Appendix A

Treatment Alternatives Cost Estimates

Project Summary Report

Project Name: ***WAG 1 V-Tanks Tech Evaluation Life Cycle Estimate In Situ Vitrification***
Project Location: ***INEEL - TAN***
Estimate Number: ***6303 (Wallace 2002)***

Client: ***J. J. Jessmore***
Prepared By: ***B. W. Wallace/J. D. Folker***
Estimate Type: ***Project Support***

Level	Group	Description	Estimate Subtotal	Escalation	Contingency	Contingency %	TOTAL
01	01	Historical Costs Beginning @ ROD Acceptance &Ending 9/30/02	$5,985,323	$0	$0	0.00%	$5,985,323
03	03	Technology Evaluation. Proposed Plan and ROD Amendment	$723,469	$0	$180,867	25.00%	$904,336
04		Remedial Design & Supporting Documentation	$4,754,387	$0	$1,465,263	30.82%	$6,219,650
04.01	04	--Remedial Design PM	$1,451,410	$0	$362,853	25.00%	$1,814,263
04.02	04	--Group 2 RD/RA WP Addendum for Early RA	$469,963	$0	$117,491	25.00%	$587,454
04.03		--New Group 2 RD/RA WP & Supporting Documents	$1,966,213	$0	$768,219	39.07%	$2,734,432
04.03.04	**04**	**----Supporting Documents**	**$56,929**	**$0**	**$17,350**	**30.48%**	**$74,279**
04.03.05	**04**	**----SAR/TSR Addendum**	**$1,343,255**	**$0**	**$470,139**	**35.00%**	**$1,813,394**
04.03.06	**04**	**----Subcontractor DWEP (BBWI Review Costs)**	**$9,141**	**$0**	**$2,285**	**25.00%**	**$11,426**
04.03.07		**----IWCP**	**$556,889**	**$0**	**$278,444**	**50.00%**	**$835,333**
04.03.07.01	04	------IWCP for Site Preparations	$189,174	$0	$94,587	50.00%	$283,761
04.03.07.02	04	------IWCP for Tank Contents Removal and Treatment	$178,541	$0	$89,270	50.00%	$267,811
04.03.07.03	05	------IWCP for Tank and Ancillary Piping and Equipment	$189,174	$0	$94,587	50.00%	$283,761
04.04	05	--Readiness Review	$670,291	$0	$167,573	25.00%	$837,864
04.05	05	--RCRA Closure Plan	$179,272	$0	$44,818	25.00%	$224,090
04.06	06	--Project Closeout	$17,238	$0	$4,309	25.00%	$21,547
05		Remedial Action	$12,411,325	$0	$6,152,395	49.57%	$18,563,721
05.01	03	--Early Site Prep	$50,477	$0	$12,619	25.00%	$63,096
05.02		--Early Remediation Actions	$648,951	$0	$162,238	25.00%	$811,189
5.02.01		**----Tank Volume Monitoring**	**$227,315**	**$0**	**$56,829**	**25.00%**	**$284,144**
5.02.01.01	03	------Tank Level Monitoring During FY-03	$90,926	$0	$22,732	25.00%	$113,658
5.02.01.02	04	------Tank Level Monitoring During FY-04	$90,926	$0	$22,732	25.00%	$113,658
5.02.01.03	05	------Tank Level Monitoring During FY-05	$45,463	$0	$11,366	25.00%	$56,829

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Project Summary Report

Project Name: ***WAG 1 V-Tanks Tech Evaluation Life Cycle Estimate In Situ Vitrification***
Project Location: ***INEEL - TAN***
Estimate Number: ***6303 (Wallace 2002)***

Client: ***J. J. Jessmore***
Prepared By: ***B. W. Wallace/J. D. Folker***
Estimate Type: ***Project Support***

Level	Group	Description	Estimate Subtotal	Escalation	Contingency	Contingency %	TOTAL
5.02.02	**03**	**----Current Waste Management**	**$69,269**	**$0**	**$17,317**	**25.00%**	**$86,586**
5.02.03	**03**	**----Current Waste Disposition**	**$347,505**	**$0**	**$86,876**	**25.00%**	**$434,381**
5.02.04		**----Institutional Controls, Interface and Maintenance**	**$4,862**	**$0**	**$1,216**	**25.00%**	**$6,078**
5.02.04.01	03	------IC Control During FY-03	$1,945	$0	$486	25.00%	$2,431
5.02.04.02	04	------IC Control During FY-04	$1,945	$0	$486	25.00%	$2,431
5.02.04.03	05	------IC Control During FY-05	$972	$0	$243	25.00%	$1,215
05.03		--Remedial Action PM	$2,916,831	$0	$729,208	25.00%	$3,646,038
05.03.01	**05**	**----Remedial Action Pm During FY-05**	**$1,458,415**	**$0**	**$364,604**	**25.00%**	**$1,823,019**
05.03.02	**06**	**----Remedial Action Pm During FY-06**	**$1,458,415**	**$0**	**$364,604**	**25.00%**	**$1,823,019**
05.04	05	--In-Situ Vitrification Remedial Action	$8,795,067	$0	$5,248,331	59.67%	$14,043,398
06		FFA/CO Managment & Oversight 10/1/03 through 10/1/08	$4,213,604	$0	$1,053,401	25.00%	$5,267,004
06.01		--FFA/CO Management & Oversight	$3,994,436	$0	$998,609	25.00%	$4,993,045
06.01.01	**03**	**----Project Management & Support for FY-03**	**$836,436**	**$0**	**$209,109**	**25.00%**	**$1,045,545**
06.01.02	**04**	**----Project Management & Support for FY-04**	**$628,000**	**$0**	**$157,000**	**25.00%**	**$785,000**
06.01.03	**05**	**----Project Management & Support for FY-05**	**$1,025,000**	**$0**	**$256,250**	**25.00%**	**$1,281,250**
06.01.04	**06**	**----Project Management & Support for FY-06**	**$1,025,000**	**$0**	**$256,250**	**25.00%**	**$1,281,250**
06.01.05	**07**	**----Project Management & Support for FY-07**	**$480,000**	**$0**	**$120,000**	**25.00%**	**$600,000**
06.02		--Technology Evaluation, Proposed Plan & ROD Amendment	$219,168	$0	$54,792	25.00%	$273,959
06.02.01	**03**	**----Technology Evaluation & Report**	**$219,168**	**$0**	**$54,792**	**25.00%**	**$273,959**
07	05	G&A and Material Handling Fees	$87,028	$0	$21,757	25.00%	$108,785

Project Summary Report

Project Name: *WAG 1 V-Tanks Tech Evaluation Life Cycle Estimate In Situ Vitrification*
Project Location: *INEEL - TAN*
Estimate Number: *6303 (Wallace 2002)*

Client: *J. J. Jessmore*
Prepared By: *B. W. Wallace/J. D. Folker*
Estimate Type: *Project Support*

Level	Group	Description	Estimate Subtotal	Escalation	Contingency	Contingency %	TOTAL
Total	In Situ Vitrification Estimate	WAG 1 V-Tanks Life Cycle	$28,175,136	$0	$8,873,683	31.49%	$37,048,819

Net Present Value for Estimating Services File #6303 - Wag 1 V-Tanks In Situ Vitrification

A discount rate of 7%, as provided by the Office of Management and Budgets in Circular A-94, has been used. Per that circular, 7% yearly discount factors are to be used for the first 30 years with the 30 year factor used for all years greater than 30. The 7% discount rate assumes a 2.1% escalation rate. Because this escalation is accounted for in the discount rate, escalation values were removed from the cost estimate prior to use in this table.

