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DETAILED COST ESTIMATE (CONT.SHEET)

Project WAG 5 FS COST ESTIMATES
TANK SITE ARA-16
ALTERNATIVE 3B2 - ISV OF THE ARA-16 TANK WASTE
AT TEST AREA NORTH

Type of Est. Planning

File No. 4951-3

Date 01/06/99

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
	RD Document Preparation (continued)										
	Pre-Final Inspection Report										
	Checklist Preparation		1 fte		40	40	75	3,000			3,000
	Reviews and Comment Resolution		1 fte		60	60	75	4,500			4,500
	Pre-Final Inspection Report Cost										7,500
	Remedial Design										
	Initial Review of Deed Restrictions with Governing Bodies and Public Comment										
	Legal Attorney and Env. Affairs at \$32K ea.		1 ea	32,000					32,000		32,000
	Deed Restrictions Cost										32,000
	Title Design Construction Document Package - For Construction Subcontract										
	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		60 dwgs	3,500					210,000		210,000
	Total Title Design Package										287,200
	Site Characterization - Including: Sample Collection Materials/Labor, Shipping, SMO TOS Preparation & Analysis Reporting, ERIS Quality Reporting									(Materials)	
	Assume 5 Samples for Tank Contents		5 smpls	3,500	6	30	75	2,250	17,500	500	20,250
	Soil Samples for Onsite Repository WAC and (2) Samples for Concrete Basin		3 smpls	3,500	6	18	75	1,350	10,500	500	12,350

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DETAILED COST ESTIMATE (CONT.SHEET)

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Project WAG 5 FS COST ESTIMATES
TANK SITE ARA-16
ALTERNATIVE 3B2 - ISV OF THE ARA-16 TANK WASTE
AT TEST AREA NORTH

Type of Est. Planning

File No. 4951-3

Date 01/06/99

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
	Remedial Action - Construction Subcontract; Contaminated Soils Excavation, Handling, and On-Site Disposal										
	Mobilization to Site		1 crew		20	20	350	7,000			7,000
	Demo Fence and Site Prep		1 crew		20	20	350	7,000			7,000
	Temporary Secondary Containment Structure		3,200 sf	90					288,000		288,000
	Temporary Utilities: Assume Electrical Power within 250'		1 ls	20,000					20,000		20,000
	Tank Air/Water Jet Mixing Equipment Allowance		1 ls	150,000					150,000		150,000
	Tank Vacuum/Drum Filling Equipment Allowance		1 ls	250,000					250,000		250,000
	Machine Excavate Soils For Tank Access		150 cy		0.1	15	350	5,250			5,250
	Hand Excavate Contaminated Soils Around Tank		67 cy		1.5	101	65	6,533			6,533
	Radiation Shielding Allowance		1 ls	50,000					50,000		50,000
	Cut Tank For Mixing/Removal of Sludge		13 lf		0.8	10	350	3,640			3,640
	Remove Sludge From Tank (Assume 1 Drum Per Day)		4 drums		10	40	350	14,000			14,000
	Transport and Pump Sludge into V-Tank		1 ls	50,000	40	40	350	14,000	50,000		64,000
	Cleanout Tank Interiors (Powerwash/Handwash)		200 sf		0.05	10	350	3,500			3,500
	Cut Tank For Sizing and Disposal		78 lf		0.6	47	350	16,380			16,380
	Transport Tank remains to CFA Landfill		1 trip		4	4	350	1,400			1,400
	Decon/Clean Concrete Basin		250 sf		0.04	10	350	3,500			3,500
	Demolish Concrete Basin, Load and Haul to CFA Landfill		10 cy		1	10	350	3,500			3,500
	Remove Exist. Underground Piping System and Box		1 ls	50,000					50,000		50,000
	Backfill and Compact with Native Soil		270 cy		0.029	8	350	2,741			2,741
	Decon and Remove Rad. Shielding & Secondary Structure		1 ls	110,700					110,700		110,700
	Transport of Soils and Secondary Waste Materials		1 ls		40	40	350	14,000			14,000
	Site Cleanup and Demob.		1 ls		30	30	350	10,500			10,500
	Total Subcontractor Directs					38					1,081,643
	Subcontractor Overhead and Profit @ 30%										324,493
	Total Subcontractor Directs and Indirects										1,406,136
	Procurement Fees and G&A at Current Business Practices										506,209
	Total Subcontractor Costs										1,912,345
	Project/Construction Management; Contaminated Soils Excavation, Handling, and On-Site Disposal										421,841

