



0051916

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

OCT 27 1999

00-OSS-002

Ms. Laura E. Ruud, Permit Specialist
Nuclear Waste Program
State of Washington
Department of Ecology
1315 West Fourth Avenue
Kennewick, Washington 99336



Dear Ms. Ruud:

FISCAL YEAR (FY) PROJECTIONS OF ANTICIPATED COSTS FOR CLOSURE AND/OR POSTCLOSURE FOR HANFORD FACILITY TREATMENT, STORAGE, AND/OR DISPOSAL (TSD) UNITS

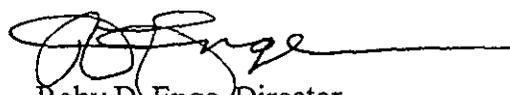
Enclosed is the FY 1999 Projections of Anticipated Costs for Closure and/or Postclosure for Hanford Facility TSD Units (annual report). This annual report is being submitted by October 31, 1999, the compliance due date established in Conditions II.H.1. and II.H.2. of the Hanford Facility Resource Conservation 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, 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) 376-9209.


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Enclosure

cc w/encl:
See page 2.

Ms. L. E. Ruud
00-OSS-002

-2-

cc w/encl:

Ecology Library Kennewick
EDMC, H6-08
Hanf. Fac. Op. Record
R. J. Landon, BHI
J. G. Woolard, BHI
J. R. Wilkinson, CTUIR
A. Valero, Ecology
D. R. Sherwood, EPA
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Environmental Portal, LMSI
P. Sobotta, NPT
E. L. Grohs, PNNL
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ENCLOSURE

Fiscal Year 1999 Projections of Anticipated Costs for Closure and/or Postclosure
for Hanford Facility Treatment, Storage, and/or Disposal Units

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 5

FISCAL YEAR 1999 PROJECTIONS OF ANTICIPATED COSTS FOR CLOSURE AND/OR POSTCLOSURE FOR HANFORD FACILITY TREATMENT, STORAGE, AND/OR DISPOSAL UNITS

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) 1999 Projections of Anticipated Costs for Closure and/or Postclosure for Hanford Facility Treatment, Storage, and/or Disposal Units (annual report) addresses an additional five TSD units that were incorporated into the HF RCRA Permit, DW Portion, during FY 1999 (October 1, 1998 through September 30, 1999). The total number of TSD units incorporated into the HF RCRA Permit is now 27.

The organization of this annual report is consistent with the approach that was approved by Mr. Moses N. Jaraysi, who represented 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 27 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 applied to the dollar figure reported in the previous annual report.

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, warranting 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 is no longer needed.

No anticipated closure cost projection has previously been submitted for a TSD unit; a new cost projection is provided.

In this FY 1999 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."

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, HF RCRA 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.

DEVELOPMENT DESCRIPTION:

A generic interpretative description also is provided with this annual report. 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 management responsibilities during FY 1999: BHI, FDH, or Pacific Northwest (represented by the acronym 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 1999: 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.

Ten "escalation only" projections are 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]
- 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) [BHI]
303-K Storage Facility (303-K) [BWHC for FDH]
300 Area Process Trenches (300 APT) [BHI].

A complete cost estimate was submitted for 616 in the FY 1994 annual report on projection of anticipated costs that was submitted on October 31, 1994. The current update uses an escalation factor only. However, a revision to the closure plan for this unit has been submitted for incorporation into the HF RCRA Permit during FY 2000. Upon acceptance of the new closure plan by Ecology, a new cost estimate will be developed.

Complete cost estimates were submitted for the other 9 TSD units in the FY 1998 annual report on projection of anticipated costs submitted on October 29, 1998. Five of these units (305-B, LERF, 200 Area ETF, 242-A Evaporator, and 325 HWTU) currently have no firm closing date identified, and the current update uses an escalation factor only. Negotiations for closing 303-K are currently ongoing, with a tentative closure date identified of 2001.

Four new projections of anticipated costs are included in this annual report:

1325-N Liquid Waste Disposal Facility (1325-N) [BHI]
1301-N Liquid Waste Disposal Facility (1301-N) [BHI]
1324-N Surface Impoundment (1324-N) [BHI]
1324-NA Percolation Pond (1324-NA) [BHI].

All four TSD units are newly incorporated into the HF RCRA Permit, DW Portion during FY 1999, and are being reported on 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 twelve 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]
100 D Ponds [BHI].

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 subcontractors conducted the work. 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, 1999.

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.

BHI used EXCEL (trademark) spreadsheets to construct their "New Estimates Provided," 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 one of the cited TSD units co-operated by Fluor Daniel Hanford, Inc. (FDH) originally was completed in FY 1994 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 most of the other TSD units co-operated by FDH were completed in FY 1998 using the same type of methodology.

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, FDH, and FDH's major sub-contractors for the respective TSD units they manage.

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 1999. The escalation factor does not take into account changes in specific cost elements included in previous estimates; it is an overall factor applied to the total of the previous estimate. 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. 5**

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 1999
616 Nonradioactive Dangerous Waste Storage Facility (WMH for FDH)	X				\$1,815,404.00
305-B Storage Facility (PNNL)	X				\$3,559,500.00
PUREX Storage Tunnels (BWHC for FDH) ¹			X ¹		¹ \$0.00
LERF (WMH for FDH)	X				\$3,714,084.00
200 Area ETF (WMH for FDH)	X				\$1,271,250.00
242-A Evaporator (WMH for FDH)	X				\$1,086,267.00
325 Hazardous Waste Treatment Units (PNNL)	X				\$7,424,100.00
183-H Solar Evaporation Basins (BHI)	X				\$2,023,582.00
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

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Dangerous Waste Portion, Rev. 5**

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 1999
Hanford Patrol Academy Demolition Sites (FDH) ²				X (1996)	\$0.00
105-DR Large Sodium Fire Facility (BHI) ³	X ³				³ \$1,381,627.00
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				\$319,726.00
100 D Ponds (BHI)				X (1999)	\$0.00
1325-N Liquid Waste Disposal Facility (BHI)		X			Costs combined with 1301-N, see below
1301-N Liquid Waste Disposal Facility (BHI)		X			\$19,802,176.00
1324-N Surface Impoundment (BHI)		X			Costs combined with 1324-NA, see below
1324-NA Percolation Pond (BHI)		X			\$2,183,015.00
300 Area Process Trenches (BHI)	X				\$3,481,862.00
TOTAL					\$26,077,402.00

¹For the Plutonium Uranium Extraction (PUREX) Storage Tunnels (Chapter 3, Part III, DW Portion), managed by B&W Hanford Company (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 were developed and reported for the first time in the FY 1998 annual report.

616 NONRADIOACTIVE DANGEROUS WASTE STORAGE FACILITY

The closure strategy/approach has not changed for this TSD unit for the time period through FY 1999. 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

Adjustment of 1.7% performed on FY 1998 dollars for FY 1999 annual report.

The escalation factor does not take into account changes in specific cost elements included in previous estimates; it is an overall factor applied to the total of the previous estimate. The total estimated costs for closure are now approximately \$1.8 million (1999 dollars).

Closure for this TSD unit is scheduled to occur in FY 2000. A new closure plan has been written and submitted to Ecology for inclusion into the HF RCRA Permit. Complete updated closure costs will be included in future reports based on the new closure plan.

305-B STORAGE FACILITY

The closure strategy/approach has not changed for this TSD unit for the time period through FY 1999. The costs for this TSD unit have been adjusted by an escalation or inflation factor in accordance with the following:

Adjustment of 1.7% performed on FY 1998 dollars for FY 1999 annual report.

The escalation factor does not take into account changes in specific cost elements included in previous estimates; it is an overall factor applied to the total of the previous estimate. The total estimated costs for closure are now approximately \$3.6 million (1999 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.

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 does not include the cost to operate the 200 Area Effluent Treatment Facility to treat waste generated during Liquid Effluent Retention Facility (LERF) closure activities.

The closure strategy/approach has not changed for this TSD unit for the time period through FY 1999. The costs for this TSD unit have been adjusted by an escalation or inflation factor in accordance with the following:

Adjustment of 1.7% performed on FY 1998 dollars for FY 1999 annual report.

The escalation factor does not take into account changes in specific cost elements included in previous estimates; it is an overall factor applied to the total of the previous estimate. The total estimated costs for closure are now approximately \$3.7 million (1999 dollars).

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 closure strategy/approach has not changed for this TSD unit for the time period through FY 1999. The costs for this TSD unit have been adjusted by an escalation or inflation factor in accordance with the following:

Adjustment of 1.7% performed on FY 1998 dollars for FY 1999 annual report.

The escalation factor does not take into account changes in specific cost elements included in previous estimates; it is an overall factor applied to the total of the previous estimate. The total estimated costs for closure are now approximately \$1.3 million (1999 dollars).

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 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.

The closure strategy/approach has not changed for this TSD unit for the time period through FY 1999. The costs for this TSD unit have been adjusted by an escalation or inflation factor in accordance with the following:

- Adjustment of 1.7% performed on FY 1998 dollars for FY 1999 annual report.

The escalation factor does not take into account changes in specific cost elements included in previous estimates; it is an overall factor applied to the total of the previous estimate. The total estimated costs for closure are now approximately \$1.1 million (1999 dollars).

325 HAZARDOUS WASTE TREATMENT UNITS

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.

The closure strategy/approach has not changed for this TSD unit for the time period through FY 1999. The costs for this TSD unit have been adjusted by an escalation or inflation factor in accordance with the following:

Adjustment of 1.7% performed on FY 1998 dollars for FY 1999 annual report.

The escalation factor does not take into account changes in specific cost elements included in previous estimates; it is an overall factor applied to the total of the previous estimate. The total estimated costs for closure are now approximately \$7.4 million (1999 dollars).

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 cost of remaining postclosure activities is estimated at approximately \$2.0 million (1999 dollars). An escalation factor of 1.7% was applied to the 1998 estimate. The escalation factor does not take into account changes in specific cost elements included in previous estimates; it is an overall factor applied to the total of the previous estimate. The 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**

183-H Post Closure

Title: Summary
JOB NO. 22192-105 / HGWLTM 1100

File: D:\RoadWork\ESTIMATE\64 Post Closure 183H, 300APT, 105-DR LSFF\183H Post Closure.xls TIME LINE COSTS

ITEM	Description	FY																
		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
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	\$ 8,728	\$ 8,726	\$ 8,726	\$ 8,728	\$ 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, 06, 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	\$ 10,395
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	
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	\$ 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	\$ 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)		\$ 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	\$ 73,772
Escalate To 99' Dollars (1.7%)		\$53,988	\$60,755	\$53,968	\$80,431	\$64,454	\$77,449	\$75,026	\$77,449	\$64,454	\$64,454	\$77,449	\$75,026	\$77,449	\$64,454	\$64,454	\$77,449	\$75,026

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 6%. SALES TAX NOT APPLIED TO EQUIPMENT (OWNER OPERATOR). SALES TAX WOULD APPLY IF IT IS RENTAL EQUIPMENT.

ALL COSTS ARE AT 1998 DOLLARS ESCALATED TO 1999 DOLLARS WITH 1.7% ESCATATION FACTOR PROVIDED BY FLOUR.

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 SOLOR EVAPORATION BASINS
POST CLOSURE
TIME LINE COSTS**

183-H Post Closure												Date: 7/29/99		
Title: Summary												By: K. Myers		
JOB NO. 22192-105 / HGWLTM 1100												Chk'd: JAL		
File: D:\readwrite\ESTIMATE\68 Post Closure 183H, 300A\PT_105-DR LSFF\183H Post C												Lead Estimator Appvl.: JA LAPIERRE		
Rev.: 1												TOTAL	TOTAL	
ITEM	Description	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	@ 98 Dollars	@ 99 Dollars
1	NON-ROUTINE MAINTENANCE OF GROUNDWATER WELLS (2 WELLS PER YR FY 98-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	\$ 236,255	\$ 240,271
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)	\$ 12,777			\$ 12,777	\$ 10,395	\$ 12,777			\$ 12,777	\$ 10,395	\$ 12,777	\$ 215,694	\$ 219,361
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	\$ 46,592	\$ 47,384
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	\$ 210,438	\$ 214,015
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)	\$ 46,355	\$ 46,355	\$ 46,355	\$ 46,355	\$ 46,355	\$ 46,355	\$ 46,355	\$ 46,355	\$ 46,355	\$ 46,355	\$ 46,355	\$ 1,236,772	\$ 1,257,797
6	POST CLOSURE CERTIFICATION											\$ 44,006	\$ 44,006	\$ 44,754
TOTAL (in 1998 Dollars)		\$ 76,154	\$ 63,377	\$ 63,377	\$ 76,154	\$ 73,772	\$ 76,154	\$ 63,377	\$ 63,377	\$ 76,154	\$ 73,772	\$ 120,160	\$1,989,757	\$2,023,582
Escalate To 99' Dollars (1.7%)		\$77,449	\$64,454	\$64,454	\$77,449	\$75,026	\$77,449	\$64,454	\$64,454	\$77,449	\$75,026	\$122,203	\$2,023,582	

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: 9/28/98
 By: D LEONHARDT
 Chk'd: B BENNETT
 Rev.: 0

File: D:\Work\ESTD\MATEM48 Post Closure 183H, 301AFT,105-DR L5FFV1111 Post Closure.xls\POST CLOSURE - ONE YEAR 1