Fiscal Year	Counting year	Expected Yearly Capital Cost	Expected Yearly O&M Cost	Expected Yearly Combined Capital and O&M Cost	Discount Factors for Mid Year 7%	Present Value of Capital Costs	Present Value of O&M Costs	Combined Capital and O&M Net Present Value
Totals		**$ 37,048,810**	**1,514,000**	**$ 38,562,810**		**$ 32,675,969**	**$ 275,300**	**$ 32,951,269**
pre FY 2003	0	$ 5,985,323		$ 5,985,323	1	$ 5,985,323		$ 5,985,323
FY 2003	1	$ 2,923,992		$ 2,923,992	0.9667	$ 2,826,623		$ 2,826,623
FY 2004	2	$ 5,753,477		$ 5,753,477	0.9035	$ 5,198,266		$ 5,198,266
FY 2005	3	$ 18,660,202		$ 18,660,202	0.8444	$ 15,756,675		$ 15,756,675
FY 2006	4	$ 3,125,816		$ 3,125,816	0.7891	$ 2,466,581		$ 2,466,581
FY 2007	5	$ 600,000	14,000	$ 614,000	0.7375	$ 442,500	$ 10,325	$ 452,825
FY 2012	10		75,000	$ 75,000	0.5258		$ 39,435	$ 39,435
FY 2017	15		75,000	$ 75,000	0.3749		$ 28,118	$ 28,118
FY 2022	20		75,000	$ 75,000	0.2673		$ 20,048	$ 20,048
FY 2027	25		75,000	$ 75,000	0.1906		$ 14,295	$ 14,295
FY 2032	30		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2037	35		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2042	40		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2047	45		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2052	50		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2057	55		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2062	60		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2067	65		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2072	70		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2077	75		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2082	80		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2087	85		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2092	90		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2097	95		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2102	100		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2107	105		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193

Project Summary Report

Project Name: ***WAG 1 V-Tanks Tech Evaluation Life Cycle Estimate Ex Situ Vitrification***
Project Location: ***INEEL - TAN***
Estimate Number: ***6302 (Wallace 2002)***

Client: ***J. J. Jessmore***
Prepared By: ***B. W. Wallace/J. D. Folker***
Estimate Type: ***Project Support***

Level	Group	Description	Estimate Subtotal	Escalation	Contingency	Contingency %	TOTAL
01	01	Historical Costs Beginning @ ROD Acceptance &Ending 9/30/02	$5,985,323	$0	$0	0.00%	$5,985,323
03	03	Technology Evaluation. Proposed Plan and ROD Amendment	$723,469	$0	$180,867	25.00%	$904,336
04		Remedial Design & Supporting Documentation	$4,754,387	$0	$1,466,306	30.84%	$6,220,693
04.01	04	--Remedial Design PM	$1,451,410	$0	$362,853	25.00%	$1,814,263
04.02	04	--Group 2 RD/RA WP Addendum for Early RA	$469,963	$0	$117,491	25.00%	$587,454
04.03		--New Group 2 RD/RA WP & Supporting Documents	$1,966,213	$0	$769,262	39.12%	$2,735,475
04.03.04	**04**	**----Supporting Documents**	**$56,929**	**$0**	**$18,393**	**32.31%**	**$75,322**
04.03.04.01		------FSP	$41,283	$0	$11,353	27.50%	$52,636
04.03.04.02		------HASP	$15,646	$0	$7,041	45.00%	$22,686
04.03.05	**04**	**----SAR/TSR Addendum**	**$1,343,255**	**$0**	**$470,139**	**35.00%**	**$1,813,394**
04.03.06	**04**	**----Subcontractor DWEP (BBWI Review Costs)**	**$9,141**	**$0**	**$2,285**	**25.00%**	**$11,426**
04.03.07		**----IWCP**	**$556,889**	**$0**	**$278,444**	**50.00%**	**$835,333**
04.03.07.01	04	------IWCP for Site Preparations	$189,174	$0	$94,587	50.00%	$283,761
04.03.07.02	04	------IWCP for Tank Contents Removal and Treatment	$178,541	$0	$89,270	50.00%	$267,811
04.03.07.03	05	------IWCP for Tank and Ancillary Piping and Equipment	$189,174	$0	$94,587	50.00%	$283,761
04.04	05	--Readiness Assessment	$670,291	$0	$167,573	25.00%	$837,864
04.05	05	--RCRA Closure Plan	$179,272	$0	$44,818	25.00%	$224,090
04.06	06	--Project Closeout	$17,238	$0	$4,309	25.00%	$21,547
05		Remedial Action	$12,228,029	$0	$6,053,017	49.50%	$18,281,046
05.01	03	--Early Site Prep	$50,477	$0	$12,619	25.00%	$63,096
05.02	03	--Early Remediation Actions	$648,951	$0	$162,238	25.00%	$811,189
5.02.01		**----Tank Volume Monitoring**	**$227,315**	**$0**	**$56,829**	**25.00%**	**$284,144**
5.02.01.01	03	------Tank Level Monitoring During FY-03	$90,926	$0	$22,732	25.00%	$113,658

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Project Summary Report

Project Name: ***WAG 1 V-Tanks Tech Evaluation Life Cycle Estimate Ex Situ Vitrification***
Project Location: ***INEEL - TAN***
Estimate Number: ***6302 (Wallace 2002)***

Client: ***J. J. Jessmore***
Prepared By: ***B. W. Wallace/J. D. Folker***
Estimate Type: ***Project Support***

Level	Group	Description	Estimate Subtotal	Escalation	Contingency	Contingency %	TOTAL
5.02.01.02	04	------Tank Level Monitoring During FY-04	$90,926	$0	$22,732	25.00%	$113,658
5.02.01.03	05	------Tank Level Monitoring During FY-05	$45,463	$0	$11,366	25.00%	$56,829
5.02.02	**03**	**----Current Waste Management**	**$69,269**	**$0**	**$17,317**	**25.00%**	**$86,586**
5.02.03	**03**	**----Current Waste Disposition**	**$347,505**	**$0**	**$86,876**	**25.00%**	**$434,381**
5.02.04		**----Institutional Controls, Interface and Maintenance**	**$4,862**	**$0**	**$1,216**	**25.00%**	**$6,078**
5.02.04.01	03	------IC Control During FY-03	$1,945	$0	$486	25.00%	$2,431
5.02.04.02	04	------IC Control During FY-04	$1,945	$0	$486	25.00%	$2,431
5.02.04.03	05	------IC Control During FY-05	$972	$0	$243	25.00%	$1,215
05.03		--Remedial Action PM	$2,916,831	$0	$729,208	25.00%	$3,646,038
05.03.01	**05**	**----Remedial Action Pm During FY-05**	**$1,458,415**	**$0**	**$364,604**	**25.00%**	**$1,823,019**
05.03.02	**06**	**----Remedial Action Pm During FY-06**	**$1,458,415**	**$0**	**$364,604**	**25.00%**	**$1,823,019**
05.04	05	--Ex-Situ Vitrification	$8,611,771	$0	$5,148,953	59.79%	$13,760,723
06		FFA/CO Managment & Oversight 10/1/03 through 10/1/08	$4,213,604	$0	$1,053,401	25.00%	$5,267,004
06.01		--FFA/CO Management & Oversight	$3,994,436	$0	$998,609	25.00%	$4,993,045
06.01.01	**03**	**----Project Management & Support for FY-03**	**$836,436**	**$0**	**$209,109**	**25.00%**	**$1,045,545**
06.01.02	**04**	**----Project Management & Support for FY-04**	**$628,000**	**$0**	**$157,000**	**25.00%**	**$785,000**
06.01.03	**05**	**----Project Management & Support for FY-05**	**$1,025,000**	**$0**	**$256,250**	**25.00%**	**$1,281,250**
06.01.04	**06**	**----Project Management & Support for FY-06**	**$1,025,000**	**$0**	**$256,250**	**25.00%**	**$1,281,250**
06.01.05	**07**	**----Project Management & Support for FY-07**	**$480,000**	**$0**	**$120,000**	**25.00%**	**$600,000**
06.02		--Technology Evaluation, Proposed Plan & ROD Amendment	$219,168	$0	$54,792	25.00%	$273,959
06.02.01	**03**	**----Technology Evaluation & Report**	**$219,168**	**$0**	**$54,792**	**25.00%**	**$273,959**
07	05	G&A and Material Handling Fees	$87,028	$0	$21,757	25.00%	$108,785

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Project Summary Report

Project Name: *WAG 1 V-Tanks Tech Evaluation Life Cycle Estimate Ex Situ Vitrification*
Project Location: *INEEL - TAN*
Estimate Number: *6302 (Wallace 2002)*

Client: *J. J. Jessmore*
Prepared By: *B. W. Wallace/J. D. Folker*
Estimate Type: *Project Support*

Level	Group	Description	Estimate Subtotal	Escalation	Contingency	Contingency %	TOTAL
Total	Ex Situ Vitrification	WAG 1 V-Tanks Life Cycle Estimate	$27,991,839	$0	$8,775,348	31.35%	$36,767,187

Net Present Value for Estimating Services File #6302 - Wag 1 V-Tanks Ex Situ Vitrification

A discount rate of 7%, as provided by the Office of Management and Budgets in Circular A-94, has been used. Per that circular, 7% yearly discount factors are to be used for the first 30 years with the 30 year factor used for all years greater than 30. The 7% discount rate assumes a 2.1% escalation rate. Because this escalation is accounted for in the discount rate, escalation values were removed from the cost estimate prior to use in this table.

