Section II

Area Summary

Area Summary

Area	Activity									Total
	Removal of Waste	Decontamination	Transportation and Disposal of Decon Fluid	Sampling and Analysis	Transportation of Waste in Storage	Treatment and Disposal	[1]Engineering Expense	Certification of Closure	[2]Contigency Allowance	
Container Storage	$ -	$ 252,258	$ 369,919	$ 173,820	$ 1,144,095	$ 9,320,540	$ 563,032	$ 22,000	$ 1,184,567	$ 13,030,231
Tank Farm	$ 14,393	$ 290,838	$ 82,929	$ 23,421	$ 237,082	$ 669,100	$ 65,889	$ 22,000	$ 140,566	$ 1,546,218
Bulk Solids	$ 7,741	$ 125,635	$ 80,882	$ 33,825	$ 206,283	$ 1,043,000	$ 74,869	$ 12,600	$ 158,484	$ 1,743,319
Sludge Tanks	$ 11,113	$ 64,301	$ 42,063	$ 5,283	$ 14,820	$ 225,900	$ 18,174	$ 9,940	$ 39,160	$ 430,754
Kiln	$ 140,351	$ 538,149	$ 228,928	$ 232,563	$ 198,059	$ 463,800	$ 90,093	$ 21,760	$ 191,371	$ 2,105,074
Totals	$ 173,598	$ 1,271,181	$ 804,721	$ 468,912	$ 1,800,339	$ 11,722,340	$ 812,057	$ 88,300	$ 1,714,148	$ 18,855,596
									[3]Total Inflation Factor	1.07
									Closure Cost Adjusted for Inflation	**$ 20,175,488**

Notes

[1]5% of subtotal of removal of waste, decontamination, transportation and disposal of decon fluid, sampling and analysis, transportation of waste in storage and treatment and disposal.

[2]10% contingency allowance was used.

[3]Total Inflation Factor is calculated as the product of all annual inflation factors displayed in the table below. This estimate is current as of: October 18, 2023

Inflation Determination	
Year	**Inflation Factor**
2022	1.07
2023	
2024	
2025	
2026	
2027	
2028	
2029	
2030	
2031	
2032	

Section III

Closure Costs by Area

Container Storage Area Cost

Activity	Summary Totals
[1]Decontamination	$ 252,258
[1]Transportation and Disposal of Decon Fluid	$ 369,919
Sampling and Analysis	$ 173,820
Transportation of Waste in Storage	$ 1,144,095
Treatment and Disposal	$ 9,320,540