Lead Estimator Appvl.: JALAPIERRE

ITEM	Description	QTY	UN	Unit Costs			Labor Hours		Wage \$/HR	Subtotals				SUBTOTAL	ADDITIONAL COSTS					TOTAL
				Equip	Mil	S/C	Unit Hr	Total Hr		Equip.	Material	Labor	S/C		MATL SALES TAX	S/C OH&P	DIRECT DISTRIBS	G&A	CONTINGENCY	
1A	NON-ROUTINE MAINTENANCE OF GROUNDWATER WELLS	2	WELLS			\$1,700.00							\$2,400	3,400		\$850	\$804	\$204		\$5,258
	PLANNING & CONTROLS	1	HRS				1.00	1	\$6.04				\$56	56			\$11	\$3		\$70
	DESIGN ENGINEER	1	HRS				1.00	1	\$5.03				\$65	65			\$12	\$3		\$80
	ENVIRONMENT COMPLIANCE	2	HRS				1.00	2	\$3.43				\$127	127			\$24	\$6		\$157
	GEOSCIENCE	2	HRS				1.00	2	\$9.50				\$119	119			\$23	\$6		\$148
	FIELD SUPPORT	2	HRS				1.00	2	\$6.32				\$101	101			\$19	\$5		\$125
	SAFETY & HEALTH	1	HRS				1.00	1	\$6.44				\$56	56			\$11	\$1		\$70
	HEAVY DRIVERS	2	HRS			\$15.63	1.00	2	\$5.85			\$31	\$72	103			\$19	\$5		\$127
	SUBTOTAL							11				\$31	\$506	\$2,400	14,027		\$650	\$923	\$235	\$6,035
1B	NON-ROUTINE MAINTENANCE OF GROUNDWATER WELLS	3	WELLS			\$1,700.00							\$5,100	5,100		\$1,275	\$1,204	\$306		\$7,887
	PLANNING & CONTROLS	1	HRS				1.00	1	\$6.04				\$56	56			\$11	\$3		\$70
	DESIGN ENGINEER	1	HRS				1.00	1	\$5.03				\$65	65			\$12	\$3		\$80
	ENVIRONMENT COMPLIANCE	2	HRS				1.00	2	\$3.43				\$127	127			\$24	\$6		\$157
	GEOSCIENCE	2	HRS				1.00	2	\$9.50				\$119	119			\$23	\$6		\$148
	FIELD SUPPORT	3	HRS				1.00	3	\$6.32				\$151	151			\$29	\$7		\$187
	SAFETY & HEALTH	1	HRS				1.00	1	\$6.44				\$56	56			\$11	\$3		\$70
	HEAVY DRIVERS	2	HRS			\$15.63	1.00	2	\$5.85			\$31	\$72	103			\$19	\$5		\$127
	SUBTOTAL							12				\$31	\$648	\$5,100	\$5,777		\$1,275	\$1,335	\$339	\$8,728
2A	2 WELLS, SUBSURFACE ROUTINE MAINTENANCE (FY01, 06, 11, 16, 21, 26)	2	WELLS			\$1,000.00							\$6,000	8,000		\$1,500	\$1,419	\$300		\$8,379
	PLANNING & CONTROLS	2	HRS				1.00	2	\$6.04				\$112	112			\$21	\$5		\$138
	DESIGN ENGINEER	2	HRS				1.00	2	\$5.03				\$130	130			\$25	\$8		\$163
	ENVIRONMENT COMPLIANCE	2	HRS				1.00	2	\$3.43				\$127	127			\$24	\$6		\$157
	PROCUREMENT	1	HRS				1.00	1	\$7.74				\$78	78			\$9	\$2		\$89
	GEOSCIENCE	2	HRS				1.00	2	\$9.50				\$119	119			\$23	\$6		\$148
	FIELD SUPPORT	4	HRS				1.00	4	\$6.32				\$201	201			\$38	\$10		\$249
	SAFETY & HEALTH	2	HRS				1.00	2	\$6.44				\$113	113			\$21	\$5		\$138
	HEAVY DRIVERS	1	HRS			\$15.63	1.00	1	\$5.85			\$16	\$30	32			\$10	\$3		\$65
	SUBTOTAL							16				\$16	\$886	\$6,000	18,902		\$1,500	\$1,500	\$403	\$10,395
2B	3 WELLS, SUBSURFACE ROUTINE MAINTENANCE (FY00, 02, 05, 07, 10, 12, 15, 17, 20, 22, 25, 27)	3	WELLS			\$3,000.00							\$9,000	9,000		PKL UNFD	\$1,703	\$432		\$11,135
	PLANNING & CONTROLS	3	HRS				1.00	3	\$6.04				\$168	168			\$32	\$8		\$208
	DESIGN ENGINEER	3	HRS				1.00	3	\$5.03				\$195	195			\$37	\$9		\$241
	ENVIRONMENT COMPLIANCE	3	HRS				1.00	3	\$3.43				\$190	190			\$36	\$9		\$235
	PROCUREMENT	1.5	HRS				1.00	1.5	\$7.74				\$72	72			\$14	\$4		\$89
	GEOSCIENCE	3	HRS				1.00	3	\$9.50				\$174	174			\$34	\$9		\$221
	FIELD SUPPORT	6	HRS				1.00	6	\$6.32				\$302	302			\$57	\$15		\$374
	SAFETY & HEALTH	3	HRS				1.00	3	\$6.44				\$169	169			\$32	\$8		\$209
	HEAVY DRIVERS	1	HRS			\$15.63	1.00	1	\$5.85			\$16	\$30	32			\$10	\$3		\$65
	SUBTOTAL							23.5				\$16	\$1,310	\$9,000	\$10,328		\$1,953	\$496		\$12,777
3	COST ESTIMATE FOR POST-CLOSURE MONITORING & MAINTENANCE																			
	PLANNING & CONTROLS	24	HRS				1.00	24	\$6.04				\$1,345	1,345			\$254	\$65		\$1,664
	SUBTOTAL							24					\$1,345	\$1,345			\$254	\$65		\$1,664
4A	PERMIT COMPLIANCE, FOR YEAR 2001 (5 YEAR REVIEW)																			
	REGULATORY SUPPORT	200	HRS				1.00	200	\$9.99				\$1,997	12,197			\$2,308	\$580		\$15,085
	ENVIRONMENTAL LEADS	8	HRS				1.00	8	\$6.25				\$497	482			\$91	\$23		\$596

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

183-H Post Closure																	
Title: Summary																	
JOB NO. 22192-105 / HGWLTM 1100																	
File: D:\ReadWrite\ESTIMATE\64 Post Closure 183H, 300APT, 105-DR L5FF\183H Post Closure.xls\TIME LINE HOURS																	
ITEM	Description	FY															
		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
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	12.0	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	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	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	372.0	274.0	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		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	398.0	421.5

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

183-H Post Closure		Date: 7/29/99										TOTAL	
Title: Summary		By: K.Myers											
JOB NO. 22192-105 / HGWLTM 1100		Chk'd											
File: D:\ReadWrite\ESTIMATE\61 Post Closure 143H, 300APT, 105-DR LSFY\143H Post C		Lead Estimator Appvl.: JA LAPIERRE											
Description		FY	FY	FY	FY	FY	FY	FY	FY	FY	FY	FY	TOTAL
ITEM		2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	
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	333.0
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			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	672.0
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	2,792.0
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	7,464.0
6	POST CLOSURE CERTIFICATION												
TOTAL		421.5	398.0	398.0	421.5	414.0	421.5	398.0	398.0	421.5	414.0	421.5	11,639.0

11,639.0

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 began in FY 1999 and will be completed by the end of FY 2001. The cost to complete closure activities is estimated at approximately \$1.4 million (1999 dollars). An escalation factor of 1.7% was applied to the 1998 estimate. The escalation factor does not take into account changes in specific cost elements included in previous estimates; it is an overall factor applied to the total of the previous estimate. The 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 HOURS**

BECHTEL HANFORD Inc.						Date:	08/02/1999	
Title: Summary (Hours)						By:	KRM	
Job Number / Charge # HGWLTM 1100						Chk'd		
File: D:\ReadWrite\ESTIMATE\68 Post Closure 183H, 300APT, 105-DR LSFF\105DR LSFF Post Closure.xls						Lead Estimator Appvl.:	T.L. FREY	
						Rev.:	1	
ITEM	Estimate Description	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	TOTAL HOURS	
1	116-DR STACK WILL BE D & D IN YEAR 1999 AREA # 5						-	
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				64	
6	PERMIT COMPLIANCE	208	208				416	
							-	
TOTAL		6,453	8,555	-	-	-	15,008	
							CHECK	15,008

08/04/1999
8:18 AM

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

BECHTEL HANFORD Inc.							Date:	09/28/1998
Title: Summary (Dollars)							By:	S.J. TRENT/DRL
Job Number / Charge # HGWLTM 1100							Chk'd	T.L. FREY
File: D:\ReadWrite\ESTIMATE\468 Post Closure 183H, 300APT, 105-DR LSFF\105DR LSFF Post Closure.xls\TIME LINE COSTS							Rev.:	0
Lead Estimator Appvl.: T.L. FREY								
ITEM	Estimate Description	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	TOTAL @ 98 Dollars	TOTAL @ 99 Dollars
1	116-DR STACK WILL BE D & D IN YEAR 1999 AREA # 5						\$ -	\$ -
2	117-DR FILTER BUILDING & ASSOCIATED TUNNELS TO BE D & D IN YEAR 2001 AREA # 4		\$ 690,174				\$ 690,174	\$ 701,907
3	EXHAUST PLENUM WITHIN THE 105-DR BUILDING TO BE D & D IN YEAR 2000 AREA # 2	\$ 571,549					\$ 571,549	\$ 581,265
4	SITE CLOSE OUT & FINAL SAMPLING TO BE COMPLETED IN YEAR 2001		\$ 61,000				\$ 61,000	\$ 62,037
5	COST ESTIMATE FOR CLOSURE MONITORING	\$ 2,218	\$ 2,218				\$ 4,436	\$ 4,511
6	PERMIT COMPLIANCE	\$ 15,687	\$ 15,687				\$ 31,374	\$ 31,907
							\$ -	\$ -
TOTAL (in 1998 Dollars)		\$ 589,454	\$ 769,079				\$ 1,358,533	\$ 1,381,627
Escalate to 99' Dollars (1.7%)		\$599,474	\$782,153				Total (99' Dollars)	\$1,381,627

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 EQUIPM
ALL COSTS WERE AT 1998 DOLLARS AND UPLIFTED BY 1.7% TO BRING IT TO 1999 DOLLARS. ESCALATION OF 1.7% PROVIDED BY FLUOR.

SOURCES OF INFORMATION ARE LISTED AS FOLLOWS:

ITEMS 1,2 & 3, QUANTITIES, DOLLARS & HOURS ARE FROM A ESTIMATE PROVIDED BY THE FIELD.

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
ERC Field Support



INITIATOR: MIKE MIHALIC
LEAD ENGINEER: _____
CODE OF ACCOUNTS #: R105D0 YN80
DESCRIPTION: 105-DR LARGE SODIUM FIRE FACILITY CLOSURE COSTS.

DATE: 08/04/99
BY: DRL
PRINT TIME: _____
EST. REQUEST #: _____
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-CONT'R	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
		ENVIORNMENTAL LEADS	8		Hrs	1		1	8	74.54	-	-		596	596
									-		-	-		-	-
									-		-	-		-	-
									-		-	-		-	-
									-		-	-		-	-
		TOTAL PERMIT COMPLIANCE PER YEAR	16		Hrs	1		1	208		-	-		15,687	15,687

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: 10:18 AM

DESCRIPTION	TOTAL WH's	TOTAL LABOR	TOTAL SUB/CONTR	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

DURATION: 9 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	WKS							
PROJECT MANAGEMENT															
Y110	9932711	PROJECT ENGINEER	2		HRS	1		9	18	80.45	-	-	-	1,448	1,448
Y110	9932712	TASK LEAD	2		HRS	1		9	18	80.45	-	-	-	1,448	1,448
Y110	9932721	LEAD ENGINEER	2		HRS	1		9	18	80.45	-	-	-	1,448	1,448
Y120	9953720	GENERAL SUPERINTENDENT	2		HRS	1		9	18	62.26	-	-	-	1,121	1,121
Y4AO	9953720	AREA SUPERINTENDENT	4		HRS	1		9	36	62.26	-	-	-	2,241	2,241
Y4AO	9953720	SITE SUPERINTENDENT	20		HRS	1		9	180	62.26	-	-	-	11,207	11,207
Y4AO	9953720	FIELD ENGINEER	15		HRS	1		9	135	62.26	-	-	-	8,405	8,405
K310	9953750	WASTE SHIPPING	2		HRS	1		9	18	62.26	-	-	-	1,121	1,121
YN90	9921700	PLANNING / SCHEDULING	5		HRS	1		9	45	69.33	-	-	-	3,120	3,120
YN90	9921700	COST ENGINEER	5		HRS	1		9	45	69.33	-	-	-	3,120	3,120
YNA0	9921700	ESTIMATING	2		HRS	1		9	18	69.33	-	-	-	1,248	1,248
Y220	9955700	ADMIN. SERVICES	3		HRS	1		9	27	35.12	-	-	-	948	948
Y110	9931754	REG. SUPPORT	1		HRS	1		9	9	74.54	-	-	-	671	671
Y500	9941700	PROCUREMENT	4		HRS	1		9	36	59.06	-	-	-	2,126	2,126
YF60	9958733	SAFETY ENGINEER (BHI)	5		HRS	1		9	45	69.83	-	-	-	3,142	3,142
Y120	9958T21	RCT SUPERVISOR	8		HRS	1		9	72	71.28	-	-	-	5,132	5,132
Y110	9958T22	RAD ENGINEER	2		HRS	1		9	18	71.28	-	-	-	1,283	1,283
Y110	9958T31	IH MGMT	2		HRS	1		9	18	71.28	-	-	-	1,283	1,283
	9953720	EQUIP. SUPER	20		HRS	1		9	180	62.26	-	-	-	11,207	11,207
CONTRACT CLOSEOUT															
	9941700	PROCUREMENT							16	60.45	-	-	-	967	967
PREPARE FINAL REPORT															
	9932727	ENGINEER							40	80.45	-	-	-	3,218	3,218
TOTAL THIS SHEET									1,010					65,904	65,904

