATER/STEAM/- CHEMICALS	501	0	0	0	0	0	0	0	0	0
340430.0600334	WASH DOWN INSIDE & EXTERIOR OF SECONDARY CONTAINMENT	501	0	0	0	0	0	0	0	0	0
340430.0600336	ALLOW 6 MAN CREW X 8 DAYS	501	1 LS	384	13002	0	0	0	0	0	13002
340430.0600338	DRUM COSTS FOR RINSATE FOR SECONDARY CONT. BOTH TKS	501	8 EA	0	0	0	880	0	0	0	880

SUBTOTAL	ENVIRONMENTAL WORK			928		0		16,000		0	
	SALES TAX 8.00 %				31,422		1,960		0		49,382
							156		0		156

TOTAL	COST CODE 50106 WBS 340430			928		0		16,000		0	
					31,422		2,116		0		49,538

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. 65100700
 FILE NO. Z609SAA2

** TEST - INTERACTIVE ESTIMATING **
 200 AREA EFFLUENT TREATMENT FACILITY (ETF) CLOSURE
 STUDY ESTIMATE
 PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 5
 DATE 09/15/98 10:29:45
 BY SMF/R.W. OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
	(ESCALATION 0.00% - CONTINGENCY 35.00 %)										
TOTAL WBS 340430 EMPTY AND FLUSH BULK CHEMICAL TANKS				928		31,422	0	2,116	16,000	0	49,538

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. 65100700
 FILE NO. Z609SAA2

** IEST - INTERACTIVE ESTIMATING **
 200 AREA EFFLUENT TREATMENT FACILITY (EFF) CLOSURE
 STUDY ESTIMATE
 PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 6
 DATE 09/15/98 10:29:45
 BY SMF/R.W. OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS	
340440	CLOSE LOAD-IN TANKS											
340440.06	ENVIRONMENTAL WORK											
340440.0600404	*****	501	0	0	0	0	0	0	0	0	0	
340440.0600405	CLOSE LOAD-IN TANKS *****	501	0	0	0	0	0	0	0	0	0	
340440.0600407	ASSURE LOAD-IN TANKS ARE EMPTIED	501	1 LS	16	542	0	0	0	0	0	542	
340440.0600409	FLUSH USING WATER/STEAM/- CHEMICALS	501	0	0	0	0	0	0	0	0	0	
340440.0600412	WASH DOWN INSIDE & EXTERIOR OF TANKS, SET UP & TEAR DOWN SCAFFOLDING, DRUM WASTE RINSATE	501	0	0	0	0	0	0	0	0	0	
340440.0600416	ALLOW 6 MAN CREW X 4 DAY	501	1 LS	192	6501	0	0	0	0	0	6501	
340440.0600417	SAMPLES OF FLUSH SOLUTION	501	4 EA	0	0	0	0	8000	0	0	8000	
340440.0600418	DRUM COSTS FOR RINSATE FOR BOTH TANKS	501	6 EA	0	0	0	660	0	0	0	660	
340440.0600422	PERFORM VISUAL INSPECTION OF INTERIOR OF LOAD-IN TANKS	501	1 LS	28	948	0	0	0	0	0	948	
340440.0600430	EMPTY & FLUSH LOAD-IN TANKS SECONDARY CONTAINMENT: *****	501	0	0	0	0	0	0	0	0	0	
340440.0600432	DECON USING WATER/STEAM/- CHEMICALS	501	0	0	0	0	0	0	0	0	0	
340440.0600434	WASH DOWN INSIDE & EXTERIOR OF SECONDARY CONTAINMENT DRUM WASTE RINSATE	501	0	0	0	0	0	0	0	0	0	
340440.0600436	ALLOW 6 MAN CREW X 1 DAYS	501	1 LS	48	1625	0	0	0	0	0	1625	
340440.0600437	SAMPLES OF FLUSH SOLUTION	501	2 EA	0	0	0	0	4000	0	0	4000	
340440.0600438	DRUM COSTS FOR RINSATE	501	2 EA	0	0	0	220	0	0	0	220	
SUBTOTAL ENVIRONMENTAL WORK				284		0		12,000		0		
SALES TAX 8.00 %						9,616	880 70		0		22,496 70	
TOTAL COST CODE 50106 WBS 340440 (ESCALATION 0.00% - CONTINGENCY 35.00 %)				284		9,616	950	12,000	0	0		22,566
TOTAL WBS 340440 CLOSE LOAD-IN TANKS				284		9,616	950	12,000	0	0		22,566

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. 65100700
 FILE NO. Z609SAA2

** TEST - INTERACTIVE ESTIMATING **
 200 AREA EFFLUENT TREATMENT FACILITY (ETF) CLOSURE
 STUDY ESTIMATE
 PHMCRO8 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 7
 DATE 09/15/98 10:29:45
 BY SMF/R.W. OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
340450	CLOSE SURGE TANK										
340450.06	ENVIRONMENTAL WORK										
340450.0600504	*****	501	0	0	0	0	0	0	0	0	0
340450.0600505	CLOSE SURGE TANK *****	501	0	0	0	0	0	0	0	0	0
340450.0600508	REROUTE INPUT STREAMS ALLOW	501	1 LS	40	1354	0	300	0	0	0	1654
340450.0600509	REMOVE & DISPOSE OF ROUGH FILTERS	501	1 LS	24	813	0	0	0	0	0	813
340450.0600511	DECON USING WATER/STEAM/- CHEMICALS	501	0	0	0	0	0	0	0	0	0
340450.0600512	WASH DOWN INSIDE & EXTERIOR OF TANKS, SET UP & TEAR DOWN SCAFFOLDING, DRUM WASTE RINSATE	501	0	0	0	0	0	0	0	0	0
340450.0600516	ALLOW 6 MAN CREW X 3 DAYS	501	1 LS	144	4876	0	0	0	0	0	4876
340450.0600518	DRUM COSTS FOR RINSATE & FILTERS	501	10 EA	0	0	0	1100	0	0	0	1100
340450.0600519	SAMPLES OF FLUSH SOLUTION	501	4 EA	0	0	0	0	8000	0	0	8000
340450.0600522	PERFORM VISUAL INSPECTION OF INTERIOR OF SURGE TANKS	501	1 LS	44	1490	0	0	0	0	0	1490
340450.0600530	CLOSE SURGE TANK SECONDARY CONTAINMENT: *****	501	0	0	0	0	0	0	0	0	0
340450.0600532	DECON USING WATER/STEAM/- CHEMICALS	501	0	0	0	0	0	0	0	0	0
340450.0600534	WASH DOWN INSIDE & EXTERIOR OF SECONDARY CONTAINMENT	501	0	0	0	0	0	0	0	0	0
340450.0600536	ALLOW 6 MAN CREW X 6 DAYS	501	1 LS	288	9752	0	0	0	0	0	9752
340450.0600537	SAMPLES OF FLUSH SOLUTION	501	2 EA	0	0	0	0	4000	0	0	4000
340450.0600538	DRUM COSTS FOR RINSATE SECONDARY CONT.	501	18 EA	0	0	0	1980	0	0	0	1980
<hr/>											
SUBTOTAL	ENVIRONMENTAL WORK			540		0		12,000		0	
	SALES TAX 8.00 %				18,285		3,380		0		33,665
							270		0		270
<hr/>											
TOTAL	COST CODE 50106 WBS 340450 (ESCALATION 0.00% - CONTINGENCY 35.00 %)			540	18,285	0	3,650	12,000	0	0	33,935

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. 65100700
 FILE NO. Z609SAA2

** IEST - INTERACTIVE ESTIMATING **
 200 AREA EFFLUENT TREATMENT FACILITY (ETF) CLOSURE
 STUDY ESTIMATE
 PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 8
 DATE 09/15/98 10:29:45
 BY SMF/R.W. OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB- CONTRACT	EQUIP- MENT	OH&P / B & I	TOTAL DOLLARS

	TOTAL WBS 340450 CLOSE SURGE TANK			540	18,285	0	3,650	12,000	0	0	33,935

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. 65100700
 FILE NO. Z609SAA2

** IEST - INTERACTIVE ESTIMATING **
 200 AREA EFFLUENT TREATMENT FACILITY (ETF) CLOSURE
 STUDY ESTIMATE
 PHMCRO8 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 9
 DATE 09/15/98 10:29:45
 BY SMF/R.W. OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	ON&P / B & I	TOTAL DOLLARS
340460	CLOSE MAIN TREATMENT TRAIN UNITS										
340460.06	ENVIRONMENTAL WORK										
340460.0600604	*****	501	0	0	0	0	0	0	0	0	0
340460.0600605	CLOSE MAIN TREATMENT TRAIN UNITS *****	501	0	0	0	0	0	0	0	0	0
340460.0600608	REROUTE INPUT STREAMS ALLOW	501	1 LS	60	2032	0	600	0	0	0	2632
340460.0600609	REMOVE & DISPOSE OF POLISHER RESIN (INCLS COST OF 1 DRUM)	501	1 LS	38	1287	0	110	0	0	0	1397
340460.0600611	REMOVE & DISPOSE OF CHARCOAL IN H2O2 DECOMPOSER (INCLS COST OF 1 DRUM)	501	1 LS	38	1287	0	110	0	0	0	1397
340460.0600612	REMOVE & DISPOSE OF FINE FILTER (INCLS COST OF 1 DRUM)	501	1 LS	38	1287	0	110	0	0	0	1397
340460.0600614	REMOVE & DISPOSE OF RO MEMBRANES (INCLS COST OF 1 DRUM)	501	1 LS	38	1287	0	110	0	0	0	1397
340460.0600616	SAMPLES OF FLUSH SOLUTION	501	32 EA	0	0	0	0	64000	0	0	64000
340460.0600619	DECON USING WATER/STEAM/-CHEMICALS	501	0	0	0	0	0	0	0	0	0
340460.0600622	WASH DOWN INSIDE & EXTERIOR OF EQUIP, SET UP & TEAR DOWN SCAFFOLDING, DRUM WASTE RINSATE	501	0	0	0	0	0	0	0	0	0
340460.0600626	ALLOW 6 MAN CREW X 30 DAYS	501	1 LS	1440	48758	0	0	0	0	0	48758
340460.0600628	DRUM COSTS FOR RINSATE FOR ENTIRE MTT)	501	40 EA	0	0	0	4400	0	0	0	4400
340460.0600632	PERFORM VISUAL INSPECTION OF INTERIOR OF VESSELS TO CONFIRM CLEAN	501	1 LS	90	3047	0	0	0	0	0	3047
<hr/>											
SUBTOTAL	ENVIRONMENTAL WORK			1,742		0		64,000		0	
	SALES TAX 8.00 %				58,985		5,440		0		128,425
							435		0		435
<hr/>											
TOTAL	COST CODE 50106 WBS 340460 (ESCALATION 0.00% - CONTINGENCY 35.00 %)			1,742		58,985	5,875	64,000	0	0	128,860

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. 65100700
 FILE NO. Z609SAA2

** IEST - INTERACTIVE ESTIMATING **
 200 AREA EFFLUENT TREATMENT FACILITY (ETF) CLOSURE
 STUDY ESTIMATE
 PHMCRO8 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 10
 DATE 09/15/98 10:29:45
 BY SMF/R.W. OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB- CONTRACT	EQUIP- MENT	OH&P / B & I	TOTAL DOLLARS

	TOTAL WBS 340460 CLOSE MAIN TREATMENT TRAIN UNITS			1,742	58,985	0	5,875	64,000	0	0	128,860

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. 65100700
 FILE NO. Z609SAA2

** IEST - INTERACTIVE ESTIMATING **
 200 AREA EFFLUENT TREATMENT FACILITY (ETF) CLOSURE
 STUDY ESTIMATE
 PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 11
 DATE 09/15/98 10:29:45
 BY SMF/R.W. OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
340470	CLOSE SUMPS AND TANKS										
340470.06	ENVIRONMENTAL WORK										
340470.0600704	*****	501	0	0	0	0	0	0	0	0	0
340470.0600705	CLOSE SUMPS AND TANKS *****	501	0	0	0	0	0	0	0	0	0
340470.0600708	INSPECT SECONDARY CONTAINMEN T CONCRETE FOR CRACKS THRU CONTAINMENT ; EMPTY TO STT	501	0	0	0	0	0	0	0	0	0
340470.0600709	FLUSH SUMPS & SUMP TANKS DECON USING WATER/STEAM/- CHEMICALS	501	0	0	0	0	0	0	0	0	0
340470.0600712	WASH DOWN INSIDE & EXTERIOR OF TANKS, SET UP & TEAR DOWN SCAFFOLDING, DRUM WASTE RINSATE (2 SUMP TANKS & CONCRETE CONTAINMENTS)	501	0	0	0	0	0	0	0	0	0
340470.0600713	CONCRETE CONTAINMENTS)	501	0	0	0	0	0	0	0	0	0
340470.0600716	ALLOW 6 MAN CREW X 3 DAYS	501	1 LS	144	4876	0	0	0	0	0	4876
340470.0600718	DRUM COSTS FOR RINSATE	501	12 EA	0	0	0	1320	0	0	0	1320
340470.0600719	SAMPLES OF FLUSH SOLUTION	501	8 EA	0	0	0	0	16000	0	0	16000
340470.0600732	PERFORM VISUAL INSPECTION OF INTERIOR OF SUMP TANKS CON- FIRM CLEAN INSIDE	501	1 LS	72	2438	0	0	0	0	0	2438
<hr/>											
SUBTOTAL	ENVIRONMENTAL WORK			216		0		16,000		0	
	SALES TAX 8.00 %				7,314		1,320				24,634
							105				105
<hr/>											
TOTAL	COST CODE 50106 WBS 340470 (ESCALATION 0.00% - CONTINGENCY 35.00 %)			216		0		16,000		0	
					7,314		1,425				24,739
<hr/>											
TOTAL WBS 340470	CLOSE SUMPS AND TANKS			216		0		16,000		0	
					7,314		1,425				24,739

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. 65100700
 FILE NO. Z609SAA2

** IEST - INTERACTIVE ESTIMATING **
 200 AREA EFFLUENT TREATMENT FACILITY (ETF) CLOSURE
 STUDY ESTIMATE
 PHMCRO8 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 12
 DATE 09/15/98 10:29:45
 BY SMF/R.W. OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
340480	CLOSE EVAPORATOR SYSTEM										
340480.06	ENVIRONMENTAL WORK										
340480.0600804	*****	501	0	0	0	0	0	0	0	0	0
340480.0600805	CLOSE EVAPORATOR SYSTEM	501	0	0	0	0	0	0	0	0	0
340480.0600808	REROUTE INPUT & OUTPUT STREAMS ALLOW	501	1 LS	60	2032	0	600	0	0	0	2632
340480.0600809	PROCESS REMAINING WASTE VOLUME IN SECONDARY WASTE RECEIVER TANKS THROUGH EVAPORATOR AND DRYER TANKS ALLOW	501	1 LS	120	4063	0	200	0	0	0	4263
340480.0600810	EMPTY EVAPORATOR VAPOR BODY TO CONDENSATE TANKS ALLLOW	501	1 LS	16	542	0	0	0	0	0	542
340480.0600811	FLUSH USING WATER/STEAM/-CHEMICALS	501	0	0	0	0	0	0	0	0	0
340480.0600812	WASH DOWN INSIDE & EXTERIOR OF TANKS, SET UP & TEAR DOWN SCAFFOLDING, DRUM WASTE RINSATE	501	0	0	0	0	0	0	0	0	0
340480.0600813	3 VESSELS (2 SWRT TANKS, 1 EVAPORATOR)	501	0	0	0	0	0	0	0	0	0
340480.0600816	ALLOW 6 MAN CREW X 6 DAYS	501	1 LS	288	9752	0	0	0	0	0	9752
340480.0600818	DRUM COSTS FOR RINSATE	501	30 EA	0	0	0	3300	0	0	0	3300
340480.0600819	SAMPLES OF FLUSH SOLUTION	501	12 EA	0	0	0	0	24000	0	0	24000
340480.0600832	PERFORM VISUAL INSPECTION OF INTERIOR OF VESSELS CONFIRM CLEAN INSIDE	501	1 LS	48	1625	0	0	0	0	0	1625

SUBTOTAL	ENVIRONMENTAL WORK			532		0		24,000		0	
	SALES TAX 8.00 %				18,014		4,100		0		46,114
							328		0		328

TOTAL	COST CODE 50106			532		0		24,000		0	
	WBS 340480				18,014		4,428		0		46,442
	(ESCALATION 0.00% - CONTINGENCY 35.00 %)										

TOTAL WBS 340480	CLOSE EVAPORATOR SYSTEM			532		0		24,000		0	
					18,014		4,428		0		46,442

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. 65100700
 FILE NO. Z609SAAZ

** IEST - INTERACTIVE ESTIMATING **
 200 AREA EFFLUENT TREATMENT FACILITY (ETF) CLOSURE
 STUDY ESTIMATE
 PHMCRO8 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 13
 DATE 09/15/98 10:29:46
 BY SMF/R.W. OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
340490	CLOSE THIN FILM DRYER SYSTEM										
340490.06	ENVIRONMENTAL WORK										
340490.0600904	*****	501	0	0	0	0	0	0	0	0	0
340490.0600905	CLOSE THIN FILM DRYER SYSTEM *****	501	0	0	0	0	0	0	0	0	0
340490.0600908	REROUTE OUTPUT STREAMS ALLOW	501	1 LS	60	2032	0	600	0	0	0	2632
340490.0600909	PROCESS WASTE IN CTS THROUGH DRYER ALLOW	501	1 LS	120	4063	0	200	0	0	0	4263
340490.0600910	EMPTY & DISPOSE OF RESIDUAL WASTE IN CTS & DRYER ALLOW	501	1 LS	100	3386	0	0	0	0	0	3386
340490.0600911	FLUSH USING WATER/STEAM/-CHEMICALS	501	0	0	0	0	0	0	0	0	0
340490.0600912	WASH DOWN IN & OUTSIDE TANKS & DRYER, SET UP & TEAR DOWN SCAFFOLDING, DRUM WASTE RINSATE	501	0	0	0	0	0	0	0	0	0
340490.0600913	3 VESSELS: 2 CONCENTRATE TKS 1 THIN FILM DRYER (BOTH HAVE LOTS OF SOLIDS, TOUGH TO FLUSH)	501	0	0	0	0	0	0	0	0	0
340490.0600916	ALLOW 6 MAN CREW X 10 DAYS	501	1 LS	480	16253	0	0	0	0	0	16253
340490.0600918	DRUM COSTS FOR RINSATE	501	30 EA	0	0	0	3300	0	0	0	3300
340490.0600919	SAMPLES OF FLUSH SOLUTION	501	12 EA	0	0	0	0	24000	0	0	24000
340490.0600932	PERFORM VISUAL INSPECTION OF INTERIOR OF VESSELS CONFIRM CLEAN INSIDE	501	1 LS	48	1625	0	0	0	0	0	1625
SUBTOTAL ENVIRONMENTAL WORK				808		0		24,000		0	
SALES TAX 8.00 %							4,100		0		55,459
							328		0		328
TOTAL COST CODE 50106				808		0		24,000		0	
WBS 340490											
(ESCALATION 0.00% - CONTINGENCY 35.00 %)							4,428		0		55,787
TOTAL WBS 340490 CLOSE THIN FILM DRYER SYSTEM				808		0		24,000		0	
							4,428		0		55,787

FLUOR DANIEL NORTHWEST, INC.
WASTE MANAGEMENT HANFORD
JOB NO. 65100700
FILE NO. Z609SAA2

** IEST - INTERACTIVE ESTIMATING **
200 AREA EFFLUENT TREATMENT FACILITY (ETF) CLOSURE
STUDY ESTIMATE
PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 14
DATE 09/15/98 10:29:46
BY SMF/R.W. OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
3404A0	REMOVE PUMPS, SAMPLERS, PIPING, ETC										
3404A0.06	ENVIRONMENTAL WORK										
3404A0.0601004	*****	501	0	0	0	0	0	0	0	0	0
3404A0.0601005	REMOVE PUMPS, SAMPLERS, PIPING *****	501	0	0	0	0	0	0	0	0	0
3404A0.0601008	REMOVE PUMPS, SAMPLERS, FILTERS, PIPING, ETC FROM PROCESS AREAS WHICH CANNOT BE DECONTAMINATED	501	1 LS	0	0	0	0	0	0	0	0
3404A0.0601016	ALLOW 6 MAN CREW X 15 DAYS	501	1 LS	720	24379	0	1000	0	0	0	25379
3404A0.0601018	DRUM COSTS FOR DISPOSAL OF ABOVE LISTED EQUIP AS NECES. ALLOW	501	20 EA	0	0	0	2200	0	0	0	2200
3404A0.0601038	ALLOWANCE FOR GREENHOUSE CONSTRUCTION & REMOVAL FOR ENTIRE JOB	501	1 LS	120	4063	0	3000	0	0	0	7063
3404A0.0601039	DRUMS FOR DISPOSAL OF GREENHOUSE WASTE, ETC ALLOW	501	3 EA	0	0	0	330	0	0	0	330

SUBTOTAL	ENVIRONMENTAL WORK			840		0		0		0	
	SALES TAX 8.00 %				28,442		6,530		0		34,972
							522		0		522

TOTAL	COST CODE 50106			840		0		0		0	
	WBS 3404A0				28,442		7,052		0		35,494
	(ESCALATION 0.00% - CONTINGENCY 35.00 %)										

TOTAL WBS 3404A0	REMOVE PUMPS, SAMPLERS, PIPING, ETC			840		0		0		0	
					28,442		7,052		0		35,494

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. 65100700
 FILE NO. Z609SAA2

** TEST - INTERACTIVE ESTIMATING **
 200 AREA EFFLUENT TREATMENT FACILITY (ETF) CLOSURE
 STUDY ESTIMATE
 PHMCRO8 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 15
 DATE 09/15/98 10:29:46
 BY SMF/R.W. OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
340480	DECONTAMINATE FLOORS AND WALLS										
340480.06	ENVIRONMENTAL WORK										
340480.0601104	*****	501	0	0	0	0	0	0	0	0	0
340480.0601105	DECONTAMINATE FLOORS & WALLS *****	501	0	0	0	0	0	0	0	0	0
340480.0601108	DECON THIN FILM DRYER EQUIP & ROOM; INCL FLOOR SPACE; SECONDARY CONTAINMENT; PROCESS AREA; CONTAINER STOR	501	0	0	0	0	0	0	0	0	0
340480.0601109	DECON USING WATER/STEAM/- CHEMICALS	501	0	0	0	0	0	0	0	0	0
340480.0601112	WASH DOWN INSIDE & EXTERIOR OF TANKS, DRUM WASTE RINSATE	501	0	0	0	0	0	0	0	0	0
340480.0601116	ALLOW 6 MAN CREW X 4 DAYS	501	1 LS	192	6501	0	300	0	0	0	6801
340480.0601117	SAMPLES OF FLUSH SOLUTION	501	6 EA	0	0	0	0	12000	0	0	12000
340480.0601118	DRUM COSTS FOR RINSATE	501	5 EA	0	0	0	550	0	0	0	550
340480.0601132	PERFORM VISUAL INSPECTION OF SEC. CONTAINMT, FLOOR SPACE, PROCESS AREA, CONTAINER STORAGE, DIKES, ETC. *****	501	1 LS	48	1625	0	0	0	0	0	1625
340480.0602032	*****	501	0	0	0	0	0	0	0	0	0
340480.0602034	BHI TO SCABBLE FLOOR OF 4% CHEM MAKEUP 545SF & THIN FILM DRYER ROOM 675SF (BOTH INCL UP 6" ON WALL)	501	1 LS	0	0	0	0	100000	0	0	100000
340480.0602036	TO A DEPTH OF 1/4"; COST IS BASED ON 304 FLOOR REMOVAL JOB (ALLOWANCE ONLY)	501	0	0	0	0	0	0	0	0	0
340480.0602038	WMH CREW TO SUPPORT BHI ACTIVITES	501	0	0	0	0	0	0	0	0	0
340480.0602040	1 PIC	501	80 MH	80	4986	0	0	0	0	0	4986
340480.0602042	2 HPT'S	501	160 MH	160	7645	0	0	0	0	0	7645
340480.0602046	4 PLANT OPER. PERSONNEL	501	320 MH	320	10835	0	0	0	0	0	10835
340480.0602050	DRUM COST FOR CONCRETE DEBRI	501	8 EA	0	0	0	880	0	0	0	880
<hr/>											
SUBTOTAL	ENVIRONMENTAL WORK			800		0		112,000		0	
	SALES TAX 8.00 %				31,592		1,730		0		145,322
							138		0		138
<hr/>											
TOTAL	COST CODE 50106 WBS 340480			800		0	1,868	112,000	0	0	145,460

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. 65100700
 FILE NO. 2609SAA2

** IEST - INTERACTIVE ESTIMATING **
 200 AREA EFFLUENT TREATMENT FACILITY (ETF) CLOSURE
 STUDY ESTIMATE
 PHMCRO8 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 16
 DATE 09/15/98 10:29:46
 BY SMF/R.W. OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
	(ESCALATION 0.00% - CONTINGENCY 35.00 %)										
TOTAL WBS 3404B0	DECONTAMINATE FLOORS AND WALLS			800	31,592	0	1,868	112,000	0	0	145,460

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. 65100700
 FILE NO. Z609SAA2

