

**DETAILED COST ESTIMATE (CONT.SHEET)**

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Project WAG-5 FS COST ESTIMATES  
SOIL SITES: ARA-01, ARA-12, ARA-16, ARA-23, PBF-16, ARA-25  
ALTERNATIVE 5B - REMOVAL, EX SITU TREATMENT, AND  
DISPOSAL OFF INEEL

Type of Est. Planning

File No. 4951-4

Date 01/05/99

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
	<b>Operations, Maintenance, Materials and Disposal</b>										<b>N/A</b>
	<b>D&amp;D of Facilities</b>										<b>N/A</b>
	<b>Surveillance and Monitoring</b>										<b>N/A</b>



SUMMARY COST ESTIMATE SHEET

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Project WAG 5 FS COST ESTIMATES  
SITE ARA-02  
 Location ARA - INEEL  
 Requester F. L. WEBBER

Type of Est. Planning  
 File No. 4951-3

Date 01/05/99  
 Prep'd By TES/KLS  
 Checked By KLS

ACCT. NO.	DESCRIPTION	ALTERNATIVE #1	ALTERNATIVE #2	ALTERNATIVE #3	ALTERNATIVE #4
		NO ACTION	LIMITED ACTION	REMOVAL, EX SITU THERMAL TREATMENT & DISPOSAL	IN SITU STABILIZATION AND ENCAPSULATION
	<b>CAPITAL COST SUBTOTAL</b>	1,286,500	1,442,105	1,668,409	1,553,230
	Contingency @ 30%	385,950	432,631	500,523	465,969
	<b>TOTAL CAPITAL COST IN FY98 DOLLARS</b>	<b>1,672,450</b>	<b>1,874,736</b>	<b>2,168,932</b>	<b>2,019,199</b>
	<b>TOTAL CAPITAL COST IN ESCALATED DOLLARS</b>	<b>1,768,648</b>	<b>2,026,643</b>	<b>2,344,902</b>	<b>2,187,053</b>
	<b>TOTAL CAPITAL COST IN NET PRESENT VALUE</b>	<b>1,588,084</b>	<b>1,750,181</b>	<b>2,019,265</b>	<b>1,881,998</b>
	<b>O&amp;M COST SUBTOTAL</b>	14,401,620	14,472,434	NA	10,548,000
	Contingency @ 30%	4,320,486	4,341,730	N/A	3,164,400
	<b>TOTAL O&amp;M COST IN FY98 DOLLARS</b>	<b>18,722,106</b>	<b>18,814,165</b>	<b>NA</b>	<b>13,712,400</b>
	<b>TOTAL O&amp;M COST IN ESCALATED DOLLARS</b>	<b>113,266,847</b>	<b>120,526,010</b>	<b>NA</b>	<b>84,256,697</b>
	<b>TOTAL O&amp;M COST IN NET PRESENT VALUE</b>	<b>7,758,368</b>	<b>7,486,341</b>	<b>NA</b>	<b>5,618,859</b>
	<b>TOTAL PROJECT COST IN FY 98 DOLLARS</b>	<b>20,394,556</b>	<b>20,688,901</b>	<b>2,168,932</b>	<b>15,731,599</b>
	<b>TOTAL PROJECT COST IN ESCALATED DOLLARS</b>	<b>115,035,495</b>	<b>122,552,653</b>	<b>2,344,902</b>	<b>86,443,750</b>
	<b>TOTAL PROJECT COST IN NET PRESENT VALUE</b>	<b>9,346,452</b>	<b>9,236,522</b>	<b>2,019,265</b>	<b>7,500,857</b>

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SUMMARY OF DETAILED COST ESTIMATE

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Project WAG 5 FS COST ESTIMATES  
WASTE SITES ARA-02  
 Location ARA - INEEL  
 Requester F. L. WEBBER