Entered in values

Container Storage Area	Activity								
	[4]Sampling and Analysis				Transportation of Waste in Storage			Treatment and Disposal	
	PCB Samples Required	Cost	Rinse Samples Required	Cost	Number of Containers/Gallons/Pounds[5,6,7,8]	Number of Trucks/Rail Cars/Flat Cars	Cost	[9]Tons of Waste	Disposal Cost for Waste
E1	110	$ 8,690	3	$ 1,653	1048				$ 498,848
[2]E2	110	$ 8,690	2	$ 1,102	1536				$ 731,136
E3	110	$ 8,690	2	$ 1,102	2930				$ 1,394,680
[3]E4	93	$ 7,347	2	$ 1,102	1652				$ 786,352
E5	110	$ 8,690	3	$ 1,653	1160				$ 552,160
E6	110	$ 8,690	2	$ 1,102	2096				$ 997,696
E7	110	$ 8,690	2	$ 1,102	2792				$ 1,328,992
E8	330	$ 26,070	4	$ 2,204	2304				$ 1,096,704
Building 68	3	$ 237	2	$ 1,102	56				$ 26,656
Building 69	2	$ 158	2	$ 1,102	56				$ 26,656
Building 70 East/West	3	$ 237	2	$ 1,102	64	217	$ 1,061,406		$ 30,464
Building 71 East/West	3	$ 237	2	$ 1,102	64				$ 30,464
Breezeway	65	$ 5,135	3	$ 1,653	256				$ 121,856
Shred Tower Storage Area/Conveyor	30	$ 2,370	8	$ 4,408	144				$ 68,544
Slag Pad	0	$ -	0	$ -	12				$ 5,712
E1 Dock	19	$ 1,501	2	$ 1,102	252				$ 119,952
E5 Dock	19	$ 1,501	2	$ 1,102	252				$ 119,952
E8 Dock	38	$ 3,002	2	$ 1,102	420				$ 199,920
Drum Pumping Storage	0	$ -	0	$ -	12				$ 5,712
Cylinder Storage Area	0	$ -	0	$ -	213				$ 101,388
Drum Pumping Station	1	$ 79	2	$ 1,102	4				$ 1,904
Laboratory Cooler	1	$ 79	2	$ 1,102	2				$ 952
Drive Through Direct Burn Station[6]	5	$ 395	2	$ 1,102	7500				
Drive Through Corrosive Direct Burn Station[6]	5	$ 395	2	$ 1,102	7500	2	$ 14,820	159	$ 200,340
Truck Unloading[6]	39	$ 3,081	5	$ 2,755	22920				
Bulk Solids Pad[7]	310	$ 24,490	3	$ 1,653	23760	3	$ 29,469	155	$ 108,500
ATF Magazines (1 each)[8]	11	$ 869	4	$ 2,204	90000	3	$ 38,400	45	$ 765,000
Subtotal	**1637**	**$ 129,323**	**65**	**$ 35,815**	**17325**	**225**	**$ 1,144,095**	**359**	**$ 9,320,540**
5% Contingency for Sampling	**1719**	**$ 135,801**	**69**	**$ 38,019**					

Notes

[1]See Decon Summary and Transportation and Disposal of Decon Fluid Tables for information on how those values were calculated.

[2]E2 includes 4 containers for WS1, WS2, WS3.

[3]E4 includes 4 containers for repack and decant.

[4]PCB wipes will only be used to determine PCB decontamination and rinse water samples to verify RCRA decontamination. No PCB samples needed for cylinder storage area since no PCBS would have been stored there. There are no PCB samples for the Slag Pad and Drum Pumping areas since this is portable containment. Added a 5% contingency to sample amounts to account for cost of potential samples at other areas of the facility or resampling.

[5]Maximum number of containers allowed to be stored in storage area. Number of trailers calculated by assuming capacity of trailer is 80 containers. Assuming it would be destroyed at the Clean Harbors Deer Park facility.

[6]Tankers and containers are stored in these areas. Used the highest amount of gallons that can be stored in that area. Assuming it would be disposed of as bulk liquid in a rail car. A rail car can hold 20,000 gallons. Assumed it is being destroyed at the Clean Harbors Deer Park facility.

[7]Containers, roll offs and tankers can be stored in this area. Used the highest amount of gallons that can be stored in this area. Assuming waste would be disposed of as bulk solids in roll-offs (12 tons each) which would be carried by flat car (6 roll-offs per flat car). Assumed it is being destroyed at the Clean Harbors Deer Park facility.

[8]Maximum ATF Magazines waste storage capacity is by the pound. It is assumed that 30,000 pounds of explosives can fit on one trailer. Assumed it is being destroyed at the Clean Harbors Colfax facility.

[9]Waste Disposal calculations for the Drive through Direct Burn Station, Drive Through Corrosive Direct Burn Station, Truck Unloading, Bulk Solids Pad, and ATF Magazines requires a conversion to tons.

[10]Every calculation is rounded up to its nearest whole value.

