Appendix A

Cost Estimates

Lockheed Martin Idaho Technologies Company

COST ESTIMATE SUPPORT DATA RECAPITULATION

Project Title: WAG-1 OU1-10 FSS REMEDIAL ALTERNATIVES
Estimator: T. E. SIVILL
Date: 10/22/98
Estimate Type: PLANNING
File: 6950-4
Approved By:

I. SCOPE OF WORK: *Brief description of the proposed project.*

Cost Estimating has provided "rough order of magnitude" Planning Estimates for the WAG-1 Feasibility Study (FS) Supplement. The following sites are being modified to include either a change in scope/assumptions or an added RA technology alternative.

Site WRRTF-01 Burn Pits:
Remove 3 ft Native Soil Cover Alternative
Change Excavation and On-Site Repository titles to match FSS writeup

Site TSF-03 Burn Pits:
Remove 3 ft Native Soil Cover Alternative

Site TSF-28, PM-2A Tanks: (Alternative Assume Use of D&D Program Equipment)
Remove (3) other alternatives utilizing D&D Program equipment

WRRTF-13:
Adjust the Limited Action alternative to reflect original scope and assumptions
Add an In-Situ Bioremediation Treatment of Waste Alternative (Bioventing)

II. BASIS OF THE ESTIMATE: *Drawings, Design Report, Engineers Notes and/or other documentation upon which the estimate is originated.*

Coordination meetings with ER WAG-1 Project Managers/ Environmental Engineers.

Draft Feasibility Study Supplement, dated 9/22/98.

Reference Feasibility Study Cost Estimates File No. 6950-2, dated September 8, 1997.

Reference Feasibility Supplement Cost Estimates File No. 6950-3, dated October 22,1998.

III. **ASSUMPTIONS:** *Conditions statements accepted or supposed true without proof of demonstration. An assumption has a direct impact on total estimated cost.*

Sites WRRTF-01 and TSF-03 Burn Pits:

The remedial action alternative describing a 3 Ft. native soil cap, added during the last estimate issue, has been removed from the FS supplement.

Site TSF-28, PM-2A Tanks:

Two remedial action alternatives, added during the last estimate issue, for excavation of soils with onsite and offsite disposal, removal of waste from tanks and dispose onsite and offsite, fill tanks with sand and leave in place, has been revised to include onsite disposal only.

Two remedial action alternatives have been removed from the FS supplement that include all activities stated above plus treatment prior to disposal. Treatment consists of stabilization or grouting of tank waste in drums prior to disposal.

WRRTF-13

The Limited Action alternative has been revised to include the original scope of work as per WAG-1 project management:

IV. **CONTINGENCY GUIDELINE IMPLEMENTATION:** *The percentage used for contingency as determined by the contingency allowance guidelines can be altered to reflect the type of construction and conditions that may impact the total estimated cost.*

Contingency has been included at the Summary Level at 30%, remaining consistent with the original WAG-1 FS estimates.

V. **OTHER COMMENTS/CONCERNS SPECIFIC TO THE ESTIMATE**

New alternative technologies for all sites have less than 5% scope definition for remedial action.

Lockheed Martin Idaho Technologies Co.

Rev 10-96

SUMMARY COST ESTIMATE SHEET

Project	OU1-10 RI/FS COST ESTIMATES	**Type of Est.**	Planning	**File No.**	6950-4	**Date**	11/10/98
	ANALYSIS OF WRRTF-13 - REMEDIAL ALTERNATIVES					**Prep'd By**	TES/DNS/KLS
Location	TAN - INEL						
Requester	David L. Michael						

ACCT. NO.	DESCRIPTION	LIMITED ACTION ALT-1	EXCAV./LAND FARMING ALT-4	IN-SITU BIO-DEGRADATION ALT-5	
	CAPITAL COST SUBTOTAL	539,794	679,065	1,537,796	
	Contingency @ 30%	161,938	203,720	461,339	
	TOTAL CAPITAL COST IN FY97 DOLLARS	701,732	882,785	1,999,135	
	TOTAL CAPITAL COST IN ESCALATED DOLLARS	1,941,759	954,669	2,172,753	
	TOTAL CAPITAL COST IN NET PRESENT VALUE	557,808	829,055	1,857,335	
	O&M COST SUBTOTAL	1,542,500	N/A	N/A	
	Contingency @ 30%	462,750	N/A	N/A	
	TOTAL O&M COST IN FY97 DOLLARS	2,005,250	N/A	N/A	
	TOTAL O&M COST IN ESCALATED DOLLARS	13,204,021	N/A	N/A	
	TOTAL O&M COST IN NET PRESENT VALUE	841,949	N/A	N/A	
	TOTAL PROJECT COST IN NET PRESENT VALUE	1,399,757	829,055	1,857,335	

SHADED AREA INDICATES REVISIONS OR ADDITIONS TO THE FEASIBILITY STUDY ALTERNATIVES

Lockheed Martin Idaho Technologies Co.

Rev 10-96

SUMMARY COST ESTIMATE SHEET

Project	OU1-10 RI/FS COST ESTIMATES	**Type of Est.**	Planning	**File No.**	6950-4	**Date**	11/10/98
	ANALYSIS OF WRRTF-13 - REMEDIAL ALTERNATIVES	**Source**	(E) Eng. Est.			**Prep'd By**	TES/DNS/KLS
Location	TAN - INEL		(V) Vendor				
Requester	David L. Michael		(P) Pur. Order				

ACCT. NO.	DESCRIPTION	LIMITED ACTION ALT-1	EXCAV./LAND FARMING ALT-4	IN-SITU BIO-DEGRADATION ALT-5
ER1220	**FFA/CO Mgmt. and Oversight**			
	WAG 1 - Management	250,000	375,000	375,000
ER1200	**Remediation Oversight**			
	Construction Oversight (LMITCO Proj. Mgmt	2,527	13,769	97,227
	and Title III Inspection)			
	Construction Project Management (Parsons)	4,212	22,948	162,045
	RA Document Preparation (Per WAG 1 Baseline)			
	RD/RA SOW & RD/RA Work Plan	22,000	22,000	22,000
	Packaging, Shipping, Transportation Plan	N/A	25,000	N/A
	Remedial Action Report (Per RD/RA Baseline)	17,000	17,000	17,000
	WAG-Wide RA 5 Yr. Review	150,000	N/A	N/A
ER1210	**Remedial Design**			
	Title Design Construction Document Package	6,960	19,920	61,920
	RD Documentation Per WAG 1 Baseline			
	ASA, H&S Plan, SA Plan	40,000	40,000	40,000
	QAPjP	10,000	10,000	10,000
	RA Workplan	10,000	10,000	10,000
	Pre-Final Inspection Report	8,000	8,000	8,000
ER1230	**Construction Subcontract**	19,094	115,429	734,604
	Including G&A and Subcontract Procurement Fees			
	TOTAL CAPITAL COST IN FY98 DOLLARS	**539,794**	**679,065**	**1,537,796**
ER1230	**Operations**			
	WAG 1 - Management	937,500	N/A	N/A
	Annual Operations and Maintenance Reports	75,000	N/A	N/A
ER1230	**D&D**	N/A	N/A	N/A
ER1300	**Surveillance and Monitoring**	530,000	N/A	N/A
	TOTAL O&M COST IN FY98 DOLLARS	**1,542,500**	N/A	N/A

DETAILED COST ESTIMATE (CONT.SHEET)

Type of Est. Planning **File No.** 6950-4 **Date** 11/10/98

Project OU1-10 RI/FS COST ESTIMATES
WRRTF-13 - ALT-1 LIMITED ACTION

ACCT. NO.	DESCRIPTION	E,V, P,H	MAT'L UNIT	MAT'L UT. COST	UNIT LAB. HRS	TOTAL LAB. HRS.	LABOR RATE	LABOR COST	MAT'L COST	OTHER COST	TOTAL COST
	DESIGN PROCUREMENT PACKAGE										
	Siting and Surveying		3 fte		8	24	40	960			960
	Final Design Construction Document Package		2 dwgs	3,000					6,000		6,000
	TOTAL TITLE DESIGN PACKAGE										**6,960**
	CONSTRUCTION SUBCONTRACT										
	ACCESS RESTRICTION FENCING										
	6' Security Fence - 1 gate		360 lf	25					9,000		9,000
	SURFACE WATER DIVERSION ALLOWANCE		360 lf	5					1,800		1,800
	TOTAL LIMITED ACTION CAPITAL COSTS										10,800
	Subcontractor Overhead and Profit @ 30%										3,240
	TOTAL SUBCONTRACTOR DIRECTS & INDIRECTS										14,040
	PROCUREMENT & G & A FEES AT 36%										5,054
	TOTAL SUBCONTRACTOR COSTS										**19,094**
	CONSTRUCTION MANAGEMENT AT 30% (PARSONS)										**4,212**
	PROJECT MANAGEMENT AT 15% (of Subcontractor Directs and Indirects)										2,106
	TITLE III INSPECTION AT 3% (of Subcontractor Directs and Indirects)										421
	CONSTRUCTION OVERSIGHT (LMITCO)										**2,527**

DETAILED COST ESTIMATE (CONT.SHEET)

Project OU1-10 RI/FS COST ESTIMATES
WRRTF-13 - ALT-1 LIMITED ACTION

Type of Est. Planning **File No.** 6950-4 **Date** 11/10/98

ACCT. NO.	DESCRIPTION	E,V, P,H	MAT'L UNIT	MAT'L UT. COST	UNIT LAB. HRS	TOTAL LAB. HRS.	LABOR RATE	LABOR COST	MAT'L COST	OTHER COST	TOTAL COST
	ANNUAL SAMPLING AND MONITORING ACTIVITIES										
	Sampling and Monitoring		2 /yr		8	16	50	800			800
	Maintenance Inspection		2 /yr		8	16	50	800			800
	(Assumes equipment costs included in rates)										
	Report Preparation		1 ea		40	40	50	2,000			2,000
	ANNUAL COST										3,600
	5-YEAR REVIEW REPORT - PROGRAM PERSONNEL		1 ea		80	80	75	6,000			6,000
	100 YEAR LONG TERM COSTS										
	Annual Cost		100 yrs	3,600					360,000		360,000
	5-Year Review Report		20 times	6,000					120,000		120,000
	100 YEAR LONG TERM TOTAL COSTS										480,000
	100 YEAR LONG TERM COSTS										
	Fence Maint. Allow. with Inspections		100 yrs	500					50,000		50,000
	100 YEAR LONG TERM COSTS										50,000
	TOTAL COST										**530,000**

DETAILED COST ESTIMATE (CONT.SHEET)

Type of Est. Planning **File No.** 6950-4 **Date** 11/10/98

Project OU1-10 RI/FS COST ESTIMATES
WRRTF-13 - ALT-4 EXCAVATE AND LAND FARMING

ACCT. NO.	DESCRIPTION	E.V. P.H	MAT'L UNIT	MAT'L UT. COST	UNIT LAB. HRS	TOTAL LAB. HRS.	LABOR RATE	LABOR COST	MAT'L COST	OTHER COST	TOTAL COST
	DESIGN PROCUREMENT PACKAGE										
	Siting and Surveying		3 fte		16	48	40	1,920			1,920
	Final Design Construction Document Package		6 dwgs	3,000					18,000		18,000
	TOTAL TITLE DESIGN PACKAGE										**19,920**
	REMOVE CONTAMINATED SOILS AND DISPOSE ONSITE										
	Excavate Clean Soils and Stockpile		620 cy	20	Included				12,400		12,400
	Excavate and Haul to Disposal Site		380 cy	50	Included				19,000		19,000
	Clean Fill and Reseeding		620 cy	12	Included				7,440	5,000	12,440
	Sampling and Analysis of Soils		4 ea	1,250	Included				5,000		5,000
	Mobilization & Demobilization (1 Crew - See Recap)		1 crew	10,000	Included				10,000		10,000
	TOTAL SUBCONTRACTOR DIRECT COSTS										58,840
	Subcontractor Overhead and Profit @ 30%										17,652
	TOTAL SUBCONTRACTOR DIRECTS & INDIRECTS										**76,492**
	PROCUREMENT & G & A FEES AT 36%										27,537
	SUBTOTAL SUBCONTRACTOR COSTS										**104,029**
	Dispose Onsite at CFA Land Farm		380 cy	30	Included				11,400		11,400
	TOTAL SUBCONTRACTOR COSTS										**115,429**
	CONSTRUCTION MANAGEMENT AT 30% (PARSONS)										**22,948**
	PROJECT MANAGEMENT AT 15% (of Subcontractor Directs and Indirects)										11,474
	TITLE III INSPECTION AT 3% (of Subcontractor Directs and Indirects)										2,295
	CONSTRUCTION OVERSIGHT (LMITCO)										**13,769**

DETAILED COST ESTIMATE (CONT.SHEET)

Type of Est. Planning File No. 6950-4 Date 11/10/98

Project OU1-10 RI/FS COST ESTIMATES
WRRTF-13 - ALT-5 IN-SITU BIO-DEGRADATION

ACCT. NO.	DESCRIPTION	E,V, P,H	MAT'L UNIT	MAT'L UT. COST	UNIT LAB. HRS	TOTAL LAB. HRS.	LABOR RATE	LABOR COST	MAT'L COST	OTHER COST	TOTAL COST
	DESIGN PROCUREMENT PACKAGE										
	Siting and Surveying		3 fte		16	48	40	1,920			1,920
	Final Design Construction Document Package		20 dwgs	3,000					60,000		60,000
	TOTAL TITLE DESIGN PACKAGE										**61,920**
	TREATMENT - BIOTREATMENT (BIO-VENTING)										
	Site Prep and Temporary Utility Allowance		1 ls	50,000	Included				50,000		50,000
	Weather Enclosures		5 ea	10,000	Included				50,000		50,000
	Bioventing Treatment System & Operations		1 ls	260,000	Included				260,000		260,000
	Sampling and Analysis of Soils		4 ea	1,250	Included				5,000		5,000
	Mobilization & Demobilization		1 crew	10,000	Included				10,000		10,000
	Decommissioning and Dismantlement @ 15% of System Costs		15% syste	270,000	Included				40,500		40,500
	TOTAL SUBCONTRACTOR DIRECT COSTS										415,500
	Subcontractor Overhead and Profit @ 30%										124,650
	TOTAL SUBCONTRACTOR DIRECTS & INDIRECTS										**540,150**
	PROCUREMENT & G & A FEES AT 36%										194,454
	SUBTOTAL SUBCONTRACTOR COSTS										**734,604**
	CONSTRUCTION MANAGEMENT AT 30% (PARSONS)										**162,045**
	PROJECT MANAGEMENT AT 15% (of Subcontractor Directs and Indirects)										81,023
	TITLE III INSPECTION AT 3% (of Subcontractor Directs and Indirects)										16,205
	CONSTRUCTION OVERSIGHT (LMITCO)										**97,227**