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DETAILED COST ESTIMATE (CONT.SHEET)

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Project WAG 5 FS COST ESTIMATES
WASTE SITE ARA-16
ALTERNATIVE 4 - REMOVAL EX SITU THERMAL TREATMENT
AND DISPOSE

Type of Est. Planning

File No. 4951-3

Date 01/06/99

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
	FFA/CO Management and Oversight										
	Program Management										
	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
	Total Cost (Per Year)										124,800
	Total Cost (Per Year Rounded)										125,000
	Program Management - 3 Year Duration		3 yr	125,000					375,000		375,000
	RA Document Preparation										
	RD/RA SOW										
	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
	RD/RA SOW Cost										54,000
	RA Workplan										
	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
	RA Workplan Cost										63,000

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DETAILED COST ESTIMATE (CONT.SHEET)

Project WAG 5 FS COST ESTIMATES
WASTE SITE ARA-16
ALTERNATIVE 4 - REMOVAL EX SITU THERMAL TREATMENT
AND DISPOSE

Type of Est. Planning

File No. 4951-3

Date 01/06/99

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
	RA Document Preparation (cont)										
	Packaging, Shipping, Transportation Documentation										
	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
	Packaging, Shipping, Transportation Documentation Cost										48,000
	Remedial Action Report										
	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
	RA Report Cost										48,000
	WAG-Wide RA 5 Yr. Review - (Cost includes (1) FTE For (1) yr for the Initial Review										
	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
	WAG-Wide RA 5 Yr. Reviews For 100 Years										141,000
	RD Document Preparation										
	Safety Analysis Documentation (ASA & HSP)										
	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
	Safety Analysis Documentation Cost										100,500
	Sampling and Analysis Plan										
	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
	Sampling and Analysis Plan Cost										108,000

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DETAILED COST ESTIMATE (CONT.SHEET)

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Project WAG 5 FS COST ESTIMATES
WASTE SITE ARA-16
ALTERNATIVE 4 - REMOVAL EX SITU THERMAL TREATMENT
AND DISPOSE

Type of Est. Planning

File No. 4951-3

Date 01/06/99

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
	RD Document Preparation (continued)										
	Pre-Final Inspection Report										
	Checklist Preparation		1 fte		40	40	75	3,000			3,000
	Reviews and Comment Resolution		1 fte		60	60	75	4,500			4,500
	Pre-Final Inspection Report Cost										7,500
	Remedial Design										
	Initial Review of Deed Restrictions with Governing Bodies and Public Comment										
	Legal Attorney and Env. Affairs at \$32K ea.		1 ea	32,000					32,000		32,000
	Deed Restrictions Cost										32,000
	Title Design Construction Document Package - For Construction Subcontract										
	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-16		60 dwgs	3,500					210,000		210,000
	Total Title Design Package										287,200
	Site Characterization - Including: Sample Collection Materials/Labor, Shipping, SMO TOS Preparation & Analysis Reporting, ERIS Quality Reporting									(Materials)	
	Assume 5 Samples for ARA-16 Tank Contents/Soils		5 smpls	3,500	6	30	75	2,250	17,500	500	20,250

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DETAILED COST ESTIMATE (CONT.SHEET)

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Project WAG 5 FS COST ESTIMATES
WASTE SITE ARA-16
ALTERNATIVE 4 - REMOVAL EX SITU THERMAL TREATMENT
AND DISPOSE