Tank Farm

Activity	Summary Totals
Removal of Waste	$ 14,393
[1]Decontamination	$ 290,838
[1]Transportation and Disposal of Decon Fluid	$ 82,929
Sampling and Analysis	$ 23,421
Transportation of Waste in Storage	$ 237,082
Treatment and Disposal	$ 669,100

Entered in values

Tank Farm Area	Activity																
	Removal of Waste				[3]Sampling and Analysis				Transportation of Waste in Storage								
	[2]Capacity	Mandays to Remove	Cost of Manpower	Equipment Cost	[4]PCB Samples Required	Cost	[5]Rinse Samples Required	Cost	[6]Number of Containers	Number of Trucks	Cost	[9]Number of Rail Cars for Bulk Liquid Waste	Cost	Number of Tanks	[8]Tank Scrap (Tons)	Number of Roll off Boxes	Cost
[7]Tank Farm	599956	26	$ 7,696	$ 6,697	142	$ 11,218	20	$ 11,020	34	1	$ 4,892	30	$ 222,300	16	160	14	$ 9,890
Subtotal	**599956**	**26**	**$ 7,696**	**$ 6,697**	**142**	**$ 11,218**	**20**	**$ 11,020**	**34**	**1**	**$ 4,892**	**30**	**$ 222,300**	**16**	**160**	**14**	**$ 9,890**
5% Contingency for Sampling					**150**	**$ 11,850**	**21**	**$ 11,571**									

[9]Treatment and Disposal	[10]Tank Farm Capacity (Gals)	Tons	Cost
Aqueous Waste	149,182	623	$ 311,500
High BTU Waste	450,774	1880	$ 338,400
Scrap Metal	-	160	$ 19,200
		Subtotal	$ 669,100

Notes

[1]See Decon Summary and Transportation and Disposal of Decon Fluid Tables for information on how those values were calculated.

[2]Tanks and piping will be emptied, flushed, then rinsed prior to dismantling. Tanks and piping will then be cut up for disposal as RCRA waste. Volume of waste based on tank volumes and pipe system lineal footage.

[3]PCB wipes will only be used to determine PCB decontamination and rinse water samples to verify RCRA decontamination. Added a 5% contingency to sample amounts to account for cost of potential samples at other areas of the facility or resampling.

[4]The tank farm is comprised of four identical containment areas, and two pump houses. These unit containment areas will be sampled individually: 25 per containment area, 10 per pump house, 10 miscellaneous structural steel, 12 miscellaneous piping, strainer, pump samples.

[5]The tank farm is comprised of four identical containment areas, and two pump houses. These unit containment areas will be sampled individually: 4 per containment area and 2 per pump house.

[6]It is expected that approximately 34 drums of waste from the tank farm will be removed. A trailer can transport 80 containers so this could fit on one trailer.

[7]30% added to tank farm capacity to account for flush to remove PCBs. 3 flushes of 10% by volume assumed.

[8]Assumed tanks would consist of 10,000 lbs. of metal scrap. Also assumed that scrap from pipe, pumps and strainers would equal the amount of the tank (10,000 lbs.) so the amount was doubled. Scrap metal will be disposed of by roll-off (12 tons per roll off) at Clean Harbors Grassy Mountain.

[9]Bulk liquids from the tank farm would be transported via rail to Clean Harbors Deer Park for Disposal. It is assumed that a rail car capacity would be 20,000 gallons.

[10]Aqueous Waste Tank capacity is 114,755 gallons and High BTU Waste is 346,749 gallons. 30% added to account for flush amounts.

[11]Every calculation is rounded up to its nearest whole value.

Bulk Solids

Activity	Summary Totals
Removal of Waste	$ 7,741
[1]Decontamination	$ 125,635
[1]Transportation and Disposal of Decon Fluid	$ 80,882
Sampling and Analysis	$ 33,825
Transportation of Waste in Storage	$ 206,283
Treatment and Disposal	$ 1,043,000