** TEST - INTERACTIVE ESTIMATING **
 200 AREA EFFLUENT TREATMENT FACILITY (ETF) CLOSURE
 STUDY ESTIMATE
 PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 17
 DATE 09/15/98 10:29:46
 BY SMF/R.W. OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
350000	DISPOSAL COSTS (BURIAL) WMH										
350000.06	ENVIRONMENTAL WORK										
350000.0600320	DISPOSAL COSTS FOR DRUMS OF WASTE AT \$500 PER DRUM (FROM BULK CHEMICAL TKS)	501	8 EA	0	0	0	0	4000	0	0	4000
350000.0600340	DISPOSAL COSTS FOR DRUMS OF WASTE AT \$500 PER DRUM (FROM BULK CHEMICAL TKS)	501	8 EA	0	0	0	0	4000	0	0	4000
350000.0600420	DISPOSAL COSTS FOR DRUMS OF WASTE AT \$500 PER DRUM (FROM LOAD-IN TKS)	501	6 EA	0	0	0	0	3000	0	0	3000
350000.0600440	DISPOSAL COSTS FOR DRUMS OF WASTE AT \$500 PER DRUM (FROM LOAD-IN TKS SECOND. CONTAINMENT FLUSH)	501	2 EA	0	0	0	0	1000	0	0	1000
350000.0600509	REMOVE & DISPOSE OF ROUGH FILTERS DISPOSAL COST (FROM SURGE TANK)	501	1 LS	0	0	0	0	500	0	0	500
350000.0600520	DISPOSAL COSTS FOR DRUMS OF WASTE AT \$500 PER DRUM (FROM SURGE TANK)	501	10 EA	0	0	0	0	5000	0	0	5000
350000.0600540	DISPOSAL COSTS FOR DRUMS OF WASTE AT \$500 PER DRUM (FROM SURGE TK SECONDARY CONTAINMENT DECON)	501	18 EA	0	0	0	0	9000	0	0	9000
350000.0600609	DISPOSE OF POLISHER RESIN, ETC., DISPOSAL COST (FROM MTT)	501	1 LS	0	0	0	0	2000	0	0	2000
350000.0600630	DISPOSAL COSTS FOR DRUMS OF WASTE AT \$500 PER DRUM (FROM MTT DECON)	501	40 EA	0	0	0	0	20000	0	0	20000
350000.0600720	DISPOSAL COSTS FOR DRUMS OF WASTE AT \$500 PER DRUM (FROM SUMPS & TKS DECON)	501	12 EA	0	0	0	0	6000	0	0	6000
350000.0600820	DISPOSAL COSTS FOR DRUMS OF WASTE AT \$500 PER DRUM (FROM EVAPORATOR DECON)	501	30 EA	0	0	0	0	15000	0	0	15000
350000.0600920	DISPOSAL COSTS FOR DRUMS OF WASTE AT \$500 PER DRUM (FROM CLOSURE OF THIN	501	30 EA	0	0	0	0	15000	0	0	15000

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. 65100700
 FILE NO. 2609SAAZ

** TEST - INTERACTIVE ESTIMATING **
 200 AREA EFFLUENT TREATMENT FACILITY (ETF) CLOSURE
 STUDY ESTIMATE
 PHMCRO8 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 18
 DATE 09/15/98 10:29:46
 BY SMF/R.W. OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
350000.0601020	FILM DRYERS) DISPOSAL COSTS FOR DRUMS OF WASTE AT \$500 PER DRUM (FROM WBS 3404A0)	501	20 EA	0	0	0	0	10000	0	0	10000
350000.0601040	DISPOSAL COSTS FOR DRUMS OF GRMHS WASTE AT \$500 PER DRUM (ALSO WBS 3404A0)	501	3 EA	0	0	0	0	1500	0	0	1500
350000.0601120	DISPOSAL COSTS FOR DRUMS OF WASTE AT \$500 PER DRUM (FROM WBS 3404B0)	501	5 EA	0	0	0	0	2500	0	0	2500
350000.0602050	DISPOSAL FOR CONCRETE DEBRI (SCABBLE FLOOR)	501	8 EA	0	0	0	4000	0	0	0	4000
SUBTOTAL ENVIRONMENTAL WORK				0		0		98,500		0	
SALES TAX 8.00 %							4,000 320		0		102,500 320
TOTAL COST CODE 50106 WBS 350000 (ESCALATION 0.00% - CONTINGENCY 35.00 %)				0		0	4,320	98,500	0	0	102,820
TOTAL WBS 350000 DISPOSAL COSTS (BURIAL) WMH				0		0	4,320	98,500	0	0	102,820

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. 65100700
 FILE NO. Z609SAA2

** IEST - INTERACTIVE ESTIMATING **
 200 AREA EFFLUENT TREATMENT FACILITY (ETF) CLOSURE
 STUDY ESTIMATE
 PHMCRO8 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 19
 DATE 09/15/98 10:29:46
 BY SMF/R.W. OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
360000	LMHC HPT										
360000.99	OTHER COST AND FEES										
360000.9900002	ONE HPT DURING JOB DURATION	501	1 L/S	1112	53131	0	0	0	0	0	53131
	SUBTOTAL OTHER COST AND FEES			1,112		0	0	0	0	0	
					53,131		0		0		53,131
TOTAL	COST CODE 50199			1,112		0	0	0	0	0	
	WBS 360000				53,131		0		0		53,131
	(ESCALATION 0.00% - CONTINGENCY 35.00 %)										
TOTAL WBS 360000	LMHC HPT			1,112		0	0	0	0	0	53,131
					53,131		0		0		53,131

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. 65100700
 FILE NO. Z609SAA2

** IEST - INTERACTIVE ESTIMATING **
 200 AREA EFFLUENT TREATMENT FACILITY (ETF) CLOSURE
 STUDY ESTIMATE
 PHMCRO8 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 20
 DATE 09/15/98 10:29:46
 BY SMF/R.W. OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
400000	PROJECT MANAGEMENT	WMH									
400000.90	HOME OFFICE										
400000.9000002	WMH PROJECT MANAGEMENT - 15% OF DIRECT CONSTRUCTION	501	1 L/S	1307	81452	0	0	0	0	0	81452

SUBTOTAL	HOME OFFICE			1,307	81,452	0	0	0	0	0	81,452

TOTAL	COST CODE 50190 WBS 400000 (ESCALATION 0.00% - CONTINGENCY 35.00 %)			1,307	81,452	0	0	0	0	0	81,452

TOTAL WBS 400000	PROJECT MANAGEMENT	WMH		1,307	81,452	0	0	0	0	0	81,452

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. 65100700
 FILE NO. Z609SAA2

** IEST - INTERACTIVE ESTIMATING **
 200 AREA EFFLUENT TREATMENT FACILITY (ETF) CLOSURE
 STUDY ESTIMATE
 PHMCRO8 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 21
 DATE 09/15/98 10:29:46
 BY SMF/R.W. OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB- CONTRACT	EQUIP- MENT	OH&P / B & I	TOTAL DOLLARS
REPORT TOTAL				11,195	480,612	0	36,115	418,500	0	0	935,227

242-A EVAPORATOR

This TSD unit is not scheduled for closure within the next five years. The anticipated life of this TSD unit is approximately another 15 to 20 years. Updated estimates will be included in future annual reports if the closure strategy/approach should change significantly or if a closure date is established. The total estimated costs for closure are approximately \$1.1 million (1998 dollars). This does not include the cost to operate the Double-Shell Tank System, Liquid Effluent Retention Facility, and 200 Area Effluent Treatment Facility to store and treat wastes generated during 242-A Evaporator closure activities.

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. Z608SAA1
 FILE NO. Z608SAA1

** IEST - INTERACTIVE ESTIMATING **
 242-A EVAPORATOR CLOSURE
 STUDY ESTIMATE
 PHMCR01 - PROJECT COST SUMMARY

PAGE 1 OF 10
 DATE 09/15/98 09:41:50
 BY R.W.OHRT

SORT	DESCRIPTION	ESCALATED TOTAL COST	CONTINGENCY %	TOTAL	TOTAL DOLLARS
BHI	BECHTEL HANFORD INC.	170,000	35	60,000	230,000
LMHC	LOCKHEED MARTIN HANFORD CORP.	67,000	35	23,000	90,000
LMSI	LOCKHEED MARTIN SERVICES, INC.	10,000	25	3,000	13,000
WMH	WASTE MANAGEMENT HANFORD	553,000	32	179,000	732,000
WMNW	WASTE MANAGEMENT NORTHWEST	2,000	35	1,000	3,000
TOTAL ESTIMATED CONSTRUCTION COSTS (TECC)		802,000	33	266,000	1,068,000

TYPE OF ESTIMATE	STUDY ESTIMATE	SEPTEMBER 15, 1998	REMARKS:
FDNW LEAD ESTIMATOR	<i>Ro</i>	ESTIMATING MANAGER	ALL COSTS IN FY 1998 DOLLARS, NO ESCALATION HAS BEEN APPLIED.
PROJECT MANAGER	<i>R. H. Egan</i>	<i>James L. Sigafoos</i> 9-16-98	
CLIENT	<i>Mark W. Bowman</i>	9-17-98	

(ROUNDED/ADJUSTED TO THE NEAREST " 1,000 / 10,000 " - PERCENTAGES NOT RECALCULATED TO REFLECT ROUNDING)

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. Z608SAA1
 FILE NO. Z608SAA1

** IEST - INTERACTIVE ESTIMATING **
 242-A EVAPORATOR CLOSURE
 STUDY ESTIMATE
 PHMCR02 - WORK BREAKDOWN STRUCTURE (WBS) SUMMARY

PAGE 2 OF 10
 DATE 09/15/98 09:41:54
 BY R.W.OHRT

WBS	DESCRIPTION	ESTIMATE	ESCALATION		SUB	CONTINGENCY		SUB	SITE	TOTAL
		SUBTOTAL	%	TOTAL	TOTAL	%	TOTAL	TOTAL	ALLOCAT'N	DOLLARS
111100	CLOSURE PLAN PREPARATION	125000	0.00	0	125000	25	31250	156250	0	156250
111200	CLOSURE CERTIFICATION	30000	0.00	0	30000	25	7500	37500	0	37500
	SUBTOTAL 11 WMH ENGINEERING	155000	0.00	0	155000	25	38750	193750	0	193750
340100	WMH DECONTAMINATION	462302	0.00	0	462302	35	161806	624108	0	624108
	SUBTOTAL 34 DECONTAMINATION	462302	0.00	0	462302	35	161806	624108	0	624108
350100	WMH DISPOSAL COSTS	114000	0.00	0	114000	35	39900	153900	0	153900
	SUBTOTAL 35 DISPOSAL COSTS	114000	0.00	0	114000	35	39900	153900	0	153900
400000	WMH PROJECT MANAGEMENT	69500	0.00	0	69500	35	24325	93825	0	93825
	SUBTOTAL 40 PROJECT MANAGEMENT	69500	0.00	0	69500	35	24325	93825	0	93825
PROJECT TOTAL		800,802	0.00	0	800,802	33	264,781	1,065,583	0	1,065,583

1. ESTIMATE PURPOSE
=====

ORDER OF MAGNITUDE ESTIMATE: THIS ESTIMATE WILL BE USED FOR BUDGETING PURPOSES ONLY.

2. ESTIMATE TECHNICAL BASIS
=====

- A. THIS ESTIMATE HAS BEEN PREPARED FOR THE 242-A EVAPORATOR CLOSURE AS REQUESTED BY WASTE MANAGEMENT HANFORD.
- B. A DESCRIPTION OF THE TECHNICAL SCOPE OF WORK MAY BE FOUND IN THE FOLLOWING REFERENCE DOCUMENTS:
DOE/RL-90-42 REVISION 1, HANFORD FACILITY DANGEROUS WASTE PERMIT APPLICATION, 242-A EVAPORATOR.
SCOPE OF WORK DESCRIPTION "CLOSURE PLAN STEPS FOR 242-A EVAPORATOR" UNDATED, UNTITLED.
- C. THE FOLLOWING CONSTRAINTS AND/OR SPECIAL CONDITIONS EXIST: HAZARDOUS AND RADIOLOGICAL CONDITIONS, CONFINED SPACES.
- D. THIS ESTIMATE ALSO UTILIZES A STANDARD FDNW DEFINED CODE OF ACCOUNTS.

3. ESTIMATE METHODOLOGY
=====

A. DIRECT COSTS:

A BOTTOMS-UP TECHNIQUE HAS BEEN UTILIZED IN THE PREPARATION OF THIS ESTIMATE.

- (1) CONSTRUCTION LABOR, MATERIAL AND EQUIPMENT UNITS HAVE BEEN ESTIMATED BASED UPON ONE OR MORE OF THE FOLLOWING STANDARD COMMERCIAL ESTIMATING RESOURCES, PUBLISHED ESTIMATING MANUALS/DATABASES: IN HOUSE DATABASES, R.S. MEANS, RICHARDSON'S PROCESS PLANT CONSTRUCTION ESTIMATING STANDARDS AND PREVIOUS CLOSURE COST ESTIMATES. THE UNITS MAY HAVE BEEN FACTORED/ADJUSTED BY THE ESTIMATOR AS APPROPRIATE TO REFLECT INFLUENCES BY CONTRACT, WORK SITE, OR OTHER IDENTIFIED PROJECT OR SPECIAL CONDITIONS.
- (2) FLUOR DANIEL HANFORD & PROJECT HANFORD MANAGEMENT CONTRACT (PHMC) SUBCONTRACTOR DIRECT COSTS FOR WASTE MANAGEMENT HANFORD AND BECHTEL HANFORD, INC. HAVE BEEN INCORPORATED INTO THIS ESTIMATE.

B. DIRECT COST FACTORS:

- (1) SALES TAX HAS BEEN APPLIED TO ALL MATERIALS AND EQUIPMENT PURCHASES AT 8%.
- (2) NO WAREHOUSING COSTS ARE SHOWN SINCE THEY ARE CONSIDERED TO BE INCLUDED IN THE MATERIAL PROCUREMENT RATE (MPR).

C. RATES:

- (1) PHMC SUBCONTRACTOR STANDARD LABOR RATES ARE THOSE LISTED IN THE FINANCIAL DATA SYSTEM (FDS) FDST 321R REPORT ORGANIZATION RATES PLUS ADDERS.

4. ESCALATION
=====

ESCALATION OF COSTS HAS NOT BEEN DONE, ALL COSTS ARE SHOWN IN CURRENT FY98 DOLLARS.

5. CONTINGENCY
=====

A. DEFINITION OF CONTINGENCY AS PROVIDED BY DOE

"CONTINGENCY COVERS COSTS THAT MAY RESULT FROM INCOMPLETE DESIGN, UNFORESEEN AND UNPREDICTABLE CONDITIONS, OR UNCERTAINTIES WITHIN THE DEFINED PROJECT SCOPE. THE AMOUNT OF CONTINGENCY WILL DEPEND ON THE STATUS OF DESIGN, PROCUREMENT, AND CONSTRUCTION; AND THE COMPLEXITY AND UNCERTAINTIES OF THE COMPONENT PARTS OF THE PROJECT. CONTINGENCY IS NOT TO BE USED TO AVOID MAKING AN ACCURATE ASSESSMENT OF EXPECTED COST" (OFFICE OF WASTE MANAGEMENT (EM-30) COST AND SCHEDULE GUIDE.

B. CONTINGENCY ALLOWANCE GUIDELINES

THE DOE GUIDELINE CONTINGENCY ALLOWANCE FOR AN ORDER OF MAGNITUDE ESTIMATE OR PLANNING ESTIMATE WITH SPECIAL CONDITIONS IS UP TO 50%.

C. METHODOLOGY

CONTINGENCY IS EVALUATED AT THE LOWEST WORK BREAKDOWN STRUCTURE (WBS) LEVEL WITHIN THE COST ESTIMATE DETAILS. IT IS SUMMARIZED AT UPPER WBS LEVELS AND REPORTED ON THE SUMMARY REPORTS.

D. ANALYSIS

AN ASSESSMENT OF DESIGN MATURITY, WORK COMPLEXITY AND PROJECT UNCERTAINTIES HAS BEEN PERFORMED. AN EXPLANATION OF THIS ASSESSMENT AND CONTINGENCY RATES WHICH HAVE BEEN ADDED TO THE COST OF WORK ARE AS FOLLOWS:

WBS 111 CLOSURE PLANNING	A CONTINGENCY OF 25% HAS BEEN APPLIED AS THE CONTAMINATION FOUND 30 YEARS IN THE FUTURE CAN BE UNPREDICTABLE.
WBS 340 DECONTAMINATION	A CONTINGENCY OF 35% HAS BEEN APPLIED BECAUSE UNFORESEEN EVENTS TAKING PLACE BEFORE CLOSURE CAN GREATLY AFFECT THE AMOUNT OF EFFORT NEEDED TO ACHIEVE APPROPRIATE CLEANLINESS.
WBS 350 DISPOSAL COSTS	DISPOSAL COSTS RECEIVE A 35% CONTINGENCY BECAUSE THE GREATEST DISPOSAL COST COULD BE FOR RINSATE DISPOSAL. RINSATE VOLUMES ARE SUBJECT TO SURFACE AREAS REQUIRING DECON, WATER PRESSURE, DURATION, CONTAMINATION LEVEL ETC AND ARE UNPREDICTABLE 30 YEARS IN ADVANCE.
WBS 400 PROJECT MANAGEMENT	A 35% CONTINGENCY HAS BEEN APPLIED FOR PROJECT MANAGEMENT BECAUSE ANY POTENTIAL GROWTH TO THE PROJECT DUE TO THE UNKNOWN CONDITIONS AS MENTIONED ABOVE WILL HAVE A SIMILAR AFFECT ON THIS WBS.

6. ROUNDING

=====

THE PROJECT COST SUMMARY REPORT IS SUMMARIZED AND ADJUSTED/ROUNDED AS FOLLOWS:
THE ESCALATED TOTAL COST COLUMN, CONTINGENCY TOTAL COLUMN AND TOTAL DOLLARS COLUMN SUB-TOTALS ARE SUMMARIZED BY CONTRACTOR. THE COLUMN SUBTOTALS ARE ADJUSTED/ROUNDED TO THE NEAREST \$1,000/\$10,000. THE PROJECT TOTAL SUMMARY LINE TOTALS ARE ADJUSTED/ROUNDED TO THE NEAREST \$10,000/\$100,000.

7. REMARKS

=====

MAJOR ASSUMPTIONS WHICH HAVE BEEN MADE IN THE PREPARATION OF THIS ESTIMATE ARE AS FOLLOWS:

- A.) THE TRANSFER LINES BETWEEN 242-A BUILDING AND TANK FARMS WILL NOT BE DECONTAMINATED/REMOVED AS PART OF THIS CLOSURE. THESE WILL BE CLOSED AS PART OF THE DOUBLE-SHELL TANK CLOSURE.
- B.) THE 207-A PUMP PIT AND THE TRANSFER LINES BETWEEN 242-A BUILDING AND THE 207-A PUMP PIT WILL BE CLOSED AS PART OF THE CLOSURE OF THE 207-A SOUTH RETENTION BASIN (PERFORMED BY BHI).
- C.) THE VESSELS (VAPOR-LIQUID SEPARATOR, C-A-1, AND CONDENSATE TANK, C-100) AND THE IX COLUMN WILL BE DECONTAMINATED USING CHEMICALS/STEAM AND DO NOT HAVE TO BE REMOVED.

FLUOR DANIEL NORTHWEST, INC.
WASTE MANAGEMENT HANFORD
JOB NO. Z608SAA1
FILE NO. Z608SAA1

** IEST - INTERACTIVE ESTIMATING **
242-A EVAPORATOR CLOSURE
STUDY ESTIMATE
PHMCR03 - ESTIMATE BASIS SHEET

PAGE 5 OF 10
DATE 09/15/98 08:23:57
BY R.W.OHRT

7. REMARKS (CONT'D)
=====

- D.) TANK FARMS AND LERF ARE AVAILABLE TO RECEIVE WASTE FROM FLUSHING/DECONTAMINATING ACTIVITIES.
- E.) THERE WILL BE NO CRACKS IN THE CONCRETE THAT WOULD HAVE ALLOWED CONTAMINATION TO ESCAPE TO THE ENVIRONMENT. NO SOIL SAMPLING/DECONTAMINATING WILL BE REQUIRED.
- F.) THE PUMPS AND JUMPERS CANNOT BE DECONTAMINATED IN THE PUMP ROOM AND WILL BE REMOVED.
- G.) THE EXTERIOR OF C-A-1 WILL NEED DECONTAMINATION WHICH CAN BE PERFORMED USING WATER.
- H.) THE EXTERIOR OF C-100 WILL NOT BE CONTAMINATED.
- I) SCABBLING OF THE CONCRETE FLOORS WILL BE REQUIRED IN THE PUMP ROOM AND EVAPORATOR ROOM.
- J.) COSTS FOR WASTE DISPOSAL WERE FURNISHED BY WMH.

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. Z608SAA1
 FILE NO. Z608SAA1

** IEST - INTERACTIVE ESTIMATING **
 242-A EVAPORATOR CLOSURE
 STUDY ESTIMATE
 PHMCR04 - COMPANY/WBS SUMMARY

PAGE 6 OF 10
 DATE 09/15/98 09:41:57
 BY R.W.OHRT

SORT CODE/WBS	DESCRIPTION	ESTIMATE SUBTOTAL	ESCALATION % TOTAL	SUB TOTAL	CONTINGENCY % TOTAL	SUB TOTAL	SITE ALLOCAT'N	TOTAL DOLLARS
BHI	BECHTEL HANFORD INC.							
340100	WMH DECONTAMINATION	170000	0.00	0	170000	35	59500	229500
	TOTAL BHI BECHTEL HANFORD INC.	170000	0.00	0	170000	35	59500	229500
LMHC	LOCKHEED MARTIN HANFORD CORP.							
340100	WMH DECONTAMINATION	66507	0.00	0	66507	35	23277	89784
	SUBTOTAL 34 DECONTAMINATION	236507	0.00	0	236507	35	82777	319284
	TOTAL LMHC LOCKHEED MARTIN HANFORD COR	66507	0.00	0	66507	35	23277	89784
LMSI	LOCKHEED MARTIN SERVICES, INC.							
111100	CLOSURE PLAN PREPARATION	10000	0.00	0	10000	25	2500	12500
	TOTAL LMSI LOCKHEED MARTIN SERVICES, I	10000	0.00	0	10000	25	2500	12500
WMH	WASTE MANAGEMENT HANFORD							
111100	CLOSURE PLAN PREPARATION	115000	0.00	0	115000	25	28750	143750
111200	CLOSURE CERTIFICATION	30000	0.00	0	30000	25	7500	37500
	SUBTOTAL 11 WMH ENGINEERING	155000	0.00	0	155000	25	38750	193750
340100	WMH DECONTAMINATION	224113	0.00	0	224113	35	78440	302553
	SUBTOTAL 34 DECONTAMINATION	224113	0.00	0	224113	35	78440	302553
350100	WMH DISPOSAL COSTS	114000	0.00	0	114000	35	39900	153900
	SUBTOTAL 35 DISPOSAL COSTS	114000	0.00	0	114000	35	39900	153900
400000	WMH PROJECT MANAGEMENT	69500	0.00	0	69500	35	24325	93825

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. Z608SAA1
 FILE NO. Z608SAA1

** IEST - INTERACTIVE ESTIMATING **
 242-A EVAPORATOR CLOSURE
 STUDY ESTIMATE
 PHMCR04 - COMPANY/WBS SUMMARY

PAGE 7 OF 10
 DATE 09/15/98 09:41:57
 BY R.W.OHRT

ESTIMATE	ESCALATION	SUB	CONTINGENCY	SUB	SITE	TOTAL				
SUBTOTAL	% TOTAL	TOTAL	% TOTAL	TOTAL	ALLOCAT'N	DOLLARS				
SUBTOTAL 40	PROJECT MANAGEMENT	69500	0.00	0	69500	35	24325	93825	0	93825
TOTAL WMH WASTE MANAGEMENT HANFORD		552613	0.00	0	552613	32	178915	731528	0	731528
WMNW	WASTE MANAGEMENT NORTHWEST									
340100	WMH DECONTAMINATION	1682	0.00	0	1682	35	589	2271	0	2271
SUBTOTAL 34	DECONTAMINATION	1682	0.00	0	1682	35	589	2271	0	2271
TOTAL WMNW WASTE MANAGEMENT NORTHWEST		1682	0.00	0	1682	35	589	2271	0	2271
PROJECT TOTAL		800,802	0.00	0	800,802	33	264,781	1,065,583	0	1,065,583

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. Z608SAA1
 FILE NO. Z608SAA1

** IEST - INTERACTIVE ESTIMATING **
 242-A EVAPORATOR CLOSURE
 STUDY ESTIMATE
 PHMCR05 - CONSTRUCTION MANAGEMENT/OTHER COST SUMMARY

PAGE 8 OF 10
 DATE 09/15/98 09:41:59
 BY R.W.OHRT

WBS	DESCRIPTION	ESTIMATE SUBTOTAL	CONSTRUCTION MANAGEMENT %	TOTAL	OTHER COSTS	SUB TOTAL	TOTAL
111100	CLOSURE PLAN PREPARATION	125000	0.00	0	0	0	125000
111200	CLOSURE CERTIFICATION	30000	0.00	0	0	0	30000
SUBTOTAL 11	WMH ENGINEERING	155000		0	0	0	155000
340100	WMH DECONTAMINATION	462302	0.00	0	0	0	462302
SUBTOTAL 34	DECONTAMINATION	462302		0	0	0	462302
350100	WMH DISPOSAL COSTS	114000	0.00	0	0	0	114000
SUBTOTAL 35	DISPOSAL COSTS	576302		0	0	0	576302
400000	WMH PROJECT MANAGEMENT	69500	0.00	0	0	0	69500
SUBTOTAL 40	PROJECT MANAGEMENT	69500		0	0	0	69500
PROJECT TOTAL		800,802		0	0	0	800,802

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. Z608SAA1
 FILE NO. Z608SAA1

** IEST - INTERACTIVE ESTIMATING **
 242-A EVAPORATOR CLOSURE
 STUDY ESTIMATE
 PHMCR06 - SITE ALLOCATIONS BY WBS

PAGE 9 OF 10
 DATE 09/15/98 09:41:38
 BY R.W.OHRT

WBS	DESCRIPTION	ESTIMATE SUBTOTAL	DYN EQ.USAGE	FDH GFS/G&A CONST.MGMT	FDH MPR F.P./S.C.	FDH GFS/G&A LABOR	FDH MPR/G&A MATERIAL	SITE ALLOC SUBTOTAL
111100	CLOSURE PLAN PREPARATION	125000	0	0	0	0	0	0
111200	CLOSURE CERTIFICATION	30000	0	0	0	0	0	0
SUBTOTAL 11 WMH ENGINEERING		155000	0	0	0	0	0	0
340100	WMH DECONTAMINATION	462302	0	0	0	0	0	0
SUBTOTAL 34 DECONTAMINATION		462302	0	0	0	0	0	0
350100	WMH DISPOSAL COSTS	114000	0	0	0	0	0	0
SUBTOTAL 35 DISPOSAL COSTS		114000	0	0	0	0	0	0
400000	WMH PROJECT MANAGEMENT	69500	0	0	0	0	0	0
SUBTOTAL 40 PROJECT MANAGEMENT		69500	0	0	0	0	0	0
PROJECT TOTAL		800,802	0	0	0	0	0	0