Lockheed Martin Idaho Technologies Co

Rev 10-96

SUMMARY COST ESTIMATE SHEET

Project: OU1-10 RI/FS COST ESTIMATES
ANALYSIS OF TSF26 - REMEDIAL ALTERNATIVES

Type of Est.: Planning

File No.: 6950-3

Date: 11/10/98

Location: TAN - INEL

Requester: David L. Michael

ACCT. NO.	DESCRIPTION	LIMITED ACTION	TANK & TANK CONTENT REMOVAL		TANK CONTENT (ONLY) REMOVAL			IN-SITU GROUTING			VITRIFICATION
		ALT. 1	ALT. 2a	ALT. 2b	ALT. 3a	ALT. 3b	ALT. 3d	ALT. 4a	ALT. 4b	ALT. 5a	ALT. 5b
	CAPITAL COST SUBTOTAL	551,933	8,322,500	10,566,500	7,637,809	10,080,309	5,534,833	4,374,137	6,618,137	10,606,157	12,850,157
	Contingency @ 30%	165,580	2,496,750	3,169,950	2,291,343	3,024,093	1,660,450	1,312,241	1,985,441	3,181,847	3,855,047
	TOTAL CAPITAL COST IN FY97 DOLLARS	717,512	10,819,251	13,736,451	9,929,151	13,104,401	7,195,283	5,686,378	8,603,578	13,788,004	16,705,204
	TOTAL CAPITAL COST IN ESCALATED DOLLARS	1,958,970	11,874,984	15,085,425	12,086,042	15,572,803	8,560,101	7,338,454	10,501,450	16,330,733	19,541,173
	TOTAL CAPITAL COST IN NET PRESENT VALUE	**572,528**	**10,056,101**	**12,762,394**	**9,124,666**	**12,074,943**	**6,269,801**	**5,231,509**	**7,963,823**	**12,705,500**	**15,411,792**
	O&M COST SUBTOTAL	1,570,500	N/A	N/A	N/A	N/A	N/A	1,592,500	1,592,500	1,592,500	1,592,500
	Contingency @ 30%	471,150	N/A	N/A	N/A	N/A	N/A	477,750	477,750	477,750	477,750
	TOTAL O&M COST IN FY97 DOLLARS	2,041,650	N/A	N/A	N/A	N/A	N/A	2,070,250	2,070,250	2,070,250	2,070,250
	TOTAL O&M COST IN ESCALATED DOLLARS	13,443,699	N/A	N/A	N/A	N/A	N/A	13,632,018	13,632,018	13,632,018	13,632,018
	TOTAL O&M COST IN NET PRESENT VALUE	**857,232**	N/A	N/A	N/A	N/A	N/A	**869,240**	**869,240**	**869,240**	**869,240**
	TOTAL PROJECT COST IN NET PRESENT VALUE	**1,429,760**	**10,056,101**	**12,762,394**	**9,124,666**	**12,074,943**	**6,269,801**	**6,100,749**	**8,833,063**	**13,574,740**	**16,281,032**

ALTERNATIVE DESCRIPTIONS:

ALTERNATIVE 2a: Soil Excavation, Tank Removal, On-Site Treatment and On-Site Disposal
ALTERNATIVE 2b: Soil Excavation, Tank Removal, On-Site Treatment and Off-Site Disposal
ALTERNATIVE 3a: Soil Excavation, Tank Content Removal, On-Site Treatment and On-Site Disposal
ALTERNATIVE 3b: Soil Excavation, Tank Content Removal, On-Site Treatment and Off-Site Disposal
ALTERNATIVE 3d: Soil Excavation, Tank Content Removal and On-Site Disposal
ALTERNATIVE 4a: Soil Excavation, In-situ Treatment of Tank Contents, and On-site Disposal.
ALTERNATIVE 4b: Soil Excavation, In-situ Treatment of Tank Contents, and Off-site Disposal.
ALTERNATIVE 5a: Soil Excavation, In-Situ Vitrification, On-Site Disposal
ALTERNATIVE 5b: Soil Excavation, In-Situ Vitrification, Off-Site Disposal

Lockheed Martin Idaho Technologies Co

Rev 10-96

SUMMARY COST ESTIMATE SHEET

Project: OU1-10 RI/FS COST ESTIMATES
ANALYSIS OF TSF26 - REMEDIAL ALTERNATIVES

Location: TAN - INEL

Requester: David L. Michael

Date: 11/10/98

ACCT. NO.	DESCRIPTION	LIMITED ACTION	TANK & TANK CONTENT REMOVAL		TANK CONTENT (ONLY) REMOVAL			IN-SITU GROUTING		VITRIFICATION	
		ALT. 1	ALT. 2a	ALT. 2b	ALT. 3a	ALT. 3b	ALT. 3d	ALT. 4a	ALT. 4b	ALT. 5A	ALT. 5B
ER1220	**FFA/CO Mgmt. and Oversight**										
	WAG 1 - Management	250,000	750,000	750,000	750,000	750,000	750,000	500,000	500,000	500,000	500,000
ER1200	**Remediation Oversight**										
	Construction Oversight (LMITCO Proj. Mgmt and Title III Inspection)	3,959	535,729	535,729	459,553	459,553	341,851	283,234	283,234	144,904	144,904
	Construction Project Management (Parsons)	6,599	892,882	892,882	765,921	765,921	569,751	472,056	472,056	241,506	241,506
	RA Documentation										
	RD/RA SOW & RD/RA Work Plan	22,000	22,000	22,000	22,000	22,000	22,000	22,000	22,000	22,000	22,000
	Packaging, Shipping, Transportation Plan	N/A	25,000	25,000	25,000	25,000	25,000	25,000	25,000	N/A	N/A
	Remedial Action Report (Per RD/RA Baseline)	17,000	17,000	17,000	17,000	17,000	17,000	17,000	17,000	17,000	17,000
	WAG-Wide RA 5 Yr. Review	150,000	N/A	N/A	150,000	150,000	150,000	150,000	150,000	150,000	150,000
ER1210	**Remedial Design**										
	Title Design Construction Document Package	4,460	140,960	140,960	84,960	210,960	84,960	56,960	56,960	56,960	56,960
	RD Documentation Per WAG 1 Baseline										
	ASA, H&S Plan, SA Plan	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000
	QAPjP	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
	RA Workplan	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
	Pre-Final Inspection Report	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000
ER1230	**Construction Subcontract**	29,915	5,870,930	8,114,930	5,295,375	7,611,875	3,506,271	2,779,887	5,023,887	9,405,787	11,649,787
	Incl. G&A & Subcontract Procurement Fees										
	TOTAL CAPITAL COST IN FY97 DOLLARS	**551,933**	**8,322,500**	**10,566,500**	**7,637,809**	**10,080,309**	**5,534,833**	**4,374,137**	**6,618,137**	**10,606,157**	**12,850,157**
ER1230	**Operations**										
	WAG 1 - Management	937,500	N/A	N/A	N/A	N/A	N/A	937,500	937,500	937,500	937,500
	Annual Operations & Maintenance Reports	75,000	N/A	N/A	N/A	N/A	N/A	75,000	75,000	75,000	75,000
ER1230	**D&D**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ER1300	**Surveillance and Monitoring**	558,000	N/A	N/A	N/A	N/A	N/A	580,000	580,000	580,000	580,000
	TOTAL O&M COST IN FY97 DOLLARS	**1,570,500**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**1,592,500**	**1,592,500**	**1,592,500**	**1,592,500**

ALTERNATIVE DESCRIPTIONS:

ALTERNATIVE 2a: Soil Excavation, Tank Removal, On-Site Treatment and On-Site Disposal
ALTERNATIVE 2b: Soil Excavation, Tank Removal, On-Site Treatment and Off-Site Disposal
ALTERNATIVE 3a: Soil Excavation, Tank Content Removal, On-Site Treatment and On-Site Disposal
ALTERNATIVE 3b: Soil Excavation, Tank Content Removal, On-Site Treatment and Off-Site Disposal
ALTERNATIVE 3d: Soil Excavation, Tank Content Removal and On-Site Disposal
ALTERNATIVE 4a: Soil Excavation, In-situ Treatment of Tank Contents, and On-site Disposal.
ALTERNATIVE 4b: Soil Excavation, In-situ Treatment of Tank Contents, and Off-site Disposal.
ALTERNATIVE 5A: Soil Excavation, In-Situ Vitrification, On-Site Disposal
ALTERNATIVE 5B: Soil Excavation, In-Situ Vitrification, Off-Site Disposal

DETAILED COST ESTIMATE (CONT.SHEET)

Type of Est. Planning **File No.** 6950-3 **Date** 10/21/98

Project ANALYSIS OF TSF26 - REMEDIAL ALTERNATIVES
TSF26 - LIMITED ACTION

ACCT. NO.	DESCRIPTION	E,V, P,H	MAT'L UNIT	MAT'L UT. COST	UNIT LAB. HRS	TOTAL LAB. HRS.	LABOR RATE	LABOR COST	MAT'L COST	OTHER COST	TOTAL COST
	DESIGN PROCUREMENT PACKAGE										
	Siting and Surveying		3 fte		8	24	40	960			960
	Final Design Construction Document Package		1 dwgs	3500					3,500		3,500
	TOTAL TITLE DESIGN PACKAGE										**4,460**
	CONSTRUCTION SUBCONTRACT										
	ACCESS RESTRICTION FENCING										
	6' Security Fence - 1 gate		500 lf	25					12,500		12,500
	Surveying: Grades, Levels, and Lines		3 fte		16	48	40	1,920			1,920
	SURFACE WATER DIVERSION DITCHES		500 lf	5					2,500		2,500
	TOTAL LIMITED ACTION CAPITAL COSTS										16,920
	Subcontractor Overhead and Profit @ 30%										5,076
	TOTAL SUBCONTRACTOR DIRECTS & INDIRECTS										21,996
	PROCUREMENT & G & A FEES AT 36%										7,919
	TOTAL SUBCONTRACTOR COSTS										**29,915**
	CONSTRUCTION MANAGEMENT AT 30% (PARSONS)										**6,599**
	PROJECT MANAGEMENT AT 15% (of Subcontractor Directs and Indirects)										3,299
	TITLE III INSPECTION AT 3% (of Subcontractor Directs and Indirects)										660
	CONSTRUCTION OVERSIGHT (LMITCO)										**3,959**

DETAILED COST ESTIMATE (CONT.SHEET)

Type of Est. Planning **File No.** 6950-3 **Date** 10/21/98

Project ANALYSIS OF TSF26 - REMEDIAL ALTERNATIVES
TSF26 - LIMITED ACTION

ACCT. NO.	DESCRIPTION	E,V, P,H	MAT'L UNIT	MAT'L UT. COST	UNIT LAB. HRS	TOTAL LAB. HRS.	LABOR RATE	LABOR COST	MAT'L COST	OTHER COST	TOTAL COST
	ANNUAL SAMPLING AND MONITORING ACTIVITIES										
	Sampling and Monitoring		2 /yr		8	16	50	800			800
	Maintenance Inspection		2 /yr		8	16	50	800			800
	(Assumes equipment costs included in rates)										
	Report Preparation		1 ea		40	40	50	2,000			2,000
	ANNUAL COST										3,600
	5-YEAR REVIEW REPORT - PROGRAM PERSONNEL		1 ea		80	80	75	6,000			6,000
	100 YEAR LONG TERM COSTS										
	Annual Cost		100 yrs	3600					360,000		360,000
	5-Year Review Report		20 times	6000					120,000		120,000
	100 YEAR LONG TERM TOTAL COSTS										480,000
	100 YEAR LONG TERM COSTS										
	Fence Maint. Allow. .5K/Yr with Inspections		100 yrs	780					78,000		78,000
	100 YEAR LONG TERM COSTS										78,000
	TOTAL COST										558,000

DETAILED COST ESTIMATE (CONT.SHEET)

Project ANALYSIS OF TSF26 - REMEDIAL ALTERNATIVES
TSF 26 (PM-2A) TANKS:
OPTION 2a: SOIL EXCAVATION, TANK REMOVAL,
AND ON-SITE TREATMENT AND DISPOSAL

Type of Est. Planning **File No.** 6950-3 **Date** 10/21/98

ACCT. NO.	DESCRIPTION	E,V, P,H	MAT'L UNIT	MAT'L UT. COST	UNIT LAB. HRS	TOTAL LAB. HRS.	LABOR RATE	LABOR COST	MAT'L COST	OTHER COST	TOTAL COST
	DESIGN PROCUREMENT PACKAGE FOR REMEDIATION OF TANK CONTENTS										
	Siting and Surveying		3 fte		8	24	40	960			960
	Final Design Construction Document Package		40 dwgs	3,500					140,000		140,000
	TOTAL TITLE DESIGN PACKAGE										**140,960**
	CONSTRUCTION SUBCONTRACT										
	Site Prep, Utilities, O/H Power, Potable Water		1 lot	50,000					50,000		50,000
	Concrete Equip Pads, Decon Trailer		1 lot	66,000					66,000		66,000
	Temporary Primary Containment Enclosure		6,000 sf	90					540,000		540,000
	TREATMENT SUBCONTRACT										
	Permitting, Acceptance & Procedures Documentation		1 lot	150,000					150,000		150,000
	Mobilization/Demobilization		1 lot	200,000					200,000		200,000
	Ops-Personnel, Equip/Mat'ls (Pump Tanks/Solidification)		1 lot	630,000					630,000		630,000
	SUBTOTAL SUBCONTRACTOR DIRECTS										1,636,000
	Subcontractor Overhead and Profit @ 30%										490,800
	TOTAL SUBCONTRACTOR DIRECTS AND INDIRECTS										**2,126,800**
	Sampling Allowance		20 ea	3,500					70,000		70,000
	Miscellaneous: PPE's, Maintenance Materials		1 lot	20,000					20,000		20,000
	Treatment support labor (LMITCO personnel)		5 fte		640	3,200	70	224,000			224,000
	Disposal of RH Treated Waste at RWMC		628 cf	1,500					942,000		942,000
	Support equipment, crane, forklift, water truck, etc.		1 lot		320	320	115	36,800			36,800
	SUBCONTRACTOR COSTS										**3,419,600**
	PROCUREMENT & G & A FEES AT 36%										765,648
	TOTAL SUBCONTRACTOR COSTS										**4,185,248**
	CONSTRUCTION MANAGEMENT AT 30% (PARSONS)										**638,040**
	PROJECT MANAGEMENT AT 15% (of Subcontractor Directs and Indirects)										319,020
	TITLE III INSPECTION AT 3% (of Subcontractor Directs and Indirects)										63,804
	CONSTRUCTION OVERSIGHT (LMITCO)										**382,824**

DETAILED COST ESTIMATE (CONT.SHEET)