Type of Est. Planning

File No. 4951-3

Date 01/05/99  
 Prep'd By TES/KLS

ACCT. NO.	DESCRIPTION	ALTERNATIVE #1	ALTERNATIVE #2	ALTERNATIVE #3	ALTERNATIVE #4
		NO ACTION	LIMITED ACTION	REMOVAL EX SITU TREATMENT AND DISPOSE	IN SITU STABILIZATION AND ENCAPSULATION
ER1220	<b>FFA/CO Management and Oversight</b>				
	Program Management	250,000	375,000	375,000	375,000
	RA Document Preparation				
	RD/RA SOW	54,000	54,000	54,000	54,000
	RA Workplan	63,000	63,000	63,000	63,000
	Packaging, Shipping, Trans. Documentation	NA	NA	48,000	NA
	Remedial Action Report	48,000	48,000	48,000	48,000
	WAG-Wide RA - 5 Yr. Reviews	141,000	141,000	141,000	141,000
	RD Documentation Preparation				
	Safety Analysis Documentation (ASA & HSP)	100,500	100,500	100,500	100,500
	Sampling and Analysis Plan	108,000	108,000	108,000	108,000
	Pre-Final Inspection Report	7,500	7,500	7,500	7,500
ER1210	<b>Remedial Design</b>				
	Added Institutional Controls - 5 Yr. Reviews	32,000	32,000	32,000	32,000
	Title Design Construction Document Package	67,960	74,960	98,200	95,800
ER1230	<b>Remedial Action - Construction Subcontract</b>				
	Site Characterization	80,000	80,000	20,250	20,250
	Construction Subcontract	274,040	312,229	492,773	424,681
	Project/Construction Management	60,500	45,916	80,186	83,499
	<b>TOTAL CAPITAL COST</b>	<b>1,286,500</b>	<b>1,442,105</b>	<b>1,668,409</b>	<b>1,553,230</b>
ER1230	<b>Remedial Action - Operations (100 Year Duration)</b>				
	Program Management	3,385,000	3,385,000	NA	3,385,000
	WAG-Wide RA - 5 Yr. Review For 100 Years	3,243,000	3,243,000	NA	3,243,000
	Added Institutional Controls - 5 Yr. Review For 100 Years	640,000	640,000	NA	640,000
	Continued/New Construction Caretaker/Maintenance	3,013,620	3,084,434	NA	2,160,000
	Operations, Maintenance, Materials, and Disposal	NA	NA	NA	N/A
ER2000	<b>D&amp;D of Facilities</b>	NA	NA	NA	N/A
ER1310	<b>Surveillance and Monitoring</b>	4,120,000	4,120,000	NA	1,120,000
	<b>TOTAL OPERATIONS COST (100 YEARS)</b>	<b>14,401,620</b>	<b>14,472,434</b>	<b>NA</b>	<b>10,548,000</b>

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Project WAG-5 FS COST ESTIMATES  
WASTE SITES ARA-02  
ALTERNATIVE 1 - NO ACTION  
EXIST INST. CONTROLS/MONITORING

Type of Est. Planning

File No. 4951-3

Date 01/05/99

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
	<b>FFA/CO Management and Oversight</b>										
	<b>Program Management</b>										
	Coordination/Oversight of Technical Support		1 fte		640	640	75	48,000			48,000
	Coordination with Agency Participants		1 fte		320	320	75	24,000			24,000
	Cost and Schedule Control		1 fte		320	320	65	20,800			20,800
	Ensure Compliance of Gov't Regulation		1 fte		160	160	70	11,200			11,200
	Quarterly and Yearly Reviews		1 fte		160	160	65	10,400			10,400
	Audit Preparation and Coordination		1 fte		160	160	65	10,400			10,400
	<b>Total Cost (Per Year)</b>										124,800
	<b>Total Cost (Per Year Rounded)</b>										125,000
	<b>Program Management - 2 Year Duration</b>		2 yr	125,000					250,000		250,000
	<b>RA Document Preparation</b>										
	<b>RD/RA SOW</b>										
	PreDesign Studies/Preliminary Scoping		3 fte		80	240	75	18,000			18,000
	Design Criteria		1 fte		40	40	75	3,000			3,000
	RD/RA Document Preparation		1 fte		80	80	75	6,000			6,000
	Reviews and Comment Resolution		1 fte		360	360	75	27,000			27,000
	<b>RD/RA SOW Cost</b>										54,000
	<b>RA Workplan</b>										
	Preliminary Scoping		1 fte		160	160	75	12,000			12,000
	RD/RA Document Preparation		1 fte		260	260	75	19,500			19,500
	Reviews and Comment Resolution		1 fte		420	420	75	31,500			31,500
	<b>RA Workplan Cost</b>										63,000

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DETAILED COST ESTIMATE (CONT.SHEET)

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Project WAG-5 FS COST ESTIMATES  
WASTE SITES ARA-02  
ALTERNATIVE 1 - NO ACTION  
EXIST INST. CONTROLS/MONITORING