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. 2608SAA1
 FILE NO. 2608SAA1

** IEST - INTERACTIVE ESTIMATING **
 242-A EVAPORATOR CLOSURE
 STUDY ESTIMATE
 PHMCR07 - SITE ALLOCATION ESCALATION/CONTINGENCY REPORT

PAGE 10 OF 10
 DATE 09/15/98 09:42:02
 BY R.W.OHRT

WBS	DESCRIPTION	SITE ALLOC SUBTOTAL	ESCALATION		SUB TOTAL	CONTINGENCY		TOTAL DOLLARS
			%	TOTAL		%	TOTAL	
111100	CLOSURE PLAN PREPARATION	0	0.00	0	0	0	0	0
111200	CLOSURE CERTIFICATION	0	0.00	0	0	0	0	0
	SUBTOTAL 11 WMH ENGINEERING	0	0.00	0	0	0	0	0
340100	WMH DECONTAMINATION	0	0.00	0	0	0	0	0
	SUBTOTAL 34 DECONTAMINATION	0	0.00	0	0	0	0	0
350100	WMH DISPOSAL COSTS	0	0.00	0	0	0	0	0
	SUBTOTAL 35 DISPOSAL COSTS	0	0.00	0	0	0	0	0
400000	WMH PROJECT MANAGEMENT	0	0.00	0	0	0	0	0
	SUBTOTAL 40 PROJECT MANAGEMENT	0	0.00	0	0	0	0	0
PROJECT TOTAL		0	0.00	0	0	0	0	0

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. Z608SAA1
 FILE NO. Z608SAA1

** IEST - INTERACTIVE ESTIMATING **
 242-A EVAPORATOR CLOSURE
 STUDY ESTIMATE
 PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 1
 DATE 09/15/98 09:42:04
 BY R.W.OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
111100	CLOSURE PLAN PREPARATION										
111100.90	HOME OFFICE										
111100.9000100	CLOSURE PLAN COSTS PER "STANDARDIZED COST ESTIMATE FOR CLOSURE PLAN DEVELOPMENT" DATED 6/3/98.	000	0	0	0	0	0	0	0	0	0
111100.9000102	***** CLOSURE PLAN PREPARATION *****	000	0	0	0	0	0	0	0	0	0
	310 DAY DURATION										
111100.9000104	WMH ENVIRONMENTAL SUPPORT	000	1 LS	654	36000	0	0	0	0	0	36000
111100.9000106	WMH TWRS	000	1 LS	222	12000	0	0	0	0	0	12000
111100.9000108	WMH ANALYTICAL SERVICES	000	1 LS	36	2000	0	0	0	0	0	2000
111100.9000110	LMSI MEDIA SERVICES	000	1 LS	0	0	0	0	2000	0	0	2000
111100.9000112	LMSI DUPLICATION	000	1 LS	0	0	0	0	3000	0	0	3000
111100.9000202	***** RESPOND TO ECOLOGY NOD COMMENTS *****	000	0	0	0	0	0	0	0	0	0
111100.9000203	90 DAY DURATION	000	0	0	0	0	0	0	0	0	0
111100.9000204	WMH ENVIRONMENTAL SUPPORT	000	1 LS	226	13000	0	0	0	0	0	13000
111100.9000206	WMH TWRS	000	1 LS	97	5000	0	0	0	0	0	5000
111100.9000208	WMH ANALYTICAL SERVICES	000	1 LS	36	2000	0	0	0	0	0	2000
111100.9000212	LMSI DUPLICATION	000	1 LS	0	0	0	0	1000	0	0	1000
111100.9000302	***** RESOLUTION OF NOD COMMENTS *****	000	0	0	0	0	0	0	0	0	0
	270 DAY DURATION										
111100.9000304	WMH ENVIRONMENTAL SUPPORT	000	1 LS	490	27000	0	0	0	0	0	27000
111100.9000306	WMH TWRS	000	1 LS	217	12000	0	0	0	0	0	12000
111100.9000308	WMH ANALYTICAL SERVICES	000	1 LS	52	3000	0	0	0	0	0	3000
111100.9000310	LMSI MEDIA SERVICES	000	1 LS	0	0	0	0	1000	0	0	1000
111100.9000312	LMSI DUPLICATION	000	1 LS	0	0	0	0	2000	0	0	2000
111100.9000402	***** INCORPORATE CLOSURE PLAN INTO PERMIT *****	000	0	0	0	0	0	0	0	0	0
111100.9000403	90 DAY DURATION	000	0	0	0	0	0	0	0	0	0
111100.9000404	WMH ENVIRONMENTAL SUPPORT	000	1 LS	40	2000	0	0	0	0	0	2000
111100.9000406	WMH TWRS	000	1 LS	16	1000	0	0	0	0	0	1000
111100.9000410	LMSI MEDIA SERVICES	000	1 LS	0	0	0	0	500	0	0	500

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. Z608SAA1
 FILE NO. Z608SAA1

** IEST - INTERACTIVE ESTIMATING **
 242-A EVAPORATOR CLOSURE
 STUDY ESTIMATE
 PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 2
 DATE 09/15/98 09:42:04
 BY R.W.OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
111100.9000412	LMSI PHOTO LAB	000	1 LS	0	0	0	0	500	0	0	500
	SUBTOTAL HOME OFFICE			2,086	115,000	0	0	10,000	0	0	125,000
	TOTAL COST CODE 00090			2,086	115,000	0	0	10,000	0	0	125,000
	WBS 111100										
	(ESCALATION 0.00% - CONTINGENCY 25.00 %)										
	TOTAL WBS 111100 CLOSURE PLAN PREPARATION			2,086	115,000	0	0	10,000	0	0	125,000

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. Z608SAA1
 FILE NO. Z608SAA1

** IEST - INTERACTIVE ESTIMATING **
 242-A EVAPORATOR CLOSURE
 STUDY ESTIMATE
 PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 3
 DATE 09/15/98 09:42:05
 BY R.W.OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
111200	CLOSURE CERTIFICATION										
111200.90	HOME OFFICE										
111200.9000000	***** CLOSURE CERTIFICATION *****	000	0	0	0	0	0	0	0	0	0
111200.9000002	PREPARATION BY A PROFESSIONAL ENGINEER, PER CUSTOMER.	000	1 L/S	0	0	0	0	30000	0	0	30000
SUBTOTAL HOME OFFICE				0	0	0	0	30,000	0	0	30,000
TOTAL COST CODE 00090				0	0	0	0	30,000	0	0	30,000
WBS 111200 (ESCALATION 0.00% - CONTINGENCY 25.00 %)											
TOTAL WBS 111200 CLOSURE CERTIFICATION				0	0	0	0	30,000	0	0	30,000

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. Z608SAA1
 FILE NO. Z608SAA1

** IEST - INTERACTIVE ESTIMATING **
 242-A EVAPORATOR CLOSURE
 STUDY ESTIMATE
 PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 5
 DATE 09/15/98 09:42:05
 BY R.W.OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
THREE CREW DAYS.											
340100.0600506	1 PIC	501	1 LS	24	1434	0	0	0	0	0	1434
340100.0600508	2 HPT'S	501	1 LS	48	2293	0	0	0	0	0	2293
340100.0600510	3 PLANT OPER. PERSONNEL	501	1 LS	72	2019	0	0	0	0	0	2019
340100.0600520	TAKE 2 SAMPLES	501	1 LS	24	673	0	0	0	0	0	673
340100.0600530	SAMPLE ANALYSIS FOR C-100	501	2 EA	0	0	0	0	4000	0	0	4000
340100.0600600	*****	501	0	0	0	0	0	0	0	0	0
FLUSH SUMPS											

340100.0600602	FLUSH SUMPS IN PUMP ROOM AND DECON ROOM. ALLOW THREE CREW DAYS.	501	0	0	0	0	0	0	0	0	0
THREE CREW DAYS.											
340100.0600606	1 PIC	501	1 LS	24	1434	0	0	0	0	0	1434
340100.0600608	2 HPT'S	501	1 LS	48	2293	0	0	0	0	0	2293
340100.0600610	3 PLANT OPER. PERSONNEL	501	1 LS	72	2019	0	0	0	0	0	2019
340100.0600620	TAKE 4 SAMPLES, 2 MEN 1 DAY	501	1 LS	16	449	0	0	0	0	0	449
340100.0600622	SAMPLE ANALYSIS FOR SUMPS	501	4 EA	0	0	0	0	8000	0	0	8000
340100.0600700	*****	501	0	0	0	0	0	0	0	0	0
FLUSH AQUEOUS MAKE-UP (AMU) VESSELS											

340100.0600702	EMPTY AND FLUSH AMU VESSELS, ROUTE SOLUTIONS TO TANK FARMS, NO SAMPLING. ALLOW THREE CREW DAYS.	501	0	0	0	0	0	0	0	0	0
THREE CREW DAYS.											
340100.0600706	1 PIC	501	1 LS	24	1434	0	0	0	0	0	1434
340100.0600708	2 HPT'S	501	1 LS	48	2293	0	0	0	0	0	2293
340100.0600710	3 PLANT OPER. PERSONNEL	501	1 LS	72	2019	0	0	0	0	0	2019
340100.0600800	*****	501	0	0	0	0	0	0	0	0	0
INSPECT SECONDARY CONTAINMENT											

340100.0600802	INSPECT SECONDARY CONTAINMENT CONCRETE FOR CRACKS THROUGH THE CONTAINMENT. ALLOW 2 CREW DAYS.	501	0	0	0	0	0	0	0	0	0
ALLOW 2 CREW DAYS.											
340100.0600806	1 PIC	501	1 LS	16	956	0	0	0	0	0	956
340100.0600808	2 HPT'S	501	1 LS	32	1529	0	0	0	0	0	1529
340100.0600810	3 PLANT OPER. PERSONNEL	501	1 LS	48	1346	0	0	0	0	0	1346
340100.0600900	*****	501	0	0	0	0	0	0	0	0	0
DECONTAMINATE EXTERIOR OF C-A-1											

FLUOR DANIEL NORTHWEST, INC.
WASTE MANAGEMENT HANFORD
JOB NO. Z608SAA1
FILE NO. Z608SAA1

** TEST - INTERACTIVE ESTIMATING **
242-A EVAPORATOR CLOSURE
STUDY ESTIMATE
PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 6
DATE 09/15/98 09:42:05
BY R.W.OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
340100.0600910	SCAFFOLD, ASSUME TOTAL OF 60'H X 40' CIRCUMFERENCE OR 72 SECTIONS. ALLOW FOR ONE CREW WEEK.	501	0	0	0	0	0	0	0	0	0
340100.0600912	1 PIC	501	1 LS	40	2390	0	0	0	0	0	2390
340100.0600914	2 HPT'S	501	1 LS	80	3822	0	0	0	0	0	3822
340100.0600916	5 PLANT OPER. PERSONNEL	501	1 LS	200	5608	0	0	0	0	0	5608
340100.0600920	REMOVE INSULATION, ASSUME 2500 SF X 3" THK. ALLOW 6 CREW DAYS.	501	0	0	0	0	0	0	0	0	0
340100.0600922	1 PIC	501	1 LS	48	2868	0	0	0	0	0	2868
340100.0600924	2 HPT'S	501	1 LS	96	4587	0	0	0	0	0	4587
340100.0600926	5 PLANT OPER. PERSONNEL	501	1 LS	240	6730	0	0	0	0	0	6730
340100.0600930	OBTAIN SAMPLES FOR DESIGNATION OF INSULATION, 6 EA	501	1 LS	8	224	0	0	0	0	0	224
340100.0600931	SAMPLE ANALYSIS FOR THE DISPOSAL OF INSULATION	501	6 EA	8	224	0	0	6000	0	0	6224
340100.0600940	DRUM COST FOR INSULATION DISPOSAL AT 50% VOID.	501	170 EA	170	0	0	20400	0	0	0	20400
340100.0600950	DECONTAMINATE EXTERIOR OF C-A-1, USE HI-PRESSURE WATER AND GENERATE 6 - 55 GALLON DRUMS OF RMW RINSATE.	501	1 LS	0	0	0	0	15000	0	0	15000
340100.0600952	BARREL COST	501	6 EA	0	0	0	720	0	0	0	720
340100.0600960	WASTE MANAGEMENT SUPPORT FOR BHI DURING PRESSURE WASHING.	501	0	0	0	0	0	0	0	0	0
340100.0600962	1 PIC	501	1 LS	8	478	0	0	0	0	0	478
340100.0600964	2 HPT'S	501	1 LS	16	764	0	0	0	0	0	764
340100.0600966	3 PLANT OPER. PERSONNEL	501	1 LS	24	673	0	0	0	0	0	673
340100.0601000	***** INSPECT AND DECON INTERIOR OF SAMPLER ENCLOSURES *****	501	0	0	0	0	0	0	0	0	0
340100.0601002	BHI TO HI-PRESSURE WATER WASH THE 2 SAMPLERS.	501	1 LS	0	0	0	0	5000	0	0	5000
340100.0601004	BARREL COST FOR RINSATE	501	2 EA	0	0	0	240	0	0	0	240
340100.0601010	WASTE MANAGEMENT SUPPORT FOR BHI DURING PRESSURE WASHING.	501	0	0	0	0	0	0	0	0	0
340100.0601012	1 PIC	501	1 LS	8	478	0	0	0	0	0	478

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. Z608SAA1
 FILE NO. Z608SAA1

** IEST - INTERACTIVE ESTIMATING **
 242-A EVAPORATOR CLOSURE
 STUDY ESTIMATE

PAGE 7
 DATE 09/15/98 09:42:05
 BY R.W.OHRT

PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
340100.0601014	2 HPT'S	501	1 LS	16	764	0	0	0	0	0	764
340100.0601016	3 PLANT OPER. PERSONNEL	501	1 LS	24	673	0	0	0	0	0	673
340100.0601030	WASTE MANAGEMENT TO REMOVE PIPING FROM BOTH SAMPLERS AND PUT INTO DRUM FOR DISPOSAL AS RMW, 6 CREW DAYS	501	0	0	0	0	0	0	0	0	0
340100.0601032	1 PIC	501	1 LS	48	2868	0	0	0	0	0	2868
340100.0601034	2 HPT'S	501	1 LS	96	4587	0	0	0	0	0	4587
340100.0601036	3 PLANT OPER. PERSONNEL	501	1 LS	144	4038	0	0	0	0	0	4038
340100.0601038	DRUM COST	501	1 EA	48	1346	0	120	0	0	0	1466
340100.0601100	***** C-100 VISUAL INSPECTION *****	501	0	0	0	0	0	0	0	0	0
340100.0601110	VISUALLY INSPECT EXTERIOR OF C-100, ONE MAN 4 HOURS, NO SUIT UP.	501	1 LS	4	239	0	0	0	0	0	239
340100.0601200	***** REMOVE EQUIPMENT THAT IS NOT DECONTAMINATABLE *****	501	0	0	0	0	0	0	0	0	0
340100.0601202	REMOVE, CUT AND BARREL ABOUT 16 JUMPERS, ALLOW 3 CREW WEEKS. NO SAMPLING COSTS.	501	0	0	0	0	0	0	0	0	0
340100.0601204	1 PIC	501	1 LS	120	7169	0	0	0	0	0	7169
340100.0601206	2 HPT'S	501	1 LS	240	11467	0	0	0	0	0	11467
340100.0601208	20 PLANT OPER. PERSONNEL	501	1 LS	2400	67296	0	0	0	0	0	67296
340100.0601220	DRUM COST, ALLOW 2 DRUMS PER JUMPER (RMW).	501	32 EA	0	0	0	3840	0	0	0	3840
340100.0601232	REMOVE PUMPS, SAMPLERS, FILTERS, MISC PIPING, ETC. FROM CONDENSER ROOM. ALLOW 5 CREW DAYS.	501	0	0	0	0	0	0	0	0	0
340100.0601234	1 PIC	501	1 LS	40	2390	0	0	0	0	0	2390
340100.0601236	2 HPT'S	501	1 LS	80	3822	0	0	0	0	0	3822
340100.0601238	4 PLANT OPER. PERSONNEL	501	1 LS	160	4486	0	0	0	0	0	4486
340100.0601250	DRUM COST	501	5 EA	0	0	0	600	0	0	0	600
340100.0601300	***** DECONTAMINATE CONCRETE FLOORS AND WALLS *****	501	0	0	0	0	0	0	0	0	0
340100.0601302	BHI TO SCABBLE PUMP ROOM FLOOR AND 10 FT UP WALLS	501	1 LS	0	0	0	0	150000	0	0	150000

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. Z608SAA1
 FILE NO. Z608SAA1

** IEST - INTERACTIVE ESTIMATING **
 242-A EVAPORATOR CLOSURE
 STUDY ESTIMATE

PAGE 8
 DATE 09/15/98 09:42:06
 BY R.W.OHRT

PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
	(1196 SF) AND SCABBLE EVAP ROOM AND 1 FT UP WALL										
340100.0601303	(644 SF) TO A DEPTH OF 1/4", COST IS BASED ON 304 FLOOR REMOVAL JOB (ALLOWANCE ONLY)	501	0	0	0	0	0	0	0	0	0
340100.0601320	WMH CREW TO SUPPORT BHI ACTIVITIES, ASSUME 3 CREW WEEKS.	501	0	0	0	0	0	0	0	0	0
340100.0601322	1 PIC	501	1 LS	120	7169	0	0	0	0	0	7169
340100.0601324	2 HPT'S	501	1 LS	240	11467	0	0	0	0	0	11467
340100.0601326	4 PLANT OPER. PERSONNEL	501	1 LS	480	13459	0	0	0	0	0	13459
340100.0601330	DRUM COST FOR CONCRETE DEBRI OF APPROX 77 CUBIC FEET.	501	12 EA	0	0	0	1440	0	0	0	1440
<hr/>											
SUBTOTAL	ENVIRONMENTAL WORK			6,842		0		196,000		0	
	SALES TAX 8.00 %				236,753		27,360		0		460,113
							2188		0		2188
<hr/>											
TOTAL	COST CODE 50106			6,842		0		196,000		0	
	WBS 340100				236,753		29,548		0		462,301
	(ESCALATION 0.00% - CONTINGENCY 35.00 %)										
<hr/>											
TOTAL WBS 340100	WMH DECONTAMINATION			6,842		0		196,000		0	
					236,753		29,548		0		462,301

FLUOR DANIEL NORTHWEST, INC.
WASTE MANAGEMENT HANFORD
JOB NO. Z608SAA1
FILE NO. Z608SAA1

** IEST - INTERACTIVE ESTIMATING **

242-A EVAPORATOR CLOSURE

STUDY ESTIMATE

PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 9

DATE 09/15/98 09:42:06

BY R.W.OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
350100	WMH DISPOSAL COSTS										
350100.99	DISPOSAL COSTS										
350100.9900940	DRUMMED INSULATION DISPOSAL, RMW. 170 DRUMS AT \$500 EA. FROM C-A-1.	501	170 EA	0	0	0	0	85000	0	0	85000
350100.9900954	DISPOSAL COSTS FOR 6 DRUMS RMW RINSATE AT \$500 EA. FROM PRESSURE WASHING OF C-A-1.	501	6 EA	0	0	0	0	3000	0	0	3000
350100.9901004	RINSATE DISPOSAL COSTS FROM DECON OF SAMPLERS, RMW	501	2 EA	0	0	0	0	1000	0	0	1000
350100.9901030	DISPOSAL COST FOR 1 DRUM OF PIPING FROM SAMPLERS, RMW.	501	1 EA	0	0	0	0	500	0	0	500
350100.9901220	DISPOSAL COSTS FOR DRUMMED JUMPERS, RMW.	501	32 EA	0	0	0	0	16000	0	0	16000
350100.9901232	DISPOSAL COST FOR 5 DRUMS OF RMW FROM CONDENSER ROOM.	501	5 EA	0	0	0	0	2500	0	0	2500
350100.9901330	DISPOSAL COST FOR DRUMS OF CONCRETE DEBRIS FROM FLOOR AND WALLS, RMW.	501	12 EA	0	0	0	0	6000	0	0	6000
SUBTOTAL DISPOSAL COSTS				0	0	0	0	114,000	0	0	114,000
TOTAL COST CODE 50199				0	0	0	0	114,000	0	0	114,000
WBS 350100					0		0		0		114,000
(ESCALATION 0.00% - CONTINGENCY 35.00 %)											
TOTAL WBS 350100 WMH DISPOSAL COSTS				0	0	0	0	114,000	0	0	114,000

FLUOR DANIEL NORTHWEST, INC.
 WASTE MANAGEMENT HANFORD
 JOB NO. Z608SAA1
 FILE NO. Z608SAA1

** IEST - INTERACTIVE ESTIMATING **
 242-A EVAPORATOR CLOSURE
 STUDY ESTIMATE

PAGE 10
 DATE 09/15/98 09:42:06
 BY R.W.OHRT

PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
400000	WMH PROJECT MANAGEMENT										
400000.90	HOME OFFICE										
400000.9000000	***** PROJECT MANAGEMENT *****	501	1 LS	0	0	0	0	69500	0	0	69500
400000.9000001	AT 15% OF DECONTAMINATION COSTS (WBS 340100)	501	0	0	0	0	0	0	0	0	0

SUBTOTAL	HOME OFFICE			0	0	0	0	69,500	0	0	69,500

TOTAL	COST CODE 50190			0	0	0	0	69,500	0	0	69,500
	WBS 400000				0		0		0		69,500
	(ESCALATION 0.00% - CONTINGENCY 35.00 %)										

TOTAL WBS 400000	WMH PROJECT MANAGEMENT			0	0	0	0	69,500	0	0	69,500

FLUOR DANIEL NORTHWEST, INC.
WASTE MANAGEMENT HANFORD
JOB NO. Z608SAA1
FILE NO. Z608SAA1

** IEST - INTERACTIVE ESTIMATING **
242-A EVAPORATOR CLOSURE
STUDY ESTIMATE
PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 11
DATE 09/15/98 09:42:06
BY R.W.OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB- CONTRACT	EQUIP- MENT	OH&P / B & I	TOTAL DOLLARS
REPORT TOTAL				8,928	351,753	0	29,548	419,500	0	0	800,801

325 HAZARDOUS WASTE TREATMENT UNITS

The estimate for this unit addresses current analytical costs associated with analysis of verification sampling and decontamination waste that will be generated at the time for closure. The costs for man hours of packaging waste, as well as disposal costs for waste that could potentially be in storage at the time of closure, are also addressed in the estimate. The total estimated costs for closure are now \$7.3 million (1998 dollars).

This TSD is not scheduled for closure within the next five years. Updated estimates will be included in future reports if the closure strategy/approach should change significantly or if a closure date is established.

FLUOR DANIEL NORTHWEST, INC.
 PNNL
 JOB NO. 65100801/1059
 FILE NO. Z611SAA2

** IEST - INTERACTIVE ESTIMATING **
 325 HAZARDOUS WASTE TREATMENT UNIT (HWTU)
 STUDY
 PHMCR01 - PROJECT COST SUMMARY

PAGE 1 OF 8
 DATE 09/14/98 11:29:26
 BY R.W. OHRT

SORT	DESCRIPTION	ESCALATED	CONTINGENCY		TOTAL
		TOTAL COST	%	TOTAL	DOLLARS
PNNL	PACIFIC NW NATIONAL LABORATORY	5,410,000	35	1,890,000	7,300,000
SUBTOTAL		5,410,000	35	1,890,000	7,300,000
PROJECT TOTAL		5,410,000	35	1,890,000	7,300,000

TYPE OF ESTIMATE	STUDY ESTIMATE	SEPTEMBER 14, 1998	REMARKS:
FDNW LEAD ESTIMATOR	<i>PO</i>	ESTIMATING MANAGER <i>Jamie H. Bizer</i>	
PROJECT MANAGER	<i>Alan Holt</i>	<i>9-14-98</i>	
CLIENT	<i>GENS GROHS</i>		

(ROUNDED/ADJUSTED TO THE NEAREST " 10,000 / 100,000 " - PERCENTAGES NOT RECALCULATED TO REFLECT ROUNDING)

FLUOR DANIEL NORTHWEST, INC.
 PNNL
 JOB NO. 65100801/1059
 FILE NO. Z611SAA2

** IEST - INTERACTIVE ESTIMATING **
 325 HAZARDOUS WASTE TREATMENT UNIT (HWTU)
 STUDY
 PHMCR02 - WORK BREAKDOWN STRUCTURE (WBS) SUMMARY

PAGE 2 OF 8
 DATE 09/14/98 11:29:29
 BY R.W. OHRT

WBS	DESCRIPTION	ESTIMATE SUBTOTAL	ESCALATION % TOTAL	SUB TOTAL	CONTINGENCY % TOTAL	SUB TOTAL	SITE ALLOCAT'N	TOTAL DOLLARS		
111100	CLOSURE PLAN PREPARATION	385500	0.00	0	385500	35	134925	520425	0	520425
111200	CLOSURE CERTIFICATION	100000	0.00	0	100000	35	35000	135000	0	135000
	SUBTOTAL 111 PNNL ENGINEERING	485500	0.00	0	485500	35	169925	655425	0	655425
	SUBTOTAL 11 DEFINITIVE DESIGN	485500	0.00	0	485500	35	169925	655425	0	655425
121000	WIPE SAMPLING	645000	0.00	0	645000	35	225750	870750	0	870750
121100	CORE SAMPLING	28500	0.00	0	28500	35	9975	38475	0	38475
121200	SOIL SAMPLING	4402	0.00	0	4402	35	1541	5943	0	5943
121400	VERIFICATION SAMPLING: BUILDING	8600	0.00	0	8600	35	3010	11610	0	11610
121500	VERIFICATION SAMPLING: SOIL	4400	0.00	0	4400	35	1540	5940	0	5940
	SUBTOTAL 121 SAMPLING / TESTING	690902	0.00	0	690902	35	241816	932718	0	932718
	SUBTOTAL 12 TITLE III ENGINEERING	690902	0.00	0	690902	35	241816	932718	0	932718
	SUBTOTAL 1 ASSESSMENT	1176402	0.00	0	1176402	35	411741	1588143	0	1588143
212100	REMOVAL & DISPOSAL OF WASTE	1509743	0.00	0	1509743	35	528410	2038153	0	2038153
212200	DECONTAMINATE BUILDING	867265	0.00	0	867265	35	303543	1170808	0	1170808
212600	BUILDING RESTORATION	1402602	0.00	0	1402602	35	490911	1893513	0	1893513
	SUBTOTAL 212 REMEDIAL CONSTRUCTION	3779610	0.00	0	3779610	35	1322864	5102474	0	5102474
213100	CONSTRUCTION ENGR/INSP	449000	0.00	0	449000	35	157150	606150	0	606150
	SUBTOTAL 21 PROCUREMENT-ONSITE E/C	4228610	0.00	0	4228610	35	1480014	5708624	0	5708624
	SUBTOTAL 2 CLEANUP	4228610	0.00	0	4228610	35	1480014	5708624	0	5708624
PROJECT TOTAL		5,405,012	0.00	0	5,405,012	35	1,891,755	7,296,767	0	7,296,767

FLUOR DANIEL NORTHWEST, INC.
PNNL
JOB NO. 65100801/1059
FILE NO. 2611SAA2

** IEST - INTERACTIVE ESTIMATING **
325 HAZARDOUS WASTE TREATMENT UNIT (HWTU)
STUDY
PHMCR03 - ESTIMATE BASIS SHEET

PAGE 3 OF 8
DATE 09/08/98 18:08:32
BY R.W. OHRT

1. ESTIMATE PURPOSE

=====

▼ ORDER OF MAGNITUDE ESTIMATE: THIS ESTIMATE WILL TO BE USED FOR BUDGETING PURPOSES ONLY.