Entered in values

Bulk Solids Tanks	Activity															
	Removal of Waste				[3,4]Sampling and Analysis						[5,6]Transportation of Waste in Storage				Treatment and Disposal	
	[2]Capacity	Mandays to Remove	Cost of Manpower	Equipment Cost	PCB Samples Required	Cost	Rinse Samples Required	Cost	Concrete Samples required	Cost	Amount (Tons)	Number of Roll-Offs	Number of Flat Cars	Cost	Amount of Waste (Tons)	Cost
Bulk Solids Tanks	229,000	20	$ 5,920	$ 1,821	65	$ 5,135	7	$ 3,857	100	$ 22,300	1490	125	21	$ 206,283	1,490	$ 1,043,000
Subtotal	**229000**	**20**	**$ 5,920**	**$ 1,821**	**65**	**$ 5,135**	**8**	**$ 3,857**	**100**	**$ 22,300**	**1490**	**125**	**21**	**$ 206,283**	**1,490**	**$ 1,043,000**
5% Contingency for Sampling					**69**	**$ 5,451**	**9**	**$ 4,959**	**105**	**$ 23,415**						

Notes

[1]See Decon Summary and Transportation and Disposal of Decon Fluid Tables for information on how those values were calculated.

[2]Volumes of wase in inventory based on permitted bulk tank capacity of 229,000 gallons.

[3]PCB wipes will only be used to determine PCB decontamination and rinse water samples to verify RCRA decontamination. Added a 5% contingency to sample amounts to account for cost of potential samples at other areas of the facility or resampling.

[4]15 PCB samples per tank (4 tanks) and 5 PCB samples from containment/vault, 1 rinse sample per tank and 3 rinse samples from the containment/vault, and 20 concrete samples per wall and concrete 20 samples from various floor surfaces.

[5]Waste from bulks solids tanks will be transferred to roll-offs which will then be transported to Clean Harbors Deer Park by rail flat car for disposal.

[6]Waste removed from the tanks would be placed in roll-offs (12 tons each) which would be shipped by flat car (6 roll-offs per flat car). Assumed it is being destroyed at the Clean Harbors Deer Park facility.

[7]Every calculation is rounded up to its nearest whole value.

Sludge Tanks

Activity	Summary Totals
Removal of Waste	$ 11,113
[1]Decontamination	$ 64,301
[1]Transportation and Disposal of Decon Fluid	$ 42,063
Sampling and Analysis	$ 5,283
Transportation of Waste in Storage	$ 14,820
Treatment and Disposal	$ 225,900

Entered in values

Sludge Tanks Area	Activity												
	Removal of Waste				[3,4]Sampling and Analysis				[5]Transportation of Waste in Storage			Treatment and Disposal	
	[2]Capacity	Mandays to Remove	Cost of Manpower	Equipment Cost	PCB Samples Required	Cost	Rinse Samples Required	Cost	Amount (Gallons)	Number or Rail Cars for Bulk Sludge Waste	Cost	[6]Amount of Waste (Tons)	Cost
Sludge Tanks	38570	30	$ 8,880	$ 2,233	30	$ 2,370	4	$ 2,204	38570	2	$ 14,820	251	$ 225,900
Subtotal	**38570**	**30**	**$ 8,880**	**$ 2,233**	**30**	**$ 2,370**	**4**	**$ 2,204**	**38570**	**2**	**$ 14,820**	**251**	**$ 225,900**
5% Contingency for Sampling					**32**	**$ 2,528**	**5**	**$ 2,755**					

Notes

[1]See Decon Summary and Transportation and Disposal of Decon Fluid Tables for information on how those values were calculated.

[2]Volumes of waste in inventory based on permitted sludge tank system capacity of 38,570 gallons.

[3]PCB wipes will only be used to determine PCB decontamination and rinse water samples to verify RCRA decontamination. Added a 5% contingency to sample amounts to account for cost of potential samples at other areas of the facility or resampling.

[4]PCB Samples: 5 on tanks, 20 on containment vault, 5 on ancillary equipment. Rinse Samples: 2 from tank system and 2 from vault area.

[5]Sludge from the sludge tanks would be transported via rail to Clean Harbors Deer Park for disposal. It is assumed that a rail car capacity would be 20,000 gallons.

[6]Used bulk solids density to be conservative.