Type of Est. Planning

File No. 4951-3

Date 01/05/99

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
	<b>RA Document Preparation (cont.)</b>										
	<b>Packaging, Shipping, Transportation Documentation</b>										
	Sampling and Analysis		NA								NA
	Hazard Classification		NA								NA
	Selection and Procurement of Packaging		NA								NA
	<b>Packaging, Shipping, Transportation Documentation Cost</b>										NA
	<b>Remedial Action Report</b>										
	RA Report Preparation		1 fte		320	320	75	24,000			24,000
	Reviews and Comment Resolution		1 fte		320	320	75	24,000			24,000
	<b>Remedial Action Report Cost</b>										48,000
	<b>WAG-Wide RA 5 Yr. Review - (Cost Includes (1) FTE For (1) yr for the Initial Review</b>										
	RA Report Preparation		1 yr		1,440	1,440	75	108,000			108,000
	Reviews and Comment Resolution		1 yr		440	440	75	33,000			33,000
	<b>WAG-Wide RA 5 Yr. Reviews For 100 Years</b>										141,000
	<b>RD Document Preparation</b>										
	<b>Safety Analysis Documentation (ASA &amp; HSP)</b>										
	Auditable Safety Analysis/Hazards Classification		2 fte		160	320	75	24,000			24,000
	Unresolved Safety Questions		2 fte		160	320	75	24,000			24,000
	Quality Assurance		1 fte		30	30	75	2,250			2,250
	Review & Comment Resolution		2 fte		335	670	75	50,250			50,250
	<b>Safety Analysis Documentation Cost</b>										100,500
	<b>Sampling and Analysis Plan</b>										
	Preliminary Scoping		1 fte		320	320	75	24,000			24,000
	Field Sampling Plan Preparation		1 fte		400	400	75	30,000			30,000
	Reviews and Comment Resolution		1 fte		720	720	75	54,000			54,000
	<b>Sampling and Analysis Plan Cost</b>										108,000



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Project WAG-5 FS COST ESTIMATES  
WASTE SITES ARA-02  
ALTERNATIVE 1 - NO ACTION  
EXIST INST. CONTROLS/MONITORING

Type of Est. Planning

File No. 4951-3

Date 01/05/99

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
	<b>RD Document Preparation (cont.)</b>										
	<b>Pre-Final Inspection Report</b>										
	Checklist Preparation		1 fte		40	40	75	3,000			3,000
	Reviews and Comment Resolution		1 fte		60	60	75	4,500			4,500
	<b>Pre-Final Inspection Report Cost</b>										<b>7,500</b>
	<b>Remedial Design</b>										
	<b>Initial Review of Deed Restrictions with Governing Bodies and Public Comment</b>										
	Legal Attorney and Env. Affairs at \$32K ea.		1 ea	32,000					32,000		32,000
	<b>Deed Restrictions Cost</b>										<b>32,000</b>
	<b>Title Design Construction Document Package</b>										
	Remedial Design Workplan		1 fte		40	40	75	3,000			3,000
	Archeological Survey, Coordination, & RA Oversight		1 fte	8,400	640	640	65	41,600	8,400		50,000
	Siting and Surveying		3 fte		8	24	40	960			960
	Procurement Document Package		4 dwgs	3,500					14,000		14,000
	<b>Total Cost Title Design Construction Document Package</b>										<b>67,960</b>
	<b>Site Characterization - Including: Sample Collection Materials/Labor, Shipping, SMO TOS Preparation &amp; Analysis Reporting, ERIS Quality Reporting</b>									(Materials)	
	Assume an Average of 5 per Site x 2 Sites		10 smpls	3,500	6	60	75	4,500	35,000	500	40,000
	Drilling Core Samples		8 ea	5,000					40,000		40,000
	<b>Construction Subcontract - (4) Monitoring Wells at Each Site)</b>										
	Mob and Demob of Drilling Equipment		1 ls	10,000	Included				10,000		10,000
	Monitoring Wells (Angle Drilling 4" Dia. x 20' Deep)		8 ea	13,000	Included				104,000		104,000
	Monitoring Equipment		1 ls	41,000	Included				41,000		41,000
	<b>Total Subcontractor Direct Costs</b>										<b>155,000</b>
	Subcontractor Overhead and Profit @ 30%										46,500
	<b>Total Subcontractor Directs and Indirects</b>										<b>201,500</b>
	<b>Procurement Fee and G&amp;A at Current Business Practices</b>										72,540
	<b>Total Subcontractor Costs</b>										<b>274,040</b>
	<b>Project/Construction Management</b>										<b>60,500</b>