2. ESTIMATE TECHNICAL BASIS

=====

A. THIS ESTIMATE HAS BEEN PREPARED FOR THE 325 BLDG CLEAN CLOSURE PROJECT AS REQUESTED BY FDNW PROJECT MANAGEMENT.

B. A DESCRIPTION OF THE TECHNICAL SCOPE OF WORK MAY BE FOUND IN THE FOLLOWING REFERENCE DOCUMENTS:

▼ REQUEST FOR ESTIMATE, DATED AUGUST 26, 1998.

3. ESTIMATE METHODOLOGY

=====

A. DIRECT COSTS:

A BOTTOMS-UP TECHNIQUE HAS BEEN UTILIZED IN THE PREPARATION OF THIS ESTIMATE.

(1) CONSTRUCTION LABOR, MATERIAL AND EQUIPMENT UNITS HAVE BEEN ESTIMATED BASED UPON ONE OR MORE OF THE FOLLOWING STANDARD COMMERCIAL ESTIMATING RESOURCES, PUBLISHED ESTIMATING MANUALS/DATABASES: ▼ IN HOUSE DATABASES ▼ R.S. MEANS ▼ RICHARDSON'S PROCESS PLANT CONSTRUCTION ESTIMATING STANDARDS ▼ NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION, INC. (NECA) MANUAL OF LABOR UNITS ▼ ELECTRICAL RESOURCES, INC. ELECTRICAL ESTIMATING PRICE AND LABOR MANUAL. THE UNITS MAY HAVE BEEN FACTORED/ADJUSTED BY THE ESTIMATOR AS APPROPRIATE TO REFLECT INFLUENCES BY CONTRACT, WORK SITE, OR OTHER IDENTIFIED PROJECT OR SPECIAL CONDITIONS.

B. DIRECT COST FACTORS:

(1) SALES TAX HAS BEEN APPLIED TO ALL MATERIALS AND EQUIPMENT PURCHASES AT 8%.
(2) SPECIAL WORK PROCEDURE (SWP) FACTORS ARE APPLIED AGAINST DIRECT LABOR FOR ACTUAL TIME LOST DUE TO THE PERSONNEL PROTECTIVE EQUIPMENT AND PROCEDURES. THE RATES WHICH HAVE BEEN APPLIED ARE AS FOLLOWS:
▼ PROTECTIVE CLOTHING FACTOR HAS BEEN APPLIED - 35%
▼ MASK WORK - 85% PLUS 15% FOR PROTECTIVE CLOTHING.

C. RATES:

(1) PNNL CRAFT & ENGINEERING RATES WERE PROVIDED BY PNNL AND INCLUDE ALL ADDERS.

4. ESCALATION

=====

ESCALATION IS NOT INCLUDED DUE TO THE LACK OF A CONSTRUCTION SCHEDULE.

5. CONTINGENCY

=====

A. DEFINITION OF CONTINGENCY AS PROVIDED BY DOE

"CONTINGENCY COVERS COSTS THAT MAY RESULT FROM INCOMPLETE DESIGN, UNFORESEEN AND UNPREDICTABLE CONDITIONS, OR UNCERTAINTIES WITHIN THE DEFINED PROJECT SCOPE. THE AMOUNT OF CONTINGENCY WILL DEPEND ON THE STATUS OF DESIGN, PROCUREMENT, AND CONSTRUCTION; AND THE COMPLEXITY AND UNCERTAINTIES OF THE COMPONENT PARTS OF THE PROJECT. CONTINGENCY IS NOT TO BE USED TO AVOID MAKING AN ACCURATE ASSESSMENT OF EXPECTED COST" (OFFICE OF WASTE MANAGEMENT (EM-30) COST AND SCHEDULE GUIDE.

B. CONTINGENCY ALLOWANCE GUIDELINES

THE DOE GUIDELINE CONTINGENCY ALLOWANCE FOR A:

▼ PLANNING ESTIMATE - STANDARD - 20% - 30%

▼ PLANNING ESTIMATE - EXPERIMENTAL/SPECIAL CONDITIONS - UP TO 50%

C. METHODOLOGY

CONTINGENCY IS EVALUATED AT THE LOWEST WORK BREAKDOWN STRUCTURE (WBS) LEVEL WITHIN THE COST ESTIMATE DETAILS. IT IS SUMMARIZED AT UPPER WBS LEVELS AND REPORTED ON THE SUMMARY REPORTS.

D. ANALYSIS

AN ASSESSMENT OF DESIGN MATURITY, WORK COMPLEXITY AND PROJECT UNCERTAINTIES HAS BEEN PERFORMED. AN EXPLANATION OF THIS ASSESSMENT AND CONTINGENCY RATES WHICH HAVE BEEN ADDED TO THE COST OF WORK ARE AS FOLLOWS:

WBS #111XXX "PNNL ENGINEERING": A CONTINGENCY OF 35% HAS BEEN APPLIED TO ALLOW FOR UNFORSEEN REGULATORY CONDITIONS WHEN FACILITY CLOSURE IS DUE TO OCCUR.
WBS #121XXX "SAMPLING/TESTING": A CONTINGENCY OF 35% HAS BEEN APPLIED TO ALLOW FOR UNFORSEEN REGULATORY CONDITIONS WHEN FACILITY CLOSURE IS DUE TO OCCUR.
WBS #212XXX "REMEDIAL CONSTR.": A CONTINGENCY OF 35% HAS BEEN APPLIED TO ALLOW FOR UNFORSEEN REGULATORY CONDITIONS WHEN FACILITY CLOSURE IS DUE TO OCCUR.

6. ROUNDING

=====

THE PROJECT COST SUMMARY REPORT IS SUMMARIZED AND ADJUSTED/ROUNDED AS FOLLOWS:
THE ESCALATED TOTAL COST COLUMN, CONTINGENCY TOTAL COLUMN AND TOTAL DOLLARS COLUMN SUB-TOTALS ARE SUMMARIZED BY CONTRACTOR. THE COLUMN SUBTOTALS ARE ADJUSTED/ROUNDED TO THE NEAREST \$1,000/\$10,000. THE PROJECT TOTAL SUMMARY LINE TOTALS ARE ADJUSTED/ROUNDED TO THE NEAREST \$10,000/\$100,000.

7. REMARKS

=====

MAJOR ASSUMPTIONS WHICH HAVE BEEN MADE IN THE PREPARATION OF THIS ESTIMATE ARE AS FOLLOWS:

- A.) THIS ESTIMATE IS BASED ON A PREVIOUS 325 FACILITY CLEAN CLOSURE ESTIMATE. MATERIAL AND LABOR COSTS HAVE BEEN UPDATED WHERE NECESSARY TO 1998 LEVELS.
- B.) PNNL PERSONNEL WILL PERFORM ALL DEFINITIVE DESIGN ENGINEERING, E&I DURING CONSTRUCTION, AND SAMPLING/TESTING ACTIVITIES. PNNL PERSONNEL WILL ALSO PERFORM ALL BUILDING DECONTAMINATION/DEMOLITION WORK. MANHOUR AND MATERIAL ESTIMATES FOR THESE ITEMS HAVE BEEN PROVIDED BY PNNL.
- C.) PNNL CRAFT AND ENGINEERING PERSONNEL RATES INCLUDE ALL MARK-UPS, AND WERE PROVIDED BY PNNL.
- D.) SOME AREAS OF DIFFICULTY AFFECTING THE COST ESTIMATE INCLUDE PREDICTING DECON EFFECTIVENESS AND POSSIBLE FUTURE RAD SPILLS, WHICH WOULD IMPACT JOB DURATION, RINSATE VOLUME, AND RAD DOSE LEVELS.
- E.) WBS STRUCTURE FOLLOWS PRECEDENT OF NRDWL CLOSURE ESTIMATES AND SUBSEQUENT ESTIMATES DONE FOR RCRA CLOSURES.
- F.) CLOSURE PLAN COSTS, CLOSURE CERTIFICATION COSTS, SAMPLE QUANTITIES, AND WORK PLAN COSTS WERE BASED ON PREVIOUS CLOSURES OF SIMILAR SCOPE OR PRORATED AMOUNT THEREOF.
- G.) CLOSURE ACTIVITIES WERE BASED ON AN ENGINEER'S BEST GUESS. THESE STRATEGIES ARE SUBJECT TO CHANGE AS NEW TECHNOLOGY BECOMES AVAILABLE OR EXISTING CONDITIONS CHANGE AT TIME OF CLOSURE.
- H.) ESTIMATE IS BASED ON FY-98 DOLLARS.

FLUOR DANIEL NORTHWEST, INC.
 PNNL
 JOB NO. 65100801/1059
 FILE NO. Z611SAA2

** IEST - INTERACTIVE ESTIMATING **
 325 HAZARDOUS WASTE TREATMENT UNIT (HWTU)
 STUDY
 PHMCR04 - COMPANY/WBS SUMMARY

PAGE 5 OF 8
 DATE 09/14/98 11:29:34
 BY R.W. OHRT

SORT CODE/WBS	DESCRIPTION	ESTIMATE SUBTOTAL	ESCALATION % TOTAL	SUB TOTAL	CONTINGENCY % TOTAL	SUB TOTAL	SITE ALLOCAT'N	TOTAL DOLLARS		
PNNL PACIFIC NW NATIONAL LABORATORY										
111100	CLOSURE PLAN PREPARATION	385500	0.00	0	385500	35	134925	520425	0	520425
111200	CLOSURE CERTIFICATION	100000	0.00	0	100000	35	35000	135000	0	135000
SUBTOTAL 111 PNNL ENGINEERING		485500	0.00	0	485500	35	169925	655425	0	655425
SUBTOTAL 11 DEFINITIVE DESIGN		485500	0.00	0	485500	35	169925	655425	0	655425
121000	WIPE SAMPLING	645000	0.00	0	645000	35	225750	870750	0	870750
121100	CORE SAMPLING	28500	0.00	0	28500	35	9975	38475	0	38475
121200	SOIL SAMPLING	4402	0.00	0	4402	35	1541	5943	0	5943
121400	VERIFICATION SAMPLING: BUILDING	8600	0.00	0	8600	35	3010	11610	0	11610
121500	VERIFICATION SAMPLING: SOIL	4400	0.00	0	4400	35	1540	5940	0	5940
SUBTOTAL 121 SAMPLING / TESTING		690902	0.00	0	690902	35	241816	932718	0	932718
SUBTOTAL 12 TITLE III ENGINEERING		690902	0.00	0	690902	35	241816	932718	0	932718
SUBTOTAL 1 ASSESSMENT		1176402	0.00	0	1176402	35	411741	1588143	0	1588143
212100	REMOVAL & DISPOSAL OF WASTE	1509743	0.00	0	1509743	35	528410	2038153	0	2038153
212200	DECONTAMINATE BUILDING	867265	0.00	0	867265	35	303543	1170808	0	1170808
212600	BUILDING RESTORATION	1402602	0.00	0	1402602	35	490911	1893513	0	1893513
SUBTOTAL 212 REMEDIAL CONSTRUCTION		3779610	0.00	0	3779610	35	1322864	5102474	0	5102474
213100	CONSTRUCTION ENGR/INSP	449000	0.00	0	449000	35	157150	606150	0	606150
SUBTOTAL 21 PROCUREMENT-ONSITE E/C		4228610	0.00	0	4228610	35	1480014	5708624	0	5708624
SUBTOTAL 2 CLEANUP		4228610	0.00	0	4228610	35	1480014	5708624	0	5708624
TOTAL PNNL PACIFIC NW NATIONAL LABORAT		5405012	0.00	0	5405012	35	1891755	7296767	0	7296767
PROJECT TOTAL		5,405,012	0.00	0	5,405,012	35	1,891,755	7,296,767	0	7,296,767

FLUOR DANIEL NORTHWEST, INC.
 PNNL
 JOB NO. 65100801/1059
 FILE NO. Z611SAA2

** IEST - INTERACTIVE ESTIMATING **
 325 HAZARDOUS WASTE TREATMENT UNIT (HWTU)
 STUDY
 PHMCR05 - CONSTRUCTION MANAGEMENT/OTHER COST SUMMARY

PAGE 6 OF 8
 DATE 09/14/98 11:29:37
 BY R.W. OHRT

WBS	DESCRIPTION	ESTIMATE SUBTOTAL	CONSTRUCTION MANAGEMENT		OTHER COSTS	SUB TOTAL	TOTAL
			%	TOTAL			
111100	CLOSURE PLAN PREPARATION	385500	0.00	0	0	0	385500
111200	CLOSURE CERTIFICATION	100000	0.00	0	0	0	100000
SUBTOTAL 111	PNNL ENGINEERING	485500		0	0	0	485500
SUBTOTAL 11	DEFINITIVE DESIGN	485500		0	0	0	485500
121000	WIPE SAMPLING	645000	0.00	0	0	0	645000
121100	CORE SAMPLING	28500	0.00	0	0	0	28500
121200	SOIL SAMPLING	4402	0.00	0	0	0	4402
121400	VERIFICATION SAMPLING: BUILDING	8600	0.00	0	0	0	8600
121500	VERIFICATION SAMPLING: SOIL	4400	0.00	0	0	0	4400
SUBTOTAL 121	SAMPLING / TESTING	1176402		0	0	0	1176402
SUBTOTAL 12	TITLE III ENGINEERING	1176402		0	0	0	1176402
SUBTOTAL 1	ASSESSMENT	1176402		0	0	0	1176402
212100	REMOVAL & DISPOSAL OF WASTE	1509743	0.00	0	0	0	1509743
212200	DECONTAMINATE BUILDING	867265	0.00	0	0	0	867265
212600	BUILDING RESTORATION	1402602	0.00	0	0	0	1402602
SUBTOTAL 212	REMEDIAL CONSTRUCTION	3779610		0	0	0	3779610
213100	CONSTRUCTION ENGR/INSP	449000	0.00	0	0	0	449000
SUBTOTAL 21	PROCUREMENT-ONSITE E/C	4228610		0	0	0	4228610
SUBTOTAL 2	CLEANUP	4228610		0	0	0	4228610
PROJECT TOTAL		5,405,012		0	0	0	5,405,012

FLUOR DANIEL NORTHWEST, INC.
 PNNL
 JOB NO. 65100801/1059
 FILE NO. Z611SAA2

** IEST - INTERACTIVE ESTIMATING **
 325 HAZARDOUS WASTE TREATMENT UNIT (HWTU)
 STUDY
 PHMCR06 - SITE ALLOCATIONS BY WBS

PAGE 7 OF 8
 DATE 09/14/98 11:28:59
 BY R.W. OHRT

WBS	DESCRIPTION	ESTIMATE SUBTOTAL	DYN EQ.USAGE	FDH GFS/G&A CONST.MGMT	FDH MPR F.P./S.C.	FDH GFS/G&A LABOR	FDH MPR/G&A MATERIAL	SITE ALLOC SUBTOTAL
111100	CLOSURE PLAN PREPARATION	385500	0	0	0	0	0	0
111200	CLOSURE CERTIFICATION	100000	0	0	0	0	0	0
	SUBTOTAL 111 PNNL ENGINEERING	485500	0	0	0	0	0	0
	SUBTOTAL 11 DEFINITIVE DESIGN	485500	0	0	0	0	0	0
121000	WIPE SAMPLING	645000	0	0	0	0	0	0
121100	CORE SAMPLING	28500	0	0	0	0	0	0
121200	SOIL SAMPLING	4402	0	0	0	0	0	0
121400	VERIFICATION SAMPLING: BUILDING	8600	0	0	0	0	0	0
121500	VERIFICATION SAMPLING: SOIL	4400	0	0	0	0	0	0
	SUBTOTAL 121 SAMPLING / TESTING	690902	0	0	0	0	0	0
	SUBTOTAL 12 TITLE III ENGINEERING	690902	0	0	0	0	0	0
	SUBTOTAL 1 ASSESSMENT	1176402	0	0	0	0	0	0
212100	REMOVAL & DISPOSAL OF WASTE	1509743	0	0	0	0	0	0
212200	DECONTAMINATE BUILDING	867265	0	0	0	0	0	0
212600	BUILDING RESTORATION	1402602	0	0	0	0	0	0
	SUBTOTAL 212 REMEDIAL CONSTRUCTION	3779610	0	0	0	0	0	0
213100	CONSTRUCTION ENGR/INSP	449000	0	0	0	0	0	0
	SUBTOTAL 21 PROCUREMENT-ONSITE E/C	4228610	0	0	0	0	0	0
	SUBTOTAL 2 CLEANUP	4228610	0	0	0	0	0	0
PROJECT TOTAL		5,405,012	0	0	0	0	0	0

FLUOR DANIEL NORTHWEST, INC.
 PNNL
 JOB NO. 65100801/1059
 FILE NO. 2611SAA2

** IEST - INTERACTIVE ESTIMATING **
 325 HAZARDOUS WASTE TREATMENT UNIT (HWTU)
 STUDY
 PHMCRO7 - SITE ALLOCATION ESCALATION/CONTINGENCY REPORT

PAGE 8 OF 8
 DATE 09/14/98 11:29:40
 BY R.W. OHRT

WBS	DESCRIPTION	SITE ALLOC SUBTOTAL	ESCALATION		SUB TOTAL	CONTINGENCY		TOTAL DOLLARS
			%	TOTAL		%	TOTAL	
111100	CLOSURE PLAN PREPARATION	0	0.00	0	0	0	0	0
111200	CLOSURE CERTIFICATION	0	0.00	0	0	0	0	0
	SUBTOTAL 111 PNNL ENGINEERING	0	0.00	0	0	0	0	0
	SUBTOTAL 11 DEFINITIVE DESIGN	0	0.00	0	0	0	0	0
121000	WIPE SAMPLING	0	0.00	0	0	0	0	0
121100	CORE SAMPLING	0	0.00	0	0	0	0	0
121200	SOIL SAMPLING	0	0.00	0	0	0	0	0
121400	VERIFICATION SAMPLING: BUILDING	0	0.00	0	0	0	0	0
121500	VERIFICATION SAMPLING: SOIL	0	0.00	0	0	0	0	0
	SUBTOTAL 121 SAMPLING / TESTING	0	0.00	0	0	0	0	0
	SUBTOTAL 12 TITLE III ENGINEERING	0	0.00	0	0	0	0	0
	SUBTOTAL 1 ASSESSMENT	0	0.00	0	0	0	0	0
212100	REMOVAL & DISPOSAL OF WASTE	0	0.00	0	0	0	0	0
212200	DECONTAMINATE BUILDING	0	0.00	0	0	0	0	0
212600	BUILDING RESTORATION	0	0.00	0	0	0	0	0
	SUBTOTAL 212 REMEDIAL CONSTRUCTION	0	0.00	0	0	0	0	0
213100	CONSTRUCTION ENGR/INSP	0	0.00	0	0	0	0	0
	SUBTOTAL 21 PROCUREMENT-ONSITE E/C	0	0.00	0	0	0	0	0
	SUBTOTAL 2 CLEANUP	0	0.00	0	0	0	0	0
<hr/>								
PROJECT TOTAL		0	0.00	0	0	0	0	0

FLUOR DANIEL NORTHWEST, INC.
 PNNL
 JOB NO. 65100801/1059
 FILE NO. Z611SAA2

** IEST - INTERACTIVE ESTIMATING **
 325 HAZARDOUS WASTE TREATMENT UNIT (HWTU)
 STUDY
 PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 1
 DATE 09/14/98 11:29:43
 BY R.W. OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
111100	CLOSURE PLAN PREPARATION										
111100.00	TECHNICAL SERVICES										
111100.0000000	***** CLOSURE PLAN *****	000	0	0	0	0	0	0	0	0	0
111100.0000002	THE PREPARATION OF THE CLOSURE PLAN FOR THE 325 BUILDING INCLUDES: 1.5 FULL TIME EQUIVALENTS FOR 14 MONTHS.	000	1 LS	0	0	0	0	385500	0	0	385500
111100.0000003	ALSO INCLUDED IS : PREPARATION OF WASTE INVENTORY, SAMPLING	000	0	0	0	0	0	0	0	0	0
111100.0000004	ANALYSIS PLAN, HEALTH AND SAFETY PLAN, AND QUALITY ASSURANCE PROJECT PLAN.	000	0	0	0	0	0	0	0	0	0
SUBTOTAL TECHNICAL SERVICES				0	0	0	0	385,500	0	0	385,500
TOTAL COST CODE 00000				0	0	0	0	385,500	0	0	385,500
WBS 111100 (ESCALATION 0.00% - CONTINGENCY 35.00 %)											
TOTAL WBS 111100 CLOSURE PLAN PREPARATION				0	0	0	0	385,500	0	0	385,500

FLUOR DANIEL NORTHWEST, INC.
 PNNL
 JOB NO. 65100801/1059
 FILE NO. Z611SAA2

** IEST - INTERACTIVE ESTIMATING **
 325 HAZARDOUS WASTE TREATMENT UNIT (HWTU)
 STUDY
 PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 2
 DATE 09/14/98 11:29:43
 BY R.W. OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
111200	CLOSURE CERTIFICATION										
111200.00	TECHNICAL SERVICES										
111200.0000000	***** CLOSURE CERTIFICATION *****	000	0	0	0	0	0	0	0	0	0
111200.0000002	PREPARATION BY A PROFESSIONAL ENGINEER. REVIEW CLOSURE PLAN, INSPECT AND VERIFY CLOSURE ACTIVITIES, PREPARE	000	1 LS	0	0	0	0	100000	0	0	100000
111200.0000003	REPORT ON CLOSURE CERTIFICATION. (ALLOWANCE)	000	0	0	0	0	0	0	0	0	0
SUBTOTAL TECHNICAL SERVICES				0	0	0	0	100,000	0	0	100,000
TOTAL COST CODE 00000				0	0	0	0	100,000	0	0	100,000
WBS 111200 (ESCALATION 0.00% - CONTINGENCY 35.00 %)					0		0		0		100,000
TOTAL WBS 111200 CLOSURE CERTIFICATION				0	0	0	0	100,000	0	0	100,000

FLUOR DANIEL NORTHWEST, INC.
 PNNL
 JOB NO. 65100801/1059
 FILE NO. Z611SAA2

** IEST - INTERACTIVE ESTIMATING **
 325 HAZARDOUS WASTE TREATMENT UNIT (HWTU)
 STUDY
 PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 3
 DATE 09/14/98 11:29:43
 BY R.W. OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
121000	WIPE SAMPLING										
121000.00	TECHNICAL SERVICES										
121000.0000000	***** WIPE SAMPLES *****	000	0	0	0	0	0	0	0	0	0
121000.0000002	COLLECT WIPE SAMPLES @ \$300 EA. (83 - HOODS, 7 - GLOVEBOXES, 20 - FLOOR, 20 - WALLS, 20 - MISC)	000	150 EA	0	0	0	0	45000	0	0	45000
121000.0000004	SAMPLE ANALYTICAL COSTS @ \$4000 EA.	000	150 EA	0	0	0	0	600000	0	0	600000

SUBTOTAL	TECHNICAL SERVICES			0	0	0	0	645,000	0	0	645,000

TOTAL	COST CODE 00000 WBS 121000 (ESCALATION 0.00% - CONTINGENCY 35.00 %)			0	0	0	0	645,000	0	0	645,000

TOTAL WBS 121000	WIPE SAMPLING			0	0	0	0	645,000	0	0	645,000

FLUOR DANIEL NORTHWEST, INC.
 PNNL
 JOB NO. 65100801/1059
 FILE NO. Z611SAA2

** IEST - INTERACTIVE ESTIMATING **
 325 HAZARDOUS WASTE TREATMENT UNIT (HWTU)
 STUDY
 PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 4
 DATE 09/14/98 11:29:43
 BY R.W. OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
121100	CORE SAMPLING										
121100.00	TECHNICAL SERVICES										
121100.0000000	***** CORE SAMPLES *****	000	0	0	0	0	0	0	0	0	0
121100.0000001	COLLECT CORE SAMPLES IN BASEMENT, ROOM 32, IN AREA OF TANK OVERFLOW @ \$1700 EA.	000	5 EA	0	0	0	0	8500	0	0	8500
121100.0000003	SAMPLE ANALYTICAL COSTS @ \$4000 EA.	000	5 EA	0	0	0	0	20000	0	0	20000
SUBTOTAL TECHNICAL SERVICES					0	0	0	28,500	0	0	28,500
TOTAL COST CODE 00000					0	0	0	28,500	0	0	28,500
WBS 121100 (ESCALATION 0.00% - CONTINGENCY 35.00 %)											
TOTAL WBS 121100 CORE SAMPLING					0	0	0	28,500	0	0	28,500