[7]Every calculation is rounded up to its nearest whole value.

Kiln

Activity	Summary Totals
Removal of Waste	$ 140,351
[1]Decontamination	$ 538,149
[1]Transportation and Disposal of Decon Fluid	$ 228,928
Sampling and Analysis	$ 232,563
Transportation of Waste in Storage	$ 198,059
Treatment and Disposal	$ 463,800

Entered in values

Type of Material	Activity								
	Removal of Waste				Transportation of Waste in Storage			Treatment and Disposal	
	Amount of Waste (gallons and tons)	Mandays to Remove	Cost of Manpower	Equipment Cost	Number of Rail Cars or Roll Offs	Number of Flat Cars	Cost	Amount of Waste (Tons)	Cost
[2]Scrubber Liquid	56,000	30	$ 8,880	$ 1,904	3	-	$ 22,230	234	$ 117,000
[3]Slag	2,016	302	$ 89,392	$ 40,175	168	0	$ 118,676	2,016	$ 241,920
[3]Bricks	324				27	0	$ 19,073	324	$ 38,880
[3]Baghouse and spray drier	108				9	0	$ 6,358	108	$ 12,960
[4]Shred Tower Clean Out	12				1	1	$ 9,823	12	$ 8,400
Ash	372				31	0	$ 21,899	372	$ 44,640
Subtotal	**-**	**332**	**$ 98,272**	**$ 42,079**	**239**	**1**	**$ 198,059**	**3,066**	**$ 463,800**

Kiln area	Activity					
	[5]Sampling and Analysis					
	PCB Samples Required	Cost	Rinse Samples Required	Cost	Non-aqueous Samples (Concrete Cores and Brick Samples)	Cost
Kiln and Afterburner feed skids, slag discharge, "A" Damper	4	$ 316	8	$ 4,408	0	$ -
8 Kiln Area Units	208	$ 16,432	16	$ 8,816	0	$ -
6 Kiln Area Containments	126	$ 9,954	13	$ 7,163	0	$ -
Random Structural Wipes in Kiln Area	41	$ 3,239	0	$ -	0	$ -
Random Structural Wipes in Shred Tower Area	134	$ 10,586	0	$ -	0	$ -
Two Komar Shredders	7	$ 553	4	$ 2,204	0	$ -
Shred Tower Airlock	3	$ 237	2	$ 1,102	0	$ -
Shred Tower Feed Augur	7	$ 553	2	$ 1,102	0	$ -
Bricks from kiln and "A" Damper	0	$ -	0	$ -	200	$ 44,600
Bricks from SCC	0	$ -	0	$ -	150	$ 33,450
Deslagger	19	$ 1,501	2	$ 1,102	20	$ 4,460
5 Pant Leg Sections	74	$ 5,846	10	$ 5,510	100	$ 22,300
Spray Dryer	45	$ 3,555	2	$ 1,102	80	$ 17,840
Accumulation Areas	0	$ -	0	$ -	20	$ 4,460
Parking Lot	0	$ -	0	$ -	20	$ 4,460
Kiln Area	0	$ -	0	$ -	10	$ 2,230
Shred Tower Area	0	$ -	0	$ -	10	$ 2,230
Subtotal	**668**	**$ 52,772**	**59**	**$ 32,509**	**610**	**$ 136,030**
5% Contingency for Sampling	**702**	**$ 55,458**	**62**	**$ 34,162**	**641**	**$ 142,943**

Notes

[1]See Decon Summary and Transportation and Disposal of Decon Fluid Tables for information on how those values were calculated.

[2]Scrubber has 4 tanks at 14,000 gallons each. Amount is in gallons. This will be transported by rail to Clean Harbors Deer Park for Disposal. Considered it to be bulk aqueous waste.

[3]Non-liquid wastes excluding shred tower: 168 boxes of slag 20 yd^3 each, 27 boxes of brick 20 yd^3 each, 31 boxes of ash at 20 yd^3 each, and 9 boxes of baghouse/spray dryer cleanout at 20 yd^3 each . These will be disposed of at Clean Harbors Grassy Mountain.