DURATION: 9 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-CONTR	MAT'L	RENTAL EQUIP	LABOR	TOTAL
							MO	WKS							
PRE DEMO ENGINEERING HOURS															
PREPARE SSWMI WASTE PROFILE															
	9953750	ENGINEER							60	54.62	-	-	-	3,277	3,277
REVIEW SSWMI WASTE PROFILE															
	9953750	ENGINEER							20	54.62	-	-	-	1,092	1,092
AIR EMISSION CAL															
	9931C62	ENGINEER							64	74.97	-	-	-	4,798	4,798
	9931C54	ENGINEER							8	87.49	-	-	-	700	700
	9931C53	REG SUPPORT							70	77.39	-	-	-	5,417	5,417
	9931C76	D&D Char.							26	64.04	-	-	-	1,665	1,665
	9955C00	ADMIN SERVICES							24	43.59	-	-	-	1,046	1,046
PLANT FORCES WORK REVIEW															
	9932727	ENGINEER							8	80.45	-	-	-	644	644
HISTORICAL & CULTURAL REVIEW															
	9932727	ENGINEER							20	80.45	-	-	-	1,609	1,609
READINESS ASSESSMENT															
	9932727	ENGINEER							40	80.45	-	-	-	3,218	3,218
	9958T22	RADCON ENGINEER							8	71.28	-	-	-	570	570
	9958T33	SAFETY & HEALTH							8	75.25	-	-	-	602	602
	9932721	ENGINEER							8	83.38	-	-	-	667	667
	9932712	ENGINEER							8	95.33	-	-	-	763	763
	9931754	REG SUPPORT							8	76.75	-	-	-	614	614
PREPARE & FINALIZE ENGINEERING DOCUMENTS															
	9932727	ENGINEER							120	80.45	-	-	-	9,654	9,654
	9958T22	RADCON ENGINEER							16	71.28	-	-	-	1,140	1,140
	9958T33	SAFETY & HEALTH							16	71.28	-	-	-	1,140	1,140
	9932721	ENGINEER							16	83.38	-	-	-	1,334	1,334
	9932712	ENGINEER							16	95.33	-	-	-	1,525	1,525
	9931754	REG SUPPORT							16	76.75	-	-	-	1,228	1,228
CHARACTERIZATION & DQO															
	QUANTERRA			1	EA				-	15000	15,000	-	-	-	15,000
TOTAL WORK HRS									1,430		15,000	-	-	98,652	113,652

BECHTEL HANFORD Inc.

General Estimating Worksheet
ERC Field Support



DATE: 08/19/98

BY: T.F.

PRINT TIME: 8:17 AM

EST. REQUEST #:

INITIATOR: M.Mihalic
LEAD ENGINEER: H. Plagge
CODE OF ACCOUNTS #: 77BF61YN80
DESCRIPTION: Demo Above Grade & Below Grade 105-DR Fan Room Plenum

TYPE EST: Budget

C.O.A.	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							
<u>DECON & STABILIZE PLENUM SECTION 3.13</u>															
	9910715	D&D	8		HRS	4		8	256	48.15	-	-	-	12,326	12,326
	9910T25	RCT	8		HRS	2		8	128	67.87	-	-	-	8,687	8,687
	9953720	CRAFT SUPER	8		HRS	1		8	64	66.27	-	-	-	4,241	4,241
	9958T31	IH	8		HRS	1		8	64	68.49	-	-	-	4,383	4,383
<u>ASSUME WIPE DOWN & APPLY FIXATIVE IS ALL THAT IS REQUIRED (7,840 SF)</u>															
		FIXATIVE		32	GALS					18.00	-	576	-	-	576
		PPE		256	EA					14.00	-	3,584	-	-	3,584
		PAPR		64	EA					65.00	-	4,160	-	-	4,160
TOTAL WORK HRS									512		-	8,320	-	29,638	37,958

BECHTEL HANFORD Inc.

General Estimating Worksheet
ERC Field Support



INITIATOR: M.Mihalic
LEAD ENGINEER: H. Plagge
CODE OF ACCOUNTS #: 77BF61YN80
DESCRIPTION: Demo Above Grade & Below Grade 105-DR Fan Room Plenum

DATE: 08/19/98
BY: T.F.
PRINT TIME: 8:17 AM
EST. REQUEST #:
TYPE EST: Budget

C.O.A.	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							
DEMO A.G. & B.G. PLENUM SECTION 3.13															
DEMO A.G. & B.G. PLENUM SECTION 3.13															
	9910714	CRANE OPER	8		HRS	2		15	240	57.27	-	-	-	13,745	13,745
	9910718	HVY DRIVER	8		HRS	1		15	120	47.52	-	-	-	5,702	5,702
	9910715	D&D	8		HRS	4		15	480	48.15	-	-	-	23,112	23,112
	9910T25	RCT	8		HRS	2		15	240	67.87	-	-	-	16,289	16,289
LOAD ERDF CONTAINERS															
	9910714	CRANE OPER	8		HRS	2		15	240	57.27	-	-	-	13,745	13,745
	9910718	HVY DRIVER	8		HRS	1		15	120	47.52	-	-	-	5,702	5,702
	9910715	D&D	8		HRS	4		15	480	48.15	-	-	-	23,112	23,112
	9910T25	RCT	8		HRS	2		15	240	67.87	-	-	-	16,289	16,289
EQUIPMENT															
		EXCAVATOR-HAMMER		1	EA			15	-	1280.00	-	-	19,200	-	19,200
		EXCAVATOR-BUCKET & THUMB		2	EA			15	-	705.00	-	-	21,150	-	21,150
		SHUTTLE TRUCK		1	EA			15	-	54.88	-	-	823	-	823
		EXCAVATOR-SHEAR		1	EA			15	-	1280.00	-	-	19,200	-	19,200
BACKFILL PLENUM															
	9910713	HVY EQUIP OPER	8		HRS	2		3	48	51.10	-	-	-	2,453	2,453
	9910718	HVY DRIVER	8		HRS	3		3	72	47.52	-	-	-	3,421	3,421
	9910715	D&D	8		HRS	2		3	48	48.15	-	-	-	2,311	2,311
	9910T25	RCT	8		HRS	2		3	48	67.87	-	-	-	3,258	3,258
EQUIPMENT															
		FRONT END LOADER		2	EA			3	-	357.14	-	-	2,143	-	2,143
		WATER-TRUCK		1	EA			3	-	125.00	-	-	375	-	375
		DUMP TRUCK		2	EA			3	-	190.00	-	-	1,140	-	1,140
TOTAL WORK HRS									2,376				64,031	129,139	193,170

BECHTEL HANFORD Inc.

General Estimating Worksheet
ERC Field Support



INITIATOR: M.Mihalic

LEAD ENGINEER: H. Plagge

CODE OF ACCOUNTS #: 77BF61YN80

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

DATE: 08/19/98

BY: T.F.

PRINT TIME: 8:17 AM

EST. REQUEST #:

TYPE EST: Budget

C.O.A.	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							
		DISPOSAL													
		DISPOSAL COST TO ERDF		730	CY					78.56	57,349				57,349
TOTAL THIS SHEET											57,349				57,349

TASK SUMMARY



EST TYPE
BUDGET

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

INITIATOR: MIKE MIHALIC

CODE OF ACCOUNTS #: 77BF61YN80

REQUEST #: _____
ESTIMATOR: T.F.

DATE: 8/25/98
PRINT TIME: 10:22 AM

DESCRIPTION	TOTAL WH's	TOTAL LABOR	TOTAL SUB/CONTR	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

INITIATOR: MIKE MIHALIC

DATE: 08/19/98

LEAD ENGINEER:

BY: T.F.

CODE OF ACCOUNTS #: 77BF61YN80

PRINT TIME: 8:42 AM

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

EST. REQUEST #:

DECON & FIXATIVE SUPPLY & EXHAUST TUNNELS

TYPE EST: BUDGET



DURATION: 11 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-CONTR	MAT'L	RENTAL EQUIP	LABOR	TOTAL
							MO	WKS							
PROJECT MANAGEMENT															
Y110	9932711	PROJECT ENGINEER	2		HRS	1		11	22	80.45	-	-	-	1,770	1,770
Y110	9932712	TASK LEAD	2		HRS	1		11	22	80.45	-	-	-	1,770	1,770
Y4B0	9932721	LEAD ENGINEER	2		HRS	1		11	22	80.45	-	-	-	1,770	1,770
Y120	9953720	GENERAL SUPERINTENDENT	2		HRS	1		11	22	62.26	-	-	-	1,370	1,370
Y4AO	9953720	AREA SUPERINTENDENT	4		HRS	1		11	44	62.26	-	-	-	2,739	2,739
Y4AO	9953720	SITE SUPERINTENDENT	20		HRS	1		11	220	62.26	-	-	-	13,697	13,697
Y4AO	9953720	FIELD ENGINEER	15		HRS	1		11	165	62.26	-	-	-	10,273	10,273
K310	9953750	WASTE SHIPPING	2		HRS	1		11	22	62.26	-	-	-	1,370	1,370
YN90	9921700	PLANNING / SCHEDULING	5		HRS	1		11	55	69.33	-	-	-	3,813	3,813
YN90	9921700	COST ENGINEER	5		HRS	1		11	55	69.33	-	-	-	3,813	3,813
YNA0	9921700	ESTIMATING	2		HRS	1		11	22	69.33	-	-	-	1,525	1,525
Y220	9955700	ADMIN. SERVICES	3		HRS	1		11	33	35.12	-	-	-	1,159	1,159
Y110	9931754	REG. SUPPORT	1		HRS	1		11	11	74.54	-	-	-	820	820
Y500	9941700	PROCUREMENT	4		HRS	1		11	44	59.06	-	-	-	2,599	2,599
YF60	9958733	SAFETY ENGINEER (BHI)	5		HRS	1		11	55	69.83	-	-	-	3,841	3,841
Y120	9958T21	RCT SUPERVISOR	8		HRS	1		11	88	71.28	-	-	-	6,273	6,273
Y110	9958T22	RAD ENGINEER	2		HRS	1		11	22	71.28	-	-	-	1,568	1,568
Y110	9958T31	IH MGMT	2		HRS	1		11	22	71.28	-	-	-	1,568	1,568
	9953720	EQUIP. SUPER	20		HRS	1		11	220	62.26	-	-	-	13,697	13,697
CONTRACT CLOSEOUT															
	9941700	PROCUREMENT							16	60.45	-	-	-	967	967
PREPARE FINAL REPORT															
	9932727	ENGINEER							40	80.45	-	-	-	3,218	3,218
TOTAL THIS SHEET									1,222		-	-	-	79,620	79,620

INITIATOR: MIKE MIHALIC

DATE: 08/19/98

LEAD ENGINEER:

BY: T.F.

CODE OF ACCOUNTS #: 77BF61YN80

PRINT TIME: 8:42 AM

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

EST. REQUEST #:

DECON & FIXATIVE SUPPLY & EXHAUST TUNNELS

TYPE EST: BUDGET



DURATION: 11 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-CONTR	MAT'L	RENTAL EQUIP	LABOR	TOTAL
							MO	WKS							
PRE DEMO ENGINEERING HOURS															
PREPARE SSWMI WASTE PROFILE															
	9953750	ENGINEER							60	54.62	-	-	-	3,277	3,277
REVIEW SSWMI WASTE PROFILE															
	9953750	ENGINEER							20	54.62	-	-	-	1,092	1,092
AIR EMISSION CAL															
	9931C62	ENGINEER							64	74.97	-	-	-	4,798	4,798
	9931C54	ENGINEER							8	87.49	-	-	-	700	700
	9931C53	REG SUPPORT							70	77.39	-	-	-	5,417	5,417
	9931C76	D&D Char.							26	64.04	-	-	-	1,665	1,665
	9955C00	ADMIN SERVICES							24	43.59	-	-	-	1,046	1,046
PLANT FORCES WORK REVIEW															
	9932727	ENGINEER							8	80.45	-	-	-	644	644
HISTORICAL & CULTURAL REVIEW															
	9932727	ENGINEER							20	80.45	-	-	-	1,609	1,609
READINESS ASSESSMENT															
	9932727	ENGINEER							40	80.45	-	-	-	3,218	3,218
	9958T22	RADCON ENGINEER							8	71.28	-	-	-	570	570
	9958T33	SAFETY & HEALTH							8	75.25	-	-	-	602	602
	9932721	ENGINEER							8	83.38	-	-	-	667	667
	9932712	ENGINEER							8	95.33	-	-	-	763	763
	9931754	REG SUPPORT							8	76.75	-	-	-	614	614
PREPARE & FINALIZE ENGINEERING DOCUMENTS															
	9932727	ENGINEER							120	80.45	-	-	-	9,654	9,654
	9958T22	RADCON ENGINEER							16	71.28	-	-	-	1,140	1,140
	9958T33	SAFETY & HEALTH							16	75.25	-	-	-	1,204	1,204
	9932721	ENGINEER							16	83.38	-	-	-	1,334	1,334
	9932712	ENGINEER							16	95.33	-	-	-	1,525	1,525
	9931754	REG SUPPORT							16	76.75	-	-	-	1,228	1,228
CHARACTERIZATION & DOO															
	QUANTERRA			1	EA				-	30000	30,000	-	-	-	30,000
TOTAL WORK HRS									2,486		30,000	-	-	168,221	198,221

BECHTEL HANFORD Inc.