FLUOR DANIEL NORTHWEST, INC.
 PNNL
 JOB NO. 65100801/1059
 FILE NO. Z611SAA2

** IEST - INTERACTIVE ESTIMATING **
 325 HAZARDOUS WASTE TREATMENT UNIT (HWTU)
 STUDY
 PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 5
 DATE 09/14/98 11:29:43
 BY R.W. OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
121200	SOIL SAMPLING										
121200.00	TECHNICAL SERVICES										
121200.0000000	***** SOIL SAMPLING *****	000	0	0	0	0	0	0	0	0	0
121200.0000001	ASSUME 20% OF CORE SAMPLES REQUIRE SOIL SAMPLING, IN THIS CASE, ONE SAMPLE.	000	1 EA	4	402	0	0	0	0	0	402
121200.0000004	ANALYTICAL COSTS @ \$4000 EA.	000	1 EA	0	0	0	0	4000	0	0	4000
SUBTOTAL TECHNICAL SERVICES				4	402	0	0	4,000	0	0	4,402
TOTAL COST CODE 00000 WBS 121200 (ESCALATION 0.00% - CONTINGENCY 35.00 %)				4	402	0	0	4,000	0	0	4,402
TOTAL WBS 121200 SOIL SAMPLING				4	402	0	0	4,000	0	0	4,402

FLUOR DANIEL NORTHWEST, INC.
 PNNL
 JOB NO. 65100801/1059
 FILE NO. Z611SAA2

** IEST - INTERACTIVE ESTIMATING **
 325 HAZARDOUS WASTE TREATMENT UNIT (HWTU)
 STUDY
 PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 6
 DATE 09/14/98 11:29:44
 BY R.W. OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
121400	VERIFICATION SAMPLING: BUILDING										
121400.00	TECHNICAL SERVICES										
121400.00000000	***** VERIFICATION SAMPLING: BUILDING CONCRETE SAMPLES *****	000	0	0	0	0	0	0	0	0	0
121400.00000002	30% OF WBS 121100	000	1 LS	0	0	0	0	8600	0	0	8600

SUBTOTAL	TECHNICAL SERVICES			0	0	0	0	8,600	0	0	8,600

TOTAL	COST CODE 00000			0	0	0	0	8,600	0	0	8,600
	WBS 121400				0		0		0		8,600
	(ESCALATION 0.00% - CONTINGENCY 35.00 %)										

TOTAL WBS 121400	VERIFICATION SAMPLING: BUILDING			0	0	0	0	8,600	0	0	8,600

FLUOR DANIEL NORTHWEST, INC.
 PNNL
 JOB NO. 65100801/1059
 FILE NO. Z611SAA2

** IEST - INTERACTIVE ESTIMATING **
 325 HAZARDOUS WASTE TREATMENT UNIT (HWTU)
 STUDY
 PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 7
 DATE 09/14/98 11:29:44
 BY R.W. OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
121500	VERIFICATION SAMPLING: SOIL										
121500.00	TECHNICAL SERVICES										
121500.0000000	***** VERIFICATION SAMPLING: SOIL ***** 100% OF WBS 121200	000	1 LS	0	0	0	0	4400	0	0	4400

SUBTOTAL	TECHNICAL SERVICES			0	0	0	0	4,400	0	0	4,400

TOTAL	COST CODE 00000 WBS 121500 (ESCALATION 0.00% - CONTINGENCY 35.00%)			0	0	0	0	4,400	0	0	4,400

TOTAL WBS 121500	VERIFICATION SAMPLING: SOIL			0	0	0	0	4,400	0	0	4,400

FLUOR DANIEL NORTHWEST, INC.
 PNNL
 JOB NO. 65100801/1059
 FILE NO. Z611SAA2

** IEST - INTERACTIVE ESTIMATING **
 325 HAZARDOUS WASTE TREATMENT UNIT (HWTU)
 STUDY
 PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 9
 DATE 09/14/98 11:29:44
 BY R.W. OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
212100.0200210	***** REMOVE & DISPOSE OF WASTE, ALLOWANCE OF 5 MEN, 5 DAYS	501 W	1 LS	200	10496	0	0	0	0	0	10496
212100.0200220	BURIAL COST FOR 50 DRUMS OF RMW @ \$1200 EA.	501 W	50 EA	0	0	0	0	60000	0	0	60000

SUBTOTAL	SITWORK	(SWP)		3,134		0		60,000		0	
	SWP 35.00%				216,728		127,000		0		403,728
	SALES TAX 8.00 %			1096	75854				0		75854
							10160		0		10160

TOTAL	COST CODE 50102			4,230		0		60,000		0	
	WBS 212100				292,582		137,160		0		489,742
	(ESCALATION 0.00% - CONTINGENCY 35.00 %)										

TOTAL WBS 212100	REMOVAL & DISPOSAL OF WASTE			4,230		0		1,080,000		0	
					292,582		137,160		0		1,509,742

FLUOR DANIEL NORTHWEST, INC.
 PNNL
 JOB NO. 65100801/1059
 FILE NO. 2611SAA2

** IEST - INTERACTIVE ESTIMATING **
 325 HAZARDOUS WASTE TREATMENT UNIT (HWTU)
 STUDY
 PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 10
 DATE 09/14/98 11:29:44
 BY R.W. OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
212200	DECONTAMINATE BUILDING										
212200.01	GENERAL REQUIRMENTS										
212200.0100402	BURIAL COSTS, 70 DRUMS AT \$1200 EA.	501	70 EA	0	0	0	0	84000	0	0	84000

SUBTOTAL	GENERAL REQUIRMENTS			0	0	0	0	84,000	0	0	84,000

TOTAL	COST CODE 50101			0	0	0	0	84,000	0	0	84,000
	WBS 212200				0		0				84,000
	(ESCALATION 0.00% - CONTINGENCY 35.00 %)										
212200.01	GENERAL REQUIRMENTS										
212200.0100000	***** GREENHOUSE - RM 601/603 *****	501 W	0	0	0	0	0	0	0	0	0
212200.0100002	CONSTRUCT GREENHOUSES FOR 2 CELLS, UTILIZE HEPA FILTRATION AND FRESH AIR.	501 W	2 EA	400	28116	5000	3000	0	0	0	36116
212200.0100200	***** GREENHOUSE - RM 32 *****	501 W	0	0	0	0	0	0	0	0	0
212200.0100202	SPELL AREA, RM 32 CONSTRUCT 20 X 30 GREENHOUSE WITH HEPA FILTRATION AND FRESH AIR.	501 W	1 EA	320	22493	5000	5000	0	0	0	32493
212200.0100300	***** GREENHOUSE - RM 201 *****	501 W	0	0	0	0	0	0	0	0	0
212200.0100302	CONSTRUCT GREENHOUSES FOR 6 CELLS, UTILIZE HEPA FILTRATION AND FRESH AIR.	501 W	6 EA	1200	84348	15000	9000	0	0	0	108348
212200.0100400	***** GREENHOUSE - DISPOSAL *****	501 W	0	0	0	0	0	0	0	0	0
212200.0100401	CUT UP GREENHOUSES, PUT INTO DRUMS, HAUL TO DISPOSAL	501 W	70 EA	105	7380	0	8750	0	0	0	16130

SUBTOTAL	GENERAL REQUIRMENTS	(SWP)		2,025		25,000		0	0	0	
	SWP 35.00%			708	142,337		25,750		0		193,087
					49817						49817

FLUOR DANIEL NORTHWEST, INC.
 PNNL
 JOB NO. 65100801/1059
 FILE NO. Z611SAA2

** IEST - INTERACTIVE ESTIMATING **
 325 HAZARDOUS WASTE TREATMENT UNIT (HWTU)
 STUDY
 PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 11
 DATE 09/14/98 11:29:44
 BY R.W. OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
	SALES TAX 8.00 %						2060		0		2060
TOTAL	COST CODE 50101			2,733		25,000		0	0	0	
	WBS 212200				192,154		27,810		0		244,964
	(ESCALATION 0.00% - CONTINGENCY 35.00 %)										
212200.02	SITWORK										
212200.0200012	DRUM DISPOSAL COST AT \$1200/DRUM.	501	15 EA	0	0	0	0	18000	0	0	18000
212200.0200214	BURIAL CHARGES @ \$1200/DRUM	501	2 EA	0	0	0	0	2400	0	0	2400
212200.0200312	DRUM DISPOSAL COST AT \$1200/DRUM.	501	45 EA	0	0	0	0	54000	0	0	54000
SUBTOTAL	SITWORK			0	0	0		74,400	0	0	74,400
TOTAL	COST CODE 50102			0		0		74,400	0	0	
	WBS 212200				0		0		0		74,400
	(ESCALATION 0.00% - CONTINGENCY 35.00 %)										
212200.02	SITWORK										
212200.0200000	***** BUILDING DECONTAMINATION *****	501 W	0	0	0	0	0	0	0	0	0
212200.0200001	***** CLEAN HOT CELLS - RM 601/603 *****	501 W	0	0	0	0	0	0	0	0	0
212200.0200002	REMOVE MANIPULATORS, DECONTAMINATE AND OVERHAUL	501 W	4 EA	0	0	0	0	80000	0	0	80000
212200.0200004	WIPE DOWN HOT CELLS, SPRAY DOWN WITH CERIUM NITRATE, RINSE, REPEAT AS NECESSARY. 3 MEN/2 DAYS PER CELL	501 W	2 EA	96	6748	0	0	0	0	0	6748
212200.0200006	CUT UP MATERIALS, EXTRUDER, INSTRUMENTS, ETC., PUT INTO 5 GALLON CANS. ASSUME 15 CANS PER CELL (2 CELLS).	501 W	2 EA	48	3374	0	600	0	0	0	3974
212200.0200010	PUT CANS INTO 55 GAL DRUMS, 2 CANS PER DRUM.	501 W	15 EA	15	1054	0	2250	0	0	0	3304
212200.0200020	RENOVATE WINDOWS, 4 FT THICK WITH 60 GAL OF OIL BETWEEN PANES, SUBCONTRACTOR WORK,	501 W	2 EA	0	0	0	0	40000	0	0	40000

FLUOR DANIEL NORTHWEST, INC.
 PNNL
 JOB NO. 65100801/1059
 FILE NO. 2611SAA2

** IEST - INTERACTIVE ESTIMATING **
 325 HAZARDOUS WASTE TREATMENT UNIT (HWTU)
 STUDY
 PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 12
 DATE 09/14/98 11:29:44
 BY R.W. OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
212200.0200200	HOTCELL SERVICES. (ALLOW) ***** CLEAN FLOOR SPILL AREA RM 32 *****	501 W	0	0	0	0	0	0	0	0	0
212200.0200202	BUSH HAMMER AND HEPA VACUUM APPROX 20 X 30 FT AREA.	501 W	1 LS	120	8435	2500	500	0	0	0	11435
212200.0200208	REPAIR FLOOR AREA, LEVEL WITH NON-SHRINK GROUT.	501 W	600 SF	0	0	0	0	9000	0	0	9000
212200.0200210	EPOXY COATING FOR ENTIRE ROOM 32 FLOOR.	501 W	1800 SF	0	0	0	0	7200	0	0	7200
212200.0200212	DRUM UP DEBRIS, PUT INTO DRUMS, HAUL TO DISPOSAL	501 W	2 EA	3	211	0	300	0	0	0	511
212200.0200300	***** CLEAN HOT CELLS - RM 201 *****	501 W	0	0	0	0	0	0	0	0	0
212200.0200302	REMOVE MANIPULATORS, DECON- TAMINATE AND OVERHAUL	501 W	6 EA	0	0	0	0	120000	0	0	120000
212200.0200304	WIPE DOWN HOT CELLS, SPRAY DOWN WITH CERIUM NITRATE, RINSE, REPEAT AS NECESSARY. 3 MEN/2 DAYS PER CELL	501 W	6 EA	288	20244	0	0	0	0	0	20244
212200.0200306	CUT UP MATERIALS, EXTRUDER, INSTRUMENTS, ETC., PUT INTO 5 GALLON CANS. ASSUME 15 CANS PER CELL (6 CELLS).	501 W	6 EA	144	10122	0	1800	0	0	0	11922
212200.0200310	PUT CANS INTO 55 GAL DRUMS, 2 CANS PER DRUM.	501 W	45 EA	45	3163	0	6750	0	0	0	9913
212200.0200320	RENOVATE WINDOWS, 4 FT THICK WITH 60 GAL OF OIL BETWEEN PANES, SUBCONTRACTOR WORK, HOTCELL SERVICES. (ALLOW)	501 W	6 EA	0	0	0	0	120000	0	0	120000

SUBTOTAL	SITWORK	(SWP)		759		2,500		376,200		0	
	SWP 35.00%			265	53,351		12,200		0		444,251
	SALES TAX 8.00 %				18672		976		0		18672
											976

TOTAL	COST CODE 50102			1,024		2,500		376,200		0	
	WBS 212200				72,023		13,176		0		463,899
	(ESCALATION 0.00% - CONTINGENCY 35.00 %)										

TOTAL WBS 212200	DECONTAMINATE BUILDING			3,758		27,500		534,600		0	
					264,178		40,986		0		867,264

FLUOR DANIEL NORTHWEST, INC.
 PNNL
 JOB NO. 65100801/1059
 FILE NO. Z611SAA2

** IEST - INTERACTIVE ESTIMATING **
 325 HAZARDOUS WASTE TREATMENT UNIT (HWTU)
 STUDY
 PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 13
 DATE 09/14/98 11:29:44
 BY R.W. OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
212600	BUILDING RESTORATION										
212600.15	MECHANICAL										
212600.1500000	***** REFURBISH *****	501	0	0	0	0	0	0	0	0	0
212600.1500002	INSTALL NEW HOODS	501	83 EA	3320	233363	0	996000	0	0	0	1229363
212600.1500100	INSTALL NEW DRAIN SYSTEM: FROM HOT CELLS A, B, AND C TO SLAB TANKS	501	0	0	0	0	0	0	0	0	0
212600.1500102	1" PIPE, SST	501	120 LF	17	1195	0	840	0	0	0	2035
212600.1500104	2" PIPE, SST	501	70 LF	13	914	0	945	0	0	0	1859
212600.1500106	1" ELBOW, SST, BW	501	20 EA	1	70	0	240	0	0	0	310
212600.1500108	2" ELBOW, SST, BW	501	10 EA	2	141	0	200	0	0	0	341
212600.1500110	1" BUTTWELD, FAB SHOP	501	35 EA	105	7380	0	35	0	0	0	7415
212600.1500112	1" BUTTWELD, FIELD (MASK)	501	9 EA	76	5342	0	9	0	0	0	5351
212600.1500114	2" BUTTWELD, FAB SHOP	501	17 EA	77	5412	0	34	0	0	0	5446
212600.1500116	2" BUTTWELD, FIELD (MASK)	501	5 EA	51	3585	0	10	0	0	0	3595
212600.1500120	SLAB TANKS TO TRANSFER STATION	501	0	0	0	0	0	0	0	0	0
212600.1500122	1/2" PIPE, SST	501	300 LF	42	2952	0	1350	0	0	0	4302
212600.1500124	1/2" ELBOW, SST BW	501	50 EA	4	281	0	600	0	0	0	881
212600.1500126	1/2" BUTTWELD - FAB SHOP	501	90 EA	270	18978	0	90	0	0	0	19068
212600.1500128	1/2" BUTTWELD - MASK	501	20 EA	168	11809	0	20	0	0	0	11829
212600.1500130	TRANSFER STATION TO LIQUID TRANSFER HOOD	501	0	0	0	0	0	0	0	0	0
212600.1500132	1/2" PIPE, SST	501	90 LF	13	914	0	405	0	0	0	1319
212600.1500134	1/2" ELBOW, SST BW	501	36 EA	3	211	0	432	0	0	0	643
212600.1500136	1/2" BUTTWELD - FAB SHOP	501	64 EA	192	13496	0	64	0	0	0	13560
212600.1500138	1/2" BUTTWELD - MASK	501	20 EA	168	11809	0	20	0	0	0	11829
212600.1500140	ALLOWANCE FOR HANGERS	501	1 LS	40	2812	0	500	0	0	0	3312

SUBTOTAL	MECHANICAL			4,562		0		0		0	
	SALES TAX 8.00 %				320,664		1,001,794		0		1,322,458
							80143		0		80143

TOTAL	COST CODE 50115			4,562		0		0		0	
	WBS 212600				320,664		1,081,937		0		1,402,601
	(ESCALATION 0.00% - CONTINGENCY 35.00 %)										

TOTAL WBS 212600	BUILDING RESTORATION			4,562		0		0		0	
					320,664		1,081,937		0		1,402,601

FLUOR DANIEL NORTHWEST, INC.
 PNNL
 JOB NO. 65100801/1059
 FILE NO. 2611SAA2

** IEST - INTERACTIVE ESTIMATING **
 325 HAZARDOUS WASTE TREATMENT UNIT (HWTU)
 STUDY
 PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 14
 DATE 09/14/98 11:29:45
 BY R.W. OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB-CONTRACT	EQUIP-MENT	OH&P / B & I	TOTAL DOLLARS
213100	CONSTRUCTION ENGR/INSP										
213100.00	TECHNICAL SERVICES										
213100.0000000	***** CONSTRUCTION ENGR/INSP ***** @ 10% OF CONSTRUCTION COSTS	501	1 LS	0	0	0	0	449000	0	0	449000

SUBTOTAL	TECHNICAL SERVICES			0		0		449,000	0	0	449,000

TOTAL	COST CODE 50100 WBS 213100 (ESCALATION 0.00% - CONTINGENCY 35.00 %)			0		0		449,000	0	0	449,000

TOTAL WBS 213100	CONSTRUCTION ENGR/INSP			0		0		449,000	0	0	449,000

FLUOR DANIEL NORTHWEST, INC.
 PNNL
 JOB NO. 65100801/1059
 FILE NO. 2611SAA2

** IEST - INTERACTIVE ESTIMATING **
 325 HAZARDOUS WASTE TREATMENT UNIT (HWTU)
 STUDY
 PHMCR08 - ESTIMATE DETAIL BY WBS / COST CODE

PAGE 15
 DATE 09/14/98 11:29:45
 BY R.W. OHRT

ACCOUNT NUMBER	DESCRIPTION	COST CODE	QUANTITY	MANHOURS	LABOR	EQUIP USAGE	MATERIAL	SUB- CONTRACT	EQUIP- MENT	OH&P / B & I	TOTAL DOLLARS
REPORT TOTAL				12,555	877,827	27,500	1,260,083	3,239,600	0		5,405,011

183-H SOLAR EVAPORATION BASINS

183-H Solar Evaporation Basins (183-H) postclosure and groundwater monitoring plans were approved and incorporated into the HF RCRA Permit in FY 1997. The plans call for a 30-year controlled period during which postclosure activities will be performed. Postclosure activities will include inspections, groundwater monitoring, and well maintenance, as well as administrative permit compliance activities such as cost estimating and reporting. Postclosure activities are scheduled to be completed in FY 2027 and will culminate in postclosure certification. Estimates incorporate necessary materials, subcontracts, and equipment. Based on information from site investigations and project expertise, the total cost of postclosure activities is estimated at \$2.0 million (1998 dollars). A schedule and cost estimate package on the following pages includes a time line for costs and hours as well as a single year detail of equipment and labor.

The estimate consists of costs for groundwater monitoring, well maintenance and inspections, and permit compliance activities. Groundwater monitoring includes quarterly review, annual reports, data management, sample and well measurement collection and analysis, and potential revision of the groundwater monitoring plan. The well maintenance component includes estimates for well and surface inspections. Well maintenance is based on a rate of two maintenance tasks per year and routine maintenance on a rolling five-year cycle. It should be noted that, during the first five years of well maintenance, a modified groundwater monitoring program has been accepted because groundwater beneath 183-H is within the hydraulic influence of a pump-and-treat operation. For the remainder of the estimating period, it is assumed that the monitoring network originally proposed for the unit will be re-established. Estimates for permit compliance include preparation, review, and issuance of applicable reports and plans, and maintenance of the operating record.

**183-H SOLOR EVAPORATION BASINS
POST CLOSURE
TIME LINE COSTS
(in 1998 Dollars)**

BECHTEL HANFORD Inc.

Title: Summary

Job Number / Charge # R183HB Y120

File: D:\ReadWrite\ESTIMATE\374_183-H Post Closure\374_POST CLOSURE.xls\TIME LINE COSTS

ITEM	Description	FY																
		1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
1	NON-ROUTINE MAINTENANCE OF GROUNDWATER WELLS (2 WELLS PER YR FY 98-FY02 AND 3 WELLS PER YR FY03-FY27)	\$ 6,035	\$ 6,035	\$ 6,035	\$ 6,035	\$ 8,726	\$ 8,726	\$ 8,726	\$ 8,726	\$ 8,726	\$ 8,726	\$ 8,726	\$ 8,726	\$ 8,726	\$ 8,726	\$ 8,726	\$ 8,726	\$ 8,726
2	ROUTINE GW WELL SUBSURFACE MAINTENANCE (2 WELLS PER YR FOR FY01, 08, 11, 16, 21, 26 AND 3 WELLS PER YR FOR FY00, 02, 05, 07, 10, 12, 15, 17, 20, 22, 25, 27)		\$ 12,777	\$ 10,395	\$ 12,777			\$ 12,777	\$ 10,395	\$ 12,777			\$ 12,777	\$ 10,395	\$ 12,777			\$ 12,777
3	COST ESTIMATE FOR POST-CLOSURE MONITORING & MAINTENANCE	\$ 1,664	\$ 1,664	\$ 1,664	\$ 1,664	\$ 1,664	\$ 1,664	\$ 1,664	\$ 1,664	\$ 1,664	\$ 1,664	\$ 1,664	\$ 1,664	\$ 1,664	\$ 1,664	\$ 1,664	\$ 1,664	\$ 1,664
4	PERMIT COMPLIANCE (ADDITIONAL COST IN FY03 FOR CLASS 3 MODIFICATION TO THE PERMIT TO ADDRESS A FINAL ROD AND REVISED GROUNDWATER MONITORING PLAN (AT PUMP & TREAT COMPLETION)	\$ 6,632	\$ 6,632	\$ 15,687	\$ 6,632	\$ 22,319	\$ 6,632	\$ 6,632	\$ 6,632	\$ 6,632	\$ 6,632	\$ 6,632	\$ 6,632	\$ 6,632	\$ 6,632	\$ 6,632	\$ 6,632	\$ 6,632
5	GROUNDWATER MONITORING (4 WELLS PER YEAR FOR FY98-FY02, 4 WELLS PER YR PLUS GROUNDWATER MONITORING PLAN REVISIONS FOR FY03 AND 8 WELLS PER YEAR FOR FY04-FY27)	\$ 25,958	\$ 25,958	\$ 25,958	\$ 25,958	\$ 46,378	\$ 46,355	\$ 46,355	\$ 46,355	\$ 46,355	\$ 46,355	\$ 46,355	\$ 46,355	\$ 46,355	\$ 46,355	\$ 46,355	\$ 46,355	\$ 46,355
6	POST CLOSURE CERTIFICATION																	
TOTAL (in 1998 Dollars)		\$ 40,289	\$ 53,066	\$ 59,739	\$ 53,066	\$ 79,087	\$ 63,377	\$ 76,154	\$ 73,772	\$ 76,154	\$ 63,377	\$ 63,377	\$ 76,154	\$ 73,772	\$ 76,154	\$ 63,377	\$ 63,377	\$ 76,154

DD AND G&A ARE PER, "FY 98 ALL IN WAGE RATES FOR BHI, THI, HAMTC BY RESOURCE CODE", TRACKING NO. 052378.
 ERC WAGE RATES PER, "ERC & HAMTC DIRECT LABOR WAGE RATES FY 1998 REV 2", (BASED ON, "FY 98 ALL IN WAGE
 RATES FOR BHI, THI, HAMTC, NO. 052378)
 PRIME SUBCONTRACTOR WAGE RATES, PAYROLL ADDS AND FRINGES, PER "SUBCONTRACT BUILDING TRADES FY 1998 PRIME
 SUBCONTRACTOR DIRECT LABOR
 ALL WAGE RATES INCLUDE 4% OVERTIME.
 MATERIAL SALES TAX, CURRENT RATE 6%. SALES TAX NOT APPLIED TO EQUIPMENT (OWNER OPERATOR). SALES TAX WOULD APPLY IF IT IS RENTAL EQUIPMENT.
 ALL COSTS ARE AT 1998 DOLLARS.
 PRIME SUBCONTRACTOR WAGE RATES, PAYROLL ADDS AND FRINGES, PER "BUILDING TRADES FY 1997 PRIME SUBCONTRACTOR DIRECT LABOR WAGE RATES" REV. DATE
 4/11/97 (BASED ON HSSA)
 PRIME CONTRACTOR MARKUP, PER "PRIME CONTRACTOR (SUBCONTRACTOR TO ERC TEAM) MARKUP TABLE FOR BUILDING TRADES", REV. DATE 11/21/95
 PNNL COST USED THE LATEST DOE-RL APPROVED RATES.
 SOURCES OF INFORMATION ARE LISTED AS FOLLOWS:
 ITEMS 1 & 2, HOURS AND COSTS PROVIDED BY FIELD BHI SITE INVESTIGATIONS DEPT..
 ITEM 3 IS BASED UPON ESTIMATOR EXPERIENCE.
 ITEM 4, HOURS SUPPLIED BY CHI REGULATORY SUPPORT DEPARTMENT.
 ITEM 5, HOURS AND COST PROVIDED BY PNNL FIELD HYDROLOGY CHEMISTRY DEPT..
 ITEM 6 IS BASED UPON PROJECT GUIDANCE (ASSUMED SIMILAR TO 300 AREA PROCESS TRENCH POST CLOSURE).
 SEE THE ESTIMATE PRESENTATION FOR ADDITIONAL INFORMATION ON SCOPE, QUALIFICATIONS & ASSUMPTIONS.