[4]1 box from shred tower cleanout 20 yd^3. This will be transported by rail and be disposed of at Clean Harbors Deer Park.

[5]PCB wipes will only be used to determine PCB decontamination and rinse water samples to verify RCRA decontamination. Added a 5% contingency to sample amounts to account for cost of potential samples at other areas of the facility or resampling.

[6]Every calculation is rounded up to its nearest whole value.

Section IV

Transportation and Disposal of Decontamination Fluid

Transportation and Disposal of Decontamination Fluid

Entered in values

Area	[1]Total Area (ft^2)	[2]Gal of Decon	[3]Number of Rail Cars	Transportation Cost	[4]Cost of Disposal	[5]Number of Frac Tanks	Number of Months	Frac Tank Rental Cost Total	Number of Man Days to Pump to Frac Tank	Cost of Equipment	Cost to Pump Fluid to Frac Tanks	Total
Container Storage	143,111	143111	8	$ 59,280	$ 298,387	4	2	$ 8,680	11	$ 316	$ 3,572	$ 369,919
[6]Tank Farm	18900	28900	2	$ 14,820	$ 60,257	3	2	$ 6,510	4	$ 158	$ 1,342	$ 82,929
Bulk Solids	-	30,000	2	$ 14,820	$ 62,550	2	1	$ 2,170	4	$ 158	$ 1,342	$ 80,882
Sludge Tanks	-	16000	1	$ 7,410	$ 33,360	1	0.5	$ 543	2	$ 158	$ 750	$ 42,063
Kiln	-	87148	5	$ 37,050	$ 181,704	4	2	$ 8,680	4	$ 310	$ 1,494	$ 228,928

Notes

[1]Rinsate generation is expected to be approximately 1.0 gallon per square foot of unit surface area.

[2]Rinsate generation is assumed rather then being calculated from surface area.

[3]Transported by rail car to Clean Harbors Deer Park for Disposal.

[4]Asssumed the cost would be similar to bulk aqueous waste disposal at Clean Harbors Deer Park.

[5]Frac tanks will be used to temporarily store the liquids generated during decontamination efforts.

[6]Tank farm includes an extra 10,000 gallons of rinse water.

[7]Every calculation is rounded up to its nearest whole value.

Section V

Decontamination Costs

Decontamination Cost Summary

Item Description	Item Quantity	Rate	Extension
Labor	1285	$ 296	$ 380,360
Equipment and Supplies	-	-	$ 530,107
Project Overhead	-	-	$ 241,036
Mobilization	1	$ 44,357	$ 44,357
Demobilization	1	$ 14,786	$ 14,786
Subtotal			$ 1,210,646
Contingency		5%	$ 60,533
			$ 1,271,179

[1]Decontamination Cost Per Area

Area	Ratio	Cost
Container Storage	20%	$ 252,258
Tank Farm	23%	$ 290,838
Bulk Solids	10%	$ 125,635
Sludge Tanks	5%	$ 64,301
Kiln	42%	$ 538,149
Total		**$ 1,271,181**

Notes

[1]Deconamtion cost per area is calculated by multiplying the overall total decontamination cost by the ratio of mandays for this task.

[2]Every calculation is rounded up to its nearest whole value.

Decon Task Duration

Decontamination Task Duration Summary

Area	Mandays	Ratio
Container Storage	255	20%
Tank Farm	294	23%
Bulk Solids	127	10%
Sludge Tanks	65	5%
Kiln	544	42%
Total	1285	