Type of Est. Planning

File No. 4951-3

Date 01/06/99

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
Remedial Action - ARA-16 - Construction Subcontract; Contaminated Soils Excavation, Handling, and On-Site Disposal											
	Mobilization to Site		1 crew		20	20	350	7,000			7,000
	Demo Fence and Site Prep		1 crew		20	20	350	7,000			7,000
	Temporary Secondary Containment Structure		3,200 sf	90					288,000		288,000
	Temporary Utilities: Assume Electrical Power within 250'		1 ls	20,000					20,000		20,000
	Tank Air/Water Jet Mixing Equipment Allowance		1 ls	150,000					150,000		150,000
	Tank Vacuum/Drum Filling Equipment Allowance		1 ls	250,000					250,000		250,000
	Machine Excavate Soils For Tank Access		150 cy		0.1	15	350	5,250			5,250
	Hand Excavate Contaminated Soils Around Tank		67 cy		1.5	101	65	6,533			6,533
	Radiation Temporary Shielding Allowance		1 ls	50,000					50,000		50,000
	Cut Tank For Mixing/Removal of Sludge		13 lf		0.8	10	350	3,640			3,640
	Remove Sludge From Tank (Assume 1 Drum Per Day)		4 drums		10	40	350	14,000			14,000
	Transport Sludge to Storage (off-shift transport)		1 trip	5,000	10	10	350	3,500	5,000		8,500
	Cleanout Tank Interiors (Powerwash/Handwash)		200 sf		0.05	10	350	3,500			3,500
	Cut Tank For Sizing and Disposal		78 lf		0.6	47	350	16,380			16,380
	Transport Tank remains to CFA Landfill		1 trip		4	4	350	1,400			1,400
	Prep/Decon Concrete Basin for Removal		250 sf		0.04	10	350	3,500			3,500
	Demolish Concrete Basin, Load and Haul to CFA Landfill		10 cy		1	10	350	3,500			3,500
	Remove Exist. Underground Piping System and Box		1 ls	50,000					50,000		50,000
	Backfill and Compact with Native Soil		270 cy		0.029	8	350	2,741			2,741
	Decon and Remove Rad. Shielding & Secondary Structure		1 ls	110,700					110,700		110,700
	Transport of Soils and Secondary Waste Materials		1 ls		40	40	350	14,000			14,000
	Site Cleanup and Demob.		1 ls		30	30	350	10,500			10,500
	Total Subcontractor Directs					35					1,026,143
	Subcontractor Overhead and Profit @ 30%										307,843
	Total Subcontractor Directs and Indirects										1,333,986
	Procurement Fees and G&A at Current Business Practices										480,235
	Total Subcontractor Costs										1,814,221
	Project/Construction Management; Contaminated Soils Excavation, Handling, and On-Site Disposal										400,196

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DETAILED COST ESTIMATE (CONT. SHEET)

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Project WAG 5 FS COST ESTIMATES
WASTE SITE ARA-16
ALTERNATIVE 5 - REMOVAL, EX SITU STABILIZATION
AND DISPOSAL

Type of Est. Planning

File No. 4951-3

Date 01/06/99

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
	FFA/CO Management and Oversight										
	Program Management										
	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
	Total Cost (Per Year)										124,800
	Total Cost (Per Year Rounded)										125,000
	Program Management - 3 Year Duration		3 yr	125,000					375,000		375,000
	RA Document Preparation										
	RD/RA SOW										
	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
	RD/RA SOW Cost										54,000
	RA Workplan										
	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
	RA Workplan Cost										63,000

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Lockheed Martin Idaho Technologies Co.

DETAILED COST ESTIMATE (CONT.SHEET)

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Project WAG 5 FS COST ESTIMATES
WASTE SITE ARA-16
ALTERNATIVE 5 - REMOVAL, EX SITU STABILIZATION
AND DISPOSAL

Type of Est. PlanningFile No. 4951-3Date 01/06/99

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
	RA Document Preparation (cont)										
	Packaging, Shipping, Transportation Documentation										
	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
	Packaging, Shipping, Transportation Documentation Cost										48,000
	Remedial Action Report										
	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
	RA Report Cost										48,000
	WAG-Wide RA 5 Yr. Review - (Cost Includes (1) FTE For (1) yr for the Initial Review										
	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
	WAG-Wide RA 5 Yr. Reviews For 100 Years										141,000
	RD Document Preparation										
	Safety Analysis Documentation (ASA & HSP)										
	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
	Safety Analysis Documentation Cost										100,500
	Sampling and Analysis Plan										
	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
	Sampling and Analysis Plan Cost										108,000

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DETAILED COST ESTIMATE (CONT.SHEET)

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Project WAG 5 FS COST ESTIMATES
WASTE SITE ARA-16
ALTERNATIVE 5 - REMOVAL, EX SITU STABILIZATION
AND DISPOSAL