**183-H SOLAR EVAPORATION BASINS
POST CLOSURE
TIME LINE COSTS
(in 1998 Dollars)**

BECHTEL HANFORD Inc.														Date:	06/98		
Title: Summary														By:	O. LEONHARDT		
Job Number / Charge # R183HB Y120														Chk'd:	B. BENNETT		
File: D:\read\win\ESTIMATE\374_183-H Post Closure\374_POST CLOSURE.sj\JTIN														Lead Estimator Appvl.:	JA LAPIERRE	Rev.:	0
ITEM	Description	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	TOTAL	
1	NON-ROUTINE MAINTENANCE OF GROUNDWATER WELLS (2 WELLS PER YR FY 96-FY02 AND 3 WELLS PER YR FY03-FY27)	\$ 8,726	\$ 8,726	\$ 8,726	\$ 8,726	\$ 8,726	\$ 8,726	\$ 8,726	\$ 8,726	\$ 8,726	\$ 8,726	\$ 8,726	\$ 8,726	\$ 8,726	\$ 8,726	\$ 242,290	
2	ROUTINE GW WELL SUBSURFACE MAINTENANCE (2 WELLS PER YR FOR FY01, 06, 11, 16, 21, 26 AND 3 WELLS PER YR FOR FY00, 02, 05, 07, 10, 12, 15, 17, 20, 22, 25, 27)	\$ 10,395	\$ 12,777			\$ 12,777	\$ 10,395	\$ 12,777			\$ 12,777	\$ 10,395	\$ 12,777			\$ 215,694	
3	COST ESTIMATE FOR POST-CLOSURE MONITORING & MAINTENANCE	\$ 1,664	\$ 1,664	\$ 1,664	\$ 1,664	\$ 1,664	\$ 1,664	\$ 1,664	\$ 1,664	\$ 1,664	\$ 1,664	\$ 1,664	\$ 1,664	\$ 1,664		\$ 48,256	
4	PERMIT COMPLIANCE (ADDITIONAL COST IN FY03 FOR CLASS 3 MODIFICATION TO THE PERMIT TO ADDRESS A FINAL ROD AND REVISED GROUNDWATER MONITORING PLAN (AT PUMP & TREAT COMPLETION)	\$ 6,632	\$ 6,632	\$ 6,632	\$ 6,632	\$ 6,632	\$ 6,632	\$ 6,632	\$ 6,632	\$ 6,632	\$ 6,632	\$ 6,632	\$ 6,632	\$ 6,632		\$ 217,070	
5	GROUNDWATER MONITORING (4 WELLS PER YEAR FOR FY96-FY02, 4 WELLS PER YR PLUS GROUNDWATER MONITORING PLAN REVISIONS FOR FY03 AND 8 WELLS PER YEAR FOR FY04-FY27)	\$ 48,355	\$ 48,355	\$ 48,355	\$ 48,355	\$ 48,355	\$ 48,355	\$ 48,355	\$ 48,355	\$ 48,355	\$ 48,355	\$ 48,355	\$ 48,355	\$ 48,355		\$ 1,262,730	
6	POST CLOSURE CERTIFICATION												\$ 44,006			\$ 44,006	
TOTAL (in 1998 Dollars)		\$ 73,772	\$ 76,154	\$ 63,377	\$ 63,377	\$ 76,154	\$ 73,772	\$ 76,154	\$ 63,377	\$ 63,377	\$ 76,154	\$ 73,772	\$ 120,160	\$ -	\$ -	\$ 2,930,046	

CHECK \$ 2,030,046

**183-H SOLAR EVAPORATION BASINS
POST CLOSURE
TIME LINE HOURS
(excludes subcontractor hours)**

BECHTEL HANFORD Inc.																	
Title: Summary																	
Job Number / Charge # R183HB Y120																	
File: D:\Real Work\ESTIMATE\374_183-H Post Closure\374_POST CLOSURE -1\1\TIME LINE HOURS																	
ITEM	Description	FY															
		1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
1	NON-ROUTINE MAINTENANCE OF GROUNDWATER WELLS (4 WELLS PER YR FY 98-FY02 AND 8 WELLS PER YR FY03-FY27)	11.0	11.0	11.0	11.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
2	ROUTINE GW WELL SUBSURFACE MAINTENANCE (2 WELLS PER YR FOR FY01, 06, 11, 16, 21, 26 AND 3 WELLS PER YR FOR FY00, 02, 05, 07, 10, 12, 15, 17, 20, 22, 25, 27)		23.5	16.0	23.5			23.5	16.0	23.5			23.5	16.0	23.5		23.5
3	COST ESTIMATE FOR POST-CLOSURE MONITORING & MAINTENANCE	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
4	PERMIT COMPLIANCE (ADDITIONAL COST IN FY03 FOR CLASS 3 MODIFICATION TO THE PERMIT TO ADDRESS A FINAL ROD AND REVISED GROUNDWATER MONITORING PLAN (AT PUMP & TREAT COMPLETION)	88.0	88.0	208.0	88.0	296.0	88.0	88.0	88.0	88.0	88.0	88.0	88.0	88.0	88.0	88.0	88.0
5	GROUNDWATER MONITORING (4 WELLS PER YEAR FOR FY98-FY02, 4 WELLS PER YR PLUS GROUNDWATER MONITORING PLAN REVISIONS FOR FY03 AND 8 WELLS PER YEAR FOR FY04-FY27)	172.0	172.0	172.0	172.0	372.0	274.0	274.0	274.0	274.0	274.0	274.0	274.0	274.0	274.0	274.0	274.0
6	POST CLOSURE CERTIFICATION																
TOTAL		295.0	318.5	431.0	318.5	704.0	398.0	421.5	414.0	421.5	398.0	398.0	421.5	414.0	421.5	398.0	421.5

**183-H SOLAR EVAPORATION BASINS
POST CLOSURE
TIME LINE HOURS
(excludes subcontractor hours)**

BECHTEL HANFORD Inc.													Date:	7/23/96		
Title: Summary													By:	D. LEONHARDT		
Job Number / Charge # R183HB Y120													Chk'd	B. BENNETT		
File: D:\ReadWrite\ESTIMATE\374_183-H Post Closure\374_POST CLOSURE.xls\TIM													Lead Estimator Appvl.:	JA LAPIERRE		
													Rev.:	0		
ITEM	Description	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	TOTAL
1	NON-ROUTINE MAINTENANCE OF GROUNDWATER WELLS (4 WELLS PER YR FY 98-FY02 AND 8 WELLS PER YR FY03-FY27)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0			344.0
2	ROUTINE GW WELL SUBSURFACE MAINTENANCE (2 WELLS PER YR FOR FY01, 06, 11, 16, 21, 26 AND 3 WELLS PER YR FOR FY00, 02, 05, 07, 10, 12, 15, 17, 20, 22, 25, 27)	16.0	23.5			23.5	16.0	23.5			23.5	16.0	23.5			378.0
3	COST ESTIMATE FOR POST-CLOSURE MONITORING & MAINTENANCE	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0			696.0
4	PERMIT COMPLIANCE (ADDITIONAL COST IN FY03 FOR CLASS 3 MODIFICATION TO THE PERMIT TO ADDRESS A FINAL ROD AND REVISED GROUNDWATER MONITORING PLAN (AT PUMP & TREAT COMPLETION)	88.0	88.0	88.0	88.0	88.0	88.0	88.0	88.0	88.0	88.0	88.0	88.0			2,880.0
5	GROUNDWATER MONITORING (4 WELLS PER YEAR FOR FY98-FY02, 4 WELLS PER YR PLUS GROUNDWATER MONITORING PLAN REVISIONS FOR FY03 AND 8 WELLS PER YEAR FOR FY04-FY27)	274.0	274.0	274.0	274.0	274.0	274.0	274.0	274.0	274.0	274.0	274.0	274.0			7,836.0
6	POST CLOSURE CERTIFICATION															
TOTAL		414.0	421.5	398.0	398.0	421.5	414.0	421.5	398.0	398.0	421.5	414.0	421.5			11,934.0

CHECK 11,934.0

POST CLOSURE - ONE YEAR \$

BECHTEL HANFORD Inc. Log # 374
 ERC & PRIME CONTR (S/C, DIRECT WORK)
 Job Number / Charge #

ONE YEAR COST FOR
 183-H SOLAR EVAPORATION BASINS POST CLOSURE
 JOB NO. 22192-104 / R183HB Y120

Date: 7/2/98
 By: D LEONHARDT
 Chk'd: B BENNETT
 Rev.: 0

File: D:\RoadWin\ESTIMATE\374_183-H Post Closure\374_POST CLOSURE - 183\POST CLOSURE - ONE YEAR \$

Lead Estimator Appl.: JA LAPIERRE

ITEM	Description	QTY	UN	Unit Costs			Labor Hours		Wage \$/HR	Subtotals				SUBTOTAL	ADDITIONAL COSTS					TOTAL
				Equip	Mtl	S/C	Unit Hr	Total Hr		Equip.	Material	Labor	S/C		MATL SALES TAX	S/C OH&P	DIRECT DISTRIBS	G&A	CONTINGENCY	
4A PERMIT COMPLIANCE, FOR YEAR 2001																				
	REGULATORY SUPPORT	CHI	200	HRS			1.00	200	60.99			\$12,197		12,197			\$2,308	\$586		\$15,091
	ENVIRONMENTAL LEADS	BH	8	HRS			1.00	8	60.25			\$482		482			\$91	\$23		\$906
	SUBTOTAL							208				\$12,679		\$12,679			\$2,399	\$609		\$15,687
4B PERMIT COMPLIANCE, ALL OTHERS EXCEPT 2001																				
	REGULATORY SUPPORT	CHI	80	HRS			1.00	80	60.99			\$4,879		4,879			\$923	\$234		\$5,836
	ENVIRONMENTAL LEADS	BH	8	HRS			1.00	8	60.25			\$482		482			\$91	\$23		\$906
	SUBTOTAL							88				\$5,361		\$5,361			\$1,014	\$257		\$6,632
4C PERMIT COMPLIANCE, FY03 ADDER																				
	ADDITIONAL COST IN FY03 FOR CLASS 3																			
	MODIFICATION TO THE PERMIT TO ADDRESS																			
	FINAL ROD AND REVISED GROUNDWATER																			
	MONITORING PLAN (AT PUMP & TREAT																			
	COMPLETION)																			
	REGULATORY SUPPORT	CHI	200	HRS			1.00	200	60.99			\$12,197		12,197			\$2,308	\$586		\$15,091
	ENVIRONMENTAL LEADS	BH	8	HRS			1.00	8	60.25			\$482		482			\$91	\$23		\$906
	SUBTOTAL							208				\$12,679		\$12,679			\$2,399	\$609		\$15,687
5A GROUNDWATER MONITORING (FY98-02)																				
	FOUR WELLS SAMPLED ANNUALLY SAMPLING																			
	ICP METALS (FILTERED), IC ANIONS, U, Tc-99,																			
	ALKALINITY AND FIELD PARAMETERS: PH, SP,																			
	COND. TEMPERATURE, AND TURBIDITY.																			
	SUBTOTAL							172				\$1,404	\$16,422	\$8,132	\$25,958	INCLUDED	INCLUDED	N/A	N/A	\$25,958
5B GROUNDWATER MONITORING (FY03)																				
	FOUR WELLS SAMPLED ANNUALLY SAMPLING																			
	ICP METALS (FILTERED), IC ANIONS, U, Tc-99,																			
	ALKALINITY AND FIELD PARAMETERS: PH, SP,																			
	PLUS FY03 GROUNDWATER MONITORING PLAN REVISIONS																			
	SUBTOTAL							372				\$1,404	\$36,842	\$8,132	\$46,378	INCLUDED	INCLUDED	N/A	N/A	\$46,378
5C GROUNDWATER MONITORING (FY04-07)																				
	EIGHT WELLS SAMPLED SEMIANNUALLY SAMPLING																			
	ICP METALS (FILTERED), IC ANIONS, U, Tc-99,																			
	ALKALINITY AND FIELD PARAMETERS: PH, SP,																			
	SUBTOTAL							274				\$1,443	\$23,419	\$21,493	\$46,355	INCLUDED	INCLUDED	N/A	N/A	\$46,355
6 POST-CLOSURE CERTIFICATION																				
	CERTIFICATION SUBCONTRACT		1	LOT										\$28,454	28,454		\$7,114	\$6,729	\$1,709	\$44,906
	SUBTOTAL													\$28,454	\$28,454		\$7,114	\$6,729	\$1,709	\$44,906

105-DR LARGE SODIUM FIRE FACILITY

In 1996, Ecology (Letter, M. W. Wilson, Ecology, to J. E. Rasmussen, U.S. Department of Energy, Richland Operations Office, and E. F. Loika, Westinghouse Hanford Company, dated July 16, 1996) accepted clean closure of Areas 1, 3, and 7 of the 105-DR Large Sodium Fire Facility, and released these areas from the requirements of Washington Administrative Code (WAC) 173-303. Also, the letter identified that Area 6, as defined by Part V, Chapter 10 of the HF RCRA Permit, DW Portion, is believed not to have received dangerous waste and is considered closed for the purposes of WAC 173-303.

In accordance with the 105-DR Large Sodium Fire Facility Closure Plan (DOE/RL-90-25, Rev. 2, dated 3/27/95) Areas 2, 4, and 5, as defined by Part V, Chapter 10 of the HF RCRA Permit, DW Portion, will be closed during decommissioning and decontamination (D&D) of the 105-DR Reactor Building. A removal action requiring D&D of the 105-DR Reactor Building (in support of interim safe storage of the 105-DR Reactor), and D&D of the 116-DR Exhaust Stack, the 117-DR Exhaust Filter Building, and associated above- and below-grade ventilation systems, was authorized in July 1998 under a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) action memorandum ("Action Memorandum for the 105-F and 105-DR Reactor Buildings and Ancillary Facilities, Hanford Site, Benton County, Washington"). Consistent with the 105-DR Large Sodium Fire Facility Closure Plan, the action memorandum also requires that the removal action address RCRA closure of Areas 2, 4, and 5.

Decommissioning and decontamination of Areas 2, 4, and 5 is scheduled to begin in FY 2000 with completion by the end of FY 2001. The total cost of closure activities is estimated at approximately \$1.8 million (1998 dollars). A schedule and cost estimate package on the following pages includes a time line for costs and hours associated with the D&D (closure) of Areas 2, 4, and 5. The estimate consists of all D&D activities including mobilization and preparatory work, sampling and analysis, monitoring, decontamination, dismantlement, disposal of waste at the Environmental Restoration Disposal Facility (ERDF), recycling, and site close out. The estimate also includes administrative permit compliance activities such as cost estimating, reporting, and maintenance of the operating record.

**105-DR LARGE SODIUM FIRE FACILITY
CLOSURE
TIME LINE COSTS**

BECHTEL HANFORD Inc.								Date:	9/28/98
Title: Summary (Dollars)								By:	S.J. TRENT/DRL
Job Number / Charge # R105D0 YN80								Chk'd	T.L. FREY
File: D:\ReadWrite\ESTIMATE\378\Sodium fire facility 105-DR closures\LSFFTL.XLS\TIME LINE COSTS								Lead Estimator Appvl.:	T.L. FREY
								Rev.:	0
ITEM	Estimate Description	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	TOTAL DOLLARS	
1	116-DR STACK WILL BE D & D IN YEAR 2000 AREA # 5		\$ 405,495					\$ 405,495	
2	117-DR FILTER BUILDING & ASSOCIATED TUNNELS TO BE D & D IN YEAR 2001 AREA # 4			\$ 690,174				\$ 690,174	
3	EXHAUST PLENUM WITHIN THE 105-DR BUILDING TO BE D & D IN YEAR 2000 AREA # 2		\$ 571,549					\$ 571,549	
4	SITE CLOSE OUT & FINAL SAMPLING TO BE COMPLETED IN YEAR 2001			\$ 61,000				\$ 61,000	
5	COST ESTIMATE FOR CLOSURE MONITORING	\$ 2,218	\$ 2,218	\$ 2,218				\$ 6,654	
6	PERMIT COMPLIANCE		\$ 15,687	\$ 15,687				\$ 31,374	
								\$ -	
TOTAL (in 1999 Dollars)		\$ 2,218	\$ 994,949	\$ 769,079				\$ 1,766,246	

CHECK \$ 1,766,246

GENERAL QUALIFICATIONS AND ASSUMPTIONS:

(SEE ATTACHED FOR DETAIL CALCULATIONS)

DD AND G&A ARE PER, "FY 98 ALL IN WAGE RATES FOR BHI, THI, HAMTC BY RESOURCE CODE", TRACKING NO. 052378.

ERC WAGE RATES PER, "ERC & HAMTC DIRECT LABOR WAGE RATES FY 1998 REV 2", (BASED ON, "FY 98 ALL IN WAGE RATES FOR BHI, THI, HAMTC, NO. 052378)

PRIME SUBCONTRACTOR WAGE RATES, PAYROLL ADDS AND FRINGES, PER "SUBCONTRACT BUILDING TRADES FY 1998 PRIME SUBCONTRACTOR DIRECT LABOR

ALL WAGE RATES INCLUDE 4% OVERTIME.

MATERIAL SALES TAX, CURRENT RATE 8%. SALES TAX NOT APPLIED TO EQUIPMENT (OWNER OPERATOR). SALES TAX WOULD APPLY IF IT IS RENTAL EQUIPMENT.

ALL COSTS ARE AT 1998 DOLLARS.

SOURCES OF INFORMATION ARE LISTED AS FOLLOWS:

ITEMS 1,2 & 3, QUANTITIES PROVIDED BY FIELD. DOLLARS & HOURS ARE MCACES MODEL RUNS

ITEM 4 IS BASED UPON ESTIMATE FROM THE BASELINE ESTIMATE.

ITEMS 1, 2, & 3 TIME LINE DATES ARE FROM RHEA LUKES VIA TOM FREY

SEE THE ESTIMATE PRESENTATION FOR ADDITIONAL INFORMATION ON SCOPE, QUALIFICATIONS & ASSUMPTIONS.

**105-DR LARGE SODIUM FIRE FACILITY
CLOSURE
TIME LINE HOURS**

BECHTEL HANFORD Inc.								Date:	9/28/98
Title: Summary (Hours)								By:	S.J. TRENT/DRL
Job Number / Charge # R105D0 YN80								Chk'd	T.L. FREY
File D:\ReadWrite\ESTIMATE\378\Sodium fire facility 105-DR closures\LSFPTL.XLS\TIME LINE HOURS								Lead Estimator Appvl.:	T.L. FREY
								Rev.:	0
ITEM	Estimate Description	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	TOTAL HOURS	
1	116-DR STACK WILL BE D & D IN YEAR 2000 AREA # 5		3,705					3,705	
2	117-DR FILTER BUILDING & ASSOCIATED TUNNELS TO BE D & D IN YEAR 2001 AREA # 4			8,174				8,174	
3	EXHAUST PLENUM WITH IN THE 105-DR BUILDING TO BE D & D IN YEAR 2000 AREA # 2		6,213					6,213	
4	SITE CLOSE OUT & FINAL SAMPLING TO BE COMPLETED IN YEAR 2001			141				141	
5	COST ESTIMATE FOR CLOSURE MONITORING	32	32	32				96	
6	PERMIT COMPLIANCE		208	208				416	
TOTAL (in 1999 Hours)		32	10,158	8,555				18,745	

CHECK 18,745

GENERAL QUALIFICATIONS AND ASSUMPTIONS:

(SEE ATTACHED FOR DETAIL CALCULATIONS)

DD AND G&A ARE PER, "FY 98 ALL IN WAGE RATES FOR BHI, THI, HAMTC BY RESOURCE CODE", TRACKING NO. 052378.

ERC WAGE RATES PER, "ERC & HAMTC DIRECT LABOR WAGE RATES FY 1998 REV 2", (BASED ON, "FY 98 ALL IN WAGE RATES FOR BHI, THI, HAMTC, NO. 052378)

PRIME SUBCONTRACTOR WAGE RATES, PAYROLL ADDS AND FRINGES, PER "SUBCONTRACT BUILDING TRADES FY 1998 PRIME SUBCONTRACTOR DIRECT LABOR

ALL WAGE RATES INCLUDE 4% OVERTIME.

MATERIAL SALES TAX, CURRENT RATE 8%. SALES TAX NOT APPLIED TO EQUIPMENT (OWNER OPERATOR). SALES TAX WOULD APPLY IF IT IS RENTAL EQUIPMENT.

ALL COSTS ARE AT 1998 DOLLARS.

SOURCES OF INFORMATION ARE LISTED AS FOLLOWS:

ITEMS 1,2 & 3, QUANTITIES PROVIDED BY FIELD. DOLLARS & HOURS ARE MCACES MODEL RUNS

ITEM 4 IS BASED UPON ESTIMATE FROM THE BASELINE ESTIMATE.

ITEMS 1, 2, & 3 TIME LINE DATES ARE FROM RHEA LUKES VIA TOM FREY

SEE THE ESTIMATE PRESENTATION FOR ADDITIONAL INFORMATION ON SCOPE, QUALIFICATIONS & ASSUMPTIONS.

BECHTEL HANFORD INC.

GENERAL ESTIMATING WORKSHEET

TASK SUMMARY



DESCRIPTION: DEMOLITION OF 116-DR STACK

INITIATOR: MIKE MIHALIC

CODE OF ACCOUNTS #: 77BF61YN80

REQUEST #:
ESTIMATOR: T.F.

DATE: 8/25/98

PRINT TIME: 10:21 AM

EST TYPE
Budget

DESCRIPTION	TOTAL WH's	TOTAL LABOR	TOTAL SUB/CONTR	TOTAL MAT'L	TOTAL EQUIP.	TOTAL
PROJECT MANAGEMENT	296	19,516				19,516
PRE DEMO ENGINEERING HOURS	1,349	92,544	15,000	-	-	107,544
BID PREPARATION -LET BID-BID EVALUATION	76	5,458	-	-	-	5,458
SITE PREPATATION	228	13,744	2,000	-	-	15,744
116-DR STACK PREPARATION FOR DEMO	548	25,615	-	-	4,677	30,292
EXPLOSIVE CONTRACT 116-DR	40	2,302	75,000	-	-	77,302
RUBBLIZE STACK & LOAD ERDF CONTAINERS	880	47,677	-	-	25,858	73,535
DEMOBILIZE	112	5,369	-	-	-	5,369
DISPOSAL COST TO ERDF			18,069	-	-	18,069
SUBTOTAL:	3,529	212,225	110,069	-	30,535	352,829
SALES TAX: 8.00%	N/A	N/A	N/A	-	N/A	-
OPERATING COST CENTER WHEN NOT IN WAGE RATE: W/WAGE	N/A	W/WAGE	N/A	N/A	N/A	N/A
PAYROLL ADDS WHEN NOT IN WAGE RATE: W/WAGE	N/A	W/WAGE	N/A	N/A	N/A	N/A
DIRECT DISTRIB. WHEN NOT IN WAGE RATE, MAT'L, S/C: 18.92%	N/A	W/WAGE	20,825	-	5,777	26,602
G & A: 4.04%	N/A	W/WAGE	5,288	-	1,467	6,755
B & O TAX: W/WAGE	N/A	W/ABOVE	W/ABOVE	N/A	N/A	N/A
SUBTOTAL:	3,529	212,225	136,182	-	37,780	386,186
CONTINGENCY @ 5.0%	176	10,611	6,809	-	1,889	19,309
SUBTOTAL:	3,705	222,836	142,991	-	39,669	405,495
ESCALATION @	N/A	-	-	-	-	-
TOTAL:	3,705	222,836	142,991	-	39,669	405,495

BECHTEL HANFORD INC.

GENERAL ESTIMATING WORKSHEET

TASK SUMMARY



EST TYPE
BUDGET

DESCRIPTION: DECON & DEMO 3' B.G. 117-DR FILTER BLDG.

REQUEST #:
ESTIMATOR: T.F.

INITIATOR: MIKE MIHALIC

DATE: 8/25/98

CODE OF ACCOUNTS #: 77BF61YN80

PRINT TIME: 10:22 AM

DESCRIPTION	TOTAL WH's	TOTAL LABOR	TOTAL SUB/CONT'R	TOTAL MAT'L	TOTAL EQUIP.	TOTAL
PROJECT MANAGEMENT	1,222	79,620	-	-	-	79,620
PRE DEMO ENGINEERING HOURS	2,486	168,221	30,000	-	-	198,221
MOBILIZATION	200	10,461	-	-	-	10,461
DECON SUPPLY & RETURN TUNNEL (210LF)	1,088	56,516	-	14,399	-	70,915
117-DR DECON & DEMO	688	35,757	-	5,808	1,100	42,665
117-DR DEMO (CONTINUED)	256	13,692	-	1,210	2,905	17,807
117-DR DEMO (CONTINUED)	96	5,333	-	-	3,774	9,108
117-DR DEMO (CONTINUED)	560	29,068	-	-	29,787	58,855
DISPOSAL	96	4,806	41,129	-	2,124	48,059
DEMOBILIZATION	120	5,942	-	-	-	5,942
SUBTOTAL:	6,812	409,417	71,129	21,417	39,690	541,653
SALES TAX: 8.00%	N/A	N/A	N/A	1,713	N/A	1,713
OPERATING COST CENTER WHEN NOT IN WAGE RATE: W/WAGE	N/A	W/WAGE	N/A	N/A	N/A	N/A
PAYROLL ADDS WHEN NOT IN WAGE RATE: W/WAGE	N/A	W/WAGE	N/A	N/A	N/A	N/A
DIRECT DISTRIB. WHEN NOT IN WAGE RATE, MAT'L, S/C : 18.92%	N/A	W/WAGE	13,458	4,376	7,509	25,343
G & A: 4.04%	N/A	W/WAGE	3,417	1,111	1,907	6,435
B & O TAX: W/WAGE	N/A	W/ABOVE	W/ABOVE	N/A	N/A	N/A
SUBTOTAL:	6,812	409,417	88,004	28,618	49,107	575,145
CONTINGENCY @ 20.0%	1,362	81,883	17,601	5,724	9,821	115,029
SUBTOTAL:	8,174	491,301	105,604	34,341	58,928	690,174
ESCALATION @	N/A	-	-	-	-	-
TOTAL:	8,174	491,301	105,604	34,341	58,928	690,174

BECHTEL HANFORD INC.

GENERAL ESTIMATING WORKSHEET

TASK SUMMARY



EST TYPE

Budget

DESCRIPTION:

Demo Above Grade & Below Grade 105-DR Fan Room Plenum

INITIATOR:

M.Mihalic

CODE OF ACCOUNTS #:

77BF61YN80

REQUEST #:

ESTIMATOR:

T.F.