Project ANALYSIS OF TSF26 - REMEDIAL ALTERNATIVES
TSF 26 (PM-2A) TANKS:
OPTION 2a: SOIL EXCAVATION, TANK REMOVAL,
AND ON-SITE TREATMENT AND DISPOSAL

Type of Est. Planning **File No.** 6950-3 **Date** 10/21/98

ACCT. NO.	DESCRIPTION	E,V, P,H	MAT'L UNIT	MAT'L UT. COST	UNIT LAB. HRS	TOTAL LAB. HRS.	LABOR RATE	LABOR COST	MAT'L COST	OTHER COST	TOTAL COST
	REMOVE CONTAMINATED SOILS, REMOVE TANKS AND DISPOSE ONSITE										
	Excavate and Haul Contaminated Soils		5,100 cy	50					255,000		255,000
	Replace Asphalt Roadway		150 lf	200					30,000		30,000
	Shoring and Piling Around Tanks		200 lf	700					140,000		140,000
	Excavate Clean Soils Around Tanks		1,260 cy	50					63,000		63,000
	Tank Sizing, Piping Removal and Disposal		2 ea	50,000					100,000		100,000
	Cut Shoring and Piling at Grade		200 lf	150					30,000		30,000
	Clean Fill and Reseeding		6,360 cy	4					25,440		25,440
	Mobilization & Demobilization (1 Crew - See Recap)		1 crew	10,000					10,000		10,000
	TOTAL SUBCONTRACTOR DIRECT COSTS										653,440
	Subcontractor Overhead and Profit @ 30%										196,032
	TOTAL SUBCONTRACTOR DIRECTS & INDIRECTS										**849,472**
	PROCUREMENT & G & A FEES AT 36%										**305,810**
	SUBTOTAL SUBCONTRACTOR COSTS										**1,155,282**
	ONSITE DISPOSAL COSTS		5,100 cy	104	Included				530,400		530,400
	TOTAL SUBCONTRACTOR COSTS										**1,685,682**
	CONSTRUCTION MANAGEMENT AT 30% (PARSONS)										**254,842**
	PROJECT MANAGEMENT AT 15% (of Subcontractor Directs and Indirects)										127,421
	TITLE III INSPECTION AT 3% (of Subcontractor Directs and Indirects)										25,484
	CONSTRUCTION OVERSIGHT (LMITCO)										**152,905**

DETAILED COST ESTIMATE (CONT.SHEET)

Project ANALYSIS OF TSF26 - REMEDIAL ALTERNATIVES
TSF 26 (PM-2A) TANKS:
OPTION 2b: SOIL EXCAVATION, TANK REMOVAL,
AND ON-SITE TREATMENT AND OFF-SITE DISPOSAL

Type of Est. Planning **File No.** 6950-3 **Date** 10/21/98

ACCT. NO.	DESCRIPTION	E,V, P,H	MAT'L UNIT	MAT'L UT. COST	UNIT LAB. HRS	TOTAL LAB. HRS.	LABOR RATE	LABOR COST	MAT'L COST	OTHER COST	TOTAL COST
	DESIGN PROCUREMENT PACKAGE FOR REMEDIATION OF TANK CONTENTS										
	Siting and Surveying		3 fte		8	24	40	960			960
	Final Design Construction Document Package		40 dwgs	3,500					140,000		140,000
	TOTAL TITLE DESIGN PACKAGE										**140,960**
	CONSTRUCTION SUBCONTRACT										
	Site Prep, Utilities, O/H Power, Potable Water		1 lot	50,000					50,000		50,000
	Concrete Equip Pads, Decon Trailer		1 lot	66,000					66,000		66,000
	Temporary Primary Containment Enclosure		6,000 sf	90					540,000		540,000
	TREATMENT SUBCONTRACT										
	Permitting, Acceptance & Procedures Documentation		1 lot	150,000					150,000		150,000
	Mobilization/Demobilization		1 lot	200,000					200,000		200,000
	Ops-Personnel, Equip/Mat'ls (Pump Tanks/Solidification)		1 lot	630,000					630,000		630,000
	SUBTOTAL SUBCONTRACTOR DIRECTS										1,636,000
	Subcontractor Overhead and Profit @ 30%										490,800
	TOTAL SUBCONTRACTOR DIRECTS AND INDIRECTS										**2,126,800**
	Sampling Allowance		20 ea	3,500					70,000		70,000
	Miscellaneous: PPE's, Maintenance Materials		1 lot	20,000					20,000		20,000
	Treatment support labor (LMITCO personnel)		5 fte		640	3,200	70	224,000			224,000
	Acceptance to RWMC Disposal of RH Treated Waste		628 cf	1,500					942,000		942,000
	Support equipment: Forklifts, Water Truck		1 lot		320	320	115	36,800			36,800
	SUBCONTRACTOR COSTS										**3,419,600**
	PROCUREMENT & G & A FEES AT 36%										765,648
	TOTAL SUBCONTRACTOR COSTS										**4,185,248**
	CONSTRUCTION MANAGEMENT AT 30% (PARSONS)										**638,040**
	PROJECT MANAGEMENT AT 15% (of Subcontractor Directs and Indirects)										319,020
	TITLE III INSPECTION AT 3% (of Subcontractor Directs and Indirects)										63,804
	CONSTRUCTION OVERSIGHT (LMITCO)										**382,824**

DETAILED COST ESTIMATE (CONT.SHEET)

Project ANALYSIS OF TSF26 - REMEDIAL ALTERNATIVES
TSF 26 (PM-2A) TANKS:
OPTION 2B: SOIL EXCAVATION, TANK REMOVAL,
AND ON-SITE TREATMENT AND OFF-SITE DISPOSAL

Type of Est. Planning **File No.** 6950-3 **Date** 10/21/98

ACCT. NO.	DESCRIPTION	E,V, P,H	MAT'L UNIT	MAT'L UT. COST	UNIT LAB. HRS	TOTAL LAB. HRS.	LABOR RATE	LABOR COST	MAT'L COST	OTHER COST	TOTAL COST
	REMOVE CONTAMINATED SOILS AND DISPOSE OFFSITE										
	Excavate and Haul Contaminated Soils		5,100 cy	50					255,000		255,000
	Replace Asphalt Roadway		150 lf	200					30,000		30,000
	Shoring and Piling Around Tanks		200 lf	700					140,000		140,000
	Excavate Clean Soils Around Tanks		1,260 cy	50					63,000		63,000
	Tank Sizing, Piping Removal and Disposal		2 ea	50,000					100,000		100,000
	Cut Shoring and Piling at Grade		200 lf	150					30,000		30,000
	Clean Fill and Reseeding		6,360 cy	4					25,440		25,440
	Mobilization & Demobilization (1 Crew - See Recap)		1 crew	10,000					10,000		10,000
	TOTAL SUBCONTRACTOR DIRECT COSTS										653,440
	Subcontractor Overhead and Profit @ 30%										196,032
	TOTAL SUBCONTRACTOR DIRECTS & INDIRECTS										**849,472**
	TOTAL FACILITY TRANS. & OFFSITE DISPOSAL COSTS		5,100 cy	400					2,040,000		2,040,000
	SUBTOTAL SUBCONTRACTOR COSTS										**2,889,472**
	PROCUREMENT & G & A FEES AT 36%										**1,040,210**
	TOTAL SUBCONTRACTOR COSTS										**3,929,682**
	CONSTRUCTION MANAGEMENT AT 30% (PARSONS)										**254,842**
	PROJECT MANAGEMENT AT 15% (of Subcontractor Directs and Indirects)										127,421
	TITLE III INSPECTION AT 3% (of Subcontractor Directs and Indirects)										25,484
	CONSTRUCTION OVERSIGHT (LMITCO)										**152,905**

DETAILED COST ESTIMATE (CONT.SHEET)

Project: ANALYSIS OF TSF26 - REMEDIAL ALTERNATIVES
TSF 26 (PM-2A) TANKS:
OPTION 3a: SOIL EXCAVATION, TANK CONTENT REMOVAL, & ON-SITE TREATMENT & DISPOSAL

Type of Est. Planning | File No. 6950-3 | Date 10/21/98

ACCT. NO.	DESCRIPTION	E,V, P,H	MAT'L UNIT	MAT'L UT. COST	UNIT LAB. HRS	TOTAL LAB. HRS.	LABOR RATE	LABOR COST	MAT'L COST	OTHER COST	TOTAL COST
	DESIGN PROCUREMENT PACKAGE FOR REMEDIATION OF TANK CONTENTS										
	Siting and Surveying		3 fte		8	24	40	960			960
	Final Design Construction Document Package		24 dwgs	3,500					84,000		84,000
	TOTAL TITLE DESIGN PACKAGE										**84,960**
	CONSTRUCTION SUBCONTRACT										
	Site Prep, Utilities, O/H Power, Potable Water		1 lot	50,000					50,000		50,000
	Concrete Equip Pads, Decon Trailer		1 lot	66,000					66,000		66,000
	Temporary Primary Containment Enclosure		6,000 sf	90					540,000		540,000
	TREATMENT SUBCONTRACT										
	Permitting, Acceptance & Procedures Documentation		1 lot	150,000					150,000		150,000
	Mobilization/Demobilization		1 lot	200,000					200,000		200,000
	Ops-Personnel, Equip/Mat'ls (Pump Tanks/Solidification)		1 lot	630,000					630,000		630,000
	Fill Decontaminated Tanks with Sand		500 cy	25					12,500		12,500
	SUBTOTAL SUBCONTRACTOR DIRECTS										1,648,500
	Subcontractor Overhead and Profit @ 30%										494,550
	TOTAL SUBCONTRACTOR DIRECTS AND INDIRECTS										**2,143,050**
	Sampling Allowance		20 ea	3,500					70,000		70,000
	Miscellaneous: PPE's, Maintenance Materials		1 lot	20,000					20,000		20,000
	Treatment support labor (LMITCO personnel)		5 fte		640	3,200	70	224,000			224,000
	Acceptance to RWMC Disposal of RH Treated Waste		628 cf	1,500					942,000		942,000
	Support equipment: Forklifts, Water Truck		1 lot		320	320	115	36,800			36,800
	SUBCONTRACTOR COSTS										**3,435,850**
	PROCUREMENT & G & A FEES AT 36%										771,498
	TOTAL SUBCONTRACTOR COSTS										**4,207,348**
	CONSTRUCTION MANAGEMENT AT 30% (PARSONS)										**642,915**
	PROJECT MANAGEMENT AT 15% (of Subcontractor Directs and Indirects)										321,458
	TITLE III INSPECTION AT 3% (of Subcontractor Directs and Indirects)										64,292
	CONSTRUCTION OVERSIGHT (LMITCO)										**385,749**

DETAILED COST ESTIMATE (CONT.SHEET)

Project ANALYSIS OF TSF26 - REMEDIAL ALTERNATIVES
TSF 26 (PM-2A) TANKS:
OPTION 3a: SOIL EXCAVATION, TANK CONTENT
REMOVAL, & ON-SITE TREATMENT & DISPOSAL

Type of Est. Planning **File No.** 6950-3 **Date** 10/21/98

ACCT. NO.	DESCRIPTION	E,V, P,H	MAT'L UNIT	MAT'L UT. COST	UNIT LAB. HRS	TOTAL LAB. HRS.	LABOR RATE	LABOR COST	MAT'L COST	OTHER COST	TOTAL COST
	REMOVE CONTAMINATED SOILS AND DISPOSE ONSITE										
	Excavate and Haul Contaminated Soils		5,100 cy	50					255,000		255,000
	Replace Asphalt Roadway		150 lf	200					30,000		30,000
	Shoring and Piling Around Tanks		N/A								
	Excavate Clean Soils Around Tanks		N/A								
	Tank Sizing, Piping Removal and Disposal		N/A								
	Cut Shoring and Piling at Grade		N/A								
	Clean Fill and Reseeding		5,100 cy	4					20,400		20,400
	Mobilization & Demobilization (1 Crew - See Recap)		1 crew	10,000					10,000		10,000
	TOTAL SUBCONTRACTOR DIRECT COSTS										315,400
	Subcontractor Overhead and Profit @ 30%										94,620
	TOTAL SUBCONTRACTOR DIRECTS & INDIRECTS										410,020
	PROCUREMENT & G & A FEES AT 36%										147,607
	SUBTOTAL SUBCONTRACTOR COSTS										557,627
	ONSITE DISPOSAL COSTS		5,100 cy	104	Included				530,400		530,400
	TOTAL SUBCONTRACTOR COSTS										1,088,027
	CONSTRUCTION MANAGEMENT AT 30% (PARSONS)										123,006
	PROJECT MANAGEMENT AT 15% (of Subcontractor Directs and Indirects)										61,503
	TITLE III INSPECTION AT 3% (of Subcontractor Directs and Indirects)										12,301
	CONSTRUCTION OVERSIGHT (LMITCO)										73,804

DETAILED COST ESTIMATE (CONT.SHEET)

Project ANALYSIS OF TSF26 - REMEDIAL ALTERNATIVES
TSF 26 (PM-2A) TANKS:
OPTION 3b: SOIL EXCAVATION, TANK CONTENT REMOVAL,
ON-SITE TREATMENT AND OFF-SITE DISPOSAL

Type of Est. Planning **File No.** 6950-3 **Date** 10/21/98

ACCT. NO.	DESCRIPTION	E,V, P,H	MAT'L UNIT	MAT'L UT. COST	UNIT LAB. HRS	TOTAL LAB. HRS.	LABOR RATE	LABOR COST	MAT'L COST	OTHER COST	TOTAL COST
	DESIGN PROCUREMENT PACKAGE										
	Siting and Surveying		3 fte		8	24	40	960			960
	Final Design Construction Document Package		60 dwgs	3,500					210,000		210,000
	TOTAL TITLE DESIGN PACKAGE										**210,960**
	CONSTRUCTION SUBCONTRACT										
	Site Prep, Utilities, O/H Power, Potable Water		1 lot	50,000					50,000		50,000
	Concrete Equip Pads, Decon Trailer		1 lot	66,000					66,000		66,000
	Temporary Primary Containment Enclosure		6,000 sf	90					540,000		540,000
	TREATMENT SUBCONTRACT										
	Permitting, Acceptance & Procedures Documentation		1 lot	150,000					150,000		150,000
	Mobilization/Demobilization		1 lot	200,000					200,000		200,000
	Ops-Personnel, Equip/Mat'ls (Pump Tanks/Solidification)		1 lot	630,000					630,000		630,000
	Fill Decontaminated Tanks with Sand		500 cy	25					12,500		12,500
	SUBTOTAL SUBCONTRACTOR DIRECTS										1,648,500
	Subcontractor Overhead and Profit @ 30%										494,550
	TOTAL SUBCONTRACTOR DIRECTS AND INDIRECTS										**2,143,050**
	Sampling Allowance		20 ea	3,500					70,000		70,000
	Miscellaneous: PPE's, Maintenance Materials		1 lot	5,000					5,000		5,000
	Treatment support labor (LMITCO personnel)		5 fte		640	3,200	70	224,000			224,000
	Acceptance to RWMC Disposal of RH Treated Waste		628 cf	1,500					942,000		942,000
	Acceptance to RWMC Disposal of CH Treated Waste		690 cf	150					103,500		103,500
	Support equipment: Portable Generator, Water Truck		1 lot		320	320	65	20,800			20,800
	SUBCONTRACTOR COSTS										**3,508,350**
	PROCUREMENT & G & A FEES AT 36%										771,498
	TOTAL SUBCONTRACTOR COSTS										**4,279,848**
	CONSTRUCTION MANAGEMENT AT 30% (PARSONS)										**642,915**
	PROJECT MANAGEMENT AT 15% (of Subcontractor Directs and Indirects)										321,458
	TITLE III INSPECTION AT 3% (of Subcontractor Directs and Indirects)										64,292
	CONSTRUCTION OVERSIGHT (LMITCO)										**385,749**