Fiscal Year	Counting year	Expected Yearly Capital Cost	Expected Yearly O&M Cost	Expected Yearly Combined Capital and O&M Cost	Discount Factors for Mid Year 7%	Present Value of Capital Costs	Present Value of O&M Costs	Combined Capital and O&M Net Present Value
Totals		**$ 36,767,187**	**1,514,000**	**$ 38,281,187**		**$ 32,438,228**	**$ 275,300**	**$ 32,713,528**
pre FY 2003	0	$ 5,985,323		$ 5,985,323	1	$ 5,985,323		$ 5,985,323
FY 2003	1	$ 2,923,992		$ 2,923,992	0.9667	$ 2,826,623		$ 2,826,623
FY 2004	2	$ 5,754,520		$ 5,754,520	0.9035	$ 5,199,209		$ 5,199,209
FY 2005	3	$ 18,377,536		$ 18,377,536	0.8444	$ 15,517,991		$ 15,517,991
FY 2006	4	$ 3,125,816		$ 3,125,816	0.7891	$ 2,466,581		$ 2,466,581
FY 2007	5	$ 600,000	14,000	$ 614,000	0.7375	$ 442,500	$ 10,325	$ 452,825
FY 2012	10		75,000	$ 75,000	0.5258		$ 39,435	$ 39,435
FY 2017	15		75,000	$ 75,000	0.3749		$ 28,118	$ 28,118
FY 2022	20		75,000	$ 75,000	0.2673		$ 20,048	$ 20,048
FY 2027	25		75,000	$ 75,000	0.1906		$ 14,295	$ 14,295
FY 2032	30		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2037	35		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2042	40		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2047	45		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2052	50		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2057	55		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2062	60		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2067	65		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2072	70		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2077	75		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2082	80		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2087	85		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2092	90		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2097	95		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2102	100		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2107	105		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193

Project Summary Report

Project Name: ***WAG 1 V-Tanks Tech Evaluation Life Cycle Estimate Thermal Desorption Option #1***
Project Location: ***INEEL - TAN***
Estimate Number: ***6306 (Wallace 2002)***

Client: ***J. J. Jessmore***
Prepared By: ***B. W. Wallace/D. T. Peterson***
Estimate Type: ***Project Support***

Level	Group	Description	Estimate Subtotal	Escalation	Contingency	Contingency %	TOTAL
01		Historical Costs Beginning @ ROD Acceptance &Ending 9/30/02	$5.985.323	$0	$0	0.00%	$5.985.323
03	03	Technology Evaluation. Proposed Plan and ROD Amendment	$723.469	$0	$180.867	25.00%	$904.336
04		Remedial Design & Supporting Documentation	$4.680.730	$0	$1.381.447	29.51%	$6.062.177
04.01	04	--Remedial Design PM	$1,451,410	$0	$362,853	25.00%	$1,814,263
04.02	04	--Group 2 RD/RA WP Addendum for Early RA	$469,963	$0	$117,491	25.00%	$587,454
04.03		--New Group 2 RD/RA WP & Supporting Documents	$1,961,072	$0	$701,533	35.77%	$2,662,604
04.03.04	**04**	**----Supporting Documents**	**$52,894**	**$0**	**$18,103**	**34.23%**	**$70,997**
04.03.05	**04**	**----SAR/TSR Addendum**	**$1,343,255**	**$0**	**$402,977**	**30.00%**	**$1,746,232**
04.03.06	**04**	**----Subcontractor DWEP (BBWI Review Costs)**	**$8,034**	**$0**	**$2,009**	**25.00%**	**$10,043**
04.03.07		**----IWCP**	**$556,889**	**$0**	**$278,444**	**50.00%**	**$835,333**
04.03.07.01	04	------IWCP for Site Preparations	$189,174	$0	$94,587	50.00%	$283,761
04.03.07.02	04	------IWCP for Tank Contents Removal and Treatment	$178,541	$0	$89,270	50.00%	$267,811
04.03.07.03	05	------IWCP for Tank and Ancillary Piping and Equipment	$189,174	$0	$94,587	50.00%	$283,761
04.04	05	--Readiness Assessment	$603,540	$0	$150,885	25.00%	$754,425
04.05	05	--RCRA Closure Plan	$179,272	$0	$44,818	25.00%	$224,090
04.06	06	--Project Closeout	$15,474	$0	$3,868	25.00%	$19,342
05		Remedial Action	$10.646.165	$0	$4,908.166	46.10%	$15.554.331
05.01	03	--Early Site Prep	$50,477	$0	$12,619	25.00%	$63,096
05.02		--Early Remediation Actions	$648,951	$0	$162,238	25.00%	$811,189
5.02.01		**----Tank Volume Monitoring**	**$227,315**	**$0**	**$56,829**	**25.00%**	**$284,144**
5.02.01.01	03	------Tank Level Monitoring During FY-03	$90,926	$0	$22,732	25.00%	$113,658
5.02.01.02	04	------Tank Level Monitoring During FY-04	$90,926	$0	$22,732	25.00%	$113,658
5.02.01.03	05	------Tank Level Monitoring During FY-05	$45,463	$0	$11,366	25.00%	$56,829

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Project Summary Report

Project Name: *WAG 1 V-Tanks Tech Evaluation Life Cycle Estimate Thermal Desorption Option #1*
Project Location: *INEEL - TAN*
Estimate Number: *6306 (Wallace 2002)*

Client: *J. J. Jessmore*
Prepared By: *B. W. Wallace/D. T. Peterson*
Estimate Type: *Project Support*

Level	Group	Description	Estimate Subtotal	Escalation	Contingency	Contingency %	TOTAL
5.02.02	03	----Current Waste Management	$69,269	$0	$17,317	25.00%	$86,586
5.02.03	03	----Current Waste Disposition	$347,505	$0	$86,876	25.00%	$434,381
5.02.04		----Institutional Controls, Interface and Maintenance	$4,862	$0	$1,216	25.00%	$6,078
5.02.04.01	03	------IC Control During FY-03	$1,945	$0	$486	25.00%	$2,431
5.02.04.02	04	------IC Control During FY-04	$1,945	$0	$486	25.00%	$2,431
5.02.04.03	05	------IC Control During FY-05	$972	$0	$243	25.00%	$1,215
05.03		--Remedial Action PM	$2,916,831	$0	$729,208	25.00%	$3,646,038
05.03.01	05	----Remedial Action Pm During FY-05	$1,458,415	$0	$364,604	25.00%	$1,823,019
05.03.02	06	----Remedial Action Pm During FY-06	$1,458,415	$0	$364,604	25.00%	$1,823,019
05.04	05	--Remedial Action	$7,029,907	$0	$4,004,102	56.96%	$11,034,009
06		FFA/CO Managment & Oversight 10/1/03 through 10/1/08	$4,213,604	$0	$1,053,401	25.00%	$5,267,004
06.01		--FFA/CO Management & Oversight	$3,994,436	$0	$998,609	25.00%	$4,993,045
06.01.01	03	----Project Management & Support for FY-03	$836,436	$0	$209,109	25.00%	$1,045,545
06.01.02	04	----Project Management & Support for FY-04	$628,000	$0	$157,000	25.00%	$785,000
06.01.03	05	----Project Management & Support for FY-05	$1,025,000	$0	$256,250	25.00%	$1,281,250
06.01.04	06	----Project Management & Support for FY-06	$1,025,000	$0	$256,250	25.00%	$1,281,250
06.01.05	07	----Project Management & Support for FY-07	$480,000	$0	$120,000	25.00%	$600,000
06.02	03	--Technology Evaluation, Proposed Plan & ROD Amendment	$219,168	$0	$54,792	25.00%	$273,959
07	05	G&A and Material Handling Fees	$87,028	$0	$21,757	25.00%	$108,785
Total		Thermal Desorption Option #1 WAG 1 V-Tanks Life Cycle Estimate	$26,336,319	$0	$7,545,639	28.65%	$33,881,957