DATE: 8/25/98

PRINT TIME: 10:29 AM

DESCRIPTION	TOTAL WH's	TOTAL LABOR	TOTAL SUB/CONT'R	TOTAL MAT'L	TOTAL EQUIP.	TOTAL
PROJECT MANAGEMENT	1,010	65,904	-	-	-	65,904
PRE DEMO ENGINEERING HOURS	1,430	98,652	15,000			113,652
MOBILIZATION	200	10,461	-	-	-	10,461
DECON & STABILIZE PLENUM SECTION 3.13	512	29,638	-	8,320	-	37,958
DEMO A.G. & B.G. PLENUM SECTION 3.13	2,376	129,139	-	-	64,031	193,170
DISPOSAL	-	-	57,349	-	-	57,349
DEMOBILIZATION	120	5,942	-	-	-	5,942
	-	-	-	-	-	-
	-	-	-	-	-	-
SUBTOTAL:	5,648	339,737	72,349	8,320	64,031	484,437
SALES TAX: 8.00%	N/A	N/A	N/A	666	N/A	666
OPERATING COST CENTER WHEN NOT IN WAGE RATE: W/WAGE	N/A	W/WAGE	N/A	N/A	N/A	N/A
PAYROLL ADDS WHEN NOT IN WAGE RATE: W/WAGE	N/A	W/WAGE	N/A	N/A	N/A	N/A
DIRECT DISTRIB. WHEN NOT IN WAGE RATE, MAT'L, S/C: 18.92%	N/A	W/WAGE	13,688	1,700	12,115	27,503
G & A: 4.04%	N/A	W/WAGE	3,476	432	3,076	6,984
B & O TAX: W/WAGE	N/A	W/ABOVE	W/ABOVE	N/A	N/A	N/A
SUBTOTAL:	5,648	339,737	89,513	11,117	79,222	519,590
CONTINGENCY @ 10.0%	565	33,974	8,951	1,112	7,922	51,959
SUBTOTAL:	6,213	373,711	98,464	12,229	87,144	571,549
ESCALATION @	N/A	-	-	-	-	-
TOTAL:	6,213	373,711	98,464	12,229	87,144	571,549

BECHTEL HANFORD Inc.

General Estimating Worksheet
ERC Field Support



DATE: 08/19/98

BY: DRL

INITIATOR: MIKE MIHALIC

LEAD ENGINEER: _____

PRINT TIME: _____

CODE OF ACCOUNTS #: R105D0 YN80

EST. REQUEST #: _____

DESCRIPTION: 105-DR SODIUM FIRE FACILITY CLOSURE COSTS.

TYPE EST: BUDGET

C.O.A.	RESOURCE CODE	ITEM / DESCRIPTION	HRS DAY	MAT'L EQUIP. QTY	UNIT	NO. OF CRAFT	DURATION		TOTAL JOB HRs.	ALL IN WAGE RATE	SUB-CONTR	MAT'L	RENTAL EQUIP	LABOR	TOTAL
							MO	DAY							
COST ESTIMATE FOR POST-CLOSURE MONITORING & MAINTENANCE															
		Planning & Controls	8		Hrs	1		4	32	69.33	-	-	-	2,218	2,218
									-		-	-	-	-	-
									-		-	-	-	-	-
									-		-	-	-	-	-
									-		-	-	-	-	-
		TOTAL COST ESTIMATING PER YEAR	32		Hrs	1		1	32		-	-	-	2,218	2,218
PERMIT COMPLIANCE, ALL YEARS															
		REGULATORY SUPPORT	8		Hrs	1		25	200	75.46	-	-	-	15,091	15,091
		ENVIRONMENTAL LEADS	8		Hrs	1		1	8	74.54	-	-	-	596	596
									-		-	-	-	-	-
									-		-	-	-	-	-
									-		-	-	-	-	-
									-		-	-	-	-	-
		TOTAL PERMIT COMPLIANCE PER YEAR	16		Hrs	1		1	208		-	-	-	15,687	15,687

4843 ALKALI METAL STORAGE FACILITY

This TSD unit was clean closed during FY 1997. There are no anticipated costs remaining for closure.

3718-F ALKALI METAL TREATMENT AND STORAGE AREA

This TSD unit was clean closed during FY 1998. There are no anticipated costs remaining for closure.

303-K STORAGE FACILITY

This unit was sampled and analytical testing of samples was completed in 1998 in accordance with DOE/RL-90-04, Rev. 2A, "303-K Storage Facility Closure Plan" and with HNF-SD-ENV-AP-005, Rev. 0, "303-K Storage Facility Sampling and Analysis Plan." It was found that there were constituents of concern above the clean closure thresholds. A revised action plan was developed that states the 303-K Building will be demolished, and the concrete pad removed. A HF RCRA Permit modification is currently under consideration to reflect this approach. The rubble will be disposed of in the ERDF. It is planned that the demolition and clean closure will be completed in FY 2001, sooner if funding can be obtained, with no additional costs anticipated.

Total anticipated costs are presented in terms of FY 2001 dollars, and are approximately \$314 thousand.

COST SUMMARY

303-K STORAGE FACILITY CLOSURE COSTS FOR FY 2001

ACTIVITY	COST
303K RCRA FINAL CLOSURE REPORT Professional Engineer to certify field activities. Preparation of closure report.	\$ 27401
303-K RCRA PROJECT COORDINATION Fuel Supply Shutdown Project contact support to demolition contractor for scheduling, safety review, site readiness, etc. FSSP contact support to WDOE.	62524
303-K RCRA PROJECT COORDINATION – CONTRACTS Administrative cost to prepare and approve demolition contract	14150
RCRA DEMOLITION 303-K Building superstructure and concrete pad removal. 3707-G Building removal. Debris disposal at ERDF.	210307
TOTAL COST	\$ 314382

The cost and schedule information is based on input to the HNF-SP-1234, Rev. 1, Facility Stabilization Project Fiscal 1999 Multi-Year Work Plan. The cost reflects FY '01 rates.

Cost Estimate from 1998 Multiyear Work Plan

RESOURCE DETAIL

300 AREA FSS

REPORT DATE 01SEP98

START DATE 01OCT98 FIN DATE 28SEP01*

09:11

Resource Control - Detailed By Activity

PAGE NO. 1

Act ID#	Description	Code of Acct	Res Co	R Description	Hrs or \$\$\$	Full Cost
K39300	303K RCRA Final Closure Report	1K3112CA30 O	6P	MULTIMEDIA SVCS	5.00	6100.00
		1K3112CA30 L	WG04N	Waste Mgt. - Secretaries	16.00	434.56
		1K3112CA30 L	WE05E	Waste Mgt. - Environmental Eng	320.00	20867.20
					<u>341.00</u>	<u>27401.76</u>
K39310	303K RCRA PROJECT COORDINATION	1K3112CA30 L	WE05E	Waste Mgt. - Environmental Eng	160.00	10433.60
		1K3112EJ00 L	BE04E	B & W - Electrical Engineers	760.00	52090.40
					<u>920.00</u>	<u>62524.00</u>
K39320	303K RCRA PROJECT COOR - CONTRACTS	1K3112EJ00 O	94	FLUOR DANIEL NORTHWEST	10.84	14150.54
					<u>10.84</u>	<u>14150.54</u>
K39340	303K RCRA DEMOLITION	1K3112GD00 L	39	DOE CONTRACTS	140.00	170800.00
					<u>140.00</u>	<u>170800.00</u>
					<u>1411.84</u>	<u>274876.30</u>

Costs reflected on this page were based on current information available during finalization of this multiyear work plan during 1998; for this reason, they are not necessarily the same as costs finalized at a later time.

CHARGE # XE8046PHMC

ESTIMATOR: T.F.

DATE: 09/22/98

BECHTEL HANFORD Inc.

Richland Environmental Restoration Project

Time:

11:50 AM

Est Type:

Project: DEMOLISH BUILDINGS 303-K & 3707-G (300 AREA)



ASSUMPTIONS

- 1** ASSUME ALL WASTE GOING TO ERDF WILL BE CERCLA WASTE
- 2** ASSUME CONTAMINATION LEVELS WILL NOT EXCEED HIGH CONTAMINATION LEVELS
- 3** ASSUME BACKFILL MATERIAL IS FROM BORROW PIT (NO CHARGE)
- 4** ASSUME NO SOIL REMEDIATION IS INCLUDED IN THIS ESTIMATE
- 5** ASSUME LEASED EQUIPMENT CAN BE RELEASED FROM RADIOLOGICAL CONTROLS
- 6** ASSUME ERDF CONTAINER'S WILL BE AVAILABLE WHEN NEEDED
- 7** ASSUME ALL EQUIPMENT IS REMOVED FROM BUILDING BY OTHERS PRIOR TO TURNOVER TO ERC
- 8** ASSUME ALL PERSONAL HAVE APPROPRIATE TRAINING
- 9** ASSUME PERIMETER LOW VOL. AIR SAMPLING WILL BE ACCEPTABLE TO MEET AIR MONITORING REQUIREMENTS
- 10** ASSUME SOIL CEMENT WILL BE APPLIED DURING DEMOLITION WORK
- 11** ASSUME R.A.R. IS NOT REQUIRED
- 12** ASSUME MOBILIZATION INCLUDES SETTING UP A QUEUE AREA FOR ERDF CONTAINERS
- 13** ASSUME REGULATORS WILL APPROVE EE/CA & ISSUE AN ACTION MEMORANDUM
- 14** ASSUME DOE WILL APPROVE DISPOSAL OF NON-ER-PROJECT WASTE IN ERDF
- 15** ASSUME ERC DISPOSAL RATE OF \$2.89 CF WILL BE THE SAME FOR NON-ERC WASTE
- 16** ASSUME ERDF DISPOSAL RATE INCLUDES TRANSPORTATION COST

CHARGE # XE8046PHMC
ESTIMATOR: T.F.
DATE: 09/21/98

BECHTEL HANFORD Inc.
Richland Environmental Restoration Project

Time: 8:27 AM
Est Type:

Project: DEMOLISH BUILDINGS 303-K & 3707-G (300 AREA)



PRICING DATA

LABOR RATES USED IN THIS ESTIMATE ARE FY99 RATES AS PUBLISHED IN THE FY99-2001 DETAILED WORK PLAN DOC. DATED 5/18/98

EQUIPMENT RATES USED IN THIS ESTIMATE ARE RATES PUBLISHED IN THE 1997 R.S. MEANS BUILDING CO DATA ESTIMATING BOOK

Demolition costs reflected on the following estimate pages are based on the most current information available during finalization of this annual report for projections of anticipated costs.

BECHTEL HANFORD INC.

GENERAL ESTIMATING WORKSHEET

TASK SUMMARY

EST TYPE
BUDGET



DESCRIPTION: DEMOLISH BUILDINGS 303-K & 3707-G (300 AREA)
 INITIATOR: DAVID S SMITH
 CODE OF ACCOUNTS #: XE8046PHMC

REQUEST #:
 ESTIMATOR: T.F.
 DATE: 9/21/98
 PRINT TIME: 8:26 AM

ORIGINAL

DESCRIPTION	TOTAL WH's	TOTAL LABOR	TOTAL SUB/CONTR	TOTAL MAT'L	TOTAL EQUIP.	TOTAL
PROJECT ENGINEERING	1,247	88,763	-	-	-	88,763
PROJECT MANAGEMENT	91	6,122				6,122
MOBILIZATION	193	11,295	-	-	-	11,295
DEMO BUILDING (1300SF)	540	29,903	-	800	-	30,703
DEMOBILIZE & EQUIPMENT RENTAL (Leased)	144	8,047	24,423	-	-	32,470
DISPOSAL LLW (4500 CF)			13,005	-	-	13,005
				-	-	-
				-	-	-
				-	-	-
SUBTOTAL:	2,215	144,131	37,428	800	-	182,359
SALES TAX: 8.00%	N/A	N/A	N/A	64	N/A	64
OPERATING COST CENTER WHEN NOT IN WAGE RATE: W/WAGE	N/A	W/WAGE	N/A	N/A	N/A	N/A
PAYROLL ADDS WHEN NOT IN WAGE RATE: W/WAGE	N/A	W/WAGE	N/A	N/A	N/A	N/A
DIRECT DISTRIB. WHEN NOT IN WAGE RATE, MAT'L, S/C : 18.04%	N/A	W/WAGE	6,752	156	-	6,908
G & A: 4.11%	N/A	W/WAGE	1,816	42	-	1,858
B & O TAX: W/WAGE	N/A	W/ABOVE	W/ABOVE	N/A	N/A	N/A
SUBTOTAL:	2,215	144,131	45,996	1,062	-	191,188
CONTINGENCY 10.0%		14,413	4,600	106	-	19,119
SUBTOTAL:	2,215	158,544	50,595	1,168	-	210,307
ESCALATION	N/A	-	-	-	-	-
TOTAL:	2,215	158,544	50,595	1,168	-	210,307

BECHTEL HANFORD Inc.

General Estimating Worksheet
ERC Field Support

DATE: 09/21/98

BY: T.F.

INITIATOR: DAVID S SMITH

PRINT TIME: 8:26 AM

LEAD ENGINEER: DAVID S SMITH

CODE OF ACCOUNTS #: XE8046PHMC

EST. REQUEST #:

DESCRIPTION: DEMOLISH BUILDINGS 303-K & 3707-G (300 AREA)

TYPE EST: BUDGET

ORIG:

DURATION

1

WKS

C.O.A.	RESOURCE CODE	ITEM / DESCRIPTION	HRS PER WK	MAT'L EQUIP. QTY	UNIT	NO. OF CRAFT	DURATION		TOTAL JOB HRs.	UNIT RATE	SUB-CONT'R	MAT'L	RENTAL EQUIP	LABOR	TOTAL
							MO	WK							
PROJECT MANAGEMENT															
Y110	9932711	PROJECT ENGINEER	2		HRS	1		1	2	99.74	-	-	-	199	199
Y110	9932712	TASK LEAD	2		HRS	1		1	2	83.38	-	-	-	167	167
Y4B0	9932727	LEAD ENGINEER	4		HRS	1		1	4	75.33	-	-	-	301	301
Y120	9953720	GENERAL SUPERINTENDENT	1		HRS	1		1	1	66.27	-	-	-	66	66
Y4AO	9953720	AREA SUPERINTENDENT	2		HRS	1		1	2	66.27	-	-	-	133	133
Y4AO	9953720	SITE SUPERINTENDENT	16		HRS	1		1	16	66.27	-	-	-	1,060	1,060
Y4AO	9953720	FIELD ENGINEER	20		HRS	1		1	20	66.27	-	-	-	1,325	1,325
K310	9953750	WASTE SHIPPING	8		HRS	1		1	8	54.62	-	-	-	437	437
YN90	9921700	PLANNING / SCHEDULING	4		HRS	1		1	4	71.42	-	-	-	286	286
YN90	9921700	COST ENGINEER	4		HRS	1		1	4	71.42	-	-	-	286	286
YNA0	9921700	ESTIMATING	2		HRS	1		1	2	71.42	-	-	-	143	143
Y220	9955700	ADMIN. SERVICES	3		HRS	1		1	3	37.59	-	-	-	113	113
Y110	9931754	REG. SUPPORT	1		HRS	1		1	1	76.78	-	-	-	77	77
Y500	9941700	PROCUREMENT	2		HRS	1		1	2	60.45	-	-	-	121	121
Y120	9958T21	RCT SUPERVISOR	8		HRS	1		1	8	68.49	-	-	-	548	548
YF60	9958T33	SAFETY ENGINEER (BHI)	8		HRS	1		1	8	75.24	-	-	-	602	602
Y110	9958T22	RAD ENGINEER	2		HRS	1		1	2	60.80	-	-	-	122	122
Y110	9958T31	IH MGMT	2		HRS	1		1	2	68.49	-	-	-	137	137
									-				-	-	
									-				-	-	
									-				-	-	
									-				-	-	
TOTAL THIS SHEET									91					6,122	6,122

BECHTEL HANFORD Inc.

General Estimating Worksheet
ERC Field Support

ORIG



DATE: 09/21/98

BY: T.F.

PRINT TIME: 8:26 AM

EST. REQUEST #:

TYPE EST: BUDGET

INITIATOR: DAVID S SMITH

LEAD ENGINEER: DAVID S SMITH

CODE OF ACCOUNTS #: XE8046PHMC

DESCRIPTION: DEMOLISH BUILDINGS 303-K & 3707-G (300 AREA)

RESOURCE CODE	ITEM / DESCRIPTION	HRS DAY	MAT'L EQUIP. QTY	UNIT	NO. OF CRAFT	DURATION		TOTAL JOB HRs.	UNIT RATE	SUB-CONT'R	MAT'L	RENTAL EQUIP	LABOR	TOTAL
						MO	DAY							
MOBILIZATION														
9910714	CRANE OPER	9		HRS	1		2.0	18	53.72	-	-	-	967	967
9910718	HVY DRIVER	9		HRS	1		2.0	18	47.52	-	-	-	855	855
9910T25	RCT	9		HRS	2		2.0	36	67.87	-	-	-	2,443	2,443
9910713	HVY EQUIP OPER	9		HRS	1		2.0	18	51.10	-	-	-	920	920
9953720	CRAFT SUPER	9		HRS	1		2.0	18	66.26	-	-	-	1,193	1,193
9910715	D&D	9		HRS	2		2.0	36	48.15	-	-	-	1,733	1,733
TRAINING / FACILITY ORENTATION														
9910714	CRANE OPER	1		HRS	1		1.0	1	53.72	-	-	-	54	54
9910718	HVY DRIVER	1		HRS	2		1.0	2	47.52	-	-	-	95	95
9910T25	RCT	1		HRS	1		1.0	1	67.87	-	-	-	68	68
9910713	HVY EQUIP OPER	1		HRS	1		1.0	1	51.10	-	-	-	51	51
9953720	CRAFT SUPER	1		HRS	1		1.0	1	66.26	-	-	-	66	66
9910715	D&D	1		HRS	3		1.0	3	48.15	-	-	-	144	144
9953720	FIELD ENGR.	1		HRS	1		1.0	1	66.26	-	-	-	66	66
9953720	FIELD SUPERVISOR	1		HRS	1		1.0	1	66.26	-	-	-	66	66
9958T22	RAD ENGR.	1		HRS	1		1.0	1	60.80	-	-	-	61	61
9958T21	RAD SUPERVISOR	1		HRS	1		1.0	1	68.49	-	-	-	68	68
PRE-JOB SURVEYS														
9910T25	RCT	9		HRS	2		2	36	67.87	-	-	-	2,443	2,443
TOTAL THIS SHEET														
								193					11,295	11,295

BECHTEL HANFORD Inc.

General Estimating Worksheet
ERC Field Support

INITIATOR: DAVID S SMITH

LEAD ENGINEER: DAVID S SMITH

CODE OF ACCOUNTS #: XE8046PHMC

DESCRIPTION: DEMOLISH BUILDINGS 303-K & 3707-G (300 AREA)

DATE: 09/21/98

BY: T.F.

PRINT TIME: 8:26 AM

EST. REQUEST #:

TYPE EST: BUDGET



RESOURCE CODE	ITEM / DESCRIPTION	HRS DAY	MAT'L EQUIP. QTY	UNIT	NO. OF CRAFT	DURATION		TOTAL JOB HRS.	UNIT RATE	SUB-CONTR	MAT'L	RENTAL EQUIP	LABOR	TOTAL
						MO	DAY							
DEMO BUILDING (1300SF)														
SPRAY INTERIOR W/ FIXATIVE & SEAL DRAIN OPENINGS														
9910715	D&D	9		HRS	3		2	54	48.15	-	-	-	2,600	2,600
9910725	RCT	9		HRS	1		2	18	67.87	-	-	-	1,222	1,222
DEMO BUILDING & SLAB (4500 CF CONCRETE & BLOCK)														
9910714	CRANE OPER	9		HRS	1		3	27	53.72	-	-	-	1,450	1,450
9910718	HVY DRIVER	9		HRS	1		3	27	47.52	-	-	-	1,283	1,283
9910725	RCT	9		HRS	2		3	54	67.87	-	-	-	3,665	3,665
9953720	CRAFT SUPER	9		HRS	1		3	27	66.26	-	-	-	1,789	1,789
9910715	D&D	9		HRS	2		3	54	48.15	-	-	-	2,600	2,600
9953750	WASTE SHIPPER	9		HRS	1		3	27	54.62	-	-	-	1,475	1,475
LOAD ERDF CONTAINERS (9 EA)														
9910714	CRANE OPER	9		HRS	1		3	27	53.72	-	-	-	1,450	1,450
9910725	RCT	9		HRS	1		3	27	67.87	-	-	-	1,832	1,832
9953720	CRAFT SUPER	9		HRS	1		3	27	66.26	-	-	-	1,789	1,789
9910715	D&D	9		HRS	2		3	54	48.15	-	-	-	2,600	2,600
9953750	WASTE SHIPPER	9		HRS	1		3	27	54.62	-	-	-	1,475	1,475
9910718	HVY DRIVER	9		HRS	1		3	27	47.52	-	-	-	1,283	1,283
BACKFILL & GRADE SITE														
9910718	HVY DRIVER	9		HRS	2		1	18	47.52	-	-	-	855	855
9910713	HVY EQUIP OPER	9		HRS	1		1	9	51.10	-	-	-	460	460
9953720	CRAFT SUPER	9		HRS	1		1	9	66.26	-	-	-	596	596
9910715	D&D	9		HRS	2		1	18	48.15	-	-	-	867	867
9910725	RCT	9		HRS	1		1	9	67.87	-	-	-	611	611
CONSUMABLES														
			1	LOT					800.00	-	800	-	-	800
TOTAL THIS SHEET								540		-	800	-	29,903	30,703

BECHTEL HANFORD Inc.

General Estimating Worksheet
ERC Field Support

DATE: 09/21/98

BY: T.F.

INITIATOR: DAVID S SMITH

PRINT TIME: 8:26 AM

LEAD ENGINEER: DAVID S SMITH

EST. REQUEST #:

CODE OF ACCOUNTS #: XE8046PHMC

DESCRIPTION: DEMOLISH BUILDINGS 303-K & 3707-G (300 AREA)

TYPE EST: BUDGET



RESOURCE CODE	ITEM / DESCRIPTION	HRS DAY	MAT'L EQUIP. QTY	UNIT	NO. OF CRAFT	DURATION		TOTAL JOB HRs.	UNIT RATE	SUB-CONTR	MAT'L	RENTAL EQUIP	LABOR	TOTAL
						MO	DAY							
DEMobilize & EQUIPMENT RENTAL (Leased)														
9910714	CRANE OPER	9		HRS	1		2	18	53.72	-	-	-	967	967
9910718	HVY DRIVER	9		HRS	2		2	36	47.52	-	-	-	1,711	1,711
9910T25	RCT	9		HRS	2		2	36	67.87	-	-	-	2,443	2,443
9953720	CRAFT SUPER	9		HRS	1		2	18	66.26	-	-	-	1,193	1,193
9910715	D&D	9		HRS	2		2	36	48.15	-	-	-	1,733	1,733
EQUIPMENT (LEASED)														
	DUMP TRUCK		2	EA			1	-	320.00	640	-	-	-	640
	EXCAVATOR W HAMMER		1	EA			3	-	2825.00	8,475	-	-	-	8,475
	WATER TRUCK		1	EA			3	-	500.00	1,500	-	-	-	1,500
	EXCAVATOR W THUMB & BUCKET		1	EA			4	-	2250.00	9,000	-	-	-	9,000
	FRONT END LOADER		1	EA			3	-	965.00	2,895	-	-	-	2,895
	GRADER		1	EA			1	-	735.00	735	-	-	-	735
	SOIL CEMENT SPRAYER		1	EA			3	-	67.64	203	-	-	-	203
	SHUTTLE TRUCK		1	EA			3	-	325.00	975	-	-	-	975
TOTAL THIS SHEET								144		24,423	-	-	8,047	32,470

300 AREA PROCESS TRENCHES

The 300 Area Process Trenches (300 APT) modified closure/postclosure plan was approved and incorporated into the HF RCRA Permit in FY 1997. The plan calls for completion of closure activities in early FY 1998, followed by a 30-year postclosure period culminating in postclosure certification in FY 2028. Closure activities include completion of the site remediation work, groundwater monitoring, well maintenance, and permit compliance; these were completed in May 1998. Postclosure activities consist of site revegetation, subsurface well inspections and maintenance, groundwater monitoring, and permit compliance. Estimates incorporate necessary subcontracts, materials, and equipment. Based on information from site investigations and project expertise, the total cost of postclosure activities is estimated at \$3.6 million (1998 dollars). A schedule and cost estimate package on the following pages includes a timeline for costs and hours as well as a single year detail of equipment and labor.

The estimate consists of costs for groundwater monitoring, well maintenance and inspections, and permit compliance activities. The postclosure estimate includes costs for site revegetation. Groundwater monitoring includes quarterly reviews, annual reports, data management, and sample and well measurement collection and analysis. The well maintenance component consists of estimates for well and surface inspections of eight wells. It also includes well maintenance based on a rate of three maintenance tasks per year and routine maintenance on a rolling five-year cycle. Some of the well inspections will require purgewater containment. Estimates for permit compliance include preparation, review, and issuance of applicable reports and plans, and maintenance of the operating record.