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DETAILED COST ESTIMATE (CONT.SHEET)

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Project WAG-5 FS COST ESTIMATES  
WASTE SITES ARA-02  
ALTERNATIVE 1 - NO ACTION  
EXIST INST. CONTROLS/MONITORING

Type of Est. Planning

File No. 4951-3

Date 01/05/99

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
	<b>Remedial Action - Operations (100 Year Duration)</b>										
	<b>Program Management</b>										
	Coordination/Oversight of Technical Support		1 fte		200	200	75	15,000			15,000
	Coordination with Agency Participants		1 fte		80	80	75	6,000			6,000
	Cost and Schedule Control		1 fte		59	59	65	3,848			3,848
	Ensure Compliance of Gov't Regulation		1 fte		32	32	70	2,240			2,240
	Reviews		1 fte		32	32	65	2,080			2,080
	Audit Preparation and Coordination		1 fte		32	32	65	2,080			2,080
	Annual Operations and Maintenance Reports		1 fte		40	40	65	2,600			2,600
	<b>Total Cost (Per Year)</b>										<b>33,850</b>
	<b>Program Management Costs - 100 Year Duration</b>		100 yrs	33,850					3,385,000		<b>3,385,000</b>
	<b>WAG-Wide RA 5 Yr. Review - (Cost Per Each, Required (1) FTE For Years 2 thru 5; (1) FTE in (5) Yr. Increments for 6 thru 95)</b>										
	RA Report Preparation		23 yrs		1,440	33,120	75	2,484,000			2,484,000
	Reviews and Comment Resolution		23 yrs		440	10,120	75	759,000			759,000
	<b>WAG-Wide RA 5 Yr. Reviews For 100 Years</b>										<b>3,243,000</b>
	<b>Remedial Design</b>										
	<b>Added Institutional Controls - 5 Yr. Review of Deed Restrictions with Governing Bodies and Public Comment Over a 100 Year Period; Total of 20 Reviews.</b>										
	Legal Attorney and Env. Affairs at \$32K ea.		20 ea	32,000					640,000		640,000
	<b>Total Added Institutional Controls - 100 Year Duration</b>										<b>640,000</b>
	<b>Caretaker/Maintenance</b>										
	Caretaker		0.1 fte		1,880	188	75	14,100			14,100
	Area/Access Materials and Repair		12 mos.	500					6,000		6,000
	<b>Caretaker/Maintenance Cost Per Year</b>										<b>20,100</b>
	Monitoring Well Replacement (8 wells every 25 yrs)		3 times	334,540					1,003,620		1,003,620
	<b>Caretaker Cost - 100 Year Duration</b>		100 yrs	20,100					2,010,000		<b>2,010,000</b>
											<b>3,013,620</b>



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DETAILED COST ESTIMATE (CONT.SHEET)

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Project WAG 5 FS COST ESTIMATES  
WASTE SITES ARA-02  
ALTERNATIVE 2 - LIMITED ACTION  
EXIST AND ADDED INST. CONTROLS/MONITORING

Type of Est. Planning

File No. 4951-3

Date 01/05/99

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
	<b>FFACO Management and Oversight</b>										
	<b>Program Management</b>										
	Coordination/Oversight of Technical Support		1 fte		640	640	75	48,000			48,000
	Coordination with Agency Participants		1 fte		320	320	75	24,000			24,000
	Cost and Schedule Control		1 fte		320	320	65	20,800			20,800
	Ensure Compliance of Gov't Regulation		1 fte		160	160	70	11,200			11,200
	Quarterly and Yearly Reviews		1 fte		160	160	65	10,400			10,400
	Audit Preparation and Coordination		1 fte		160	160	65	10,400			10,400
	<b>Total Cost (Per Year)</b>										124,800
	<b>Total Cost (Per Year Rounded)</b>										125,000
	<b>Program Management - 2 Year Duration</b>		3 yr	125,000					375,000		375,000
	<b>RA Document Preparation</b>										
	<b>RD/RA SOW</b>										
	PreDesign Studies/Preliminary Scoping		3 fte		80	240	75	18,000			18,000
	Design Criteria		1 fte		40	40	75	3,000			3,000
	RD/RA Document Preparation		1 fte		80	80	75	6,000			6,000
	Reviews and Comment Resolution		1 fte		360	360	75	27,000			27,000
	<b>RD/RA SOW Cost</b>										54,000
	<b>RA Workplan</b>										
	Preliminary Scoping		1 fte		160	160	75	12,000			12,000
	RD/RA Document Preparation		1 fte		260	260	75	19,500			19,500
	Reviews and Comment Resolution		1 fte		420	420	75	31,500			31,500
	<b>RA Workplan Cost</b>										63,000