DETAILED COST ESTIMATE (CONT.SHEET)

Project ANALYSIS OF TSF26 - REMEDIAL ALTERNATIVES
TSF 26 (PM-2A) TANKS:
OPTION 3b: SOIL EXCAVATION, TANK CONTENT REMOVAL,
ON-SITE TREATMENT AND OFF-SITE DISPOSAL

Type of Est. Planning **File No.** 6950-3 **Date** 10/21/98

ACCT. NO.	DESCRIPTION	E,V, P,H	MAT'L UNIT	MAT'L UT. COST	UNIT LAB. HRS	TOTAL LAB. HRS.	LABOR RATE	LABOR COST	MAT'L COST	OTHER COST	TOTAL COST
	REMOVE CONTAMINATED SOILS AND DISPOSE OFFSITE										
	Excavate and Haul Contaminated Soils		5,100 cy	50					255,000		255,000
	Replace Asphalt Roadway		150 lf	200					30,000		30,000
	Shoring and Piling Around Tanks		N/A								
	Excavate Clean Soils Around Tanks		N/A								
	Tank Sizing, Piping Removal and Disposal		N/A								
	Cut Shoring and Piling at Grade		N/A								
	Clean Fill and Reseeding		5,100 cy	4					20,400		20,400
	Mobilization & Demobilization (1 Crew - See Recap)		1 crew	10,000					10,000		10,000
	TOTAL SUBCONTRACTOR DIRECT COSTS										315,400
	Subcontractor Overhead and Profit @ 30%										94,620
	TOTAL SUBCONTRACTOR DIRECTS & INDIRECTS										**410,020**
	TOTAL FACILITY TRANS. & OFFSITE DISPOSAL COSTS		5,100 cy	400					2,040,000		2,040,000
	SUBTOTAL SUBCONTRACTOR COSTS										**2,450,020**
	PROCUREMENT & G & A FEES AT 36%										**882,007**
	TOTAL SUBCONTRACTOR COSTS										**3,332,027**
	CONSTRUCTION MANAGEMENT AT 30% (PARSONS)										**123,006**
	PROJECT MANAGEMENT AT 15% (of Subcontractor Directs and Indirects)										61,503
	TITLE III INSPECTION AT 3% (of Subcontractor Directs and Indirects)										12,301
	CONSTRUCTION OVERSIGHT (LMITCO)										**73,804**

DETAILED COST ESTIMATE (CONT.SHEET)

Project ANALYSIS OF TSF26 - REMEDIAL ALTERNATIVES
TSF 26 (PM-2A) TANKS:
OPTION 3d: SOIL EXCAVATION, TANK CONTENT
REMOVAL, & ON-SITE DISPOSAL

Type of Est. Planning **File No.** 6950-3 **Date** 11/10/98

ACCT. NO.	DESCRIPTION	E.V. P.H	MAT'L UNIT	MAT'L UT. COST	UNIT LAB. HRS	TOTAL LAB. HRS.	LABOR RATE	LABOR COST	MAT'L COST	OTHER COST	TOTAL COST
	DESIGN PROCUREMENT PACKAGE FOR REMEDIATION OF TANK CONTENTS										
	Siting and Surveying		3 fte		8	24	40	960			960
	Final Design Construction Document Package		24 dwgs	3,500					84,000		84,000
	TOTAL TITLE DESIGN PACKAGE										**84,960**
	CONSTRUCTION SUBCONTRACT										
	Site Prep, Utilities, O/H Power, Potable Water		1 lot	50,000					50,000		50,000
	Concrete Equip Pads, Decon Trailer		1 lot	66,000					66,000		66,000
	Temporary Primary Containment Enclosure		6,000 sf	90					540,000		540,000
	TREATMENT SUBCONTRACT										
	Documentation and Acceptance Procedures		1 lot	250,000					250,000		250,000
	Mobilization/Demobilization		1 lot	2,000					2,000		2,000
	Ops-Personnel, Equip/Mat'ls (Vacuum System)		1 lot	75,000					75,000		75,000
	Ops-Personnel, Equip/Mat'ls (Decontamination of Tanks)		1 lot	150,000					150,000		150,000
	Fill Decontaminated Tanks with Sand		500 cy	25					12,500		12,500
	SUBTOTAL SUBCONTRACTOR DIRECTS										1,145,500
	Subcontractor Overhead and Profit @ 30%										343,650
	TOTAL SUBCONTRACTOR DIRECTS AND INDIRECTS										**1,489,150**
	Sampling Allowance		20 ea	3,500					70,000		70,000
	Miscellaneous: PPE's, Maintenance Materials		1 lot	5,000					5,000		5,000
	Treatment support labor (LMITCO personnel)		5 fte		640	3,200	70	224,000			224,000
	Disposal of Waste and Decon Water at Onsite Repository		550 cy	104					57,200		57,200
	Support equipment: Forklifts, Water Truck		1 lot		320	320	115	36,800			36,800
	SUBCONTRACTOR COSTS										**1,882,150**
	PROCUREMENT & G & A FEES AT 36%										536,094
	TOTAL SUBCONTRACTOR COSTS										**2,418,244**
	CONSTRUCTION MANAGEMENT AT 30% (PARSONS)										**446,745**
	PROJECT MANAGEMENT AT 15% (of Subcontractor Directs and Indirects)										223,373
	TITLE III INSPECTION AT 3% (of Subcontractor Directs and Indirects)										44,675
	CONSTRUCTION OVERSIGHT (LMITCO)										**268,047**

DETAILED COST ESTIMATE (CONT.SHEET)

Project ANALYSIS OF TSF26 - REMEDIAL ALTERNATIVES
TSF 26 (PM-2A) TANKS:
OPTION 3d: SOIL EXCAVATION, TANK CONTENT REMOVAL, & ON-SITE DISPOSAL

Type of Est. Planning **File No.** 6950-3 **Date** 11/10/98

ACCT. NO.	DESCRIPTION	E,V, P,H	MAT'L UNIT	MAT'L UT. COST	UNIT LAB. HRS	TOTAL LAB. HRS.	LABOR RATE	LABOR COST	MAT'L COST	OTHER COST	TOTAL COST
	REMOVE CONTAMINATED SOILS AND DISPOSE ONSITE										
	Excavate and Haul Contaminated Soils		5,100 cy	50					255,000		255,000
	Replace Asphalt Roadway		150 lf	200					30,000		30,000
	Shoring and Piling Around Tanks		N/A								
	Excavate Clean Soils Around Tanks		N/A								
	Tank Sizing, Piping Removal and Disposal		N/A								
	Cut Shoring and Piling at Grade		N/A								
	Clean Fill and Reseeding		5,100 cy	4					20,400		20,400
	Mobilization & Demobilization (1 Crew - See Recap)		1 crew	10,000					10,000		10,000
	TOTAL SUBCONTRACTOR DIRECT COSTS										315,400
	Subcontractor Overhead and Profit @ 30%										94,620
	TOTAL SUBCONTRACTOR DIRECTS & INDIRECTS										**410,020**
	PROCUREMENT & G & A FEES AT 36%										**147,607**
	SUBTOTAL SUBCONTRACTOR COSTS										**557,627**
	ONSITE DISPOSAL COSTS		5,100 cy	104	Included				530,400		530,400
	TOTAL SUBCONTRACTOR COSTS										**1,088,027**
	CONSTRUCTION MANAGEMENT AT 30% (PARSONS)										**123,006**
	PROJECT MANAGEMENT AT 15% (of Subcontractor Directs and Indirects)										61,503
	TITLE III INSPECTION AT 3% (of Subcontractor Directs and Indirects)										12,301
	CONSTRUCTION OVERSIGHT (LMITCO)										**73,804**

DETAILED COST ESTIMATE (CONT.SHEET)

Project ANALYSIS OF TSF-26 - REMEDIAL ALTERNTIVES
TSF-26 (PM-2A) TANKS
OPTION 4a: SOIL EXCAVATION, IN-SITU
TREATMENT, AND ON-SITE SOIL DISPOSAL

Type of Est. Planning **File No.** 6950-3 **Date** 10/21/98

ACCT. NO.	DESCRIPTION	E,V, P,H	MAT'L UNIT	MAT'L UT. COST	UNIT LAB. HRS	TOTAL LAB. HRS.	LABOR RATE	LABOR COST	MAT'L COST	OTHER COST	TOTAL COST
	DESIGN PROCUREMENT PACKAGE FOR REMEDIATION OF TANK CONTENTS										
	Siting and Surveying		3 fte		8	24	40	960			960
	Final Design Construction Document Package		16 dwgs	3,500					56,000		56,000
	TOTAL TITLE DESIGN PACKAGE										56,960
	CONSTRUCTION SUBCONTRACT FOR GROUTING OF TANK CONTENTS										
	Site Prep, Utilities, O/H Power, Potable Water		N/A								
	Structures - Temporary Equip Pad, Decon Trailer		1 lot	45,000					45,000		45,000
	Temporary Primary Containment Enclosure		6,000 sf	90					540,000		540,000
	TREATMENT SUBCONTRACT										
	Permitting, Acceptance & Procedures Documentation		1 lot	150,000					150,000		150,000
	Mobilization/Demobilization		1 lot	10,000					10,000		10,000
	Operations-Personnel,Equip. & Mat'ls-Jet Grouting		1 lot	150,000					150,000		150,000
	SUBTOTAL SUBCONTRACTOR DIRECTS										895,000
	Subcontractor Overhead and Profit @ 30%										268,500
	TOTAL SUBCONTRACTOR DIRECTS AND INDIRECTS										1,163,500
	Sampling Allowance		20 ea	3,500					70,000		70,000
	Miscellaneous: PPE's, Maintenance Materials		1 lot	1,500					1,500		1,500
	Treatment support labor (LMITCO personnel)		2 fte		160	320	70	22,400			22,400
	Support equipment: Portable Generator, Water Truck		1 lot		240	240	65	15,600			15,600
	SUBCONTRACTOR COSTS										1,273,000
	PROCUREMENT & G & A FEES AT 36%										418,860
	TOTAL SUBCONTRACTOR COSTS										1,691,860
	CONSTRUCTION MANAGEMENT AT 30% (PARSONS)										349,050
	PROJECT MANAGEMENT AT 15% (of Subcontractor Directs and Indirects)										174,525
	TITLE III INSPECTION AT 3% (of Subcontractor Directs and Indirects)										34,905
	CONSTRUCTION OVERSIGHT (LMITCO)										209,430

DETAILED COST ESTIMATE (CONT.SHEET)

Project ANALYSIS OF TSF-26 - REMEDIAL ALTERNTIVES
TSF-26 (PM-2A) TANKS
OPTION 4a: SOIL EXCAVATION, IN-SITU
TREATMENT, AND ON-SITE SOIL DISPOSAL

Type of Est. Planning **File No.** 6950-3 **Date** 10/21/98

ACCT. NO.	DESCRIPTION	E,V, P,H	MAT'L UNIT	MAT'L UT. COST	UNIT LAB. HRS	TOTAL LAB. HRS.	LABOR RATE	LABOR COST	MAT'L COST	OTHER COST	TOTAL COST
	REMOVE CONTAMINATED SOILS AND DISPOSE ONSITE										
	Excavate and Haul Contaminated Soils		5,100 cy	50					255,000		255,000
	Replace Asphalt Roadway		150 lf	200					30,000		30,000
	Shoring and Piling Around Tanks		N/A								
	Excavate Clean Soils Around Tanks		N/A								
	Tank Sizing, Piping Removal and Disposal		N/A								
	Cut Shoring and Piling at Grade		N/A								
	Clean Fill and Reseeding		5,100 cy	4					20,400		20,400
	Mobilization & Demobilization (1 Crew - See Recap)		1 crew	10,000					10,000		10,000
	TOTAL SUBCONTRACTOR DIRECT COSTS										315,400
	Subcontractor Overhead and Profit @ 30%										94,620
	TOTAL SUBCONTRACTOR DIRECTS & INDIRECTS										410,020
	PROCUREMENT & G & A FEES AT 36%										147,607
	SUBTOTAL SUBCONTRACTOR COSTS										557,627
	ONSITE DISPOSAL COSTS		5,100 cy	104	Included				530,400		530,400
	TOTAL SUBCONTRACTOR COSTS										1,088,027
	CONSTRUCTION MANAGEMENT AT 30% (PARSONS)										123,006
	PROJECT MANAGEMENT AT 15% (of Subcontractor Directs and Indirects)										61,503
	TITLE III INSPECTION AT 3% (of Subcontractor Directs and Indirects)										12,301
	CONSTRUCTION OVERSIGHT (LMITCO)										73,804

DETAILED COST ESTIMATE (CONT.SHEET)

Project ANALYSIS OF TSF-26 - REMEDIAL ALTERNTIVES
TSF-26 (PM-2A) TANKS
OPTION 4a: SOIL EXCAVATION, IN-SITU
TREATMENT, AND ON-SITE SOIL DISPOSAL

Type of Est. Planning **File No.** 6950-3 **Date** 10/21/98

ACCT. NO.	DESCRIPTION	E,V, P,H	MAT'L UNIT	MAT'L UT. COST	UNIT LAB. HRS	TOTAL LAB. HRS.	LABOR RATE	LABOR COST	MAT'L COST	OTHER COST	TOTAL COST
	ANNUAL SAMPLING AND MONTORING ACTIVITIES										
	Sampling and Moniitoring		2 /yr		8	16	50	800			800
	Maintenance Inspection		2 /yr		8	16	50	800			800
	(Assumes equipment costs included in rates)										
	Report Preparation		1 ea		40	40	50	2,000			2,000
	ANNUAL COST										3,600
	5-YEAR REVIEW REPORT -PROGRAM PERSONNEL		1 ea		80	80	75	6,000			6,000
	100 YEAR LONG TERM COSTS										
	Annual Cost		100 yrs	3,600					360,000		360,000
	5-Year Review Report		20 times	6,000					120,000		120,000
	100 YEAR LONG TERM TOTAL COSTS										480,000
	100 YEAR LONG TERM COSTS										
	Fence Maint. Allow. .5K/Yr with Inspections		100 yrs	1000					100,000		100,000
	100 YEAR LONG TERM TOTAL COSTS										100,000
	TOTAL COSTS										580,000