Net Present Value for Estimating Services File #6306 - Wag 1 V-Tanks Thermal Desorption Option #1

A discount rate of 7%, as provided by the Office of Management and Budgets in Circular A-94, has been used. Per that circular, 7% yearly discount factors are to be used for the first 30 years with the 30 year factor used for all years greater than 30. The 7% discount rate assumes a 2.1% escalation rate. Because this escalation is accounted for in the discount rate, escalation values were removed from the cost estimate prior to use in this table

Fiscal Year	Counting year	Expected Yearly Capital Cost	Expected Yearly O&M Cost	Expected Yearly Combined Capital and O&M Cost	Discount Factors for Mid Year 7%	Present Value of Capital Costs	Present Value of O&M Costs	Combined Capital and O&M Net Present Value
Totals		**$ 33,881,959**	**1,514,000**	**$ 35,395,959**		**$ 29,997,756**	**$ 275,300**	**$ 30,273,056**
pre FY 2003	0	$ 5,985,323		$ 5,985,323	1	$ 5,985,323		$ 5,985,323
FY 2003	1	$ 2,923,992		$ 2,923,992	0.9667	$ 2,826,623		$ 2,826,623
FY 2004	2	$ 5,681,650		$ 5,681,650	0.9035	$ 5,133,371		$ 5,133,371
FY 2005	3	$ 15,567,383		$ 15,567,383	0.8444	$ 13,145,098		$ 13,145,098
FY 2006	4	$ 3,123,611		$ 3,123,611	0.7891	$ 2,464,841		$ 2,464,841
FY 2007	5	$ 600,000	14,000	$ 614,000	0.7375	$ 442,500	$ 10,325	$ 452,825
FY 2012	10		75,000	$ 75,000	0.5258		$ 39,435	$ 39,435
FY 2017	15		75,000	$ 75,000	0.3749		$ 28,118	$ 28,118
FY 2022	20		75,000	$ 75,000	0.2673		$ 20,048	$ 20,048
FY 2027	25		75,000	$ 75,000	0.1906		$ 14,295	$ 14,295
FY 2032	30		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2037	35		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2042	40		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2047	45		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2052	50		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2057	55		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2062	60		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2067	65		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2072	70		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2077	75		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2082	80		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2087	85		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2092	90		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2097	95		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2102	100		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2107	105		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193

Project Summary Report

Project Name: ***WAG 1 V-Tanks Tech Evaluation Life Cycle Estimate Thermal Desorption Option #2***
Project Location: ***INEEL - TAN***
Estimate Number: ***6307 (Wallace 2002)***

Client: ***J. J. Jessmore***
Prepared By: ***B. W. Wallace/D. T. Peterson***
Estimate Type: ***Project Support***

Level	Group	Description	Estimate Subtotal	Escalation	Contingency	Contingency %	TOTAL
01	01	Historical Costs Beginning @ ROD Acceptance &Ending 9/30/02	$5,985,323	$0	$0	0.00%	$5,985,323
03	03	Technology Evaluation. Proposed Plan and ROD Amendment	$723,469	$0	$180,867	25.00%	$904,336
04		Remedial Design & Supporting Documentation	$4,680,730	$0	$1,381,447	29.51%	$6,062,177
04.01	04	--Remedial Design PM	$1,451,410	$0	$362,853	25.00%	$1,814,263
04.02	04	--Group 2 RD/RA WP Addendum for Early RA	$469,963	$0	$117,491	25.00%	$587,454
04.03		--New Group 2 RD/RA WP & Supporting Documents	$1,961,072	$0	$701,533	35.77%	$2,662,604
04.03.04	**04**	**----Supporting Documents**	**$52,894**	**$0**	**$18,103**	**34.23%**	**$70,997**
04.03.05	**04**	**----SAR/TSR Addendum**	**$1,343,255**	**$0**	**$402,977**	**30.00%**	**$1,746,232**
04.03.06	**04**	**----Subcontractor DWEP (BBWI Review Costs)**	**$8,034**	**$0**	**$2,009**	**25.00%**	**$10,043**
04.03.07		**----IWCP**	**$556,889**	**$0**	**$278,444**	**50.00%**	**$835,333**
04.03.07.01	04	------IWCP for Site Preparations	$189,174	$0	$94,587	50.00%	$283,761
04.03.07.02	04	------IWCP for Tank Contents Removal and Treatment	$178,541	$0	$89,270	50.00%	$267,811
04.03.07.03	05	------IWCP for Tank and Ancillary Piping and Equipment	$189,174	$0	$94,587	50.00%	$283,761
04.04	05	--Readiness Assessment	$603,540	$0	$150,885	25.00%	$754,425
04.05	05	--RCRA Closure Plan	$179,272	$0	$44,818	25.00%	$224,090
04.06	06	--Project Closeout	$15,474	$0	$3,868	25.00%	$19,342
05		Remedial Action	$10,619,163	$0	$4,997,103	47.06%	$15,616,265
05.01	03	--Early Site Prep	$50,477	$0	$12,619	25.00%	$63,096
05.02		--Early Remediation Actions	$648,951	$0	$162,238	25.00%	$811,189
5.02.01		**----Tank Volume Monitoring**	**$227,315**	**$0**	**$56,829**	**25.00%**	**$284,144**
5.02.01.01	03	------Tank Level Monitoring During FY-03	$90,926	$0	$22,732	25.00%	$113,658
5.02.01.02	04	------Tank Level Monitoring During FY-04	$90,926	$0	$22,732	25.00%	$113,658
5.02.01.03	05	------Tank Level Monitoring During FY-05	$45,463	$0	$11,366	25.00%	$56,829

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Project Summary Report

Project Name: *WAG 1 V-Tanks Tech Evaluation Life Cycle Estimate Thermal Desorption Option #2*
Project Location: *INEEL - TAN*
Estimate Number: *6307 (Wallace 2002)*

Client: *J. J. Jessmore*
Prepared By: *B. W. Wallace/D. T. Peterson*
Estimate Type: *Project Support*