General Estimating Worksheet
ERC Field Support



INITIATOR: MIKE MIHALIC

LEAD ENGINEER: _____

CODE OF ACCOUNTS #: 77BF61YN80

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

DECON & FIXATIVE - SUPPLY & EXHAUST TUNNELS

DATE: 08/25/98

BY: T.F.

PRINT TIME: 10:22 AM

EST. REQUEST #: _____

TYPE EST: BUDGET

C.O.A.	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							
DECON SUPPLY & RETURN TUNNEL (210LF)															
DECON & APPLY FIXATIVE TO SUPPLY TUNNEL (115 LF) 3450 SF															
	9910715	D&D	8		HRS	4		8	256	38.58	-	-	-	9,876	9,876
	9910T25	RCT	8		HRS	2		8	128	63.85	-	-	-	8,173	8,173
	9953720	CRAFT SUPER	8		HRS	1		8	64	62.26	-	-	-	3,985	3,985
	9958731	IH	8		HRS	1		8	64	71.28	-	-	-	4,562	4,562
		PPE		224	EA				-	14.00	-	3,136	-	-	3,136
		PAPR		56	EA				-	65.00	-	3,640	-	-	3,640
DECON & APPLY FIXATIVE TO RETURN TUNNEL (95LF) 2,850 SF															
	9910715	D&D	8		HRS	4		6	192	38.58	-	-	-	7,407	7,407
	9910T25	RCT	8		HRS	2		6	96	63.85	-	-	-	6,130	6,130
	9953720	CRAFT SUPER	8		HRS	1		6	48	62.26	-	-	-	2,988	2,988
	9958731	IH	8		HRS	1		6	48	71.28	-	-	-	3,421	3,421
		PPE		168	EA				-	14.00	-	2,352	-	-	2,352
		PAPR		42	EA				-	65.00	-	2,730	-	-	2,730
REMOVE TURNING VANES															
	9910715	D&D	8		HRS	4		3	96	38.58	-	-	-	3,704	3,704
	9910T25	RCT	8		HRS	2		3	48	63.85	-	-	-	3,065	3,065
	9953720	CRAFT SUPER	8		HRS	1		3	24	62.26	-	-	-	1,494	1,494
	9958731	IH	8		HRS	1		3	24	71.28	-	-	-	1,711	1,711
		PPE		84	EA				-	14.00	-	1,176	-	-	1,176
		PAPR		21	EA				-	65.00	-	1,365	-	-	1,365
TOTAL THIS SHEET									1,088			14,399		56,516	70,915

BECHTEL HANFORD Inc.

General Estimating Worksheet
ERC Field Support



INITIATOR: MIKE MIHALIC

LEAD ENGINEER:

CODE OF ACCOUNTS #: 77BF61YN80

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

DECON & FIXATIVE - SUPPLY & EXHAUST TUNNELS

DATE: 08/25/98

BY: T.F.

PRINT TIME: 10:22 AM

EST. REQUEST #:

TYPE EST: BUDGET

C.O.A.	RESOURCE	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
	CODE						MO	DAY							
		<u>117-DR DECON & DEMO</u>													
		<u>DECON & APPLY FIXATIVE TO INTERIOR AREA'S</u>													
	9910715	D&D	8		HRS	4		7	224	38.58	-	-	-	8,642	8,642
	9910T25	RCT	8		HRS	2		7	112	63.85	-	-	-	7,151	7,151
	9953720	CRAFT SUPER	8		HRS	1		7	56	62.26	-	-	-	3,487	3,487
	9958731	IH	8		HRS	1		7	56	71.28	-	-	-	3,992	3,992
		PPE		168	EA				-	14.00	-	2,352	-	-	2,352
		PAPR		42	EA				-	65.00	-	2,730	-	-	2,730
		<u>REMOVE ROOF PANELS</u>													
	9910715	D&D	8		HRS	4		2	64	38.58	-	-	-	2,469	2,469
	9910T25	RCT	8		HRS	2		2	32	63.85	-	-	-	2,043	2,043
	9953720	CRAFT SUPER	8		HRS	1		2	16	62.26	-	-	-	996	996
	9958731	IH	8		HRS	1		2	16	71.28	-	-	-	1,140	1,140
	9910714	CRANE OPER	8		HRS	1		2	16	53.72	-	-	-	860	860
	9910734	RIGGER	8		HRS	2		2	32	53.91	-	-	-	1,725	1,725
		<u>EQUIPMENT</u>													
		CRANE		1	EA			2	-	550.00	-	-	1,100	-	1,100
		<u>CLEAR INTERIOR OF PIPEING ETC.</u>													
	9910715	D&D	8		HRS	2		2	32	38.58	-	-	-	1,235	1,235
	9910T25	RCT	8		HRS	1		2	16	63.85	-	-	-	1,022	1,022
	9953720	CRAFT SUPER	8		HRS	1		2	16	62.26	-	-	-	996	996
		PPE		24	EA				-	14.00	-	336	-	-	336
		PAPR		6	EA				-	65.00	-	390	-	-	390
		TOTAL THIS SHEET							688			5,808	1,100	35,757	42,665

BECHTEL HANFORD Inc.

General Estimating Worksheet
ERC Field Support



INITIATOR: MIKE MIHALIC

LEAD ENGINEER:

CODE OF ACCOUNTS #: 77BF61YN80

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

DECON & FIXATIVE - SUPPLY & EXHAUST TUNNELS

DATE: 08/25/98

BY: T.F.

PRINT TIME: 10:22 AM

EST. REQUEST #:

TYPE EST: BUDGET

C.O.A.	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							
117-DR DEMO (CONTINUED)															
REMOVE HEPA FILTERS & PACKAGE															
	9910715	D&D	8		HRS	4		2	64	38.58	-	-	-	2,469	2,469
	9910725	RCT	8		HRS	1		2	16	63.85	-	-	-	1,022	1,022
	9953720	CRAFT SUPER	8		HRS	1		2	16	62.26	-	-	-	996	996
		PPE		40	EA				-	14.00	-	560	-	-	560
		PAPR		10	EA				-	65.00	-	650	-	-	650
REMOVE FILTER BLOCKS															
	9910714	CRANE OPER	8		HRS	1		1	8	53.72	-	-	-	430	430
	9910734	RIGGER	8		HRS	2		1	16	53.91	-	-	-	863	863
	9953720	CRAFT SUPER	8		HRS	1		1	8	62.26	-	-	-	498	498
	9910725	RCT	8		HRS	1		1	8	63.85	-	-	-	511	511
EQUIPMENT															
		CRANE		1	EA			1	-	550.00	-	-	550	-	550
REMOVE HEPA FILTERS & CRUSH															
	9910714	CRANE OPER	8		HRS	1		3	24	53.72	-	-	-	1,289	1,289
	9910734	RIGGER	8		HRS	2		3	48	53.91	-	-	-	2,588	2,588
	9953720	CRAFT SUPER	8		HRS	1		3	24	62.26	-	-	-	1,494	1,494
	9910725	RCT	8		HRS	1		3	24	63.85	-	-	-	1,532	1,532
EQUIPMENT															
		CRANE		1	EA			3	-	550.00	-	-	1,650	-	1,650
		EXCAVATOR W BUCKET & THUMB		1	EA			1.0	-	705.00	-	-	705	-	705
TOTAL THIS SHEET									256		-	1,210	2,905	13,692	17,807

BECHTEL HANFORD Inc.

General Estimating Worksheet
ERC Field Support



INITIATOR: MIKE MIHALIC

LEAD ENGINEER:

CODE OF ACCOUNTS #: 77BF61YN80

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

DECON & FIXATIVE - SUPPLY & EXHAUST TUNNELS

DATE: 08/25/98

BY: T.F.

PRINT TIME: 10:22 AM

EST. REQUEST #:

TYPE EST: BUDGET

C.O.A.	RESOURCE CODE	ITEM / DESCRIPTION	HRS DAY	MAT'L EQUIP. QTY	UNIT	NO. OF CRAFT	DURATION		TOTAL JOB HRs.	UNIT RATE	SUB-CON'TR	MAT'L	RENTAL EQUIP	LABOR	TOTAL
							MO	DAY							
117-DR DEMO (CONTINUED)															
BUST UP 1st FLOOR															
	9910714	CRANE OPER	8		HRS	1		3	24	53.72	-	-	-	1,289	1,289
	9953720	CRAFT SUPER	8		HRS	1		3	24	62.26	-	-	-	1,494	1,494
EQUIPMENT															
		CRANE W BALL		1	HRS			3	-	550.00	-	-	1,650	-	1,650
EXCAVATE AROUND BLDG. WALL 3' DOWN															
	9910714	CRANE OPER	8		HRS	1		2	16	53.72	-	-	-	860	860
	9953720	CRAFT SUPER	8		HRS	1		2	16	62.26	-	-	-	996	996
	9910713	HVY EQUIP OPER	8		HRS	1		2	16	43.38	-	-	-	694	694
EQUIPMENT															
		EXCAVATOR		1	HRS			2	-	705.00	-	-	1,410	-	1,410
		FRONT END LOADER		1	EA			2	-	357.14	-	-	714	-	714
TOTAL THIS SHEET									96		-	-	3,774	5,333	9,108

BECHTEL HANFORD Inc.

General Estimating Worksheet
ERC Field Support



INITIATOR: MIKE MIHALIC

LEAD ENGINEER:

CODE OF ACCOUNTS #: 77BF61YN80

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

DECON & FIXATIVE - SUPPLY & EXHAUST TUNNELS

DATE: 08/25/98

BY: T.F.

PRINT TIME: 10:22 AM

EST. REQUEST #:

TYPE EST: BUDGET

C.O.A.	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							
117-DR DEMO (CONTINUED)															
DEMO A.G. WALLS & 3' B.G.															
	9910714	CRANE OPER	8		HRS	2		8	128	53.72	-	-	-	6,876	6,876
	9910T25	RCT	8		HRS	1		8	64	63.85	-	-	-	4,086	4,086
	9953720	CRAFT SUPER	8		HRS	1		8	64	62.26	-	-	-	3,985	3,985
	9910718	HVY DRIVER	8		HRS	1		8	64	44.35	-	-	-	2,838	2,838
EQUIPMENT															
		EXCAVATOR-HAMMER		1	EA			8	-	1280.00	-	-	10,240	-	10,240
		EXCAVATOR-SHEAR		1	EA			8	-	1280.00	-	-	10,240	-	10,240
		WATER-TRUCK		1	EA			8	-	125.00	-	-	1,000	-	1,000
BACKFILL (1600 CY)															
	9910718	HVY DRIVER	8		HRS	3		5	120	44.35	-	-	-	5,322	5,322
	9910713	HVY EQUIP OPER	8		HRS	2		5	80	43.38	-	-	-	3,470	3,470
	9953720	CRAFT SUPER	8		HRS	1		5	40	62.26	-	-	-	2,490	2,490
EQUIPMENT															
		DUMP TRUCK		4	EA			5	-	190.00	-	-	3,800	-	3,800
		FRONT END LOADER		2	EA			5	-	357.14	-	-	3,571	-	3,571
		GRADER		1	EA			2	-	155.17	-	-	310	-	310
		WATER TRUCK		1	EA			5	-	125.00	-	-	625	-	625
TOTAL WORK HRS									560				29,787	29,068	58,855

SCOPE

CHARGE # 77BF61YN80	BECHTEL HANFORD Inc. Richland Environmental Restoration Project	Time: 10:45 AM
ESTIMATOR: T.F.		Est Type: BUDGET
DATE: 08/19/98		
REQUEST #:		
Project: DECON & DEMO 3' B.G. 117-DR FILTER BLDG.		

ASSUMPTIONS

- 1 This estimate assumes demolishing the 117-DR Filter Building to 3' Below Grade only.
- 2 Above grade walls and interior 1st floor to be caved into basement of building and backfilled with gravel to finish grade.
- 3 Tunnels & Bldg. Interior to be Decontaminated by vacuuming and spraying with Fixative.
- 4 Tunnels to be left in place.