Container Storage Entered in values

Area	Sub Area	Task Description	Mandays/Tasks
Container Storage	Drum Storage Buildings and Buildings 68, 69, 70-East/West, 71-East/West	Dismantle drum storage racks	12
		Wash ceilings (concrete)	34
		Wash walls (concrete)	44
		Wash front loadings bays	13
		Wash interior storage cells/secondary containment	33
		Sample	12
	Container Processing Area	Remove area equipment	4
		Wash ceilings	8
		Wash walls	12
		Wash floor	8
		Dismantle, wash decant area	12
		Sample	4
	Dock/Breezeway	Remove elevator/rollers	10
		Lower level hoist decontamination	8
		Sump cleanout	2
		Dock wash	12
		Breezeway wash	6
		Electrical isolation of conveyors	1
		Ceiling wash	6
		Miscellaneous demolition	3
		Sample	2
	Shred Tower Storage Area	Dismantle drum storage racks	2
		Containment bin cleanout	2
		Wash concrete under storage rack locations	1
		Sample	1
	ATF Explosive Magazine Storage	Wash ceilings	1
		Wash walls	1
		Sample	1
		Total	**255**

Tank Farm

Area	Sub Area	Task Description	Mandays/Tasks
Tank Farm	Sample Station	Wash structure	3
	Unload Building	Triple rinse pumps, piping	3
		Isolate, pull pumps	4
		Isolate, pull piping	6
		Clean containment	4
		Sample	2
	Waste Tanks	Triple rinse tanks, piping	6
		Isolate piping	3
		Pull piping	2
		Purge Tanks	8
		Muck out interior	40
		Remove exterior structural	20
		Remove tanks	8
		Cut-up tanks for disposal	45
		Clean containment	9
	Pump Houses (2)	Triple rinse pumps, piping	4
		Isolate, pull pumps	10
		Isolate, pull piping	12
		Clean containment	10
		Sample	2
	Blend Tanks	Triple rinse tanks, piping	3
		Isolate, purge	5
		Isolate, remove pumps	2
		Remove piping	3
		Muck out interior	8
		Remove mixers (sectioned)	4
		Top valves and piping	2
		Remove exterior structural	6
		Pull tanks	4
		Cut-up tanks for disposal	10
		Remove unload rack piping	2
		Containment	3
		Purge, pull O/H lines to incin feed rack	7
	Carbon Adsorber	Remove packing for disposal	6
		Remove tanks, piping for disposal	8
		Sample	2
	Direct Burn Area	Purge piping, pull	4
		Clean containment	4
		Pull unloading pipes	2
		Pull pumps	2
		Wash bay	4
		Sample	2
		Total	**294**

Bulk Solids

Area	Sub Area	Task Description	Mandays/Tasks
Bulk Solids	Bulk Solids Building	rinse down ceiling, upper walls	10
		Clean walls	28
		Clean tanks	35
		Sample	8
	Shredder Area	Clean hopper, shelf	8
		disassemble, clean shredder	8
		sample	2
	Drag Conveyor	Disassemble conveyor	6
		Clean conveyor interior	6
		Clean hopper, knife gates	6
		Sample	2
		Clean hpu mains	2
		Pull small lines	2
		Drain hpus, isolate	2
		Isolate electrical	2
		Total	**127**

Sludge Tanks

Area	Sub Area	Task Description	Mandays/Tasks
Sludge Tanks	Sludge Tank - Small	Triple rinse	2
		Muck out interior	6
		Remove valves and piping	2
		Wash tank exteriors	4
		Pull tank	4
		Cut-up tank	6
		Sample	2
	Sludge Tank - Large	Triple rinse	3
		Muck out interior	6
		Wash Interior	6
		Remove valves and piping	4
		Wash tank exteriors	4
		Pull tank	4
		Cut-up tank	10
		Sample	2
		Total	**65**

Kiln

Area	Sub Area	Task Description	Mandays/Tasks
Incineration Train	Deslagger	Pull out	2
		Isolate, disconnect	4
		Open housing, pull headgear	4
		Pull head pulley	4
		Pull belt, dispose	3