Type of Est. Planning

File No. 4951-3

Date 01/06/99

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
	RD Document Preparation (continued)										
	Pre-Final Inspection Report										
	Checklist Preparation		1 fte		40	40	75	3,000			3,000
	Reviews and Comment Resolution		1 fte		60	60	75	4,500			4,500
	Pre-Final Inspection Report Cost										7,500
	Remedial Design										
	Initial Review of Deed Restrictions with Governing Bodies and Public Comment										
	Legal Attorney and Env. Affairs at \$32K ea.		1 ea	32,000					32,000		32,000
	Deed Restrictions Cost										32,000
	Title Design Construction Document Package - For Construction Subcontract										
	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-16		60 dwgs	3,500					210,000		210,000
	Total Title Design Package										287,200
	Site Characterization - Including: Sample Collection Materials/Labor, Shipping, SMO TOS Preparation & Analysis Reporting, ERIS Quality Reporting									(Materials)	
	Assume 5 Samples for ARA-16 Tank Contents/Soils		5 smpls	3,500	6	30	75	2,250	17,500	500	20,250

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Lockheed Martin Idaho Technologies Co.

DETAILED COST ESTIMATE (CONT.SHEET)

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Project WAG 5 FS COST ESTIMATES
WASTE SITE ARA-16
ALTERNATIVE 5 - REMOVAL, EX SITU STABILIZATION
AND DISPOSAL

Type of Est. Planning

File No. 4951-3

Date 01/06/99

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
	Remedial Action - ARA-16 - Construction Subcontract; Contaminated Soils Excavation, Handling, and On-Site Disposal										
	Mobilization to Site		1 crew		20	20	350	7,000			7,000
	Demo Fence and Site Prep		1 crew		20	20	350	7,000			7,000
	Temporary Secondary Containment Structure		3,200 sf	90					288,000		288,000
	Temporary Utilities: Assume Electrical Power within 250'		1 ls	20,000					20,000		20,000
	Tank Air/Water Jet Mixing Equipment Allowance		1 ls	150,000					150,000		150,000
	Tank Vacuum/Drum Filling/Grout Equipment Allowance		1 ls	300,000					300,000		300,000
	Machine Excavate Soils For Tank Access		150 cy		0.1	15	350	5,250			5,250
	Hand Excavate Contaminated Soils Around Tank		67 cy		1.5	101	65	6,533			6,533
	Radiation Shielding Allowance		1 ls	50,000					50,000		50,000
	Cut Tank For Mixing/Removal of Sludge		13 lf		0.8	10	350	3,640			3,640
	Remove Sludge From Tank (Assume 1 Drum Per Day)		4 drums		10	40	350	14,000			14,000
	Transport Sludge to Storage (off-shift transport)		1 trip	5,000	10	10	350	3,500	5,000		8,500
	Cleanout Tank Interiors (Powerwash/Handwash)		200 sf		0.05	10	350	3,500			3,500
	Cut Tank For Sizing and Disposal		78 lf		0.6	47	350	16,380			16,380
	Transport Tank remains to CFA Landfill		1 trip		4	4	350	1,400			1,400
	Cleanoff Concrete Basin		250 sf		0.04	10	350	3,500			3,500
	Demolish Concrete Basin, Load and Haul to CFA Landfill		10 cy		1	10	350	3,500			3,500
	Remove Exist. Underground Piping System and Box		1 ls	50,000					50,000		50,000
	Backfill and Compact with Native Soil		270 cy		0.029	8	350	2,741			2,741
	Decon and Remove Rad. Shielding & Secondary Structure		1 ls	118,200					118,200		118,200
	Transport of Soils and Secondary Waste Materials		1 ls		40	40	350	14,000		25,000	39,000
	Site Cleanup and Demob.		1 ls		30	30	350	10,500			10,500
	Total Subcontractor Directs					35					1,108,643
	Subcontractor Overhead and Profit @ 30%										332,593
	Total Subcontractor Directs and Indirects										1,441,236
	Procurement Fees and G&A at Current Business Practices										518,845
	Total Subcontractor Costs										1,960,081
	Project/Construction Management; Contaminated Soils Excavation, Handling, and On-Site Disposal										432,371