PRICING DATA

Equipment rental rates were taken from the equipment pool rate Doc dated 10 / 17 / 97 # 052378

Labor rates were taken from the Panning & Controls Document # 052378 Dated 10 / 17 / 97

303-K STORAGE FACILITY

The closure strategy/approach has not changed for this TSD unit for the time period through FY 1999. The costs for this TSD unit have been adjusted by an escalation or inflation factor in accordance with the following:

Adjustment of 1.7% performed on FY 1998 dollars for FY 1999 annual report.

The escalation factor does not take into account changes in specific cost elements included in previous estimates; it is an overall factor applied to the total of the previous estimate. Total anticipated costs are presented in terms of FY 2001 dollars, and are approximately \$320 thousand.

100 D PONDS

This TSD unit was incorporated into the HF RCRA Permit and clean closed during FY 1999. There are no anticipated costs remaining for closure.

1301-N AND 1325-N LIQUID WASTE DISPOSAL FACILITIES

The 1301-N and 1325-N Liquid Waste Disposal Facilities closure/postclosure plan was approved and incorporated into the HF RCRA Permit during FY 1999. The plan calls for completion of closure activities at 1301-N and 1325-N during FY 2003, followed by a 30-year postclosure period ending in FY 2033. A modified closure option is assumed for these TSD units. Closure activities consist primarily of removal and disposal of contaminated materials, soil, and piping to meet cleanup goals. Postclosure activities include periodic assessments and groundwater monitoring. Institutional controls will be required during the postclosure period.

Based on available information, the total cost of closure and postclosure activities is estimated at approximately \$19.8 million (1999 dollars). The closure estimate consists of costs for removal of structures, soil, and piping; sampling and analysis; waste disposal; site restoration; groundwater monitoring; groundwater well inspection and maintenance; and permit compliance activities. The 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.

**POST CLOSURE
TIME LINE COSTS
(In 1999 Dollars)**

BECHTEL HANFORD Inc.
Title: COST SUMMARY (1301/1325)
Job Number / Charge # B10NR1 H210

File: D:\read\W\ESTIMATE\469 Closure 1324\N-NA\1301N,1325\1301-1325\1301-1325 REV 1 POST CLOSURE.JH\TIME LINE COSTS

ITEM	Description	FY	FY	FY	FY	FY	FY	FY	FY	FY	FY	FY	FY	FY	FY	FY	FY	FY	FY
		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
CLOSURE																			
1	CLOSING OF THE SITE: EXCAVATION, BACKFILL, SAMPLING, ETC.	\$1,333,940	\$5,335,759	\$5,335,759	\$4,001,819														
2	PERMIT COMPLIANCE, DURING CLOSURE	\$ 5,111	\$ 20,445	\$ 20,445	\$ 15,334														
3	CERTIFICATION OF CLOSURE				\$ 41,083														
4	ROUTINE WELL MAINTENANCE: ONE A YEAR FOR FY01. NINE WELLS FOR YEAR FY03.		\$ 3,707		\$ 28,302														
5	NON-ROUTINE MAINTENANCE OF GROUNDWATER WELLS (4 WELLS PER YR FY 00 @ 25% THEN FULL YEAR TO - FY03)	\$ 9,807	\$ 9,807	\$ 9,807	\$ 9,807														
6	PERMIT COMPLIANCE (YEARLY FROM FY03 @ 25% THEN EVERY YEAR)				\$ 3,451														
7	GROUNDWATER MONITORING (10 WELLS PER YEAR)	\$ 71,997	\$ 71,997	\$ 71,997	\$ 71,997														
POST CLOSURE																			
8	ROUTINE WELL MAINTENANCE: ONE A YEAR FOR FY 06, 11, 16, 21, 26, & 31. NINE WELLS EACH YEAR FOR FY08, 13, 18, 23, 28, & 33.							\$ 3,707		\$ 28,302			\$ 3,707		\$ 28,302			\$ 3,707	
9	NON-ROUTINE MAINTENANCE OF GROUNDWATER WELLS (4 WELLS PER YR FY 04 - FY33)					\$ 9,807	\$ 9,807	\$ 9,807	\$ 9,807	\$ 9,807	\$ 9,807	\$ 9,807	\$ 9,807	\$ 9,807	\$ 9,807	\$ 9,807	\$ 9,807	\$ 9,807	\$ 9,807
10	PERMIT COMPLIANCE (YEARLY FROM FY04: WITH ADDITIONAL COST IN FY08 FOR 5YR REVIEW AND EVERY 5 YR THERE AFTER)					\$ 13,805	\$ 13,805	\$ 13,805	\$ 13,805	\$ 27,812	\$ 13,805	\$ 13,805	\$ 13,805	\$ 13,805	\$ 27,812	\$ 13,805	\$ 13,805	\$ 13,805	\$ 13,805
11	GROUNDWATER MONITORING (10 WELLS PER YEAR)					\$ 71,997	\$ 71,997	\$ 71,997	\$ 71,997	\$ 71,997	\$ 71,997	\$ 71,997	\$ 71,997	\$ 71,997	\$ 71,997	\$ 71,997	\$ 71,997	\$ 71,997	\$ 71,997
12	INSTITUTIONAL CONTROLS (INSTALL SIGNS FY 04 & REPLACE SIGNS EVERY 10 YEARS FY 14, FY 24. YEARLY INSPECTION COSTS FROM FY 05 TO FY33.)					\$ 18,632	\$ 2,541	\$ 2,541	\$ 2,541	\$ 2,541	\$ 2,541	\$ 2,541	\$ 2,541	\$ 2,541	\$ 2,541	\$ 2,541	\$ 21,173	\$ 2,541	\$ 2,541
13	POST CLOSURE CERTIFICATION																		
TOTAL (In 1999 Dollars)		\$ 1,420,855	\$ 5,441,715	\$ 5,438,008	\$ 4,171,773	\$ 114,240	\$ 98,150	\$ 101,858	\$ 98,150	\$ 140,460	\$ 98,150	\$ 98,150	\$ 101,858	\$ 98,150	\$ 140,460	\$ 116,782	\$ 98,150	\$ 101,858	\$ 98,150

GENERAL QUALIFICATIONS AND ASSUMPTIONS:

(SEE ATTACHED FOR DETAIL CALCULATIONS)

- DD AND G&A ARE PER, "FY 99 PROVISIONAL INDIRECT RATE AGREEMENT, REV 1, TRACKING NO. 066631.
- ERC WAGE RATES PER, "ERC & HAMTC DIRECT LABOR WAGE RATES FY 1998 REV 4", (BASED ON, "FY 98 ALL IN WAGE RATES FOR BHI, THI, HAMTC, NO. 002320)
- 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 1999 DOLLARS.
- PRIME SUBCONTRACTOR WAGE RATES, PAYROLL ADDS AND FRINGES, PER "BUILDING TRADES FY 1997 PRIME SUBCONTRACTOR DIRECT LABOR WAGE RATES" REV. DATE 11/09/98 (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, SCOPE PROVIDED BY THE FIELD, COST AND HOURS ESTIMATOR EXPERIENCE.
- ITEMS 2, 3, 6, 10, 12, & 13, HOURS SUPPLIED BY CHI REGULATORY SUPPORT DEPARTMENT.
- ITEMS 4, 5, 8, & 9, COST PER WELL MAINTENANCE SUBCONTRACT
- ITEMS 7 & 11, HOURS AND COST PROVIDED BY PNNL

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

**1301-1325 CRIBS
POST CLOSURE
TIME LINE HOURS
1999**

BECHTEL HANFORD Inc.
Title: MANHOUR SUMMARY (1301/1325)
Job Number / Charge # N10NR1 H210

File: D:\Res & W\ESTIMATE\69 Closure 1324N-NA&1301N,1325N\1301-1325\1301-1325 REV 1 POST CLOSURE.tbl TIME LINE HOURS

ITEM	Description	FY	FY	FY	FY	FY	FY	FY	FY	FY	FY	FY	FY	FY	FY	FY	FY	FY	FY
		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
CLOSURE																			
1	CLOSING OF THE SITE: EXCAVATION, BACKFILL, SAMPLING	8316	33263	33263	24947														
2	PERMIT COMPLIANCE, DURING CLOSURE	260	260	260	210														
3	CERTIFICATION OF CLOSURE				296														
4	ROUTINE WELL MAINTENANCE: ONE A YEAR FOR FY02, 06, 07, 11, 12, 16, 17, 21, 22, 26, 27, 31, & 32. THREE WELLS EACH YEAR FOR FY04, 08, 13, 18, 23, & 28.		8		68														
5	NON-ROUTINE MAINTENANCE OF GROUNDWATER WELLS (4 WELLS PER YR FY 00 - FY33)	20	20	20	20														
6	PERMIT COMPLIANCE (ADDITIONAL COST IN FY08 FOR 5YR REVIEW AND EVERY 5 YR THERE AFTER)				45														
7	GROUNDWATER MONITORING (5 WELLS PER YEAR)	418	418	418	418														
POST CLOSURE																			
8	ROUTINE WELL MAINTENANCE: ONE A YEAR FOR FY 06, 11, 16, 21, 26, & 31. NINE WELLS EACH YEAR FOR FY08, 13, 18, 23, 28, & 33.						8		68			8		68				8	
9	NON-ROUTINE MAINTENANCE OF GROUNDWATER WELLS (4 WELLS PER YR FY 04 - FY33)					20	20	20	20	20	20	20	20	20	20	20	20	20	20
10	PERMIT COMPLIANCE (YEARLY FROM FY04: WITH ADDITIONAL COST IN FY08 FOR 5YR REVIEW AND EVERY 5 YR THERE AFTER)					180	180	180	180	360	180	180	180	360	180	180	180	180	180
11	GROUNDWATER MONITORING (10 WELLS PER YEAR)					418	418	418	418	418	418	418	418	418	418	418	418	418	418
12	INSTITUTIONAL CONTROLS (INSTALL SIGNS FY 04 & REPLACE SIGNS EVERY 10 YEARS FY 14, FY 24. YEARLY INSPECTION COSTS FROM FY 05 TO FY33.)					100	40	40	40	40	40	40	40	40	40	140	40	40	40
13	POST CLOSURE CERTIFICATION																		
TOTAL		9034	33989	33981	26004	718	658	666	658	906	658	666	658	906	758	658	666	658	658

1301-1325 CRIBS
POST CLOSURE
TIME LINE HOURS
1999

BECHTEL HANFORD Inc.																	Date:	06/02/1999
Title: MANHOUR SUMMARY (1301/1325)																	By:	KRM
Job Number / Charge # N10NR1 H210																	Chk'd	DRL
File: D:\ReadWork\ESTIMATE\69 Closure 1324N-NA&1301N,1325NA\1301-1325N\130																	Rev.:	0
																	Lead Estimator Appvl.: JA LAPIERRE	
ITEM	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	TOTAL
CLOSURE																		
1	CLOSING OF THE SITE: EXCAVATION, BACKFILL, SAMPLING																	99788
2	PERMIT COMPLIANCE, DURING CLOSURE																	1050
3	CERTIFICATION OF CLOSURE																	296
4	ROUTINE WELL MAINTENANCE: ONE A YEAR FOR FY02, 06, 07, 11, 12, 16, 17, 21, 22, 26, 27, 31, & 32. THREE WELLS EACH YEAR FOR FY04, 08, 13, 18, 23, & 28.																	75
5	NON-ROUTINE MAINTENANCE OF GROUNDWATER WELLS (4 WELLS PER YR FY 00 - FY33)																	80
6	PERMIT COMPLIANCE (ADDITIONAL COST IN FY08 FOR 5YR REVIEW AND EVERY 5 YR THERE AFTER)																	45
7	GROUNDWATER MONITORING (5 WELLS PER YEAR)																	1672
POST CLOSURE																		
8	ROUTINE WELL MAINTENANCE: ONE A YEAR FOR FY 06, 11, 16, 21, 26, & 31. NINE WELLS EACH YEAR FOR FY08, 13, 18, 23, 28, & 33.	68			8		68			8		68			8		68	453
9	NON-ROUTINE MAINTENANCE OF GROUNDWATER WELLS (4 WELLS PER YR FY 04 - FY33)	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	600
10	PERMIT COMPLIANCE (YEARLY FROM FY04: WITH ADDITIONAL COST IN FY08 FOR 5YR REVIEW AND EVERY 5 YR THERE AFTER)	360	180	180	180	180	360	180	180	180	180	360	180	180	180	180	180	6300
11	GROUNDWATER MONITORING (10 WELLS PER YEAR)	418	418	418	418	418	418	418	418	418	418	418	418	418	418	418	418	12540
12	INSTITUTIONAL CONTROLS (INSTALL SIGNS FY 04 & REPLACE SIGNS EVERY 10 YEARS FY 14, FY 24. YEARLY INSPECTION COSTS FROM FY 05 TO FY33.)	40	40	40	40	40	40	140	40	40	40	40	40	40	40	40	40	1460
13	POST CLOSURE CERTIFICATION																	
TOTAL		906	658	658	666	658	906	758	658	666	658	906	658	658	666	658	726	124360

CHECK 124360

ONE YEAR COST FOR
 1301/1325 CLOSURE/POST-CLOSURE COST
 JOB NO. 22192-105 / B10NR1 H210

Date:
 By:
 Chkd
 Rev.:
 KM
 ORL
 0

File: D:\Projects\ESTIMATE\649 Closure 1324N-NAJ1301N,1325N-NAJ301-1325N\1301-1325 REV 1 POST CLOSURE - ONE YEAR.S