Level	Group	Description	Estimate Subtotal	Escalation	Contingency	Contingency %	TOTAL
5.02.02	03	----Current Waste Management	$69,269	$0	$17,317	25.00%	$86,586
5.02.03	03	----Current Waste Disposition	$347,505	$0	$86,876	25.00%	$434,381
5.02.04		----Institutional Controls, Interface and Maintenance	$4,862	$0	$1,216	25.00%	$6,078
5.02.04.01	03	-----IC Control During FY-03	$1,945	$0	$486	25.00%	$2,431
5.02.04.02	04	-----IC Control During FY-04	$1,945	$0	$486	25.00%	$2,431
5.02.04.03	05	-----IC Control During FY-05	$972	$0	$243	25.00%	$1,215
05.03		--Remedial Action PM	$2,916,831	$0	$729,208	25.00%	$3,646,038
05.03.01	05	----Remedial Action Pm During FY-05	$1,458,415	$0	$364,604	25.00%	$1,823,019
05.03.02	06	----Remedial Action Pm During FY-06	$1,458,415	$0	$364,604	25.00%	$1,823,019
05.04	05	--Remedial Action	$7,002,905	$0	$4,093,038	58.45%	$11,095,943
06		FFA/CO Managment & Oversight 10/1/03 through 10/1/08	$4,213,604	$0	$1,053,401	25.00%	$5,267,004
06.01		--FFA/CO Management & Oversight	$3,994,436	$0	$998,609	25.00%	$4,993,045
06.01.01	03	----Project Management & Support for FY-03	$836,436	$0	$209,109	25.00%	$1,045,545
06.01.02	04	----Project Management & Support for FY-04	$628,000	$0	$157,000	25.00%	$785,000
06.01.03	05	----Project Management & Support for FY-05	$1,025,000	$0	$256,250	25.00%	$1,281,250
06.01.04	06	----Project Management & Support for FY-06	$1,025,000	$0	$256,250	25.00%	$1,281,250
06.01.05	07	----Project Management & Support for FY-07	$480,000	$0	$120,000	25.00%	$600,000
06.02	03	--Technology Evaluation, Proposed Plan & ROD Amendment	$219,168	$0	$54,792	25.00%	$273,959
07	05	G&A and Material Handling Fees	$87,028	$0	$21,757	25.00%	$108,785
Total		Thermal Desorption Option #2 - WAG 1 V-Tanks Life Cycle Estimate	$26,309,316	$0	$7,634,575	29.02%	$33,943,891

Net Present Value for Estimating Services File #6307 - Wag 1 V-Tanks Thermal Desorption Option #2

A discount rate of 7%, as provided by the Office of Management and Budgets in Circular A-94, has been used. Per that circular, 7% yearly discount factors are to be used for the first 30 years with the 30 year factor used for all years greater than 30. The 7% discount rate assumes a 2.1% escalation rate. Because this escalation is accounted for in the discount rate, escalation values were removed from the cost estimate prior to use in this table.

Fiscal Year	Counting year	Expected Yearly Capital Cost	Expected Yearly O&M Cost	Expected Yearly Combined Capital and O&M Cost	Discount Factors for Mid Year 7%	Present Value of Capital Costs	Present Value of O&M Costs	Combined Capital and O&M Net Present Value
Totals		**$ 33,943,893**	**1,514,000**	**$ 35,457,893**		**$ 30,050,054**	**$ 275,300**	**$ 30,325,354**
pre FY 2003	0	$ 5,985,323		$ 5,985,323	1	$ 5,985,323		$ 5,985,323
FY 2003	1	$ 2,923,992		$ 2,923,992	0.9667	$ 2,826,623		$ 2,826,623
FY 2004	2	$ 5,681,650		$ 5,681,650	0.9035	$ 5,133,371		$ 5,133,371
FY 2005	3	$ 15,629,317		$ 15,629,317	0.8444	$ 13,197,395		$ 13,197,395
FY 2006	4	$ 3,123,611		$ 3,123,611	0.7891	$ 2,464,841		$ 2,464,841
FY 2007	5	$ 600,000	14,000	$ 614,000	0.7375	$ 442,500	$ 10,325	$ 452,825
FY 2012	10		75,000	$ 75,000	0.5258		$ 39,435	$ 39,435
FY 2017	15		75,000	$ 75,000	0.3749		$ 28,118	$ 28,118
FY 2022	20		75,000	$ 75,000	0.2673		$ 20,048	$ 20,048
FY 2027	25		75,000	$ 75,000	0.1906		$ 14,295	$ 14,295
FY 2032	30		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2037	35		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2042	40		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2047	45		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2052	50		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2057	55		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2062	60		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2067	65		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2072	70		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2077	75		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2082	80		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2087	85		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2092	90		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2097	95		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2102	100		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2107	105		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193

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Project Summary Report

Project Name: ***WAG 1 V-Tanks Technical Evaluation Life Cycle Estimate Thermal Desorption Option #3***
Project Location: ***INEEL - TAN***
Estimate Number: ***6308 (Wallace 2002)***

Client: ***J. J. Jessmore***
Prepared By: ***B. W. Wallace/D. T. Peterson***
Estimate Type: ***Project Support***

Level	Group	Description	Estimate Subtotal	Escalation	Contingency	Contingency %	TOTAL
01	01	Historical Costs Beginning @ ROD Acceptance &Ending 9/30/02	$5,985,323	$0	$0	0.00%	$5,985,323
03	03	Technology Evaluation, Proposed Plan and ROD Amendment	$723,469	$0	$180,867	25.00%	$904,336
04		Remedial Design & Supporting Documentation	$4,752,623	$0	$1,399,723	29.45%	$6,152,346
04.01	04	--Remedial Design PM	$1,451,410	$0	$362,853	25.00%	$1,814,263
04.01.01		**----Project Management During Remedial Design FY-04**	**$1,451,410**	**$0**	**$362,853**	**25.00%**	**$1,814,263**
04.02	04	--Group 2 RD/RA WP Addendum for Early RA	$469,963	$0	$117,491	25.00%	$587,454
04.02.01		**----Design Study for Early RA**	**$34,921**	**$0**	**$8,730**	**25.00%**	**$43,651**
04.02.02		**----Revision of SAR/TSR for Early RA**	**$42,108**	**$0**	**$10,527**	**25.00%**	**$52,635**
04.02.03		**----Group 2 RD/RA WP Addendum for V-Tanks Early RA**	**$182,548**	**$0**	**$45,637**	**25.00%**	**$228,185**
04.02.04		**----V-Tanks ESD for Early RA**	**$72,754**	**$0**	**$18,189**	**25.00%**	**$90,943**
04.02.05		**----V-Tanks FSP for Early RA**	**$100,350**	**$0**	**$25,088**	**25.00%**	**$125,438**
04.02.06		**----V-Tanks HASP for Early RA**	**$37,282**	**$0**	**$9,321**	**25.00%**	**$46,603**
04.03		--New Group 2 RD/RA WP & Supporting Documents	$1,966,213	$0	$703,120	35.76%	$2,669,334
04.03.04	**04**	**----Supporting Documents**	**$56,929**	**$0**	**$19,414**	**34.10%**	**$76,343**
04.03.04.01		------FSP	$41,283	$0	$13,417	32.50%	$54,700
04.03.04.02		------HASP	$15,646	$0	$5,997	38.33%	$21,643
04.03.05	**04**	**----SAR/TSR Addendum**	**$1,343,255**	**$0**	**$402,977**	**30.00%**	**$1,746,232**
04.03.06	**06**	**----Subcontractor DWEP (BBWI Review Costs)**	**$9,141**	**$0**	**$2,285**	**25.00%**	**$11,426**
04.03.07		**----IWCP**	**$556,889**	**$0**	**$278,444**	**50.00%**	**$835,333**
04.04	05	--Readiness Assessment	$670,291	$0	$167,573	25.00%	$837,864
04.05	05	--RCRA Closure Plan	$179,272	$0	$44,818	25.00%	$224,090
04.06	06	--Project Closeout	$15,474	$0	$3,868	25.00%	$19,342

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Project Summary Report

Project Name: ***WAG 1 V-Tanks Technical Evaluation Life Cycle Estimate Thermal Desorption Option #3***
Project Location: ***INEEL - TAN***
Estimate Number: ***6308 (Wallace 2002)***

Client: ***J. J. Jessmore***
Prepared By: ***B. W. Wallace/D. T. Peterson***
Estimate Type: ***Project Support***

Level	Group	Description	Estimate Subtotal	Escalation	Contingency	Contingency %	TOTAL
05		Remedial Action	$12,449,391	$0	$7,181,846	57.69%	$19,631,237
06		FFA/CO Managment & Oversight 10/1/03 through 10/1/08	$4,213,604	$0	$1,053,401	25.00%	$5,267,004
07	05	G&A and Material Handling Fees	$87,028	$0	$21,757	25.00%	$108,785
Total		**WAG 1 V-Tanks Life Cycle Estimate - Thermal Desorption - Option #3**	**$28,211,438**	**$0**	**$9,837,594**	**34.87%**	**$38,049,032**

Net Present Value for Estimating Services File #6308 - Wag 1 V-Tanks Thermal Desorption Option #3

A discount rate of 7%, as provided by the Office of Management and Budgets in Circular A-94, has been used. Per that circular, 7% yearly discount factors are to be used for the first 30 years with the 30 year factor used for all years greater than 30. The 7% discount rate assumes a 2.1% escalation rate. Because this escalation is accounted for in the discount rate, escalation values were removed from the cost estimate prior to use in this table.