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Project WAG 5 FS COST ESTIMATES  
WASTE SITES ARA-02  
ALTERNATIVE 2 - LIMITED ACTION  
EXIST AND ADDED INST. CONTROLS/MONITORING

Type of Est. Planning

File No. 4951-3

Date 01/05/99

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
	<b>RA Document Preparation (cont.)</b>										
	<b>Packaging, Shipping, Transportation Documentation</b>										
	Sampling and Analysis		NA								NA
	Hazard Classification		NA								NA
	Selection and Procurement of Packaging		NA								NA
	<b>Packaging, Shipping, Transportation Documentation Cost</b>										NA
	<b>Remedial Action Report</b>										
	RA Report Preparation		1 fte		320	320	75	24,000			24,000
	Reviews and Comment Resolution		1 fte		320	320	75	24,000			24,000
	<b>Remedial Action Report Cost</b>										48,000
	<b>WAG-Wide RA 5 Yr. Review - (Cost Includes (1) FTE For (1) yr for the Initial Review</b>										
	RA Report Preparation		1 yr		1,440	1,440	75	108,000			108,000
	Reviews and Comment Resolution		1 yr		440	440	75	33,000			33,000
	<b>WAG-Wide RA 5 Yr. Reviews For 100 Years</b>										141,000
	<b>RD Document Preparation</b>										
	<b>Safety Analysis Documentation (ASA &amp; HSP)</b>										
	Auditable Safety Analysis/Hazards Classification		2 fte		160	320	75	24,000			24,000
	Unresolved Safety Questions		2 fte		160	320	75	24,000			24,000
	Quality Assurance		1 fte		30	30	75	2,250			2,250
	Review and Comment Resolution		2 fte		335	670	75	50,250			50,250
	<b>Safety Analysis Documentation Cost</b>										100,500
	<b>Sampling and Analysis Plan</b>										
	Preliminary Scoping		1 fte		320	320	75	24,000			24,000
	Field Sampling Plan Preparation		1 fte		400	400	75	30,000			30,000
	Reviews and Comment Resolution		1 fte		720	720	75	54,000			54,000
	<b>Sampling and Analysis Plan Cost</b>										108,000

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DETAILED COST ESTIMATE (CONT.SHEET)

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Project WAG 5 FS COST ESTIMATES  
WASTE SITES ARA-02  
ALTERNATIVE 2 - LIMITED ACTION  
EXIST AND ADDED INST. CONTROLS/MONITORING

Type of Est. Planning

File No. 4951-3

Date 01/05/99

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
	<b>RD Document Preparation (cont.)</b>										
	<b>Pre-Final Inspection Report</b>										
	Checklist Preparation		1 fte		40	40	75	3,000			3,000
	Reviews and Comment Resolution		1 fte		60	60	75	4,500			4,500
	<b>Pre-Final Inspection Report Cost</b>										<b>7,500</b>
	<b>Remedial Design</b>										
	<b>Initial Review of Deed Restrictions with Governing Bodies and Public Comment</b>										
	Legal Attorney and Env. Affairs at \$32K ea.		1 ea	32,000					32,000		32,000
	<b>Deed Restrictions Cost</b>										<b>32,000</b>
	<b>Title Design Construction Document Package</b>										
	Remedial Design Workplan		1 fte		40	40	75	3,000			3,000
	Archeological Survey, Coordination, & RA Oversight		1 fte	8,400	640	640	65	41,600	8,400		50,000
	Siting and Surveying		3 fte		8	24	40	960			960
	Procurement Document Package		6 dwgs	3,500					21,000		21,000
	<b>Total Cost Title Design Construction Document Package</b>										<b>74,960</b>
	<b>Site Characterization - Including: Sample Collection Materials/Labor, Shipping, SMO TOS Preparation &amp; Analysis Reporting, ERIS Quality Reporting</b>									Materials	
	Assume an Average of 5 per Site x 2 Sites		10 smpls	3,500	6	60	75	4,500	35,000	500	40,000
	Drilling Core Samples		8 ea	5,000					40,000		40,000
	<b>Construction Subcontract</b>										
	New Monitoring Wells and Equipment (ref. pg.3)		1 ls	155,000					155,000		155,000
	6' h Security Fence w/Gates, Signage and Markers		720 lf	25					18,000		18,000
	Surface Water Diversion Provision		720 lf	5					3,600		3,600
	<b>Total Subcontractor Direct Costs</b>										<b>176,600</b>
	Subcontractor Overhead and Profit @ 30%										52,980
	<b>Total Subcontractor Directs and Indirects</b>										<b>229,580</b>
	<b>Procurement Fee and G&amp;A at Current Business Practices</b>										82,649
	<b>Total Subcontractor Costs</b>										<b>312,229</b>
	<b>Project/Construction Management</b>										<b>45,916</b>