Lead Estimator Appl.: JALAPIERRE

ITEM	Description	QTY	UN	Unit Costs			Labor Hours		Wage \$/HR	Subtotals				SUBTOTAL	ADDITIONAL COSTS					TOTAL	
				Equip	Mil	S/C	Unit Hr	Total Hr		Equip.	Material	Labor	S/C		MATL SALES TAX	S/C OH&P	DIRECT DISTRIBS	G&A	CONTRINGENCY		
1	NON-ROUTINE MAINTENANCE OF GROUNDWATER WELLS	4	WELLS			\$1,700							\$6,800	6,800		INCLUDED	\$1,255	\$295			\$8,349
	PLANNING & CONTROLS	2	HRS				1.00	2	57.36			\$115		115			\$21	\$5			\$141
	DESIGN ENGINEERING	2	HRS				1.00	2	68.81			\$138		138			\$25	\$6			\$169
	ENVIRONMENT COMPLIANCE	4	HRS				1.00	4	69.61			\$278		278			\$51	\$12			\$341
	PROCUREMENT	4	HRS				1.00	4	63.56			\$254		254			\$47	\$11			\$312
	FIELD SUPPORT	4	HRS				1.00	4	51.55			\$206		206			\$38	\$9			\$253
	SAFETY & HEALTH	2	HRS				1.00	2	49.52			\$99		99			\$18	\$4			\$122
	PROCUREMENT	2	HRS				1.00	2	48.52			\$97		97			\$18	\$4			\$119
	SUBTOTAL							20				\$1,187	\$6,800	\$7,987			\$1,474	\$346			\$9,807
1	CERTIFICATION OF CLOSURE					\$14,000							\$14,000	\$14,000		INCLUDED	\$2,583	\$607			\$17,190
	CIVIL SURVEY	1	LOT																		
	ENVIRONMENTAL ENGINEERING	200	HRS				1.00	200	71.33			\$14,266		14,266			\$2,632	\$818			\$17,517
	ENVIRONMENTAL LEAD	80	HRS				1.00	80	57.61			\$4,609		4,609			\$850	\$200			\$5,659
	ADMIN SERVICES	16	HRS				1.00	16	35.48			\$568		568			\$105	\$25			\$697
	SUBTOTAL							296				\$19,443	\$14,000	\$33,443			\$5,170	\$1,450			\$41,063
1A	1 WELLS SUBSURFACE ROUTINE MAINTENANCE	1	WELLS			\$2,125.00							\$2,125	2,125		\$531	\$392	\$92			\$3,140
	(FY01, 04, 11, 18, 21, 28, & 31)																				
	PLANNING & CONTROLS	1	HRS				1.00	1	57.36			\$57		57			\$11	\$2			\$70
	DESIGN ENGINEERING	1	HRS				1.00	1	68.81			\$69		69			\$13	\$3			\$85
	ENVIRONMENT COMPLIANCE	1	HRS				1.00	1	69.61			\$70		70			\$13	\$3			\$86
	PROCUREMENT	1	HRS				1.00	1	48.52			\$49		49			\$9	\$2			\$60
	PROCUREMENT	1	HRS				1.00	1	63.56			\$64		64			\$12	\$3			\$79
	FIELD SUPPORT	2	HRS				1.00	2	51.55			\$103		103			\$19	\$4			\$126
	SAFETY & HEALTH	1	HRS				1.00	1	49.52			\$50		50			\$9	\$2			\$61
	SUBTOTAL							8				\$462	\$2,125	\$2,587		\$531	\$477	\$112			\$3,707
1B	8 WELLS SUBSURFACE ROUTINE MAINTENANCE	9	WELLS			\$2,125.00							\$19,125	19,125		INCLUDED	\$3,529	\$829			\$23,483
	(FY01, 13, 18, 23, 28, & 31)																				
	PLANNING & CONTROLS	9	HRS				1.00	9	57.36			\$516		516			\$95	\$22			\$634
	DESIGN ENGINEERING	9	HRS				1.00	9	68.81			\$619		619			\$114	\$27			\$760
	ENVIRONMENT COMPLIANCE	9	HRS				1.00	9	69.61			\$626		626			\$115	\$27			\$769
	PROCUREMENT	4.5	HRS				1.00	4.5	48.52			\$218		218			\$40	\$9			\$268
	PROCUREMENT	9	HRS				1.00	9	63.56			\$572		572			\$106	\$25			\$702
	FIELD SUPPORT	18	HRS				1.00	18	51.55			\$928		928			\$171	\$40			\$1,139
	SAFETY & HEALTH	9	HRS				1.00	9	49.52			\$446		446			\$82	\$19			\$548
	SUBTOTAL							67.5				\$3,925	\$19,125	\$23,050			\$4,253	\$999			\$28,302
1	PERMIT COMPLIANCE, DURING CLOSURE																				
	(PER YEAR)																				
	ADMIN SERVICES	40	HRS				1.00	40	35.48			\$1,419		1,419			\$262	\$62			\$1,743
	ENVIRONMENTAL ENGINEER	120	HRS				1.00	120	71.33			\$8,560		8,560			\$1,579	\$371			\$10,510
	PLANNING & CONTROLS	80	HRS				1.00	80	57.36			\$4,589		4,589			\$847	\$199			\$5,635
	REGULATORY SUPPORT	160	HRS				1.00	160	60.99			\$9,758		9,758			\$1,800	\$423			\$11,981
	ENVIRONMENT LEAD	40	HRS				1.00	40	57.61			\$2,304		2,304			\$425	\$100			\$2,829
	SUBTOTAL							280				\$16,651		\$16,651			\$3,072	\$722			\$20,445
1A	PERMIT COMPLIANCE																				
	REGULATORY SUPPORT	160	HRS				1.00	160	63.07			\$10,091		10,091			\$1,882	\$437			\$12,390
	ENVIRONMENT LEAD	20	HRS				1.00	20	57.61			\$1,152		1,152			\$213	\$50			\$1,414
	SUBTOTAL							180				\$11,243		\$11,243			\$2,074	\$487			\$13,805
1B	PERMIT COMPLIANCE, 8 YR REVIEW																				
	(FY 01, 13, 18, 23, & 31)																				
	ADMIN SERVICES	20	HRS				1.00	20	35.48			\$710		710			\$131	\$31			\$872
	ENVIRONMENTAL ENGINEERING	60	HRS				1.00	60	71.33			\$4,280		4,280			\$790	\$186			\$5,255
	REGULATORY SUPPORT	60	HRS				1.00	60	60.99			\$3,659		3,659			\$675	\$159			\$4,493
	ENVIRONMENT LEAD	60	HRS				1.00	60	57.61			\$3,457		3,457			\$638	\$165			\$4,260

ONE YEAR COST FOR
 1301/1325 CLOSURE/POST-CLOSURE COST
 JOB NO. 22192-105 / B10NR1 H210

Date: KM
 By: Chk'd ORL
 Rev.: 6

File: 13 Year 2004 ESTIMATE 449 Client: 1321H-NAA (301H, 1321H) 301-1325 (1301-1325 REV 1 POST CLOSURE Job POST CLOSURE - ONE YEAR)

Lead Estimator Appvl.: JALAPIERRE

Description	QTY	UN	Unit Costs			Labor Hours		Wage \$/HR	Subtotals				SUBTOTAL	ADDITIONAL COSTS					TOTAL	
			Equip	MII	S/C	Unit Hr	Total Hr		Equip.	Material	Labor	S/C		MATL SALES TAX	S/C OH&P	DIRECT DISTRIBS	G&A	CONTINGENCY		
SUBTOTAL							180					\$11,396	\$11,396				\$2,103	\$509		\$14,008
GROUNDWATER MONITORING (FY93-94) PINK																				
TEN WELLS SAMPLED ANNUALLY																				
TEN SAMPLED FOR TOC, TOX (QUADS AT 9 WELLS) AND LAB CONDUCTIVITY																				
NINE WELLS FOR METALS, ANIONS, AND ALKALINITY; ONE WELL SEM ANNUALLY FOR METALS, ANIONS, AND ALKALINITY																				
LABOR	418	HRS																		
MATERIAL																				\$36,490
SUBCONTRACTS																				\$1,180
SUBTOTAL																				\$34,327
POST-CLOSURE CERTIFICATION																				\$71,997
CERTIFICATION SUBCONTRACT	1	LOT			\$56,908															\$56,908
SUBTOTAL																				\$56,908
INSTITUTIONAL CONTROLS																				\$56,908
COSTS ARE FOR 50 SIGNS TO BE REPLACED EVERY 10 YEARS (FY 03) FY 13 (FY 23)																				\$10,500
SIGNAGE	1	LOT			\$10,000															\$10,000
FIELD SUPPORT	100	HRS				1.00	100	\$1.55												\$5,155
SUBTOTAL																				\$10,000
INSTITUTIONAL CONTROLS																				\$5,155
YEARLY INSPECTION & REPORT OF SIGNS																				\$5,155
YEARLY FROM FY 04 THROUGH FY 33																				\$5,155
FIELD SUPPORT	40	HRS				1.00	40	\$1.55												\$2,062
SUBTOTAL																				\$2,062
1301/1325 CLOSURE (See File For Detail Estimate)																				\$314,231
Remove Concrete Panels and Beams																				\$35,520
Demolish and Remove High Dose Concrete																				\$2,799
Demolish and Remove LLW Concrete																				\$13,291
Excavate 1301 Crib																				\$113,955
Excavate 1301 Trench																				\$101,535
Excavate 1325 Crib																				\$78,547
Excavate 1325 Trench																				\$64,981
Excavate Clean Overburden - 1301 Crib & Trench																				\$17,297
Excavate Clean Overburden - 1325 Crib & Trench																				\$12,747
Support Functions																				\$9,878
Mobilization/Demobilization																				\$18,852
Disposal at ERDF																				\$94,031
ERC Support Duration																				\$133,847
Total							99,788													\$487,199
																				\$548,356
																				\$8,320,424
																				\$4,958,474
																				\$12,294,453
																				\$742,353
																				\$1,885,991
																				\$443,159
																				\$16,007,277

1324-N SURFACE IMPOUNDMENT AND 1324-NA PERCOLATION POND

The 1324-N Surface Impoundment and 1324-NA Percolation Pond closure/postclosure plan was approved and incorporated into the HF RCRA Permit during FY 1999. The plan calls for completion of closure activities at 1324-N and 1324-NA during FY 2001, followed by a 30-year postclosure period ending in FY 2032. A modified closure option is assumed for these TSD units. Closure activities consist primarily of removal and disposal of structures and piping to meet cleanup goals. Postclosure activities include periodic assessments and groundwater monitoring.

Based on available information, the total cost of closure and postclosure activities is estimated at approximately \$2.2 million (1999 dollars). The closure estimate consists of costs for removal of structures and piping; sampling and analysis; disposal of materials; site restoration; groundwater monitoring; groundwater well inspection and maintenance; and permit compliance activities. The postclosure estimate includes costs for groundwater monitoring; groundwater well inspection and maintenance; and permit compliance activities. The 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.

1324N/NA
POST CLOSURE
TIME LINE HOURS
1999

BECHTEL HANFORD Inc.
Title: MANHOUR SUMMARY
Job Number / Charge # B10NR1 H210

File: D:\read\win\ESTIMATE\M49 Closure 1324N-NA&1301N,1323M1324N,NA\1324 REVI N-NA POST CLOSURE .sh\TIME LINE HOURS																	
ITEM	Description	FY	FY	FY	FY	FY	FY	FY	FY	FY	FY	FY	FY	FY	FY	FY	FY
		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
CLOSURE																	
1	CLOSING OF THE SITE: EXCAVATION, BACKFILL, SAMPLING		1182														
2	PERMIT COMPLIANCE, DURING CLOSURE	100	240														
3	CERTIFICATION OF CLOSURE		210														
4	ROUTINE WELL MAINTENANCE: ONE WELL IN YEAR FY 01.		8														
5	NON-ROUTINE MAINTENANCE OF GROUNDWATER WELLS (2 WELLS PER YR BY FY 00 & 01)	10	10														
6	PERMIT COMPLIANCE, DURING CLOSURE	100	100														
7	GROUNDWATER MONITORING (5 WELLS PER YEAR)	209	209														
POST CLOSURE																	
8	PERMIT COMPLIANCE DURING POST CLOSURE (ADDITIONAL COST IN FY06 FOR 5YR REVIEW AND EVERY 5 YR THERE)			100	100	100	100	240	100	100	100	100	240	100	100	100	240
9	ROUTINE WELL MAINTENANCE: ONE A YEAR FOR FY,02, 06, 07, 11, 12, 16, 17, 21, 22, 26, 27, 31, & 32. THREE WELLS EACH YEAR FOR FY 03, 08, 13, 18, 23, & 28.			8	23			8	8	23			8	8	23		8
10	NON-ROUTINE MAINTENANCE OF GROUNDWATER WELLS (2 WELLS PER YR FY 02 - FY32)			10	10	10	10	10	10	10	10	10	10	10	10	10	10
11	GROUNDWATER MONITORING (5 WELLS PER YEAR)			209	209	209	209	209	209	209	209	209	209	209	209	209	209
12	POST CLOSURE CERTIFICATION																
TOTAL		419	1959	327	342	319	319	467	327	342	319	319	467	327	342	319	467