DETAILED COST ESTIMATE (CONT.SHEET)

Project: ANALYSIS OF TSF-26 - REMEDIAL ALTERNTIVES
TSF-26 (PM-2A) TANKS
OPTION 4B: SOIL EXCAVATION, IN-SITU
TREATMENT, AND OFF-SITE SOIL DISPOSAL

Type of Est. Planning | File No. 6950-3 | Date 10/21/98

ACCT. NO.	DESCRIPTION	E,V, P,H	MAT'L UNIT	MAT'L UT. COST	UNIT LAB. HRS	TOTAL LAB. HRS.	LABOR RATE	LABOR COST	MAT'L COST	OTHER COST	TOTAL COST
	DESIGN PROCUREMENT PACKAGE FOR REMEDIATION OF TANK CONTENTS										
	Siting and Surveying		3 fte		8	24	40	960			960
	Final Design Construction Document Package		16 dwgs	3,500					56,000		56,000
	TOTAL TITLE DESIGN PACKAGE										**56,960**
	CONSTRUCTION SUBCONTRACT FOR GROUTING OF TANK CONTENTS										
	Site Prep, Utilities, O/H Power, Potable Water		N/A								
	Structures - Temporary Equip Pad, Decon Trailer		1 lot	45,000					45,000		45,000
	Temporary Primary Containment Enclosure		6,000 sf	90					540,000		540,000
	TREATMENT SUBCONTRACT										
	Permitting, Acceptance & Procedures Documentation		1 lot	150,000					150,000		150,000
	Mobilization/Demobilization		1 lot	10,000					10,000		10,000
	Operations-Personnel,Equip. & Mat'ls-Jet Grouting		1 lot	150,000					150,000		150,000
	SUBTOTAL SUBCONTRACTOR DIRECTS										895,000
	Subcontractor Overhead and Profit @ 30%										268,500
	TOTAL SUBCONTRACTOR DIRECTS AND INDIRECTS										**1,163,500**
	Sampling Allowance		20 ea	3,500					70,000		70,000
	Miscellaneous: PPE's, Maintenance Materials		1 lot	1,500					1,500		1,500
	Treatment support labor (LMITCO personnel)		2 fte		160	320	70	22,400			22,400
	Support equipment: Portable Generator, Water Truck		1 lot		240	240	65	15,600			15,600
	SUBCONTRACTOR COSTS										**1,273,000**
	PROCUREMENT & G & A FEES AT 36%										**418,860**
	TOTAL SUBCONTRACTOR COSTS										**1,691,860**
	CONSTRUCTION MANAGEMENT AT 30% (PARSONS)										**349,050**
	PROJECT MANAGEMENT AT 15% (of Subcontractor Directs and Indirects)										174,525
	TITLE III INSPECTION AT 3% (of Subcontractor Directs and Indirects)										34,905
	CONSTRUCTION OVERSIGHT (LMITCO)										**209,430**

DETAILED COST ESTIMATE (CONT.SHEET)

Project ANALYSIS OF TSF-26 - REMEDIAL ALTERNTIVES
TSF-26 (PM-2A) TANKS
OPTION 4B: SOIL EXCAVATION, IN-SITU
TREATMENT, AND OFF-SITE SOIL DISPOSAL

Type of Est. Planning **File No.** 6950-3 **Date** 10/21/98

ACCT. NO.	DESCRIPTION	E,V, P,H	MAT'L UNIT	MAT'L UT. COST	UNIT LAB. HRS	TOTAL LAB. HRS.	LABOR RATE	LABOR COST	MAT'L COST	OTHER COST	TOTAL COST
	REMOVE CONTAMINATED SOILS AND DISPOSE OFFSITE										
	Excavate and Haul Contaminated Soils		5,100 cy	50					255,000		255,000
	Replace Asphalt Roadway		150 lf	200					30,000		30,000
	Shoring and Piling Around Tanks		N/A								
	Excavate Clean Soils Around Tanks		N/A								
	Tank Sizing, Piping Removal and Disposal		N/A								
	Cut Shoring and Piling at Grade		N/A								
	Clean Fill and Reseeding		5,100 cy	4					20,400		20,400
	Mobilization & Demobilization (1 Crew - See Recap)		1 crew	10,000					10,000		10,000
	TOTAL SUBCONTRACTOR DIRECT COSTS										315,400
	Subcontractor Overhead and Profit @ 30%										94,620
	TOTAL SUBCONTRACTOR DIRECTS & INDIRECTS										410,020
	TOTAL FACILITY TRANS. & OFFSITE DISPOSAL COSTS		5,100 cy	400					2,040,000		2,040,000
	SUBTOTAL SUBCONTRACTOR COST										2,450,020
	PROCUREMENT & G & A FEES AT 36%										882,007
	TOTAL SUBCONTRACTOR COSTS										3,332,027
	CONSTRUCTION MANAGEMENT AT 30% (PARSONS)										123,006
	PROJECT MANAGEMENT AT 15% (of Subcontractor Directs and Indirects)										61,503
	TITLE III INSPECTION AT 3% (of Subcontractor Directs and Indirects)										12,301
	CONSTRUCTION OVERSIGHT (LMITCO)										73,804

DETAILED COST ESTIMATE (CONT.SHEET)

Project ANALYSIS OF TSF-26 - REMEDIAL ALTERNTIVES
TSF-26 (PM-2A) TANKS
OPTION 4B: SOIL EXCAVATION, IN-SITU
TREATMENT, AND OFF-SITE SOIL DISPOSAL

Type of Est. Planning **File No.** 6950-3 **Date** 10/21/98

ACCT. NO.	DESCRIPTION	E,V, P,H	MAT'L UNIT	MAT'L UT. COST	UNIT LAB. HRS	TOTAL LAB. HRS.	LABOR RATE	LABOR COST	MAT'L COST	OTHER COST	TOTAL COST
	ANNUAL SAMPLING AND MONTORING ACTIVITIES										
	Sampling and Moniitoring		2 /yr		8	16	50	800			800
	Maintenance Inspection		2 /yr		8	16	50	800			800
	(Assumes equipment costs included in rates)										
	Report Preparation		1 ea		40	40	50	2,000			2,000
	ANNUAL COST										3,600
	5-YEAR REVIEW REPORT -PROGRAM PERSONNEL		1 ea		80	80	75	6,000			6,000
	100 YEAR LONG TERM COSTS										
	Annual Cost		100 yrs	3,600					360,000		360,000
	5-Year Review Report		20 times	6,000					120,000		120,000
	100 YEAR LONG TERM TOTAL COSTS										480,000
	100 YEAR LONG TERM COSTS										
	Fence Maint. Allow. .5K/Yr with Inspections		100 yrs	1000					100,000		100,000
	100 YEAR LONG TERM TOTAL COSTS										100,000
	TOTAL COSTS										580,000

DETAILED COST ESTIMATE (CONT.SHEET)

Project ANALYSIS OF TSF-26 - REMEDIAL ALTERNTIVES
TSF-26 (PM-2A) TANKS
OPTION 5A: IN-SITU VITRIFICATION
EXCAVATION, AND ON-SITE DISPOSAL

Type of Est. Planning **File No.** 6950-3 **Date** 10/21/98

ACCT. NO.	DESCRIPTION	E,V, P,H	MAT'L UNIT	MAT'L UT. COST	UNIT LAB. HRS	TOTAL LAB. HRS.	LABOR RATE	LABOR COST	MAT'L COST	OTHER COST	TOTAL COST
	DESIGN PROCUREMENT PACKAGE FOR REMEDIATION OF TANK CONTENTS										
	Siting and Surveying		3 fte		8	24	40	960			960
	Final Design Construction Document Package		16 dwgs	3,500					56,000		56,000
	TOTAL TITLE DESIGN PACKAGE										**56,960**
	CONSTRUCTION SUBCONTRACT FOR GROUTING OF TANK CONTENTS										
	Site Prep: Grading, Leveling, Gravel Base 150' x 80'		1 lot	50,000					50,000		50,000
	Overhead Powerline (13.4 Kva)		1 lot	300,000					300,000		300,000
	Structures - Temporary Equip Pad, Decon Trailer		1 lot	45,000					45,000		45,000
	TREATMENT SUBCONTRACT										
	Permitting, Acceptance & Procedures Documentation		1 lot	300,000					300,000		300,000
	Cold Test - Proof of Process		1 lot	300,000					300,000		300,000
	Mobilization/Demobilization		1 lot	350,000					350,000		350,000
	Operations-Personnel,Equip. & Mat'ls-Glassification		1 lot	3,150,000					3,150,000		3,150,000
	SUBTOTAL SUBCONTRACTOR DIRECTS										4,445,000
	Subcontractor Overhead and Profit @ 30%										1,333,500
	TOTAL SUBCONTRACTOR DIRECTS AND INDIRECTS										**5,778,500**
	Sampling Allowance		20 ea	3,500					70,000		70,000
	Miscellaneous: PPE's, Maintenance Materials		1 lot	15,000					15,000		15,000
	Treatment support labor (LMITCO personnel)		4 fte		1,280	5,120	70	358,400			358,400
	Support equipment: Portable Generator, Water Truck		1 lot		240	240	65	15,600			15,600
	SUBCONTRACTOR COSTS										**6,237,500**
	PROCUREMENT & G & A FEES AT 36%										2,080,260
	TOTAL SUBCONTRACTOR COSTS										**8,317,760**
	CONSTRUCTION MANAGEMENT AT 30% (PARSONS)										**118,500**
	PROJECT MANAGEMENT AT 15% (of Subcontractor Directs and Indirects)										59,250
	TITLE III INSPECTION AT 3% (of Subcontractor Directs and Indirects)										11,850
	CONSTRUCTION OVERSIGHT (LMITCO)										**71,100**

DETAILED COST ESTIMATE (CONT.SHEET)

Project ANALYSIS OF TSF-26 - REMEDIAL ALTERNTIVES
TSF-26 (PM-2A) TANKS
OPTION 5A: IN-SITU VITRIFICATION
EXCAVATION, AND ON-SITE DISPOSAL

Type of Est. Planning **File No.** 6950-3 **Date** 10/21/98

ACCT. NO.	DESCRIPTION	E,V, P,H	MAT'L UNIT	MAT'L UT. COST	UNIT LAB. HRS	TOTAL LAB. HRS.	LABOR RATE	LABOR COST	MAT'L COST	OTHER COST	TOTAL COST
	REMOVE CONTAMINATED SOILS AND DISPOSE ONSITE										
	Excavate and Haul Contaminated Soils		5,100 cy	50					255,000		255,000
	Replace Asphalt Roadway		150 lf	200					30,000		30,000
	Shoring and Piling Around Tanks		N/A								
	Excavate Clean Soils Around Tanks		N/A								
	Tank Sizing, Piping Removal and Disposal		N/A								
	Cut Shoring and Piling at Grade		N/A								
	Clean Fill and Reseeding		5,100 cy	4					20,400		20,400
	Mobilization & Demobilization (1 Crew - See Recap)		1 crew	10,000					10,000		10,000
	TOTAL SUBCONTRACTOR DIRECT COSTS										315,400
	Subcontractor Overhead and Profit @ 30%										94,620
	TOTAL SUBCONTRACTOR DIRECTS & INDIRECTS										410,020
	PROCUREMENT & G & A FEES AT 36%										147,607
	SUBTOTAL SUBCONTRACTOR COSTS										557,627
	ONSITE DISPOSAL COSTS		5,100 cy	104	Included				530,400		530,400
	TOTAL SUBCONTRACTOR COSTS										1,088,027
	CONSTRUCTION MANAGEMENT AT 30% (PARSONS)										123,006
	PROJECT MANAGEMENT AT 15% (of Subcontractor Directs and Indirects)										61,503
	TITLE III INSPECTION AT 3% (of Subcontractor Directs and Indirects)										12,301
	CONSTRUCTION OVERSIGHT (LMITCO)										73,804

DETAILED COST ESTIMATE (CONT.SHEET)

Project ANALYSIS OF TSF-26 - REMEDIAL ALTERNTIVES
TSF-26 (PM-2A) TANKS
OPTION 5A: IN-SITU VITRIFICATION
EXCAVATION, AND ON-SITE DISPOSAL

Type of Est. Planning **File No.** 6950-3 **Date** 10/21/98

ACCT. NO.	DESCRIPTION	E,V, P,H	MAT'L UNIT	MAT'L UT. COST	UNIT LAB. HRS	TOTAL LAB. HRS.	LABOR RATE	LABOR COST	MAT'L COST	OTHER COST	TOTAL COST
	ANNUAL SAMPLING AND MONTORING ACTIVITIES										
	Sampling and Monitoring		2 /yr		8	16	50	800			800
	Maintenance Inspection		2 /yr		8	16	50	800			800
	(Assumes equipment costs included in rates)										
	Report Preparation		1 ea		40	40	50	2,000			2,000
	ANNUAL COST										3,600
	5-YEAR REVIEW REPORT -PROGRAM PERSONNEL		1 ea		80	80	75	6,000			6,000
	100 YEAR LONG TERM COSTS										
	Annual Cost		100 yrs	3,600					360,000		360,000
	5-Year Review Report		20 times	6,000					120,000		120,000
	100 YEAR LONG TERM TOTAL COSTS										480,000
	100 YEAR LONG TERM COSTS										
	Fence Maint. Allow. .5K/Yr with Inspections		100 yrs	1000					100,000		100,000
	100 YEAR LONG TERM TOTAL COSTS										100,000
	TOTAL COSTS										580,000

DETAILED COST ESTIMATE (CONT.SHEET)

Project ANALYSIS OF TSF-26 - REMEDIAL ALTERNTIVES
TSF-26 (PM-2A) TANKS
OPTION 5B: IN-SITU VITRIFICATION
EXCAVATION, AND OFF-SITE DISPOSAL