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Project WAG 5 FS COST ESTIMATES  
WASTE SITES ARA-02  
ALTERNATIVE 2 - LIMITED ACTION  
EXIST AND ADDED INST. CONTROLS/MONITORING

Type of Est. Planning

File No. 4951-3

Date 01/05/99

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
	<b>Remedial Action - Operations (100 Year Duration)</b>										
	<b>Program Management</b>										
	Coordination/Oversight of Technical Support		1 fte		200	200	75	15,000			15,000
	Coordination with Agency Participants		1 fte		80	80	75	6,000			6,000
	Cost and Schedule Control		1 fte		59	59	65	3,848			3,848
	Ensure Compliance of Gov't Regulation		1 fte		32	32	70	2,240			2,240
	Reviews		1 fte		32	32	65	2,080			2,080
	Audit Preparation and Coordination		1 fte		32	32	65	2,080			2,080
	Annual Operations and Maintenance Reports		1 fte		40	40	65	2,600			2,600
	<b>Total Cost (Per Year)</b>										<b>33,850</b>
	<b>Program Management Costs - 100 Year Duration</b>		100 yrs	33,850					3,385,000		<b>3,385,000</b>
	<b>WAG-Wide RA 5 Yr. Review - (Cost Per Each, Required (1) FTE For Years 2 thru 5; (1) FTE in (5) Yr. Increments for 6 thru 95)</b>										
	RA Report Preparation		23 yrs		1,440	33,120	75	2,484,000			2,484,000
	Reviews and Comment Resolution		23 yrs		440	10,120	75	759,000			759,000
	<b>WAG-Wide RA 5 Yr. Reviews For 100 Years</b>										<b>3,243,000</b>
	<b>Remedial Design</b>										
	<b>Added Institutional Controls - 5 Yr. Review of Deed Restrictions with Governing Bodies and Public Comment Over a 100 Year Period; Total of 20 Reviews.</b>										
	Legal Attorney and Env. Affairs at \$32K ea.		20 ea	32,000					640,000		640,000
	<b>Total Added Institutional Controls - 100 Year Duration</b>										<b>640,000</b>
	<b>Caretaker/Maintenance</b>										
	Caretaker		0.1 fte		1,880	188	75	14,100			14,100
	Area/Access Materials and Repair		12 mos.	500					6,000		6,000
	<b>Caretaker/Maintenance Cost Per Year</b>										<b>20,100</b>
	Monitoring Well Replacement (8 wells every 25 yrs)		3 times	358,145					1,074,434		1,074,434
	<b>Caretaker Cost - 100 Year Duration</b>		100 yrs	20,100					2,010,000		<b>2,010,000</b>
											<b>3,084,434</b>

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Project WAG 5 FS COST ESTIMATES  
WASTE SITES ARA-02  
ALTERNATIVE 2 - LIMITED ACTION  
EXIST AND ADDED INST. CONTROLS/MONITORING

Type of Est. Planning

File No. 4951-3

Date 01/05/99

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
	<b>Operations, Maintenance, Materials &amp; Disposal</b>		NA								NA
	<b>D&amp;D of Facilities</b>		NA								NA
	<b>Surveillance and Monitoring (annual sampling &amp; monitoring activities) - Assumes all groundwater monitoring is conducted by Others</b>										
	Air Sampling/Monitoring, Maint. Insp./Report		100 yrs	NA							NA
	Yearly Sampling/Characterization		100 yrs	40,000					4,000,000		4,000,000
	6-Year Review Report		20 times	6,000					120,000		120,000
	<b>Surveillance and Monitoring Costs - 100 Year Duration</b>										<b>4,120,000</b>