1324N/NA
POST CLOSURE
TIME LINE HOURS
1999

Date: 8/2/99
By: KRM
Chk'd: DRL
Rev.: 0

BECHTEL HANFORD Inc.
Title: MANHOUR SUMMARY
Job Number / Charge # B10NR1 H210

Lead Estimator Appvl.: JA LAPIERRE

ITEM	Description	FY	TOTAL															
		2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	
CLOSURE																		
1	CLOSING OF THE SITE: EXCAVATION, BACKFILL, SAMPLING																	1182
2	PERMIT COMPLIANCE, DURING CLOSURE																	340
3	CERTIFICATION OF CLOSURE																	210
4	ROUTINE WELL MAINTENANCE: ONE WELL IN YEAR FY 01.																	8
5	NON-ROUTINE MAINTENANCE OF GROUNDWATER WELLS (2 WELLS PER YR IN FY 00 & 01)																	20
6	PERMIT COMPLIANCE, DURING CLOSURE																	200
7	GROUNDWATER MONITORING (5 WELLS PER YEAR)																	418
POST CLOSURE																		
8	PERMIT COMPLIANCE DURING POST CLOSURE (ADDITIONAL COST IN FY06 FOR 5YR REVIEW AND EVERY 5 YR THERE)	100	100	100	100	240	100	100	100	100	240	100	100	100	100	60	3760	
9	ROUTINE WELL MAINTENANCE: ONE A YEAR FOR FY 02, 06, 07, 11, 12, 16, 17, 21, 22, 26, 27, 31, & 32. THREE WELLS EACH YEAR FOR FY 03, 08, 13, 18, 23, & 28.	8	23			8	8	23			8	8	23			8	2	233
10	NON-ROUTINE MAINTENANCE OF GROUNDWATER WELLS (2 WELLS PER YR FY 02 - FY32)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	3	303
11	GROUNDWATER MONITORING (5 WELLS PER YEAR)	209	209	209	209	209	209	209	209	209	209	209	209	209	209	52	6322	
12	POST CLOSURE CERTIFICATION																	
TOTAL		327	342	319	319	467	327	342	319	319	327	467	342	319	319	327	117	12996

CHECK 12996

BECHTEL HANFORD Inc. Log # 469.
 ERC & PRIME CONTR (S/C, DIRECT WORK)
 Job Number / Charge #B10NR1 H210

ONE YEAR COST FOR
 1324N/NA CLOSURE/POST-CLOSURE COST
 JOB NO. 22192-105 / B10NR1 H210

Date: 8/12/99
 By: KRM
 Chk'd: DRL
 Rev.: 0

File: D:\Work\W\STDMATT\MAT\Charge 1324N NAA 1 MIN.1323NA1324N NAA\1124 REV1 N-NA POST CLOSURE - 1324N NAA - ONE YEAR \$

Lead Estimator Appvl.: JA LAPIERRE

ITEM	Description	QTY	UN	Unit Costs			Labor Hours		Wage	Subtotals				ADDITIONAL COSTS					TOTAL	
				Equip	MU	S/C	Unit Hr	Total Hr		\$/HR	Equip.	Material	Labor	S/C	SUBTOTAL	MATL SALES TAX	S/C OH&P	DIRECT DISTRIBS		G&A
4	NON-ROUTINE MAINTENANCE OF GROUNDWATER WELLS	2	WELL			\$1,700							\$3,400	3,400		INCLUDED	\$627	\$147		\$4,175
	PLANNING & CONTROLS BHI	1	HRS				1.00	1	57.36				\$57	57			\$11	\$2		\$70
	DESIGN ENGINEERING BHI	1	HRS				1.00	1	68.81				\$69	69			\$13	\$3		\$85
	ENVIRONMENT COMPLIANCE BHI	2	HRS				1.00	2	69.61				\$139	139			\$26	\$6		\$171
	GEOSCIENCE CHI	2	HRS				1.00	2	63.56				\$127	127			\$23	\$6		\$156
	FIELD SUPPORT DHI	2	HRS				1.00	2	51.55				\$103	103			\$19	\$4		\$126
	SAFETY & HEALTH BHI	1	HRS				1.00	1	49.52				\$50	50			\$9	\$2		\$61
	PROCUREMENT BHI	1	HRS				1.00	1	48.52				\$49	49			\$9	\$2		\$60
	SUBTOTAL							10					\$594	\$3,400			\$737	\$173		\$4,904
3	CERTIFICATION OF CLOSURE					\$7,000							\$7,000	7,000		INCLUDED	\$1,292	\$303		\$8,595
	CIVIL SUREY	1	LOT																	
	ENVIRONMENTAL ENGINEERING CHI	150	HRS				1.00	150	71.33				\$10,700	10,700			\$1,974	\$464		\$13,138
	ENVIRONMENTAL LEAD BHI	50	HRS				1.00	50	57.61				\$2,881	2,881			\$532	\$125		\$3,537
	ADMIN SERVICES CHI	10	HRS				1.00	10	35.48				\$355	355			\$65	\$15		\$436
	SUBTOTAL							210					\$13,936	\$7,000			\$3,863	\$908		\$25,706
4A	1 WELLS, SUBSURFACE ROUTINE MAINTENANCE	1	WELL			\$2,125							\$2,125	2,125			\$531	\$392	\$92	\$3,140
	(FY 02, 04, 07, 11, 12, 16, 17, 21, 22, 26, 27, 31, & 32)																			
	PLANNING & CONTROLS BHI	1	HRS				1.00	1	57.36				\$57	57			\$11	\$2		\$70
	DESIGN ENGINEERING BHI	1	HRS				1.00	1	68.81				\$69	69			\$13	\$3		\$85
	ENVIRONMENT COMPLIANCE BHI	1	HRS				1.00	1	69.61				\$70	70			\$13	\$3		\$86
	PROCUREMENT BHI	1	HRS				1.00	1	48.52				\$49	49			\$9	\$2		\$60
	GEOSCIENCE CHI	1	HRS				1.00	1	63.56				\$64	64			\$12	\$3		\$79
	FIELD SUPPORT BHI	2	HRS				1.00	2	51.55				\$103	103			\$19	\$4		\$126
	SAFETY & HEALTH BHI	1	HRS				1.00	1	49.52				\$50	50			\$9	\$2		\$61
	SUBTOTAL							8					\$462	\$2,125			\$531	\$477	\$112	\$3,707
4B	3 WELLS, SUBSURFACE ROUTINE MAINTENANCE	3	WELL			\$2,125							\$6,375	6,375		INCLUDED	\$1,176	\$276		\$7,828
	(FY 04, 05, 13, 18, 23, & 28)																			
	PLANNING & CONTROLS BHI	3	HRS				1.00	3	57.36				\$172	172			\$32	\$7		\$211
	DESIGN ENGINEERING BHI	3	HRS				1.00	3	68.81				\$206	206			\$38	\$9		\$253
	ENVIRONMENT COMPLIANCE BHI	3	HRS				1.00	3	69.61				\$209	209			\$39	\$9		\$257
	PROCUREMENT BHI	1.5	HRS				1.00	1.5	48.52				\$73	73			\$13	\$3		\$90
	GEOSCIENCE CHI	3	HRS				1.00	3	63.56				\$191	191			\$35	\$8		\$235
	FIELD SUPPORT BHI	6	HRS				1.00	6	51.55				\$309	309			\$57	\$13		\$379
	SAFETY & HEALTH BHI	3	HRS				1.00	3	49.52				\$149	149			\$27	\$6		\$183
	SUBTOTAL							22.5					\$1,309	\$6,375			\$1,418	\$333		\$9,435
7	PERMIT COMPLIANCE, DURING CLOSURE																			
	ADMIN SERVICES CHI	20	HRS				1.00	20	35.48				\$710	710			\$131	\$31		\$871
	ENVIRONMENT ENGINEER CHI	80	HRS				1.00	80	71.33				\$5,706	5,706			\$1,053	\$247		\$7,007
	PLANNING & CONTROLS BHI	40	HRS				1.00	40	57.36				\$2,294	2,294			\$423	\$99		\$2,817
	REGULATORY SUPPORT CHI	80	HRS				1.00	80	60.99				\$4,879	4,879			\$900	\$212		\$5,991
	ENVIRONMENT LEAD DHI	20	HRS				1.00	20	57.61				\$1,152	1,152			\$213	\$50		\$1,414
	SUBTOTAL							240					\$14,741	\$14,741			\$2,720	\$639		\$18,110
6A	PERMIT COMPLIANCE																			
	REGULATORY SUPPORT CHI	80	HRS				1.00	80	63.07				\$5,046	5,046			\$931	\$219		\$6,196
	ENVIRONMENT LEAD DHI	20	HRS				1.00	20	57.61				\$1,152	1,152			\$213	\$50		\$1,414
	SUBTOTAL							100					\$6,198	\$6,198			\$1,144	\$269		\$7,610

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 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 cost of remaining postclosure activities is estimated at \$3.5 million (1999 dollars). An escalation factor of 1.7% was applied to the 1998 estimate. The escalation factor does not take into account changes in specific cost elements included in previous estimates; it is an overall factor applied to the total of the previous estimate. The 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. 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**

BECHTEL HANFORD Inc.

Title: Summary

Job Number / Charge # HGWLTM 1100

File: D:\ReadWrite\ESTIMATE\68 Post Closure 183H, 300APT,105-DR LSFF\300 APT Post Closure\3\TIME LINE COSTS

ITEM	Description	FY	FY	FY	FY	FY	FY	FY	FY	FY	FY							
		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
POST CLOSURE																		
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%	\$ 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	\$ 6,632
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.	\$ 129,774	\$ 129,774	\$ 129,774	\$ 129,774	\$ 129,774	\$ 129,774	\$ 129,774	\$ 146,090	\$ 73,833	\$ 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)		\$ 147,825	\$ 147,825	\$ 187,821	\$ 152,781	\$ 147,825	\$ 147,825	\$ 147,825	\$ 215,190	\$ 98,840	\$ 91,884	\$ 91,884	\$ 91,884	\$ 131,680	\$ 98,840	\$ 91,884	\$ 91,884	\$ 91,884
Escalate To 99' Dollars (1.7%)		\$ 150,339	\$ 150,339	\$ 191,014	\$ 155,379	\$ 150,338	\$ 150,338	\$ 150,338	\$ 218,848	\$ 98,466	\$ 93,446	\$ 93,446	\$ 93,446	\$ 134,122	\$ 98,466	\$ 93,446	\$ 93,446	\$ 93,446

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 WAGE RATES" (BASED ON 11/14/97 HSSA) FILE, "Wt198sc 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.
- ORIGINAL COSTS ARE AT 1998 DOLLARS. TOTALS WERE ESCALATED TO 99' DOLLARS USING AN ESCALATION RATE PROVIDED BY FLUOR DANIEL HANFORD. THE RATE IS 1.7%.
- 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.

TIME LINE COSTS

BECHTEL HANFORD Inc.													Date: 8/13/99			
Title: Summary													By: K. Myers			
Job Number / Charge # HGWLTM 1100													Chk'd JAL			
File: D:\ReadWork\ESTIMATE\M61 Post Closure 11311, 300APT, 113-DR 1.SFF\300 APT Post Closure.													Rev.: 01			
Lead Estimator Appvl.: JA LAPIERRE																
ITEM	Description	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	TOTAL (98' Dollars)	TOTAL @ 99 Dollars	
POST CLOSURE																
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	\$ 6,899	\$ 264,527	\$ 269,024
3	GROUNDWATER WELL MAINTENANCE 5 YEAR CYCLE STARTS IN FY02 (ROUTINE MAINTENANCE)	\$ 39,996					\$ 39,996						\$ 39,996	\$ 239,976	\$ 244,056	
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	\$ 62,104	\$ 63,160	
5	PERMIT COMPLIANCE FY99-27 100%, FY28 75%	\$ 6,632	\$ 11,588	\$ 6,632	\$ 6,632	\$ 6,632	\$ 6,632	\$ 11,588	\$ 6,632	\$ 6,632	\$ 6,632	\$ 6,632	\$ 6,632	\$ 4,974	\$ 224,503	\$ 228,320
6	GROUNDWATER MONITORING ALL YEARS 42 WATER WELL LEVELS MEASURED SEMIANNUALLY. FY99-01 EIGHT WELLS SAMPLED EIGHT TIMES PER YEAR. FY02 EIGHT WELLS SAMPLED EIGHT TIMES PER YEAR PLUS ONE MOO TO SITEWIDE PERMIT CIRCA. FY03-27 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	\$ 55,375	\$ 2,588,543	\$ 2,632,548
7	POST-CLOSURE CARE CERTIFICATION												\$ 44,006	\$ 44,006	\$ 44,754	
TOTAL (in 1998 Dollars)		\$ 131,880	\$ 96,840	\$ 91,884	\$ 91,884	\$ 91,884	\$ 131,880	\$ 96,840	\$ 91,884	\$ 91,884	\$ 91,884	\$ 131,880	\$ 111,254	\$ 3,423,659	\$ 3,481,862	
Escalate To 99' Dollars (1.7%)		\$ 134,122	\$ 98,466	\$ 93,446	\$ 93,446	\$ 93,446	\$ 134,122	\$ 98,486	\$ 93,446	\$ 93,446	\$ 93,446	\$ 93,446	\$ 134,122	\$ 113,145	\$ 3,481,862	

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

BECHTEL HANFORD Inc.