Fiscal Year	Counting year	Expected Yearly Capital Cost	Expected Yearly O&M Cost	Expected Yearly Combined Capital and O&M Cost	Discount Factors for Mid Year 7%	Present Value of Capital Costs	Present Value of O&M Costs	Combined Capital and O&M Net Present Value
Totals		**$ 38,049,033**	**1,514,000**	**$ 39,563,033**		**$ 33,516,831**	**$ 275,300**	**$ 33,792,131**
pre FY 2003	0	$ 5,985,323		$ 5,985,323	1	$ 5,985,323		$ 5,985,323
FY 2003	1	$ 2,923,992		$ 2,923,992	0.9667	$ 2,826,623		$ 2,826,623
FY 2004	2	$ 5,688,379		$ 5,688,379	0.9035	$ 5,139,450		$ 5,139,450
FY 2005	3	$ 19,727,728		$ 19,727,728	0.8444	$ 16,658,094		$ 16,658,094
FY 2006	4	$ 3,123,611		$ 3,123,611	0.7891	$ 2,464,841		$ 2,464,841
FY 2007	5	$ 600,000	14,000	$ 614,000	0.7375	$ 442,500	$ 10,325	$ 452,825
FY 2012	10		75,000	$ 75,000	0.5258		$ 39,435	$ 39,435
FY 2017	15		75,000	$ 75,000	0.3749		$ 28,118	$ 28,118
FY 2022	20		75,000	$ 75,000	0.2673		$ 20,048	$ 20,048
FY 2027	25		75,000	$ 75,000	0.1906		$ 14,295	$ 14,295
FY 2032	30		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2037	35		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2042	40		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2047	45		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2052	50		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2057	55		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2062	60		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2067	65		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2072	70		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2077	75		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2082	80		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2087	85		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2092	90		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2097	95		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2102	100		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2107	105		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193

Project Summary Report

Project Name: ***WAG 1 V-Tanks Tech Evaluation Life Cycle Estimate IN Situ Chemical Oxidation & Grouting***
Project Location: ***INEEL - TAN***
Estimate Number: ***6305 (Wallace 2002)***

Client: ***J. J. Jessmore***
Prepared By: ***B. W. Wallace/R. D. R/R. D. A.***
Estimate Type: ***Project Support***

Level	Group	Description	Estimate Subtotal	Escalation	Contingency	Contingency %	TOTAL
01	01	Historical Costs Beginning @ ROD Acceptance &Ending 9/30/02	$5,985,323	$0	$0	0.00%	$5,985,323
03	03	Technology Evaluation, Proposed Plan and ROD Amendment	$723,469	$0	$180,867	25.00%	$904,336
04		Remedial Design & Supporting Documentation	$4,754,387	$0	$1,335,587	28.09%	$6,089,974
04.01	04	--Remedial Design PM	$1,451,410	$0	$362,853	25.00%	$1,814,263
04.02	04	--Group 2 RD/RA WP Addendum for Early RA	$469,963	$0	$117,491	25.00%	$587,454
04.03		--New Group 2 RD/RA WP & Supporting Documents	$1,966,213	$0	$638,543	32.48%	$2,604,756
04.03.04	**04**	**----Supporting Documents**	**$56,929**	**$0**	**$22,000**	**38.65%**	**$78,929**
04.03.05	**04**	**----SAR/TSR Addendum**	**$1,343,255**	**$0**	**$335,814**	**25.00%**	**$1,679,069**
04.03.06	**04**	**----Subcontractor DWEP (BBWI Review Costs)**	**$9,141**	**$0**	**$2,285**	**25.00%**	**$11,426**
04.03.07		**----IWCP**	**$556,889**	**$0**	**$278,444**	**50.00%**	**$835,333**
04.03.07.01	04	------IWCP for Site Preparations	$189,174	$0	$94,587	50.00%	$283,761
04.03.07.02	04	------IWCP for Tank Contents Removal and Treatment	$178,541	$0	$89,270	50.00%	$267,811
04.03.07.03	05	------IWCP for Tank and Ancillary Piping and Equipment	$189,174	$0	$94,587	50.00%	$283,761
04.04	05	--Readiness Assessment	$670,291	$0	$167,573	25.00%	$837,864
04.05	05	--RCRA Closure Plan	$179,272	$0	$44,818	25.00%	$224,090
04.06	06	--Project Closeout	$17,238	$0	$4,309	25.00%	$21,547
05		Remedial Action	$9,867,959	$0	$4,719,732	47.83%	$14,587,691
05.01	03	--Early Site Prep	$50,477	$0	$12,619	25.00%	$63,096
05.02		--Early Remediation Actions	$648,951	$0	$162,238	25.00%	$811,189
5.02.01		**----Tank Volume Monitoring**	**$227,315**	**$0**	**$56,829**	**25.00%**	**$284,144**
5.02.01.01	03	------Tank Level Monitoring During FY-03	$90,926	$0	$22,732	25.00%	$113,658
5.02.01.02	04	------Tank Level Monitoring During FY-04	$90,926	$0	$22,732	25.00%	$113,658
5.02.01.03	05	------Tank Level Monitoring During FY-05	$45,463	$0	$11,366	25.00%	$56,829

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Estimating Services Department

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Project Summary Report

Project Name: *WAG 1 V-Tanks Tech Evaluation Life Cycle Estimate IN Situ Chemical Oxidation & Grouting*
Project Location: *INEEL - TAN*
Estimate Number: *6305 (Wallace 2002)*

Client: *J. J. Jessmore*
Prepared By: *B. W. Wallace/R. D. R/R. D. A.*
Estimate Type: *Project Support*

Level	Group	Description	Estimate Subtotal	Escalation	Contingency	Contingency %	TOTAL
5.02.02	03	----Current Waste Management	$69,269	$0	$17,317	25.00%	$86,586
5.02.03	03	----Current Waste Disposition	$347,505	$0	$86,876	25.00%	$434,381
5.02.04		----Institutional Controls, Interface and Maintenance	$4,862	$0	$1,216	25.00%	$6,078
5.02.04.01	03	------IC Control During FY-03	$1,945	$0	$486	25.00%	$2,431
5.02.04.02	04	------IC Control During FY-04	$1,945	$0	$486	25.00%	$2,431
5.02.04.03	05	------IC Control During FY-05	$972	$0	$243	25.00%	$1,215
05.03		--Remedial Action PM	$2,916,831	$0	$729,208	25.00%	$3,646,038
05.03.01	05	----Remedial Action Pm During FY-05	$1,458,415	$0	$364,604	25.00%	$1,823,019
05.03.02	06	----Remedial Action Pm During FY-06	$1,458,415	$0	$364,604	25.00%	$1,823,019
05.04	05	--In Situ Chemical Oxidation	$6,251,701	$0	$3,815,667	61.03%	$10,067,369
06		FFA/CO Managment & Oversight 10/1/03 through 10/1/08	$4,213,604	$0	$1,053,401	25.00%	$5,267,004
06.01		--FFA/CO Management & Oversight	$3,994,436	$0	$998,609	25.00%	$4,993,045
06.01.01	03	----Project Management & Support for FY-03	$836,436	$0	$209,109	25.00%	$1,045,545
06.01.02	04	----Project Management & Support for FY-04	$628,000	$0	$157,000	25.00%	$785,000
06.01.03	05	----Project Management & Support for FY-05	$1,025,000	$0	$256,250	25.00%	$1,281,250
06.01.04	06	----Project Management & Support for FY-06	$1,025,000	$0	$256,250	25.00%	$1,281,250
06.01.05	07	----Project Management & Support for FY-07	$480,000	$0	$120,000	25.00%	$600,000
06.02	03	--Technology Evaluation, Proposed Plan & ROD Amendment	$219,168	$0	$54,792	25.00%	$273,959
07	05	Material Handling Fees	$87,028	$0	$21,757	25.00%	$108,785
Total		In Situ Chemical Oxidation & Grouting WAG 1 V-Tanks Life Cycle Estimate	$25,631,770	$0	$7,311,344	28.52%	$32,943,114

Net Present Value for Estimating Services File #6305 - Wag 1 V-Tanks In Situ Chemical Oxidation and Grouting

A discount rate of 7%, as provided by the Office of Management and Budgets in Circular A-94, has been used. Per that circular, 7% yearly discount factors are to be used for the first 30 years with the 30 year factor used for all years greater than 30. The 7% discount rate assumes a 2.1% escalation rate. Because this escalation is accounted for in the discount rate, escalation values were removed from the cost estimate prior to use in this table.