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WASTE SITES ARA-02  
ALTERNATIVE 3 - REMOVAL EX SITU THERMAL TREATMENT  
AND DISPOSE

Type of Est. Planning

File No. 4951-3

Date 01/05/99

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
	<b>FFA/CO Management and Oversight</b>										
	<b>Program Management</b>										
	Coordination/Oversight of Technical Support		1 fte		640	640	75	48,000			48,000
	Coordination with Agency Participants		1 fte		320	320	75	24,000			24,000
	Cost and Schedule Control		1 fte		320	320	65	20,800			20,800
	Ensure Compliance of Gov't Regulation		1 fte		160	160	70	11,200			11,200
	Quarterly and Yearly Reviews		1 fte		160	160	65	10,400			10,400
	Audit Preparation and Coordination		1 fte		160	160	65	10,400			10,400
	<b>Total Cost (Per Year)</b>										124,800
	<b>Total Cost (Per Year Rounded)</b>										125,000
	<b>Program Management - 3 Year Duration ARA-02</b>		3 yr	125,000					375,000		375,000
	<b>RA Document Preparation</b>										
	<b>RD/RA SOW</b>										
	PreDesign Studies/Preliminary Scoping		3 fte		80	240	75	18,000			18,000
	Design Criteria		1 fte		40	40	75	3,000			3,000
	RD/RA Document Preparation		1 fte		80	80	75	6,000			6,000
	Reviews and Comment Resolution		1 fte		360	360	75	27,000			27,000
	<b>RD/RA SOW Cost</b>										54,000
	<b>RA Workplan</b>										
	Preliminary Scoping		1 fte		160	160	75	12,000			12,000
	RD/RA Document Preparation		1 fte		260	260	75	19,500			19,500
	Reviews and Comment Resolution		1 fte		420	420	75	31,500			31,500
	<b>RA Workplan Cost</b>										63,000

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WASTE SITES ARA-02  
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AND DISPOSE

Type of Est. Planning

File No. 4951-3

Date 01/05/99

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
	<b>RA Document Preparation (cont)</b>										
	<b>Packaging, Shipping, Transportation Documentation</b>										
	Sampling and Analysis		1 fte		240	240	75	18,000			18,000
	Hazard Classification		1 fte		200	200	75	15,000			15,000
	Selection and Procurement of Packaging		1 fte		200	200	75	15,000			15,000
	<b>Packaging, Shipping, Transportation Documentation Cost</b>										<b>48,000</b>
	<b>Remedial Action Report</b>										
	RA Report Preparation		1 fte		320	320	75	24,000			24,000
	Reviews and Comment Resolution		1 fte		320	320	75	24,000			24,000
	<b>RA Report Cost</b>										<b>48,000</b>
	<b>WAG-Wide RA 5 Yr. Review - (Cost Includes (1) FTE For (1) yr for the Initial Review</b>										
	RA Report Preparation		1 yr		1,440	1,440	75	108,000			108,000
	Reviews and Comment Resolution		1 yr		440	440	75	33,000			33,000
	<b>WAG-Wide RA 5 Yr. Reviews For 100 Years</b>										<b>141,000</b>
	<b>RD Document Preparation</b>										
	<b>Safety Analysis Documentation (ASA &amp; HSP)</b>										
	Auditable Safety Analysis/Hazards Classification		2 fte		160	320	75	24,000			24,000
	Unresolved Safety Questions		2 fte		160	320	75	24,000			24,000
	Quality Assurance		1 fte		30	30	75	2,250			2,250
	Reviews and Comment Resolution		2 fte		335	670	75	50,250			50,250
	<b>Safety Analysis Documentation Cost</b>										<b>100,500</b>
	<b>Sampling and Analysis Plan</b>										
	Preliminary Scoping		1 fte		320	320	75	24,000			24,000
	Field Sampling Plan Preparation		1 fte		400	400	75	30,000			30,000
	Reviews and Comment Resolution		1 fte		720	720	75	54,000			54,000
	<b>Sampling and Analysis Plan Cost</b>										<b>108,000</b>

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WASTE SITES ARA-02  
ALTERNATIVE 3 - REMOVAL EX SITU THERMAL TREATMENT  
AND DISPOSE