Type of Est. Planning **File No.** 6950-3 **Date** 10/21/98

ACCT. NO.	DESCRIPTION	E,V, P,H	MAT'L UNIT	MAT'L UT. COST	UNIT LAB. HRS	TOTAL LAB. HRS.	LABOR RATE	LABOR COST	MAT'L COST	OTHER COST	TOTAL COST
	DESIGN PROCUREMENT PACKAGE FOR REMEDIATION OF TANK CONTENTS										
	Siting and Surveying		3 fte		8	24	40	960			960
	Final Design Construction Document Package		16 dwgs	3,500					56,000		56,000
	TOTAL TITLE DESIGN PACKAGE										**56,960**
	CONSTRUCTION SUBCONTRACT FOR GROUTING OF TANK CONTENTS										
	Site Prep: Grading, Leveling, Gravel Base 150' x 80'		1 lot	50,000					50,000		50,000
	Overhead Powerline (13.4 Kva)		1 lot	300,000					300,000		300,000
	Structures - Temporary Equip Pad, Decon Trailer		1 lot	45,000					45,000		45,000
	TREATMENT SUBCONTRACT										
	Permitting, Acceptance & Procedures Documentation		1 lot	300,000					300,000		300,000
	Cold Test - Proof of Process		1 lot	300,000					300,000		300,000
	Mobilization/Demobilization		1 lot	350,000					350,000		350,000
	Operations-Personnel,Equip. & Mat'ls-Glassification		1 lot	3,150,000					3,150,000		3,150,000
	SUBTOTAL SUBCONTRACTOR DIRECTS										4,445,000
	Subcontractor Overhead and Profit @ 30%										1,333,500
	TOTAL SUBCONTRACTOR DIRECTS AND INDIRECTS										**5,778,500**
	Sampling Allowance		20 ea	3,500					70,000		70,000
	Miscellaneous: PPE's, Maintenance Materials		1 lot	15,000					15,000		15,000
	Treatment support labor (LMITCO personnel)		4 fte		1,280	5,120	70	358,400			358,400
	Support equipment: Portable Generator, Water Truck		1 lot		240	240	65	15,600			15,600
	SUBTOTAL SUBCONTRACTOR COSTS										6,237,500
	PROCUREMENT & G & A FEES AT 36%										2,080,260
	TOTAL SUBCONTRACTOR COSTS										**8,317,760**
	CONSTRUCTION MANAGEMENT AT 30% (PARSONS)										**118,500**
	PROJECT MANAGEMENT AT 15% (of Subcontractor Directs and Indirects)										59,250
	TITLE III INSPECTION AT 3% (of Subcontractor Directs and Indirects)										11,850
	CONSTRUCTION OVERSIGHT (LMITCO)										**71,100**

DETAILED COST ESTIMATE (CONT.SHEET)

Project ANALYSIS OF TSF-26 - REMEDIAL ALTERNTIVES
TSF-26 (PM-2A) TANKS
OPTION 5B: IN-SITU VITRIFICATION
EXCAVATION, AND OFF-SITE DISPOSAL

Type of Est. Planning **File No.** 6950-3 **Date** 10/21/98

ACCT. NO.	DESCRIPTION	E,V, P,H	MAT'L UNIT	MAT'L UT. COST	UNIT LAB. HRS	TOTAL LAB. HRS.	LABOR RATE	LABOR COST	MAT'L COST	OTHER COST	TOTAL COST
	REMOVE CONTAMINATED SOILS AND DISPOSE ONSITE										
	Excavate and Haul Contaminated Soils		5,100 cy	50					255,000		255,000
	Replace Asphalt Roadway		150 lf	200					30,000		30,000
	Shoring and Piling Around Tanks		N/A								N/A
	Excavate Clean Soils Around Tanks		N/A								N/A
	Tank Sizing, Piping Removal and Disposal		N/A								N/A
	Cut Shoring and Piling at Grade		N/A								N/A
	Clean Fill and Reseeding		5,100 cy	4					20,400		20,400
	Mobilization & Demobilization (1 Crew - See Recap)		1 crew	10,000					10,000		10,000
	TOTAL SUBCONTRACTOR DIRECT COSTS										315,400
	Subcontractor Overhead and Profit @ 30%										94,620
	TOTAL SUBCONTRACTOR DIRECTS & INDIRECTS										410,020
	TOTAL FACILITY TRANS. & OFFSITE DISPOSAL COSTS		5,100 cy	400					2,040,000		2,040,000
	SUBTOTAL SUBCONTRACTOR COST										2,450,020
	PROCUREMENT & G & A FEES AT 36%										882,007
	TOTAL SUBCONTRACTOR COSTS										3,332,027
	CONSTRUCTION MANAGEMENT AT 30% (PARSONS)										123,006
	PROJECT MANAGEMENT AT 15% (of Subcontractor Directs and Indirects)										61,503
	TITLE III INSPECTION AT 3% (of Subcontractor Directs and Indirects)										12,301
	CONSTRUCTION OVERSIGHT (LMITCO)										73,804

DETAILED COST ESTIMATE (CONT.SHEET)

Project ANALYSIS OF TSF-26 - REMEDIAL ALTERNTIVES
TSF-26 (PM-2A) TANKS
OPTION 5B: IN-SITU VITRIFICATION
EXCAVATION, AND OFF-SITE DISPOSAL

Type of Est. Planning **File No.** 6950-3 **Date** 10/21/98

ACCT. NO.	DESCRIPTION	E,V, P,H	MAT'L UNIT	MAT'L UT. COST	UNIT LAB. HRS	TOTAL LAB. HRS.	LABOR RATE	LABOR COST	MAT'L COST	OTHER COST	TOTAL COST
	ANNUAL SAMPLING AND MONTORING ACTIVITIES										
	Sampling and Moniitoring		2 /yr		8	16	50	800			800
	Maintenance Inspection		2 /yr		8	16	50	800			800
	(Assumes equipment costs included in rates)										
	Report Preparation		1 ea		40	40	50	2,000			2,000
	ANNUAL COST										3,600
	5-YEAR REVIEW REPORT -PROGRAM PERSONNEL		1 ea		80	80	75	6,000			6,000
	100 YEAR LONG TERM COSTS										
	Annual Cost		100 yrs	3,600					360,000		360,000
	5-Year Review Report		20 times	6,000					120,000		120,000
	100 YEAR LONG TERM TOTAL COSTS										480,000
	100 YEAR LONG TERM COSTS										
	Fence Maint. Allow. .5K/Yr with Inspections		100 yrs	1000					100,000		100,000
	100 YEAR LONG TERM TOTAL COSTS										100,000
	TOTAL COSTS										580,000

Lockheed Martin Idaho Technologies Co.

Rev 10-96

SUMMARY COST ESTIMATE SHEET

Project	OU1-10 RI/FS COST ESTIMATES	**Type of Est.**	Planning	**Date**	11/10/98
	ANALYSIS OF TSF03 - REMEDIAL ALTERNATIVES			**Prep'd By**	TES/DNS/KLS
Location	TAN - INEL	**File No.**	6950-4		
Requester	David L. Michael				

ACCT. NO.	DESCRIPTION	LIMITED ACTION ALT-1	NATIVE SOIL COVER ALT-2	EXCAV./ONSITE DISPOSAL ALT-3B	EXCAV/OFFSITE DISPOSAL ALT-3A	EXCAV/SOIL WASHING ALT 4B
	CAPITAL COST SUBTOTAL	533,578	847,805	805,782	1,113,316	4,069,451
	Contingency @ 30%	160,073	254,341	241,735	333,995	1,220,835
	TOTAL CAPITAL COST IN FY97 DOLLARS	693,651	1,102,146	1,047,516	1,447,311	5,290,286
	TOTAL CAPITAL COST IN ESCALATED DOLLARS	1,932,959	2,385,190	1,136,747	1,576,729	5,802,718
	TOTAL CAPITAL COST IN NET PRESENT VALUE	550,263	927,778	981,403	1,352,293	4,919,397
	O&M COST SUBTOTAL	1,542,500	1,603,700	N/A	N/A	N/A
	Contingency @ 30%	462,750	481,110	N/A	N/A	N/A
	TOTAL O&M COST IN FY97 DOLLARS	2,005,250	2,084,810	N/A	N/A	N/A
	TOTAL O&M COST IN ESCALATED DOLLARS	13,204,021	13,728,152	N/A	N/A	N/A
	TOTAL O&M COST IN NET PRESENT VALUE	841,949	875,370	N/A	N/A	N/A
	TOTAL PROJECT COST IN NET PRESENT VALUE	1,392,212	1,803,148	981,403	1,352,293	4,919,397

SHADED AREA INDICATES REVISIONS OR ADDITIONS TO THE FEASIBILITY STUDY ALTERNATIVES

Lockheed Martin Idaho Technologies Co.

Rev 10-96

SUMMARY COST ESTIMATE SHEET

Project OU1-10 RI/FS COST ESTIMATES
ANALYSIS OF TSF03 - REMEDIAL ALTERNATIVES
Location TAN - INEL
Requester David L. Michael

Type of Est. Planning **File No.** 6950-4 **Date** 11/10/98
Source (E) Eng. Est. **Prep'd By** TES/DNS/KLS
(V) Vendor
(P) Pur. Order

ACCT. NO.	DESCRIPTION	LIMITED ACTION ALT-1	NATIVE SOIL COVER ALT-2	EXCAV./ONSITE DISPOSAL ALT-3B	EXCAV/OFFSITE DISPOSAL ALT-3A	EXCAV/SOIL WASHING ALT 4B
ER1220	**FFA/CO Mgmt. and Oversight**					
	WAG 1 - Management	250,000	375,000	375,000	375,000	375,000
ER1200	**Remediation Oversight**					
	Construction Oversight (LMITCO Proj. Mgmt	1,825	19,750	14,850	16,020	342,537
	and Title III Inspection)					
	Construction Project Management (Parsons)	3,042	32,916	24,749	26,699	570,895
	RA Document Preparation					
	RD/RA SOW & RD/RA Work Plan	22,000	22,000	22,000	22,000	22,000
	Packaging, Shipping, Transportation Plan	N/A	N/A	25,000	25,000	25,000
	Remedial Action Report (Per RD/RA Baseline)	17,000	17,000	17,000	17,000	17,000
	WAG-Wide RA 5 Yr. Review	150,000	150,000	N/A	N/A	N/A
ER1210	**Remedial Design**					
	Title Design Construction Document Package	7,920	13,920	6,960	6,960	60,960
	RD Documentation Per WAG 1 Baseline					
	ASA, H&S Plan, SA Plan	40,000	40,000	40,000	40,000	40,000
	QAPjP	10,000	10,000	10,000	10,000	10,000
	RA Workplan	10,000	10,000	10,000	10,000	10,000
	Pre-Final Inspection Report	8,000	8,000	8,000	8,000	8,000
ER1230	**Construction Subcontract**	13,790	149,219	252,223	556,637	2,588,059
	Including G&A and Subcontract Procurement Fees					
	TOTAL CAPITAL COST IN FY97 DOLLARS	**533,578**	**847,805**	**805,782**	**1,113,316**	**4,069,451**
ER1230	**Operations**					
	WAG 1 - Management	937,500	937,500	N/A	N/A	N/A
	Annual Operations and Maintenance Reports	75,000	75,000	N/A	N/A	N/A
ER1230	**D&D**	N/A	N/A	N/A	N/A	N/A
ER1300	**Surveillance and Monitoring**	530,000	591,200	N/A	N/A	N/A
	TOTAL O&M COST IN FY97 DOLLARS	**1,542,500**	**1,603,700**	**N/A**	**N/A**	**N/A**

DETAILED COST ESTIMATE (CONT.SHEET)

Type of Est. Planning **File No.** 6950-4 **Date** 11/10/98

Project OU1-10 RI/FS COST ESTIMATES
TSF03 - ALT-1 LIMITED ACTION

ACCT. NO.	DESCRIPTION	E,V, P,H	MAT'L UNIT	MAT'L UT. COST	UNIT LAB. HRS	TOTAL LAB. HRS.	LABOR RATE	LABOR COST	MAT'L COST	OTHER COST	TOTAL COST
	DESIGN PROCUREMENT PACKAGE										
	Siting and Surveying		3 fte		16	48	40	1,920			1,920
	Final Design Construction Document Package		2 dwgs	3000					6,000		6,000
	TOTAL TITLE DESIGN PACKAGE										**7,920**
	CONSTRUCTION SUBCONTRACT										
	ACCESS RESTRICTION FENCING										
	6' Security Fence - 1 gate		260 lf	25					6,500		6,500
	SURFACE WATER DIVERSION ALLOWANCES		260 lf	5					1,300		1,300
	TOTAL LIMITED ACTION CAPITAL COSTS										7,800
	Subcontractor Overhead and Profit @ 30%										2,340
	TOTAL SUBCONTRACTOR DIRECTS & INDIRECTS										10,140
	PROCUREMENT & G & A FEES AT 36%										3,650
	TOTAL SUBCONTRACTOR COSTS										**13,790**
	CONSTRUCTION MANAGEMENT AT 30% (PARSONS)										**3,042**
	PROJECT MANAGEMENT AT 15% (of Subcontractor Directs and Indirects)										1,521
	TITLE III INSPECTION AT 3% (of Subcontractor Directs and Indirects)										304
	CONSTRUCTION OVERSIGHT (LMITCO)										**1,825**

DETAILED COST ESTIMATE (CONT.SHEET)

Type of Est. Planning **File No.** 6950-4 **Date** 11/10/98

Project OU1-10 RI/FS COST ESTIMATES
TSF03 - ALT-1 LIMITED ACTION

ACCT. NO.	DESCRIPTION	E,V, P,H	MAT'L UNIT	MAT'L UT. COST	UNIT LAB. HRS	TOTAL LAB. HRS.	LABOR RATE	LABOR COST	MAT'L COST	OTHER COST	TOTAL COST
	ANNUAL SAMPLING AND MONITORING ACTIVITIES										
	Sampling and Monitoring		2 /yr		8	16	50	800			800
	Maintenance Inspection		2 /yr		8	16	50	800			800
	Report Preparation		1 ea		40	40	50	2,000			2,000
	ANNUAL COST										3,600
	5-YEAR REVIEW REPORT - PROGRAM PERSONNEL		1 ea		80	80	75	6,000			6,000
	100 YEAR LONG TERM COSTS										
	Annual Cost		100 yrs	3600					360,000		360,000
	5-Year Review Report		20 times	6000					120,000		120,000
	100 YEAR LONG TERM TOTAL COSTS										480,000
	100 YEAR LONG TERM COSTS										
	Fence Maint. Allow. .5K/Yr with Inspections		100 yrs	500					50,000		50,000
	100 YEAR LONG TERM COSTS										50,000
	TOTAL COST										**530,000**

DETAILED COST ESTIMATE (CONT.SHEET)