Title: Summary

Job Number / Charge # HGWLTM 1100

File: D:\ReadWin\ESTIMATE\68 Post Closure 11311, 300APT, 105-DR LSFF\300 APT Post Closure.xls TIME LINE HOURS

ITEM	Description	FY	FY	FY	FY	FY	FY	FY	FY	FY							
		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
POST CLOSURE																	
2	INSPECTION OF SUBSURFACE WELL CONDITIONS FY99-27 100%, FY28 75% (NON-ROUTINE MAINTENANCE)	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
5	PERMIT COMPLIANCE FY99-27 100% WITH ADDER IN FY03, 05, 13, 18, 23 FOR RE-ASSESS MODIFIED CLOSURE OPTION, FY28 75%	88	88	88	155	88	88	88	208	155	88	88	88	155	88	88	88
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.	570	570	570	570	570	570	570	738	538	538	538	538	538	538	538	538
7	POST-CLOSURE CARE CERTIFICATION																
TOTAL HOURS		708	708	750	775	708	708	708	1,038	741	674	674	674	718	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 # HGWLTM 1100													Chk'd: B. BENNETT	
File: D:\read\win\ESTIMATE\68 Post Closure 183H, 300APT, 105-DR LSFF\300 APT Post Closure													Rev.:	
Description													Lead Estimator Appvl.: JA LAPIERRE	
ITEM	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														
2	18	18	18	18	18	18	18	18	18	18	18	14		518
INSPECTION OF SUBSURFACE WELL CONDITIONS FY99-27 100%, FY28 75% (NON-ROUTINE MAINTENANCE)														
3	42					42						42		252
GROUNDWATER WELL MAINTENANCE 5 YEAR CYCLE STARTS IN FY02 (ROUTINE MAINTENANCE)														
4	32	32	32	32	32	32	32	32	32	32	32	32		896
COST ESTIMATE FOR POST-CLOSURE MONITORING & MAINTENANCE														
5	88	155	88	88	88	88	155	88	88	88	88	88		2,985
PERMIT COMPLIANCE FY99-27 100% WITH ADDER IN FY03, 08, 13, 18, 23 FOR RE-ASSESS MODIFIED CLOSURE OPTION, FY28 75%														
8	536	536	536	536	536	536	536	536	536	536	536	402		15,848
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.														
7														
POST-CLOSURE CARE CERTIFICATION														
TOTAL HOURS	716	741	674	674	674	716	741	674	674	674	716	482	-	20,499

CHECK 20,499

BECHTEL HANFORD Inc. Log # 376
 ERC & PRIME CONTR (S/C, DIRECT WORK)
 Job Number / Charge #

ONE YEAR COST FOR
 300 AREA PROCESS TRENCHES / POST CLOSURE
 JOB NO. 22192-104 / R31FX2 YNA0

Date: 1/22/08
 By: O'LEONHARDT
 Chk'd: B. DEBNETT
 Rev.:

File: D:\Revised\ESTIMATE\66 Post Closure 1811L 300AFT.105-DR 15FT\300AFT Post Closure\1\POST CLOSURE - ONE YEAR \$

Lead Estimator Appvl.: JA LAPERRIE

ITEM	Description	QTY	UN	Unit Costs			Labor Hours		Wage	Subtotals				ADDITIONAL COSTS					TOTAL		
				Equip	MII	S/C	Unit Hr	Total Hr	\$/HR	Equip.	Material	Labor	S/C	SUBTOTAL	MATL SALES TAX 8.00%	S/C OH&P 25%	DIRECT DISTRIBS 18.92%	G&A 4.04%		CONTINGENCY N/A	
POST CLOSURE ACTIVITIES:																					
7	NON-ROUTINE MAINTENANCE OF WELLS		8	WELLS																	
	PLANNING & CONTROLS		1	HRS				1.00	1	\$58.04											
	DESIGN ENGINEER		3	HRS				1.00	3	\$85.03											
	ENVIRONMENT COMPLIANCE		6	HRS				1.00	6	\$63.43											
	GEOSCIENCE		2	HRS				1.00	2	\$9.56											
	FIELD SUPPORT		3	HRS				1.00	3	\$50.32											
	SAFETY & HEALTH		1	HRS				1.00	1	\$58.44											
	HEAVY DRIVERS		2	HRS				1.00	2	\$35.85	\$31										
	SUBTOTAL								18		\$31			\$1,030	\$5,100	\$6,181		\$1,275	\$1,408	\$357	\$9,201
8	ROUTINE MAINTENANCE OF GROUNDWATER WELLS		8	WELLS																	
	PLANNING & CONTROLS		2	HRS				1.00	2	\$58.04											
	DESIGN ENGINEER		4	HRS				1.00	4	\$65.03											
	ENVIRONMENT COMPLIANCE		4	HRS				1.00	4	\$63.43											
	GEOSCIENCE		8	HRS				1.00	8	\$9.56											
	FIELD SUPPORT		16	HRS				1.00	16	\$50.32											
	SAFETY & HEALTH		2	HRS				1.00	2	\$58.44											
	HEAVY DRIVERS		8	HRS				1.00	8	\$35.85	\$94										
	SUBTOTAL								42		\$94			\$2,235	\$24,000	\$26,329		\$8,000	\$8,115	\$1,552	\$39,996
4	COST ESTIMATE FOR POST-CLOSURE MONITORING & MAINTENANCE																				
	PLANNING & CONTROLS		32	HRS				1.00	32	\$58.04											
	SUBTOTAL								32												
5A	PERMIT COMPLIANCE (FY99 AND FY2007)																				
	REGULATORY SUPPORT		200	HRS				1.00	200	\$60.98											
	ENVIRONMENTAL LEADS		8	HRS				1.00	8	\$60.25											
	SUBTOTAL								208												
5B	PERMIT COMPLIANCE (FY2000 - FY27) EXCEPT FY2007																				
	REGULATORY SUPPORT		80	HRS				1.00	80	\$60.98											
	ENVIRONMENTAL LEADS		8	HRS				1.00	8	\$60.25											
	SUBTOTAL								88												
5C	PERMIT COMPLIANCE ADDER, RE-ASSESS MODIFIED CLOSURE OPTION (FY03, 06, 13, 18, 23)																				
	GEOSCIENCE		20	HRS				1.00	20	\$9.56											
	DESIGN ENGINEERING		20	HRS				1.00	20	\$65.03											
	ENVIRONMENT COMPLIANCE		10	HRS				1.00	10	\$63.43											
	PROJECT MANAGEMENT		5	HRS				1.00	5	\$74.98											
	QUALITY ASSURANCE		2	HRS				1.00	2	\$58.43											
	ADMINISTRATIVE SERVICES		8	HRS				1.00	8	\$28.39											
	LEGAL		2	HRS				1.00	2	\$83.59											
	SUBTOTAL								67												
5A	GROUNDWATER MONITORING (FY99-06)		570	HRS				1.00	570	\$92.11											
	EIGHT WELLS SAMPLED EIGHT TIMES A YEAR SAMPLED FOR URANIUM, PERCHLOROETHYLENE AND ITS DEGRADATION PRODUCTS, AND FIELD PARAMETERS																				
	SUBTOTAL																				

BECHTEL HANFORD Inc. Log # 376
 ERC & PRIME CONTR (S/C, DIRECT WORK)
 Job Number / Charge #

ONE YEAR COST FOR
 300 AREA PROCESS TRENCHES / POST CLOSURE
 JOB NO. 22192-104 / R31FX2 YNA0

Date: 1/27/88
 By: O. LEONHARDT
 Chk'd: B. BENNETT
 Rev.:

File: D:\WORK\STRAATEM44 Post Closure 18311, 300APT, 103-DR LSFTV M0 APT Post Closure\h\POST CLOSURE - ONE YEAR 3

Lead Estimator Appvl.: J. LAPIERRE

ITEM	Description	QTY	UN	Unit Costs			Labor Hours		Wage	Subtotals				SUBTOTAL	ADDITIONAL COSTS					TOTAL																
				Equip	Mil	S/C	Unit Hr	Total Hr	\$/HR	Equip.	Material	Labor	S/C		MATL SALES TAX 8.00%	S/C OH&P 25%	DIRECT DISTRIBS 18.92%	G&A 4.04%	CONTINGENCY N/A																	
POST CLOSURE ACTIVITIES:																																				
	SUBTOTAL							570			\$1,443	\$52,502	\$75,879	\$128,774						\$128,774																
511	GROUNDWATER MONITORING (FY07)	PNFL	736	HRS	\$2.27	\$103.15	1.00	736	\$93.91		\$1,871	\$70,590	\$75,829	\$148,090	INCLUDED	INCLUDED	N/A	N/A		\$148,090																
	FOUR WELLS SAMPLED QUARTERLY AND FOUR WELLS																																			
	SAMPLED SEMIANNUALLY URANIUM, PERCHLOROETHYLENE																																			
	AND ITS DEGRADATION PRODUCTS, AND FIELD																																			
	PARAMETERS PLUS ONE MOO TO SITEWIDE PERMIT CIRCA																																			
	SUBTOTAL							736			\$1,871	\$70,590	\$75,829	\$148,090						\$148,090																
AC	GROUNDWATER MONITORING (FY08-27)	PNFL	536	HRS	\$2.89	\$111.40	1.00	536	\$93.60		\$1,443	\$50,170	\$22,220	\$73,833	INCLUDED	INCLUDED	N/A	N/A		\$73,833																
	EIGHT WELLS SAMPLED SEMIANNUALLY URANIUM,																																			
	PERCHLOROETHYLENE AND ITS DEGRADATION PRODUCTS,																																			
	AND FIELD PARAMETERS																																			
	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			\$7,114	\$8,729	\$1,709	\$44,006																
	SUBTOTAL													\$28,454			\$7,114	\$8,729	\$1,709	\$44,006																

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

3/4 YEAR COST FOR YEAR 2028
 300 AREA PROCESS TRENCHES POST CLOSURE
 JOB NO. 22192-104 / R31FX2 YNA0

Date: 8/9/28
 By: D. LEONHARDT
 Chk'd: B. BENNETT
 Rev.:

File: D:\ReadWrite\ESTD\MATEV461 Post Closure 1831L 300AFT.105-DR LSFTV 300 APT Post Closure s1\POST CLOSURE - 75% YEAR \$

Lead Estimator Appvl.: JA LAPIERRE

ITEM	Description	QTY	UN	Unit Costs			Labor Hours		Wage \$/HR	Subtotals				SUBTOTAL	ADDITIONAL COSTS					TOTAL	
				Equip	MU	S/C	Unit Hr	Total Hr		Equip.	Material	Labor	S/C		MATL SALES TAX 8.00%	S/C OH&P 25%	DIRECT DISTRIBS 18.92%	G&A 4.04%	CONTINGENCY N/A		
POST CLOSURE ACTIVITIES:																					
2	INSPECTION OF SUBSURFACE WELL CONDITIONS (FY28)	6	WELLS			\$637.50								\$3,825	\$3,825		\$950	\$905	\$230		\$8,910
OR NON-ROUTINE MAINTENANCE OF WELLS																					
	PLANNING & CONTROLS	0.75	HRS				1.00	0.75	\$58.04					\$42	\$42			\$8	\$2		\$52
	DESIGN ENGINEER	2.25	HRS				1.00	2.25	\$65.03					\$146	\$146			\$28	\$7		\$181
	ENVIRONMENT COMPLIANCE	4.50	HRS				1.00	4.50	\$83.43					\$285	\$285			\$54	\$14		\$353
	GEOSCIENCE	1.5	HRS				1.00	1.50	\$9.50					\$9	\$9			\$17	\$4		\$110
	FIELD SUPPORT	2.25	HRS				1.00	2.25	\$50.32					\$113	\$113			\$21	\$5		\$139
	SAFETY & HEALTH	0.75	HRS				1.00	0.75	\$58.44					\$42	\$42			\$8	\$2		\$52
	HEAVY DRIVERS	1.50	HRS		\$15.63		1.00	1.50	\$35.85	\$23				\$54	\$77			\$15	\$4		\$96
	SUBTOTAL							13.50		\$23				\$771	\$3,825		\$950	\$1,056	\$268		\$8,899
5A PERMIT COMPLIANCE (FY28)																					
	REGULATORY SUPPORT	60	HRS				1.00	60	\$50.98					\$3,059	\$3,059			\$692	\$176		\$4,527
	ENVIRONMENTAL LEADS	6	HRS				1.00	6	\$60.25					\$362	\$362			\$68	\$17		\$447
	SUBTOTAL							66						\$4,021	\$4,021			\$760	\$193		\$4,974
6C GROUNDWATER MONITORING (FY28)																					
	PH/A	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
EIGHT WELLS SAMPLED SEMIANNUALLY FOR URANIUM, PERCHLOROETHYLENE AND ITS DEGRADATION PRODUCTS OF TCE, 1,2-DICHLOROETHYLENE, AND VINYL CHLORIDE; IRON, MANGANESE, THALLIUM, PCB/C, CHRYSENE, BENZO (A)PYRENE AND FIELD PARAMETERS (PH, SPECIFIC CONDUCTANCE, TURBIDITY, AND TEMPERATURE)																					
	SUBTOTAL							402.00			\$1,082	\$37,628	\$16,665	\$55,375							\$55,375