Type of Est. Planning

File No. 4951-3

Date 01/05/99

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
	<b>RD Document Preparation (continued)</b>										
	<b>Pre-Final Inspection Report</b>										
	Checklist Preparation		1 fte		40	40	75	3,000			3,000
	Reviews and Comment Resolution		1 fte		60	60	75	4,500			4,500
	<b>Pre-Final Inspection Report Cost</b>										<b>7,500</b>
	<b>Remedial Design</b>										
	<b>Initial Review of Deed Restrictions with Governing Bodies and Public Comment</b>										
	Legal Attorney and Env. Affairs at \$32K ea.		1 ea	32,000					32,000		32,000
	<b>Deed Restrictions Cost</b>										<b>32,000</b>
	<b>Title Design Construction Document Package - For Construction Subcontract</b>										
	Remedial Design Workplan		1 fte		320	320	75	24,000			24,000
	Archeological Survey, Coordination, & RA Oversight		1 fte	8,400	640	640	65	41,600	8,400		50,000
	Siting and Surveying		1 site		80	80	40	3,200			3,200
	Procurement Document Package For ARA-02		6 dwgs	3,500					21,000		21,000
	<b>Total Title Design Package</b>										<b>98,200</b>
	<b>Site Characterization - Including: Sample Collection Materials/Labor, Shipping, SMO TOS Preparation &amp; Analysis Reporting, ERIS Quality Reporting</b>									(Materials)	
	Assume 5 Samples for ARA-02 Tank Contents/Soils		5 smpls	3,500	6	30	75	2,250	17,500	500	20,250

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WASTE SITES ARA-02  
ALTERNATIVE 3 - REMOVAL EX SITU THERMAL TREATMENT  
AND DISPOSE

Type of Est. Planning

File No. 4951-3

Date 01/05/99

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
	<b>Remedial Action - ARA-02 - Construction Subcontract; Contaminated Soils Excavation, Handling, and On-Site Disposal</b>										
	Mobilization to Site		1 crew		20	20	350	7,000			7,000
	Site Prep		1 crew		10	10	350	3,500			3,500
	Remove Piping to Manhole #2										
	Machine and Hand Excavation and Backfill		800 cy		0.1	80	350	28,000			28,000
	Asphalt Removal		400 sy	2					800		800
	Haul Asphalt to CFA Landfill		5 loads		4	20	350	7,000			7,000
	Haul Crushed Gravel Fill		50 cy	25					1,250		1,250
	Remove, Size, Box 8" C.I. Pipe		400 lf		0.2	80	350	28,000			28,000
	4'x4'x8' Containers Loaded/ Hauled to ICPP		6 boxes		0.6	4	350	1,260			1,260
	Mob and Demob of Equipment and Crew		1 ls		20	20	350	7,000			7,000
	Manhole, Pit and Piping Removal from Manhole #2 to Leaching Pit										
	Machine Excavate for Tank/Piping Removal/Bkfl		850 cy		0.05	43	350	14,875			14,875
	Hand Excavate Contaminated Soils at Leach Pit		4 cy		4	16	65	1,040			1,040
	Haul Contaminated Soils to WERF		1 load		4	4	65	260			260
	Remove, Size & Box Tanks		4 tanks		40	160	350	56,000			56,000
	Remove, Size, Box Piping		400 lf		0.2	80	350	28,000			28,000
	Transport Tank Boxes to ICPP		11 boxes		0.6	7	350	2,310			2,310
	Transport Piping Boxes to ICPP Railhead		6 boxes		0.6	4	350	1,260			1,260
	Contouring and Shaping Excavated Areas		1 ls	500					500		500
	Transport Waste Mat'ls to ICPP		2 loads		4	8	350	2,800			2,800
	Revegetate		1 ls	750					750		750
	Site Cleanup and Demob.		1 ls		40	40	350	14,000			14,000
	<b>Total Subcontractor Directs</b>										<b>205,605</b>
	<b>Subcontractor Overhead and Profit @ 30%</b>										<b>61,682</b>
	<b>Total Subcontractor Directs and Indirects</b>										<b>267,287</b>
	<b>Procurement Fees and G&amp;A at Current Business Practices</b>										<b>22,205</b>
	<b>Total Subcontractor Costs</b>										<b>351,173</b>
	<b>Project/Construction Management; Contaminated Soils Excavation, Handling, and On-Site Disposal</b>										<b>80,186</b>