Type of Est. Planning | File No. 6950-4 | Date 11/10/98

Project OU1-10 RI/FS COST ESTIMATES
TSF03 - ALT-2 NATIVE SOIL CAP

ACCT. NO.	DESCRIPTION	E,V, P,H	MAT'L UNIT	MAT'L UT. COST	UNIT LAB. HRS	TOTAL LAB. HRS.	LABOR RATE	LABOR COST	MAT'L COST	OTHER COST	TOTAL COST
	DESIGN PROCUREMENT PACKAGE										
	Siting and Surveying		3 fte		16	48	40	1,920			1,920
	Final Design Construction Document Package		4 dwgs	3000					12,000		12,000
	TOTAL TITLE DESIGN PACKAGE										13,920
	CONSTRUCTION SUBCONTRACT										
	SOIL CAP										
	Import Fill to Grade		N/A								
	Mine Low Perm Soil		3,800 cy	3	Included				11,400		11,400
	Import Low Perm. Soil		3,800 cy	7	Included				26,600		26,600
	Place and Compact Soil		3,800 cy	4	Included				15,200		15,200
	Vegetate Cover		0.4 acres	2500	Included				1,000		1,000
	Surveying: Grades, Lines, & Levels		3 fte		24	72	40	2,880			2,880
	Mobilization & Demobilization (1 Crew - See Recap)		1 crew	10000					10,000		10,000
	SUBTOTAL SUBCONTRACTOR DIRECTS										67,000
	ACCESS RESTRICTION FENCING										
	6' Security Fence - 1 gate		580 lf	25					14,500		14,500
	SURFACE WATER DIVERSION DITCHES		580 lf	5					2,900		2,900
	SUBTOTAL SUBCONTRACTOR DIRECTS										17,400
	CONSTRUCTION DIRECTS										84,400
	Subcontractor Overhead and Profit @ 30%										25,320
	TOTAL SUBCONTRACTOR DIRECTS AND INDIRECTS										109,720
	PROCUREMENT & G & A FEES AT 36%										39,499
	TOTAL SUBCONTRACTOR COSTS										149,219
	CONSTRUCTION MANAGEMENT AT 30% (PARSONS)										32,916
	PROJECT MANAGEMENT AT 15% (of Subcontractor Directs and Indirects)										16,458
	TITLE III INSPECTION AT 3% (of Subcontractor Directs and Indirects)										3,292
	CONSTRUCTION OVERSIGHT (LMITCO)										19,750

DETAILED COST ESTIMATE (CONT.SHEET)

Type of Est. Planning **File No.** 6950-4 **Date** 11/10/98

Project OU1-10 RI/FS COST ESTIMATES
TSF03 - ALT-2 NATIVE SOIL CAP

ACCT. NO.	DESCRIPTION	E,V, P,H	MAT'L UNIT	MAT'L UT. COST	UNIT LAB. HRS	TOTAL LAB. HRS.	LABOR RATE	LABOR COST	MAT'L COST	OTHER COST	TOTAL COST
	ANNUAL SAMPLING AND MONITORING ACTIVITIES										
	Sampling and Monitoring		2 /yr		8	16	50	800			800
	Cap Maintenance Inspection		2 /yr		8	16	50	800			800
	Report Preparation		1 ea		40	40	50	2,000			2,000
	ANNUAL COST										3,600
	5-YEAR REVIEW REPORT - PROGRAM PERSONNEL		1 ea		80	80	75	6,000			6,000
	100 YEAR LONG TERM COSTS										
	Annual Cost		100 yrs	3600					360,000		360,000
	5-Year Review Report		20 times	6000					120,000		120,000
	100 YEAR LONG TERM TOTAL COSTS										480,000
	100 YEAR LONG TERM COSTS										
	Cap Maintenance		15,300 sf	0.04					612	100	61,200
	Fence Maint. Allow. .5K/Yr with Inspections		100 yrs	500					50,000		50,000
	100 YEAR LONG TERM COSTS										111,200
	TOTAL COST										**591,200**

DETAILED COST ESTIMATE (CONT.SHEET)

Type of Est. Planning **File No.** 6950-4 **Date** 11/10/98

Project OU1-10 RI/FS COST ESTIMATES
TSF-03 - 3B EXCAVATION AND ONSITE DISPOSAL

ACCT. NO.	DESCRIPTION	E,V, P,H	MAT'L UNIT	MAT'L UT. COST	UNIT LAB. HRS	TOTAL LAB. HRS.	LABOR RATE	LABOR COST	MAT'L COST	OTHER COST	TOTAL COST
	DESIGN PROCUREMENT PACKAGE										
	Siting and Surveying		3 fte		8	24	40	960			960
	Final Design Construction Document Package		2 dwgs	3,000					6,000		6,000
	TOTAL TITLE DESIGN PACKAGE										**6,960**
	REMOVE CONTAMINATED SOILS AND DISPOSE ONSITE										
	Excavate (4) Burn Pit Areas		990 cy	50					49,500		49,500
	Clean Fill and Reseeding		990 cy	4					3,960		3,960
	Mobilization & Demobilization (1 Crew - See Recap)		1 crew	10,000					10,000		10,000
	TOTAL SUBCONTRACTOR DIRECT COSTS										**63,460**
	Subcontractor Overhead and Profit @ 30%										**19,038**
	TOTAL SUBCONTRACTOR DIRECTS & INDIRECTS										**82,498**
	On-Site Disposal Costs		990 cy	104					102,960		102,960
	SUBTOTAL SUBCONTRACTOR COSTS										**185,458**
	PROCUREMENT & G & A FEES AT 36%										**66,765**
	TOTAL SUBCONTRACTOR COSTS										**252,223**
	CONSTRUCTION MANAGEMENT AT 30% (PARSONS)										**24,749**
	PROJECT MANAGEMENT AT 15% (of Subcontractor Directs and Indirects)										12,375
	TITLE III INSPECTION AT 3% (of Subcontractor Directs and Indirects)										2,475
	CONSTRUCTION OVERSIGHT (LMITCO)										**14,850**

DETAILED COST ESTIMATE (CONT.SHEET)

Type of Est. Planning **File No.** 6950-4 **Date** 11/10/98

Project OU1-10 RI/FS COST ESTIMATES
TSF03 - ALT-3A EXCAVATE AND OFFSITE DISPOSAL

ACCT. NO.	DESCRIPTION	E,V, P,H	MAT'L UNIT	MAT'L UT. COST	UNIT LAB. HRS	TOTAL LAB. HRS.	LABOR RATE	LABOR COST	MAT'L COST	OTHER COST	TOTAL COST
	DESIGN PROCUREMENT PACKAGE										
	Siting and Surveying		3 fte		8	24	40	960			960
	Final Design Construction Document Package		2 dwgs	3,000					6,000		6,000
	TOTAL TITLE DESIGN PACKAGE										**6,960**
	REMOVE CONTAMINATED SOILS AND DISPOSE OFFSITE										
	Excavate and Load Gondola		990 cy	50					49,500		49,500
	Clean Fill and Reseeding		990 cy	4					3,960	5,000	8,960
	Mobilization & Demobilization (1 Crew - See Recap)		1 crew	10,000					10,000		10,000
	TOTAL SUBCONTRACTOR DIRECT COSTS										68,460
	Subcontractor Overhead and Profit @ 30%										20,538
	TOTAL SUBCONTRACTOR DIRECTS & INDIRECTS										**88,998**
	PROCUREMENT & G & A FEES AT 36%										**32,039**
	SUBTOTAL SUBCONTRACTOR COSTS										**121,037**
	TOTAL FACILITY TRANS. & DISPOSAL COSTS		990 cy	440					435,600		435,600
	TOTAL SUBCONTRACTOR COSTS										**556,637**
	CONSTRUCTION MANAGEMENT AT 30% (PARSONS)										**26,699**
	PROJECT MANAGEMENT AT 15% (of Subcontractor Directs and Indirects)										13,350
	TITLE III INSPECTION AT 3% (of Subcontractor Directs and Indirects)										2,670
	CONSTRUCTION OVERSIGHT (LMITCO)										**16,020**

DETAILED COST ESTIMATE (CONT.SHEET)

Type of Est. Planning File No. 6950-4 Date 11/10/98

Project OU1-10 RI/FS COST ESTIMATES
TSF03 - ALT-4B EXCAVATE AND SOIL WASHING

ACCT. NO.	DESCRIPTION	E,V, P,H	MAT'L UNIT	MAT'L UT. COST	UNIT LAB. HRS	TOTAL LAB. HRS.	LABOR RATE	LABOR COST	MAT'L COST	OTHER COST	TOTAL COST
	DESIGN PROCUREMENT PACKAGE										
	Siting and Surveying		3 fte		8	24	40	960			960
	Final Design Construction Document Package		20 dwgs	3,000					60,000		60,000
	TOTAL TITLE DESIGN PACKAGE										**60,960**
	REMOVE CONTAMINATED SOILS AND ONSITE SOIL WASH TREATMENT										
	Prep Treatment Area for Mobile Treatment Facility										
	Clear and Grub - Provide 100'x70' Conc. Pad		75 cy	300	Included				22,500		22,500
	Provide 100 AMP 460V/3PH Power Allowance		1 lot	10,000	Included				10,000		10,000
	Excavate and Haul To Treatment Staging Area		990 cy	50					49,500		49,500
	Subcontract Soil Wash Treatment (With/WRRTF Soils)		990 cy	925					915,750		915,750
	Containerize & Transport Soils Offsite for Recycling		99 cy	440					43,560		43,560
	Disposal of Secondary Waste Water		20,000 gal	20					400,000		400,000
	Return Clean Treated Soils Back to Site		891 cy	8					7,128		7,128
	Clean Fill and Reseeding		99 cy	4					396	5,000	5,396
	Mobilization & Demobilization (1 Crew - See Recap)		1 crew	10,000					10,000		10,000
	TOTAL SUBCONTRACTOR DIRECT COSTS										**1,463,834**
	Subcontractor Overhead and Profit @ 30%										439,150
	TOTAL SUBCONTRACTOR DIRECTS & INDIRECTS										**1,902,984**
	PROCUREMENT & G & A FEES AT 36%										**685,074**
	TOTAL SUBCONTRACTOR COSTS										**2,588,059**
	CONSTRUCTION MANAGEMENT AT 30% (PARSONS)										**570,895**
	PROJECT MANAGEMENT AT 15% (of Subcontractor Directs and Indirects)										285,448
	TITLE III INSPECTION AT 3% (of Subcontractor Directs and Indirects)										57,090
	CONSTRUCTION OVERSIGHT (LMITCO)										**342,537**

Lockheed Martin Idaho Technologies Co.

Rev 10-96

SUMMARY COST ESTIMATE SHEET

Project	OU1-10 RI/FS COST ESTIMATES	**Type of Est.**	Planning	**File No.**	6950-4	**Date**	11/10/98
	ANALYSIS OF WRRTF-01 - REMEDIAL ALTERNATIVES	**Source**	(E) Eng. Est.			**Prep'd By**	TES/DNS/KLS
Location	TAN - INEL		(V) Vendor				
Requester	David L. Michael		(P) Pur. Order				

ACCT. NO.	DESCRIPTION	LIMITED ACTION ALT-1	NATIVE SOIL COVER ALT-2	EXCAV/ONSITE DISPOSAL ALT-3B	EXCAV/OFFSITE DISPOSAL ALT-3A	**EXCAV/SOIL WASHING ALT-4B
ER1220	**FFA/CO Mgmt. and Oversight**					
	WAG 1 - Management	250,000	375,000	375,000	375,000	375,000
ER1200	**Remediation Oversight**					
	Construction Oversight (LMITCO Proj. Mgmt	9,477	187,668	172,926	174,096	1,025,879
	and Title III Inspection)					
	Construction Project Management (Parsons)	15,795	312,780	288,210	290,160	1,709,799
	RA Document Preparation					
	RD/RA SOW & RD/RA Work Plan	22,000	22,000	22,000	22,000	22,000
	Packaging, Shipping, Transportation Plan	N/A	N/A	25,000	25,000	25,000
	Remedial Action Report (Per RD/RA Baseline)	17,000	17,000	17,000	17,000	17,000
	WAG-Wide RA 5 Yr. Review	150,000	150,000	N/A	N/A	N/A
ER1210	**Remedial Design**					
	Title Design Construction Document Package	8,880	16,800	6,960	6,960	60,960
	RD Documentation Per WAG 1 Baseline					
	ASA, H&S Plan, SA Plan	40,000	40,000	40,000	40,000	40,000
	QAPjP	10,000	10,000	10,000	10,000	10,000
	RA Workplan	10,000	10,000	10,000	10,000	10,000
	Pre-Final Inspection Report	8,000	8,000	8,000	8,000	8,000
ER1230	**Construction Subcontract**	71,604	1,417,936	3,215,992	9,393,792	7,751,089
	Including G&A and Subcontract Procurement Fees					
	TOTAL CAPITAL COST IN FY97 DOLLARS	**612,756**	**2,567,184**	**4,191,088**	**10,372,008**	**11,054,727**
ER1230	**Operations**					
	WAG 1 - Management	937,500	937,500	N/A	N/A	N/A
	Annual Operations and Maintenance Reports	75,000	75,000	N/A	N/A	N/A
ER1230	**D&D**	N/A	N/A	N/A	N/A	N/A
ER1300	**Surveillance and Monitoring**	555,000	1,125,000	N/A	N/A	N/A
	TOTAL O&M COST IN FY97 DOLLARS	**1,567,500**	**2,137,500**	**N/A**	**N/A**	**N/A**

Lockheed Martin Idaho Technologies Co.