Fiscal Year	Counting year	Expected Yearly Capital Cost	Expected Yearly O&M Cost	Expected Yearly Combined Capital and O&M Cost	Discount Factors for Mid Year 7%	Present Value of Capital Costs	Present Value of O&M Costs	Combined Capital and O&M Net Present Value
Totals		**$ 32,943,115**	**1,514,000**	**$ 34,457,115**		**$ 29,201,456**	**$ 275,300**	**$ 29,476,756**
pre FY 2003	0	$ 5,985,323		$ 5,985,323	1	$ 5,985,323		$ 5,985,323
FY 2003	1	$ 2,923,992		$ 2,923,992	0.9667	$ 2,826,623		$ 2,826,623
FY 2004	2	$ 5,623,802		$ 5,623,802	0.9035	$ 5,081,105		$ 5,081,105
FY 2005	3	$ 14,684,182		$ 14,684,182	0.8444	$ 12,399,323		$ 12,399,323
FY 2006	4	$ 3,125,816		$ 3,125,816	0.7891	$ 2,466,581		$ 2,466,581
FY 2007	5	$ 600,000	14,000	$ 614,000	0.7375	$ 442,500	$ 10,325	$ 452,825
FY 2012	10		75,000	$ 75,000	0.5258		$ 39,435	$ 39,435
FY 2017	15		75,000	$ 75,000	0.3749		$ 28,118	$ 28,118
FY 2022	20		75,000	$ 75,000	0.2673		$ 20,048	$ 20,048
FY 2027	25		75,000	$ 75,000	0.1906		$ 14,295	$ 14,295
FY 2032	30		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2037	35		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2042	40		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2047	45		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2052	50		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2057	55		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2062	60		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2067	65		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2072	70		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2077	75		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2082	80		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2087	85		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2092	90		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2097	95		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2102	100		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2107	105		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193

Project Summary Report

Project Name: ***WAG 1 V-Tanks Tech Evaluation Life Cycle Estimate Ex Situ Chemical Oxidation & Grouting***
Project Location: ***INEEL - TAN***
Estimate Number: ***6304 (Wallace 2002)***

Client: ***J. J. Jessmore***
Prepared By: ***B. W. Wallace/R. D. R./R. D. A.***
Estimate Type: ***Project Support***

Level	Group	Description	Estimate Subtotal	Escalation	Contingency	Contingency %	TOTAL
01	01	Historical Costs Beginning @ ROD Acceptance &Ending 9/30/02	$5,985,323	$0	$0	0.00%	$5,985,323
03	03	Technology Evaluation, Proposed Plan and ROD Amendment	$723,469	$0	$180,867	25.00%	$904,336
04		Remedial Design & Supporting Documentation	$4,754,387	$0	$1,335,065	28.08%	$6,089,452
04.01	04	--Remedial Design PM	$1,451,410	$0	$362,853	25.00%	$1,814,263
04.02	04	--Group 2 RD/RA WP Addendum for Early RA	$469,963	$0	$117,491	25.00%	$587,454
04.03		--New Group 2 RD/RA WP & Supporting Documents	$1,966,213	$0	$638,022	32.45%	$2,604,235
04.03.04	**04**	**----Supporting Documents**	**$56,929**	**$0**	**$21,479**	**37.73%**	**$78,407**
04.03.05	**04**	**----SAR/TSR Addendum**	**$1,343,255**	**$0**	**$335,814**	**25.00%**	**$1,679,069**
04.03.06	**04**	**----Subcontractor DWEP (BBWI Review Costs)**	**$9,141**	**$0**	**$2,285**	**25.00%**	**$11,426**
04.03.07		**----IWCP**	**$556,889**	**$0**	**$278,444**	**50.00%**	**$835,333**
04.03.07.01	04	------IWCP for Site Preparations	$189,174	$0	$94,587	50.00%	$283,761
04.03.07.02	04	------IWCP for Tank Contents Removal and Treatment	$178,541	$0	$89,270	50.00%	$267,811
04.03.07.03	05	------IWCP for Tank and Ancillary Piping and Equipment	$189,174	$0	$94,587	50.00%	$283,761
04.04	05	--Readiness Assessment	$670,291	$0	$167,573	25.00%	$837,864
04.05	05	--RCRA Closure Plan	$179,272	$0	$44,818	25.00%	$224,090
04.06	06	--Project Closeout	$17,238	$0	$4,309	25.00%	$21,547
05		Remedial Action	$10,050,903	$0	$4,447,664	44.25%	$14,498,567
05.01	03	--Early Site Prep	$50,477	$0	$12,619	25.00%	$63,096
05.02		--Early Remediation Actions	$648,951	$0	$162,238	25.00%	$811,189
5.02.01		**----Tank Volume Monitoring**	**$227,315**	**$0**	**$56,829**	**25.00%**	**$284,144**
5.02.01.01	03	------Tank Level Monitoring During FY-03	$90,926	$0	$22,732	25.00%	$113,658
5.02.01.02	04	------Tank Level Monitoring During FY-04	$90,926	$0	$22,732	25.00%	$113,658
5.02.01.03	05	------Tank Level Monitoring During FY-05	$45,463	$0	$11,366	25.00%	$56,829

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Project Summary Report

Project Name: *WAG 1 V-Tanks Tech Evaluation Life Cycle Estimate Ex Situ Chemical Oxidation & Grouting*
Project Location: *INEEL - TAN*
Estimate Number: *6304 (Wallace 2002)*

Client: *J. J. Jessmore*
Prepared By: *B. W. Wallace/R. D. R./R. D. A.*
Estimate Type: *Project Support*

Level	Group	Description	Estimate Subtotal	Escalation	Contingency	Contingency %	TOTAL
5.02.02	03	----Current Waste Management	$69,269	$0	$17,317	25.00%	$86,586
5.02.03	03	----Current Waste Disposition	$347,505	$0	$86,876	25.00%	$434,381
5.02.04		----Institutional Controls, Interface and Maintenance	$4,862	$0	$1,216	25.00%	$6,078
5.02.04.01	03	------IC Control During FY-03	$1,945	$0	$486	25.00%	$2,431
5.02.04.02	04	------IC Control During FY-04	$1,945	$0	$486	25.00%	$2,431
5.02.04.03	05	------IC Control During FY-05	$972	$0	$243	25.00%	$1,215
05.03		--Remedial Action PM	$2,916,831	$0	$729,208	25.00%	$3,646,038
05.03.01	05	----Remedial Action Pm During FY-05	$1,458,415	$0	$364,604	25.00%	$1,823,019
05.03.02	06	----Remedial Action Pm During FY-06	$1,458,415	$0	$364,604	25.00%	$1,823,019
05.04	05	--Remedial Action	$6,434,645	$0	$3,543,600	55.07%	$9,978,244
06		FFA/CO Managment & Oversight 10/1/03 through 10/1/08	$4,213,604	$0	$1,053,401	25.00%	$5,267,004
06.01		--FFA/CO Management & Oversight	$3,994,436	$0	$998,609	25.00%	$4,993,045
06.01.01	03	----Project Management & Support for FY-03	$836,436	$0	$209,109	25.00%	$1,045,545
06.01.02	04	----Project Management & Support for FY-04	$628,000	$0	$157,000	25.00%	$785,000
06.01.03	05	----Project Management & Support for FY-05	$1,025,000	$0	$256,250	25.00%	$1,281,250
06.01.04	06	----Project Management & Support for FY-06	$1,025,000	$0	$256,250	25.00%	$1,281,250
06.01.05	07	----Project Management & Support for FY-07	$480,000	$0	$120,000	25.00%	$600,000
06.02	03	--Technology Evaluation, Proposed Plan & ROD Amendment	$219,168	$0	$54,792	25.00%	$273,959
07	05	Material Handling Fees	$87,028	$0	$21,757	25.00%	$108,785
Total		Ex Situ Chemical Oxidation & Grouting WAG 1 V-Tanks Life Cycle Estimate	$25,814,713	$0	$7,038,755	27.27%	$32,853,468