**300 AREA PROCESS TRENCHES POST CLOSURE
TIME LINE COSTS
(in 1998 Dollars)**

BECHTEL HANFORD Inc.																		
Title: Summary																		
Job Number / Charge # R31FX2 YNA0																		
File: D:\ReadWrite\ESTIMATE\375_300Area Process Trenches Post Closure\375 POST CLOSURE FOR 300 AREA TRENCHES.xls\TIME LINE COSTS																		
ITEM	Description	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
POST CLOSURE																		
1	SITE RESTORATION (REVEGETATION)	\$ 23,982																
2	INSPECTION OF SUBSURFACE WELL CONDITIONS FY99-27 100%, FY28 75% (NON-ROUTINE MAINTENANCE)	\$ 9,201	\$ 9,201	\$ 9,201	\$ 9,201	\$ 9,201	\$ 9,201	\$ 9,201	\$ 9,201	\$ 9,201	\$ 9,201	\$ 9,201	\$ 9,201	\$ 9,201	\$ 9,201	\$ 9,201	\$ 9,201	\$ 9,201
3	GROUNDWATER WELL MAINTENANCE 5 YEAR CYCLE STARTS IN FY02 (ROUTINE MAINTENANCE)				\$ 39,996					\$ 39,996					\$ 39,996			
4	COST ESTIMATE FOR POST-CLOSURE MONITORING & MAINTENANCE	\$ 2,218	\$ 2,218	\$ 2,218	\$ 2,218	\$ 2,218	\$ 2,218	\$ 2,218	\$ 2,218	\$ 2,218	\$ 2,218	\$ 2,218	\$ 2,218	\$ 2,218	\$ 2,218	\$ 2,218	\$ 2,218	\$ 2,218
5	PERMIT COMPLIANCE FY99-27 100%, FY28 75%	\$ 15,685	\$ 6,632	\$ 6,632	\$ 6,632	\$ 11,588	\$ 6,632	\$ 6,632	\$ 6,632	\$ 15,685	\$ 11,588	\$ 6,632	\$ 6,632	\$ 6,632	\$ 6,632	\$ 11,588	\$ 6,632	\$ 6,632
6	GROUNDWATER MONITORING ALL YEARS 42 WATER WELL LEVELS MEASURED SEMIANNUALLY. FY99-08 EIGHT WELLS SAMPLED EIGHT TIMES PER YEAR. FY07 EIGHT WELLS SAMPLED EIGHT TIMES PER YEAR PLUS ONE MOD TO SITEWIDE PERMIT CIRCA. FY08-27 EIGHT WELLS SAMPLED SEMIANNUALLY URANIUM, PERCHLOROETHYLENE AND ITS DEGRADATION PRODUCTS, AND FIELD PARAMETERS. FY28 75% OF EIGHT WELLS SAMPLED SEMIANNUALLY URANIUM, PERCHLOROETHYLENE AND ITS DEGRADATION PRODUCTS, AND FIELD PARAMETERS.	\$ 129,774	\$ 129,774	\$ 129,774	\$ 129,774	\$ 129,774	\$ 129,774	\$ 129,774	\$ 129,774	\$ 148,090	\$ 73,833	\$ 73,833	\$ 73,833	\$ 73,833	\$ 73,833	\$ 73,833	\$ 73,833	\$ 73,833
7	POST-CLOSURE CARE CERTIFICATION																	
TOTAL (in 1998 Dollars)		\$ 180,880	\$ 147,825	\$ 147,825	\$ 187,821	\$ 152,781	\$ 147,825	\$ 147,825	\$ 147,825	\$ 215,198	\$ 98,840	\$ 91,884	\$ 91,884	\$ 91,884	\$ 131,880	\$ 98,840	\$ 91,884	\$ 91,884

DD AND G&A ARE PER, "FY 98 ALL IN WAGE RATES FOR BHI, THI, HAMTC BY RESOURCE CODE", TRACKING NO. 052378.
 ERC WAGE RATES PER, "ERC & HAMTC DIRECT LABOR WAGE RATES FY 1998 REV 2", (BASED ON, "FY 98 ALL IN WAGE RATES FOR BHI, THI, HAMTC, NO. 052378)
 PRIME SUBCONTRACTOR WAGE RATES, PAYROLL ADDS AND FRINGES, PER "SUBCONTRACT BUILDING TRADES FY 1998 PRIME SUBCONTRACTOR DIRECT LABOR WAGE RATES" (BASED ON 11/14/97 HSSA) FILE, "Wrt98sc Nov 14 1997 Rev 1.xls".
 PRIME CONTRACTOR MARKUP, PER "PRIME CONTRACTOR (SUBCONTRACTOR TO ERC TEAM) MARKUP TABLE FOR BUILDING TRADES", REV. DATE 7/24/96.
 BURDEN IS EXCLUDED FROM DOE-RL DIRECTLY FUNDED WORK ACTIVITIES.
 ALL WAGE RATES INCLUDE 4% OVERTIME.
 MATERIAL SALES TAX, CURRENT RATE 8%. SALES TAX NOT APPLIED TO EQUIPMENT (OWNER OPERATOR). SALES TAX WOULD APPLY IF IT IS RENTAL EQUIPMENT.
 ALL COSTS ARE AT 1998 DOLLARS.
 PNNL COST USED THE LATEST DOE-RL APPROVED RATES.
 SOURCES OF HOURS AND COST INFORMATION ARE LISTED AS FOLLOWS:
 UNLESS OTHERWISE NOTED BELOW ALL INPUT PROVIDED BY THE PROJECT OR ESTIMATING.
 GROUNDWATER WELL INSPECTIONS AND MAINTENANCE PROVIDED BY FIELD BHI SITE INVESTIGATIONS DEPT.
 PERMIT COMPLIANCE PROVIDED BY CHI REGULATORY SUPPORT DEPARTMENT AND THE PROJECT.
 GROUNDWATER MONITORING PROVIDED BY PNNL FIELD HYDROLOGY CHEMISTRY DEPT. AND THE PROJECT.
 SEE THE ESTIMATE PRESENTATION FOR ADDITIONAL INFORMATION ON SCOPE, QUALIFICATIONS & ASSUMPTIONS.

**300 AREA PROCESS TRENCHES POST CLOSURE
TIME LINE COSTS
(in 1998 Dollars)**

BECHTEL HANFORD Inc.														Date:	7/24/98																	
Title: Summary														By:	D. LEONHARDT																	
Job Number / Charge # R31FX2 YNA0														Chk'd:	B. BENNETT																	
File: D:\ReadWrite\ESTIMATE\375_300Area Process Trenches Post Closure\375 POST CLOSURE														Lead Estimator Appvl.:	J. LAPIERRE																	
Description														FY	FY	FY	FY	FY	FY	FY	FY	FY	FY	FY	FY	FY	FY	TOTAL				
ITEM															2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029				
POST CLOSURE																																
1	SITE RESTORATION (REVEGETATION)																											\$ -				
2	INSPECTION OF SUBSURFACE WELL CONDITIONS FY99-27 100%, FY28 75% (NON-ROUTINE MAINTENANCE)														\$ 9,201	\$ 9,201	\$ 9,201	\$ 9,201	\$ 9,201	\$ 9,201	\$ 9,201	\$ 9,201	\$ 9,201	\$ 9,201	\$ 9,201	\$ 9,201	\$ 9,201	\$ 6,899		\$ 23,982		
3	GROUNDWATER WELL MAINTENANCE 5 YEAR CYCLE STARTS IN FY02 (ROUTINE MAINTENANCE)															\$ 39,996					\$ 39,996					\$ 39,996		\$ 239,976				
4	COST ESTIMATE FOR POST-CLOSURE MONITORING & MAINTENANCE														\$ 2,218	\$ 2,218	\$ 2,218	\$ 2,218	\$ 2,218	\$ 2,218	\$ 2,218	\$ 2,218	\$ 2,218	\$ 2,218	\$ 2,218	\$ 2,218	\$ 2,218			\$ 64,322		
5	PERMIT COMPLIANCE FY99-27 100% , FY28 75%														\$ 6,832	\$ 6,832	\$ 11,588	\$ 6,832	\$ 6,632	\$ 6,632	\$ 6,632	\$ 11,588	\$ 6,632	\$ 6,632	\$ 6,632	\$ 6,632	\$ 6,632	\$ 6,632	\$ 4,974		\$ 240,188	
6	GROUNDWATER MONITORING ALL YEARS 42 WATER WELL LEVELS MEASURED SEMIANNUALLY. FY99-06 EIGHT WELLS SAMPLED EIGHT TIMES PER YEAR. FY07 EIGHT WELLS SAMPLED EIGHT TIMES PER YEAR PLUS ONE MOD TO SITEWIDE PERMIT CIRCA. FY08-27 EIGHT WELLS SAMPLED SEMIANNUALLY URANIUM, PERCHLOROETHYLENE AND ITS DEGRADATION PRODUCTS, AND FIELD PARAMETERS. FY28 75% OF EIGHT WELLS SAMPLED SEMIANNUALLY URANIUM, PERCHLOROETHYLENE AND ITS DEGRADATION PRODUCTS, AND FIELD PARAMETERS.														\$ 73,833	\$ 73,833	\$ 73,833	\$ 73,833	\$ 73,833	\$ 73,833	\$ 73,833	\$ 73,833	\$ 73,833	\$ 73,833	\$ 73,833	\$ 73,833	\$ 73,833	\$ 73,833	\$ 73,833	\$ 55,375		\$ 2,718,317
7	POST-CLOSURE CARE CERTIFICATION																										\$ 44,006	\$ 44,006				
TOTAL (in 1998 Dollars)														\$ 91,884	\$ 131,880	\$ 96,840	\$ 91,884	\$ 91,884	\$ 91,884	\$ 131,880	\$ 96,840	\$ 91,884	\$ 91,884	\$ 91,884	\$ 91,884	\$ 131,880	\$ 111,254	\$ -	\$ -	\$ 3,604,519		
																	\$ 3,604,519															

**300 AREA PROCESS TRENCHES POST CLOSURE
TIME LINE HOURS
(excludes subcontractor hours)**

BECHTEL HANFORD Inc.																	
Title: Summary																	
Job Number / Charge # R31FX2 YNA0																	
File: D:\read\w\ESTIMATE\375_300Area Process Trenches Post Closure\375 POST CLOSURE FOR 300 AREA TRENCHES.xls\TIME LINE HOURS																	
Description	FY	FY	FY	FY	FY	FY	FY	FY									
ITEM	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
POST CLOSURE																	
1 SITE RESTORATION (REVEGETATION)																	
2 INSPECTION OF SUBSURFACE WELL CONDITIONS FY00-27 100%, FY28 75% (NON-ROUTINE MAINTENANCE)	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
3 GROUNDWATER WELL MAINTENANCE 5 YEAR CYCLE STARTS IN FY02 (ROUTINE MAINTENANCE)				42					42					42			
4 COST ESTIMATE FOR POST-CLOSURE MONITORING & MAINTENANCE	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
5 PERMIT COMPLIANCE FY00-27 100% WITH ADDER IN FY03, 08, 13, 18, 23 FOR RE-ASSESS MODIFIED CLOSURE OPTION, FY28 75%	208	88	88	88	155	88	88	88	208	155	88	88	88	88	155	88	88
6 GROUNDWATER MONITORING ALL YEARS 42 WATER WELL LEVELS MEASURED SEMIANNUALLY. FY00-06 EIGHT WELLS SAMPLED EIGHT TIMES PER YEAR. FY07 EIGHT WELLS SAMPLED EIGHT TIMES PER YEAR PLUS ONE MOD TO SITEWIDE PERMIT CIRCA. FY08-27 EIGHT WELLS SAMPLED SEMIANNUALLY URANIUM, PERCHLOROETHYLENE AND ITS DEGRADATION PRODUCTS, AND FIELD PARAMETERS. FY28 75% OF EIGHT WELLS SAMPLED SEMIANNUALLY URANIUM, PERCHLOROETHYLENE AND ITS DEGRADATION PRODUCTS, AND FIELD PARAMETERS.	570	570	570	570	570	570	570	570	736	536	536	536	536	536	536	536	536
7 POST-CLOSURE CARE CERTIFICATION																	
TOTAL HOURS	828	708	708	750	775	708	708	708	1,036	741	674	674	674	716	741	674	674

**300 AREA PROCESS TRENCHES POST CLOSURE
TIME LINE HOURS
(excludes subcontractor hours)**

BECHTEL HANFORD Inc.													Date: 7/22/98			
Title: Summary													By: D. LEONHARDT			
Job Number / Charge # R31FX2 YNA0													Chk'd: B. BENNETT			
File: D:\ReadWrite\ESTIMATE\375_300Area Process Trenches Post Closure\375 POST CLOSURE													Lead Estimator Appvl.: JA LAPIERRE			
Rev.:																
ITEM	Description	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	TOTAL
POST CLOSURE																
1	SITE RESTORATION (REVEGETATION)															-
2	INSPECTION OF SUBSURFACE WELL CONDITIONS FY98-27 100%, FY28 75% (NON-ROUTINE MAINTENANCE)	18	18	18	18	18	18	18	18	18	18	18	18	14		536
3	GROUNDWATER WELL MAINTENANCE 5 YEAR CYCLE STARTS IN FY02 (ROUTINE MAINTENANCE)		42					42					42			252
4	COST ESTIMATE FOR POST-CLOSURE MONITORING & MAINTENANCE	32	32	32	32	32	32	32	32	32	32	32	32	32		928
5	PERMIT COMPLIANCE FY98-27 100% WITH ADDER IN FY03, 06, 13, 18, 23 FOR RE-ASSESS MODIFIED CLOSURE OPTION, FY28 75%	88	88	155	88	88	88	88	155	88	88	88	88	66		3,193
6	GROUNDWATER MONITORING ALL YEARS 42 WATER WELL LEVELS MEASURED SEMIANNUALLY. FY98-06 EIGHT WELLS SAMPLED EIGHT TIMES PER YEAR. FY07 EIGHT WELLS SAMPLED EIGHT TIMES PER YEAR PLUS ONE MOD TO SITEWIDE PERMIT CIRCA. FY08-27 EIGHT WELLS SAMPLED SEMIANNUALLY URANIUM, PERCHLOROETHYLENE AND ITS DEGRADATION PRODUCTS, AND FIELD PARAMETERS. FY28 75% OF EIGHT WELLS SAMPLED SEMIANNUALLY URANIUM, PERCHLOROETHYLENE AND ITS DEGRADATION PRODUCTS, AND FIELD PARAMETERS.	536	536	536	536	536	536	536	536	536	536	536	536	402		16,418
7	POST-CLOSURE CARE CERTIFICATION															-
TOTAL HOURS		674	716	741	674	674	674	716	741	674	674	674	716	482	-	21,327

CHECK 21,327

POST CLOSURE - ONE YEAR \$

BECHTEL HANFORD Inc. Log # 376		ONE YEAR COST FOR												Date: 1/22/98						
ERC & PRIME CONTR (S/C, DIRECT WORK)		300 AREA PROCESS TRENCHES / POST CLOSURE												By: D. LEONARDI						
Job Number / Charge #		JOB NO. 22192-104 / R31FX2 YNA0												Chk'd: B. BENNETT						
File: D:\RoadWork\ESTIMATE\376_300Area Process Trenches Post Closure\376 POST CLOSURE FOR 300 AREA TRENCHES.xls\POST CLOSURE - ONE YEAR \$		Lead Estimator Appvl.: JA LAPIERRE												Rev.:						
ITEM	Description	QTY	UN	Unit Costs			Labor Hours		Wage	Subtotals				SUBTOTAL	ADDITIONAL COSTS					TOTAL
				Equip	Mtl	S/C	Unit Hr	Total Hr	\$/HR	Equip.	Material	Labor	S/C		MATL SALES TAX 8.00%	S/C OH&P 25%	DIRECT DISTRIBS 18.82%	G&A 4.04%	CONTINGENCY N/A	
POST CLOSURE ACTIVITIES:																				
6A	GROUNDWATER MONITORING (FY98-06) EIGHT WELLS SAMPLED EIGHT TIMES A YEAR SAMPLED FOR URANIUM, PERCHLOROETHYLENE AND ITS DEGRADATION PRODUCTS, AND FIELD PARAMETERS	570	HRS		\$2.53	\$133.03	1.00	570	\$92.11	\$1,443	\$52,502	\$75,829	\$129,774	INCLUDED	INCLUDED	N/A	N/A		\$129,774	
	SUBTOTAL						570		\$1,443	\$52,502	\$75,829	\$129,774							\$129,774	
6B	GROUNDWATER MONITORING (FY97) FOUR WELLS SAMPLED QUARTERLY AND FOUR WELLS SAMPLED SEMIANNUALLY URANIUM, PERCHLOROETHYLENE AND ITS DEGRADATION PRODUCTS, AND FIELD PARAMETERS. PLUS ONE MOD TO SITEWIDE PERMIT CIRCA.	736	HRS		\$2.27	\$103.03	1.00	736	\$95.91	\$1,671	\$70,500	\$75,829	\$148,000	INCLUDED	INCLUDED	N/A	N/A		\$148,000	
	SUBTOTAL						736		\$1,671	\$70,500	\$75,829	\$148,000							\$148,000	
6C	GROUNDWATER MONITORING (FY98-27) EIGHT WELLS SAMPLED SEMIANNUALLY URANIUM, PERCHLOROETHYLENE AND ITS DEGRADATION PRODUCTS, AND FIELD PARAMETERS.	536	HRS		\$2.69	\$41.46	1.00	536	\$93.80	\$1,443	\$50,170	\$22,220	\$73,833	INCLUDED	INCLUDED	N/A	N/A		\$73,833	
	SUBTOTAL						536		\$1,443	\$50,170	\$22,220	\$73,833							\$73,833	
7	POST-CLOSURE CARE CERTIFICATION CERTIFICATION SUBCONTRACT	1	LOT			\$28,454.00							\$28,454	\$28,454		\$7,114	\$6,729	\$1,700	\$44,000	
	SUBTOTAL					\$28,454.00							\$28,454	\$28,454		\$7,114	\$6,729	\$1,700	\$44,000	

POST CLOSURE - 75% YEAR \$

BECHTEL HANFORD Inc.		3/4 YEAR COST FOR YEAR 2028												Date:							
ERC & PRIME CONTR (S/C, DIRECT WORK)		300 AREA PROCESS TRENCHES POST CLOSURE												By: O LEONHARDT							
Job Number / Charge #		JOB NO. 22192-104 / R31FX2 YNAD												Chk'd B BENNETT							
File: D:\Lead\W\ESTIMATE\375_300Area Process Trenches Post Closure\375 POST CLOSURE FOR 300 AREA TRENCHES SH\POST CLOSURE - 75% YEAR \$		Lead Estimator Appvl: JALAPIERRE												Rev.:							
ITEM	Description	QTY	UN	Unit Costs			Labor Hours		Wage	Subtotals				SUBTOTAL	ADDITIONAL COSTS					TOTAL	
				Equip	Mtl	S/C	Unit Hr	Total Hr	\$/HR	Equip.	Material	Labor	S/C		MATL SALES TAX	S/C OH&P	DIRECT DISTRIBS	G&A	CONTRINGENCY		
															8.00%	25%	18.82%	4.04%	N/A		
POST CLOSURE ACTIVITIES:																					
2	INSPECTION OF SUBSURFACE WELL CONDITIONS (FY28)	6	WELLS			\$637.50								\$3,825	\$3,825		\$956	\$605	\$230		\$5,916
OR NON-ROUTINE MAINTENANCE OF WELLS																					
	PLANNING & CONTROLS	BH	0.75	HRS			1.00	0.75	\$56.04					\$42	\$42			\$0	\$2		\$52
	DESIGN ENGINEER	BH	2.25	HRS			1.00	2.25	\$85.03					\$146	\$146			\$28	\$7		\$181
	ENVIRONMENT COMPLIANCE	BH	4.50	HRS			1.00	4.50	\$83.43					\$285	\$285			\$54	\$16		\$353
	GEOSCIENCE	CH	1.5	HRS			1.00	1.50	\$9.50					\$99	\$99			\$17	\$4		\$119
	FIELD SUPPORT	BH	2.25	HRS			1.00	2.25	\$50.32					\$113	\$113			\$21	\$5		\$139
	SAFETY & HEALTH	BH	0.75	HRS			1.00	0.75	\$56.44					\$42	\$42			\$8	\$2		\$52
	HEAVY DRIVERS	HAMTC	1.50	HRS	\$15.63		1.00	1.50	\$35.85	\$23				\$54	\$77			\$15	\$4		\$96
	SUBTOTAL							13.50		\$23			\$771	\$3,825	\$4,619		\$956	\$1,056	\$288		\$6,800
5A PERMIT COMPLIANCE (FY28)																					
	REGULATORY SUPPORT	CH	60	HRS			1.00	60	\$80.88					\$3,959	\$3,959			\$602	\$178		\$4,827
	ENVIRONMENTAL LEADS	BH	6	HRS			1.00	6	\$60.25					\$362	\$362			\$68	\$17		\$447
	SUBTOTAL							66					\$4,021	\$4,021				\$780	\$193		\$4,974
6C GROUNDWATER MONITORING (FY28)																					
	EIGHT WELLS SAMPLED SEMIANNUALLY FOR URANIUM, PERCHLOROETHYLENE AND ITS DEGRADATION PRODUCTS OF TCE, 1,2-CIS-DICHLOROETHYLENE, AND VINYL CHLORIDE, IRON, MANGANESE, THALLIUM, PCB'S, CHRYSENE, BENZO (A)PYRENE AND FIELD PARAMETERS (PH, SPECIFIC CONDUCTANCE, TURBIDITY, AND TEMPERATURE).	PNWL	402	HRS	\$2.69	\$41.46	1.00	402.00	\$93.60		\$1,082	\$37,628	\$16,665	\$55,375	INCLUDED	INCLUDED	N/A	N/A			\$55,375
	SUBTOTAL							402.00			\$1,082	\$37,628	\$16,665	\$55,375							\$55,375

Washington State Department of Ecology
Nuclear & Mixed Waste Management Program
Hanford Project

Document Receipt Verification

99-EAP-009

DOCUMENT TITLE

Laura Cusack

ADDRESSEE

10/29/98 11:25 am

DATE/TIME DELIVERED

UKnight

RECEIVER SIGNATURE

CORRESPONDENCE DISTRIBUTION COVERSHEET

Author
 J. E. Rasmussen, RL
 W. D. Adair, FDH
 M. C. Hughes, BHI
 R. S. Watkins, PNNL
 F. A. Ruck, FDH, 376-9876
 (D. B. Jensen, WMH, 373-9327)

Addressee
 L. J. Cusack, Ecology

Correspondence No.
 Incoming: 9859396
 RL 99-EAP-009
 Xrefs: FDH-9858719.1
 WMH-9858719

Page 1 of 2

Subject: **FISCAL YEAR 1998 PROJECTIONS OF ANTICIPATED COSTS FOR CLOSURE AND/OR
 POSTCLOSURE FOR HANFORD FACILITY TREATMENT, STORAGE, AND/OR DISPOSAL
 UNITS**

DISTRIBUTION

Approval	Date	Name	Location	w/att
		Correspondence Control	A3-01	X
		<u>Fluor Daniel Hanford, Inc.</u>		
		W. D. Adair	H6-21	X
		B. A. Austin	H8-67	
		T. J. Harper	H8-69	
		C. G. Mattsson	N1-26	
		A. G. Mishko	H6-23	
		E. S. McGinley, II	H8-68	
		L. J. Olguin	N1-26	
		S. M. Price	H6-23	X
		F. A. Ruck III	H6-23	
		M. C. Skriba	H8-68	
		R. J. Swan	H6-23	
		W. E. Toebe	H6-23	
		A. M. Umek	S7-40	
		N. H. Williams	R3-11	
		B. D. Williamson	B3-15	
		EATS File	H6-23	
		<u>B&W Hanford Company</u>		
		N. R. Dahl	N2-57	
		K. A. Hadley	R3-56	X
		G. J. LeBaron	S6-15	
		E. F. Loika	N2-51	
		I. L. Metcalf	L6-26	
		D. E. Rasmussen	N1-47	
		J. A. Remaize	L6-26	X
		S. W. Scott	N2-57	
		C. D. Sorensen	R3-56	
		J. M. Steffen	N1-47	
		<u>Bechtel Hanford, Inc.</u>		
		V. R. Dronen	H0-09	X
		M. C. Hughes	H0-09	
		R. J. Landon	H0-02	X
		S. D. Liedle	H0-09	
		T. E. Logan	X5-54	X
		R. T. Swenson	H0-13	
		J. G. Woolard	H0-17	X
		BHI DIS	H0-09	X
		<u>CH2M Hill, Inc.</u>		
		S. J. Ingle	H9-02	X
		<u>DE&S Hanford, Inc.</u>		
		P. G. LeRoy	R3-11	
		D. J. Watson	X3-79	

CORRESPONDENCE DISTRIBUTION COVERSHEET

Author J. E. Rasmussen, RL W. D. Adair, FDH M. C. Hughes, BHI R. S. Watkins, PNNL F. A. Ruck, FDH, 376-9876 (D. B. Jensen, WMH, 373-9327)	Addressee L. J. Cusack, Ecology Page 2 of 2	Correspondence No. Incoming:9859396 RL 99-EAP-009 Xrefs:FDH-9858719.1 WMH-9858719
--	--	--

Subject: FISCAL YEAR 1998 PROJECTIONS OF ANTICIPATED COSTS FOR CLOSURE AND/OR POSTCLOSURE FOR HANFORD FACILITY TREATMENT, STORAGE, AND/OR DISPOSAL UNITS

DISTRIBUTION

Approval	Date	Name	Location	w/att
		<u>DynCorp Tri-Cities Services, Inc.</u>		
		B. J. Dixon	B4-20	X
		C. R. Delannoy	G3-25	
		<u>Lockheed Martin Hanford Corporation</u>		
		D.J. Carrell	R1-51	
		B. G. Erlandson	R1-51	
		E. E. Mayer	R2-50	
		<u>Lockheed Martin Services, Inc.</u>		
		EDMC	H6-08	X
		Hanford Facility Operating Record	H6-08	X
		<u>Numatec Hanford Corporation</u>		
		D. S. Dutt	H5-25	
		R. A. Kaldor	H5-25	X
		<u>Pacific Northwest National Laboratory</u>		
		E. L. Grohs	P7-79	X
		A. K. Ikenberry	P7-79	
		H. T. Tildon II	P7-79	X
		<u>Waste Management Federal Services of Hanford, Inc.</u>		
		E. S. Aromi	H6-30	
		W. S. Ayers	T4-04	
		B. M. Barnes	T4-04	X
		M. W. Bowman	S6-71	X
		R. C. Bowman	H6-24	
		R. H. Engelmann	H6-26	X
		D. L. Flyckt	S6-71	X
		D. B. Jensen	H6-26	X
		J. O. Perkins	H6-30	
		T. J. Plush	H6-10	
		D. L. Renberger	T3-03	
		J. C. Sonnichsen	H6-24	
		R. T. Wilde	H6-10	
		J. A. Winterhalder	H6-21	
		RCRA Scan (D. Jensen)	H6-26	
		WMH Legal	H6-10	

lgj/10/29/98
376-5869