Rev 10-96

SUMMARY COST ESTIMATE SHEET

Project	OU1-10 RI/FS COST ESTIMATES	**Type of Est.**	Planning	**Date**	11/10/98
	ANALYSIS OF WRRTF-01 - REMEDIAL ALTERNATIVES			**Prep'd By**	TES/DNS/KLS
Location	TAN - INEL	**File No.**	6950-4		
Requester	David L. Michael				

ACCT. NO.	DESCRIPTION	LIMITED ACTION ALT-1	NATIVE SOIL COVER ALT-2	EXCAV/ONSITE DISPOSAL ALT-3B	EXCAV/OFFSITE DISPOSAL ALT-3A	**EXCAV/SOIL WASHING ALT-4B
	CAPITAL COST SUBTOTAL	612,756	2,567,184	4,191,088	10,372,008	11,054,727
	Contingency @ 30%	183,827	770,155	1,257,326	3,111,602	3,316,418
	TOTAL CAPITAL COST IN FY97 DOLLARS	796,583	3,337,339	5,448,414	13,483,610	14,371,145
	TOTAL CAPITAL COST IN ESCALATED DOLLARS	2,044,527	4,844,891	5,953,267	14,822,932	15,796,397
	TOTAL CAPITAL COST IN NET PRESENT VALUE	646,696	3,001,475	5,039,646	12,518,392	13,343,729
	O&M COST SUBTOTAL	1,567,500	2,137,500	N/A	N/A	N/A
	Contingency @ 30%	470,250	641,250	N/A	N/A	N/A
	TOTAL O&M COST IN FY97 DOLLARS	2,037,750	2,778,750	N/A	N/A	N/A
	TOTAL O&M COST IN ESCALATED DOLLARS	13,418,020	18,297,180	N/A	N/A	N/A
	TOTAL O&M COST IN NET PRESENT VALUE	855,594	1,166,712	N/A	N/A	N/A
	TOTAL PROJECT COST IN NET PRESENT VALUE	1,502,290	4,168,187	5,039,646	12,518,392	13,343,729

** NOTE: ONSITE TREATMENT (SOIL WASHING) COSTS ARE INCLUDED WITH TSF 03 ALTERNATIVE.

SHADED AREAS INDICATE REVISIONS OR ADDITIONS TO THE FEASIBILITY STUDY ALTERNATIVES

DETAILED COST ESTIMATE (CONT.SHEET)

Type of Est. Planning File No. 6950-4 Date 11/10/98

Project OU1-10 RI/FS COST ESTIMATES
WRRTF-01 - ALT-1 LIMITED ACTION

ACCT. NO.	DESCRIPTION	E,V, P,H	MAT'L UNIT	MAT'L UT. COST	UNIT LAB. HRS	TOTAL LAB. HRS.	LABOR RATE	LABOR COST	MAT'L COST	OTHER COST	TOTAL COST
	DESIGN PROCUREMENT PACKAGE										
	Siting and Surveying		3 fte		24	72	40	2,880			2,880
	Final Design Construction Document Package		2 dwgs	3000					6,000		6,000
	TOTAL TITLE DESIGN PACKAGE										8,880
	CONSTRUCTION SUBCONTRACT										
	ACCESS RESTRICTION FENCING										
	6' Security Fence - 1 gate		1,350 lf	25					33,750		33,750
	SURFACE WATER DIVERSION ALLOWANCES		1,350 lf	5					6,750		6,750
	TOTAL LIMITED ACTION CAPITAL COSTS										40,500
	Subcontractor Overhead and Profit @ 30%										12,150
	TOTAL SUBCONTRACTOR DIRECTS & INDIRECTS										52,650
	PROCUREMENT & G & A FEES AT 36%										18,954
	TOTAL SUBCONTRACTOR COSTS										71,604
	CONSTRUCTION MANAGEMENT AT 30% (PARSONS)										15,795
	PROJECT MANAGEMENT AT 15% (of Subcontractor Directs and Indirects)										7,898
	TITLE III INSPECTION AT 3% (of Subcontractor Directs and Indirects)										1,580
	CONSTRUCTION OVERSIGHT (LMITCO)										9,477

DETAILED COST ESTIMATE (CONT.SHEET)

Type of Est. Planning **File No.** 6950-4 **Date** 11/10/98

Project OU1-10 RI/FS COST ESTIMATES
WRRTF-01 - ALT-1 LIMITED ACTION

ACCT. NO.	DESCRIPTION	E,V, P,H	MAT'L UNIT	MAT'L UT. COST	UNIT LAB. HRS	TOTAL LAB. HRS.	LABOR RATE	LABOR COST	MAT'L COST	OTHER COST	TOTAL COST
	ANNUAL SAMPLING AND MONITORING ACTIVITIES										
	Sampling and Monitoring		2 /yr		8	16	50	800			800
	Maintenance Inspection		2 /yr		8	16	50	800			800
	Report Preparation		1 ea		40	40	50	2,000			2,000
	ANNUAL COST										3,600
	5-YEAR REVIEW REPORT - PROGRAM PERSONNEL		1 ea		80	80	75	6,000			6,000
	100 YEAR LONG TERM COSTS										
	Annual Cost		100 yrs	3600					360,000		360,000
	5-Year Review Report		20 times	6000					120,000		120,000
	100 YEAR LONG TERM TOTAL COSTS										480,000
	100 YEAR LONG TERM COSTS										
	Fence Maint. Allow. with Inspections		1,500 lf	0.5					750	100	75,000
	100 YEAR LONG TERM COSTS										75,000
	TOTAL COST										555,000

DETAILED COST ESTIMATE (CONT.SHEET)

Type of Est. Planning **File No.** 6950-4 **Date** 11/10/98

Project OU1-10 RI/FS COST ESTIMATES
WRRTF-01 - ALT-2 NATIVE SOIL COVER

ACCT. NO.	DESCRIPTION	E,V, P,H	MAT'L UNIT	MAT'L UT. COST	UNIT LAB. HRS	TOTAL LAB. HRS.	LABOR RATE	LABOR COST	MAT'L COST	OTHER COST	TOTAL COST
	DESIGN PROCUREMENT PACKAGE										
	Siting and Surveying		3 fte		40	120	40	4,800			4,800
	Final Design Construction Document Package		4 dwgs	3000					12,000		12,000
	TOTAL TITLE DESIGN PACKAGE										**16,800**
	CONSTRUCTION SUBCONTRACT - SOIL CAP										
	Misc. Fencing (Demo/Repair)		250 lf	50	Included				12,500		12,500
	Import Fill to Grade		N/A								
	Mine Low Perm Soil		50,000 cy	3	Included				150,000		150,000
	Import Low Perm. Soil		50,000 cy	7	Included				350,000		350,000
	Place and Compact Soil		50,000 cy	4	Included				200,000		200,000
	Vegetate Cover		3.5 acres	2,500	Included				8,750		8,750
	Surveying: Grades, Lines, and Levels		3 fte		80	240	40	9,600			9,600
	Mobilization & Demobilization (1 Crew - See Recap)		2 crew	10,000					20,000		20,000
	SUBTOTAL SUBCONTRACTOR DIRECTS										751,000
	ACCESS RESTRICTION FENCING										
	6' Security Fence - 1 gate		1,700 lf	25					42,500		42,500
	SURFACE WATER DIVERSION DITCHES		1,700 lf	5					8,500		8,500
	SUBTOTAL SUBCONTRACTOR DIRECTS										51,000
	CONSTRUCTION DIRECTS										**802,000**
	Subcontractor Overhead and Profit @ 30%										240,600
	TOTAL SUBCONTRACTOR DIRECTS AND INDIRECTS										1,042,600
	PROCUREMENT & G & A FEES AT 36%										375,336
	TOTAL SUBCONTRACTOR COSTS										**1,417,936**
	CONSTRUCTION MANAGEMENT AT 30% (PARSONS)										**312,780**
	PROJECT MANAGEMENT AT 15% (of Subcontractor Directs and Indirects)										156,390
	TITLE III INSPECTION AT 3% (of Subcontractor Directs and Indirects)										31,278
	CONSTRUCTION OVERSIGHT (LMITCO)										**187,668**

DETAILED COST ESTIMATE (CONT.SHEET)

Type of Est. Planning | File No. 6950-4 | Date 11/10/98

Project OU1-10 RI/FS COST ESTIMATES
WRRTF-01 - ALT-2 NATIVE SOIL COVER

ACCT. NO.	DESCRIPTION	E,V, P,H	MAT'L UNIT	MAT'L UT. COST	UNIT LAB. HRS	TOTAL LAB. HRS.	LABOR RATE	LABOR COST	MAT'L COST	OTHER COST	TOTAL COST
	ANNUAL SAMPLING AND MONITORING ACTIVITIES										
	Sampling and Monitoring		2 /yr		8	16	50	800			800
	Cap Maintenance Inspection		2 /yr		8	16	50	800			800
	Report Preparation		1 ea		40	40	50	2,000			2,000
	ANNUAL COST										3,600
	5-YEAR REVIEW REPORT - PROGRAM PERSONNEL		1 ea		80	80	75	6,000			6,000
	100 YEAR LONG TERM COSTS										
	Annual Cost		100 yrs	3,600					360,000		360,000
	5-Year Review Report		20 times	6,000					120,000		120,000
	100 YEAR LONG TERM TOTAL COSTS										480,000
	100 YEAR LONG TERM COSTS										
	Cap Maintenance		140,000 sf	0.04					5,600	100	560,000
	Fence Maint. Allow. with Inspections		1,700 lf	0.5					850	100	85,000
	100 YEAR LONG TERM COSTS										645,000
	TOTAL COST										1,125,000

DETAILED COST ESTIMATE (CONT.SHEET)

Type of Est. Planning **File No.** 6950-4 **Date** 11/10/98

Project OU1-10 RI/FS COST ESTIMATES
WRRTF-01 - ALT-3B EXCAVATION AND ONSITE DISPOSAL

ACCT. NO.	DESCRIPTION	E,V, P,H	MAT'L UNIT	MAT'L UT. COST	UNIT LAB. HRS	TOTAL LAB. HRS.	LABOR RATE	LABOR COST	MAT'L COST	OTHER COST	TOTAL COST
	DESIGN PROCUREMENT PACKAGE										
	Siting and Surveying		3 fte		8	24	40	960			960
	Final Design Construction Document Package		2 dwgs	3,000					6,000		6,000
	TOTAL TITLE DESIGN PACKAGE										6,960
	REMOVE CONTAMINATED SOILS AND DISPOSE ONSITE										
	Excavate (4) Burn Pit Areas		13,500 cy	50					675,000		675,000
	Clean Fill and Reseeding		13,500 cy	4					54,000		54,000
	Mobilization & Demobilization (1 Crew - See Recap)		1 crew	10,000					10,000		10,000
	TOTAL SUBCONTRACTOR DIRECT COSTS										739,000
	Subcontractor Overhead and Profit @ 30%										221,700
	TOTAL SUBCONTRACTOR DIRECTS & INDIRECTS										960,700
	On-Site Disposal Costs		13,500 cy	104					1,404,000		1,404,000
	SUBTOTAL SUBCONTRACTOR COSTS										2,364,700
	PROCUREMENT & G & A FEES AT 36%										851,292
	TOTAL SUBCONTRACTOR COSTS										3,215,992
	CONSTRUCTION MANAGEMENT AT 30% (PARSONS)										288,210
	PROJECT MANAGEMENT AT 15% (of Subcontractor Directs and Indirects)										144,105
	TITLE III INSPECTION AT 3% (of Subcontractor Directs and Indirects)										28,821
	CONSTRUCTION OVERSIGHT (LMITCO)										172,926

DETAILED COST ESTIMATE (CONT.SHEET)

Type of Est. Planning **File No.** 6950-4 **Date** 11/10/98

Project OU1-10 RI/FS COST ESTIMATES

WRRTF-01 - ALT-3A EXCAVATE AND OFFSITE DISPOSAL

ACCT. NO.	DESCRIPTION	E,V, P,H	MAT'L UNIT	MAT'L UT. COST	UNIT LAB. HRS	TOTAL LAB. HRS.	LABOR RATE	LABOR COST	MAT'L COST	OTHER COST	TOTAL COST
	DESIGN PROCUREMENT PACKAGE										
	Siting and Surveying		3 fte		8	24	40	960			960
	Final Design Construction Document Package		2 dwgs	3,000					6,000		6,000
	TOTAL TITLE DESIGN PACKAGE										**6,960**
	REMOVE CONTAMINATED SOILS AND DISPOSE OFFSITE										
	Excavate and Load Gondola		13,500 cy	50					675,000		675,000
	Dispose Offsite		13,500 cy	440					5,940,000		5,940,000
	Clean Fill and Reseeding		13,500 cy	4					54,000	5,000	59,000
	Mobilization & Demobilization (1 Crew - See Recap)		1 crew	10,000					10,000		10,000
	TOTAL SUBCONTRACTOR DIRECT COSTS										744,000
	Subcontractor Overhead and Profit @ 30%										223,200
	TOTAL SUBCONTRACTOR DIRECTS & INDIRECTS										**967,200**
	TOTAL FACILITY TRANS. & DISPOSAL COSTS										**5,940,000**
	SUBTOTAL SUBCONTRACTOR COSTS										**6,907,200**
	PROCUREMENT & G & A FEES AT 36%										**2,486,592**
	TOTAL SUBCONTRACTOR COSTS										**9,393,792**
	CONSTRUCTION MANAGEMENT AT 30% (PARSONS)										**290,160**
	PROJECT MANAGEMENT AT 15% (of Subcontractor Directs and Indirects)										145,080
	TITLE III INSPECTION AT 3% (of Subcontractor Directs and Indirects)										29,016
	CONSTRUCTION OVERSIGHT (LMITCO)										**174,096**

DETAILED COST ESTIMATE (CONT.SHEET)

Type of Est. Planning | File No. 6950-4 | Date 11/10/98

Project: OU1-10 RI/FS COST ESTIMATES
WRRTF-01 - ALT-4B EXCAVATE AND SOIL WASHING

ACCT. NO.	DESCRIPTION	E,V, P,H	MAT'L UNIT	MAT'L UT. COST	UNIT LAB. HRS	TOTAL LAB. HRS.	LABOR RATE	LABOR COST	MAT'L COST	OTHER COST	TOTAL COST
	DESIGN PROCUREMENT PACKAGE										
	Siting and Surveying		3 fte		8	24	40	960			960
	Final Design Construction Document Package		20 dwgs	3,000					60,000		60,000
	TOTAL TITLE DESIGN PACKAGE										**60,960**
	REMOVE CONTAMINATED SOILS AND ONSITE SOIL WASH TREATMENT Note: Treatment Costs are Included in TSF 03 Subcontract										
	Prep Treatment Area for Mobile Treatment Facility										
	Clear and Grub - Provide 100'x70' Conc. Pad		75 cy	300	Included				22,500		22,500
	Provide 100 AMP 460V/3PH Power Allowance		1 lot	10,000	Included				10,000		10,000
	Excavate and Haul To Treatment Staging Area		13,500 cy	50	Included				675,000		675,000
	Subcontract Onsite Soil Wash Treatment		13,500 cy	190	Included				2,565,000		2,565,000
	Disposal of Concentrated Contaminated Soils		1,350 cy	440	Included				594,000		594,000
	Disposal of Secondary Waste Water		20,000 gal	20	Included				400,000		400,000
	Return Clean Treated Soils Back to Site		12,150 cy	8	Included				97,200		97,200
	Clean Fill and Reseeding		1,350 cy	4	Included				5,400	5,000	10,400
	Mobilization & Demobilization (1 Crew - See Recap)		1 crew	10,000	Included				10,000		10,000
	TOTAL SUBCONTRACTOR DIRECT COSTS										4,384,100
	Subcontractor Overhead and Profit @ 30%										1,315,230
	TOTAL SUBCONTRACTOR DIRECTS & INDIRECTS										**5,699,330**
	PROCUREMENT & G & A FEES AT 36%										**2,051,759**
	TOTAL SUBCONTRACTOR COSTS										**7,751,089**
	CONSTRUCTION MANAGEMENT AT 30% (PARSONS)										**1,709,799**
	PROJECT MANAGEMENT AT 15% (of Subcontractor Directs and Indirects)										854,900
	TITLE III INSPECTION AT 3% (of Subcontractor Directs and Indirects)										170,980
	CONSTRUCTION OVERSIGHT (LMITCO)										**1,025,879**