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Net Present Value for Estimating Services File #6304 - Wag 1 V-Tanks Ex Situ Chemical Oxidation and Grouting

A discount rate of 7%, as provided by the Office of Management and Budgets in Circular A-94, has been used. Per that circular, 7% yearly discount factors are to be used for the first 30 years with the 30 year factor used for all years greater than 30. The 7% discount rate assumes a 2.1% escalation rate. Because this escalation is accounted for in the discount rate, escalation values were removed from the cost estimate prior to use in this table.

Fiscal Year	Counting year	Expected Yearly Capital Cost	Expected Yearly O&M Cost	Expected Yearly Combined Capital and O&M Cost	Discount Factors for Mid Year 7%	Present Value of Capital Costs	Present Value of O&M Costs	Combined Capital and O&M Net Present Value
Totals		**$ 32,853,468**	**1,514,000**	**$ 34,367,468**		**$ 29,125,727**	**$ 275,300**	**$ 29,401,027**
pre FY 2003	0	$ 5,985,323		$ 5,985,323	1	$ 5,985,323		$ 5,985,323
FY 2003	1	$ 2,923,992		$ 2,923,992	0.9667	$ 2,826,623		$ 2,826,623
FY 2004	2	$ 5,623,280		$ 5,623,280	0.9035	$ 5,080,633		$ 5,080,633
FY 2005	3	$ 14,595,057		$ 14,595,057	0.8444	$ 12,324,066		$ 12,324,066
FY 2006	4	$ 3,125,816		$ 3,125,816	0.7891	$ 2,466,581		$ 2,466,581
FY 2007	5	$ 600,000	14,000	$ 614,000	0.7375	$ 442,500	$ 10,325	$ 452,825
FY 2012	10		75,000	$ 75,000	0.5258		$ 39,435	$ 39,435
FY 2017	15		75,000	$ 75,000	0.3749		$ 28,118	$ 28,118
FY 2022	20		75,000	$ 75,000	0.2673		$ 20,048	$ 20,048
FY 2027	25		75,000	$ 75,000	0.1906		$ 14,295	$ 14,295
FY 2032	30		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2037	35		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2042	40		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2047	45		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2052	50		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2057	55		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2062	60		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2067	65		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2072	70		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2077	75		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2082	80		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2087	85		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2092	90		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2097	95		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2102	100		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193
FY 2107	105		75,000	$ 75,000	0.1359		$ 10,193	$ 10,193

Appendix B

Criteria Weight Distribution

Value Function	State Variable Input	Input Range	Output Variable Label	Relative Weight within Category	Model Weight
2.1.1.1 Ability to construct and operate	ACO	Number from 0 to 10	ACOV	34.85%	4.60%
2.1.1.2 Reliability of the alternative	MCR	Number (major components)	MCRV	34.85%	4.60%
2.1.1.3 Ease of additional remedial actions	EAR	Number from 0 to 10	EARV	15.15%	2.00%
2.1.1.4 Monitoring considerations	ER	Number from 0 to 10	ERV	15.15%	2.00%
Administrative Feasibility			ADFEAS	20.00%	6.60%
2.1.2 Administrative feasibility	AF	Number (regulatory waivers)	AFV	100.00%	6.60%
Availability of Services and Materials			AVSM	40.00%	13.20%
2.1.3.1a Availability of storage and disposal facilities	RDF	Number from 0 to 10	RDFV	69.70%	9.20%
2.1.3.1b Control factor	CF	Number from 0 to 10	CFV		NA
2.1.3.2 Availability of equipment and specialists	NES	Number from 0 to 10	NESV	30.30%	4.00%
2.2 Short-Term Effectiveness:				**25.00%**	
Time to Remediate			TTR	60.00%	15.10%
2.2.1a Waste treatment	REMT	Number (years)	REMTV	37.09%	5.60%
2.2.1b ROD completion	RODT	Number (years)	RODTV	62.91%	9.50%
Community Protection			CPT	15.0%	3.8%
2.2.2 Community protection	CP	Number from 0 to 10	CPV	100.00%	3.80%
Worker Protection			WPN	15.0%	3.8%
2.2.3a Worker protection	WP	Number from 0 to 7	WPV	100.00%	3.80%

Value Function	State Variable Input	Input Range	Output Variable Label	Relative Weight within Category	Model Weight
2.2.3b Worker protection correction factor	WCF	Number from 0 to 10	WCFV		NA
Environmental Impacts			EIV	10.0%	2.3%
2.2.4a Animal impact	AI	Number from 0 to 10	AIV	50.00%	1.15%
2.2.4b Plant impact	PI	Number from 0 to 10	PIV	50.00%	1.15%
2.3 Long-Term Effectiveness and Permanence:				**8.00%**	
Residual Risk			RRVN	50.0%	4.0%
2.3.1 Magnitude of residual risk	RR	Number from 0 to 10	RRV	100.00%	4.00%
Controls			CON	50.0%	4.0%
2.3.2 Adequacy and reliability of controls	ARC	Number from 0 to 10	ARCV	100.00%	4.00%
2.4 Reduction of Toxicity, Mobility, or Volume through Treatment:				**17.00%**	
Amount of hazardous material destroyed or treated			HDTV	49.7%	8.2%
2.4.1a Reduction of volume	VOL	Number (m^3)	VOLV	32.00%	2.65%
2.4.1b TRU concentration	TRU	Number (nCi/g)	TRUV	22.50%	1.85%
2.4.1c Cadmium concentration	CD	Number (mg/L)	CDV	7.58%	0.62%
2.4.1d Lead concentration	PB	Number (mg/L)	PBV	7.58%	0.62%
2.4.1e Mercury concentration	HG	Number (mg/L)	HGV	7.58%	0.62%
2.4.1f PCB concentration	PCB	Number (mg/Kg)	PCBV	7.58%	0.62%
2.4.1g PCE/TCE	PTCE	Number (mg/Kg)	PTCEV	7.58%	0.62%
2.4.1h BEHP concentration	BEHP	Number (mg/Kg)	BEHPV	7.58%	0.62%

Value Function	State Variable Input	Input Range	Output Variable Label	Relative Weight within Category	Model Weight
Amount of Principle Threat Treated to Reduce Toxicity, Mobility, or Volume			PTVN		
2.4.2 Principle threat Cs-137	PT	Number (pCi/g Cs-137)	PTV	100.00%	5.10%
Irreversibility of Treatment of COCs			ITCOC	15.0%	2.6%
2.4.3 Irreversibility	IRR	Number (years)	IRRV	100.00%	2.60%
Treatment Residuals			TRV	5.30%	0.9%
2.4.4 Secondary waste	SW	Number (m^3)	SWV	100.00%	0.90%
2.5 Cost:				**13.00%**	
Cost			CV	100.00%	13.00%
2.5 Life-cycle cost	COS	Number ($M)	COSV	100.00%	13.00%
2.6 Application to Other Waste Streams:				**4.00%**	
Other Applicability			OAV	100.00%	4.00%
2.6a Applicability to ARA-16 waste	ARA	Number from 0 to 10	ARAV	33.33%	1.33%
2.6b Applicability to PM-2A waste	PM	Number from 0 to 10	PMV	33.33%	1.33%
2.6c Applicability to SDW waste	SDW	Number from 0 to 10	SDWV	33.33%	1.33%