	Cut-up shell for disposal	20
	Gross area decontamination	4
	Surrounding sump area decontamination	4
	Sample	2
Kiln Exterior	Clean exterior kiln drive	2
	Clean ring gear	2
	Clean from discharge to deslagger	2
	Remove piping	16
	Pull Kiln face feed points	6
Kiln Interior	Remove brick, containerize	35
	Clean interior	8
	sample	2
SCC	Clean area exterior	2
	Remove feed piping	6
	Remove burners	15
	Remove SCC exterior sheathing	20
	Push in SCC brick	35
	Muck out brick into rolloffs	20
	Clean structure	8
	Sample	2
Kiln Feed Piping	Isolate, purge	2
	Pull, cut piping	10
Ducting from SCC to Saturator	Cut refractory to release joints	8
	Crane out ducts, including thermal vent	4
	Remove duct refractory	20
	Wash duct to scrap	4
	Sample	4
Saturator	Pull packing, containerize	2
	Pump solids, muck out bottom	4
	Scaffold interior	4
	Sample	2
Scrubber	Pull packing, muck out bottom	8
	Scaffold interior	4
	Clean interior	10
	Sample	2
Spray Dryer	Remove residue	6
	Isolate, remove, piping	6
	Remove, clean ducting	10
	Clean discharge area	4
	Sample	2
Baghouse	Clean inlet, outlet duct	6
	Remove bags, cages	8
	Clean/remove screw conveyors	12
	Clean interior	10
	Sample	2
Baghouse Residue Loadout Building	Clean conveyors	8

		Clean loadout hoppers	4
		Clean building structure	6
		Clean containment	6
		Sample	2
	ESP	Clean inlet, discharge ducting	4
		Clean interior	6
		Sample	2
	ID Fans, Stack Inlet Ducting	Clean ID #1 fan inlet	2
		Clean transition to ID fan #2	2
		Clean fan #2. outlet to stack	2
		Clean bottom section of stack	2
	Stack	Check condition of interior	1
		De-erect	2
		Clean interior	2
		Sample	1
	pH Adjustment Tanks	Isolate, drain	2
		Clean, rinse	4
		Remove piping, pumps	2
	Shred Tower Area	Remove elevator towers	10
		Hoist decontamination	8
		Wash structure	3
		Sump cleanout	2
		Electrical isolation of conveyors	2
		Sample	2
		Clean concrete pad	8
		Miscellaneous demolition	3
		Purge piping and pull	4
		Wash airlock structure	8
		Disassemble, clean shredder, upper	8
		Disassemble, clean shredder, lower	8
		Dissemble conveyor	6
		Clean isolation gates	6
		Sample	4
		Clean hpu mains	2
		Pull small lines	2
		Drain hpus, isolate	2
		Isolate electrical	2
		Dismantle, wash feed auger	12
		Total	**544**

Decontamination Equipment and Supplies

Entered in values

Unit	Unit Qty	Item Description	Item Qty	Rate	Extension
General Equipment					
Week	21	Pressure Washers w/Trailers	5	$ 563.00	$ 59,115.00
Week	21	Sand Blasting	2	$ 622.00	$ 26,124.00
Week	21	High Reach Fork Lift	1	$ 1,361.00	$ 28,581.00
Week	21	Fork Lifts (5,000 lbs.)	2	$ 326.00	$ 13,692.00
Week	21	Shooting Boom Lift	1	$ 1,590.00	$ 33,390.00
Month	3	Vactor Truck (up to 176 hrs./mo)	1	$ 11,829.00	$ 35,487.00
Week	12	Vacuum Boxes	2	$ 554.00	$ 13,296.00
Hour	220	50-Ton Crane w/operator	1	$ 89.00	$ 19,580.00
Hour	220	100-Ton Crane w/operator	1	$ 133.00	$ 29,260.00
Week	20	Welding/Cutting and Supplies	2	$ 260.00	$ 10,400.00
Week	20	Trailers for Transporting	1	$ 89.00	$ 1,780.00
Week	21	Storage Trailers for Equipment on-site	2	$ 82.00	$ 3,444.00
Month	4	Hydroblaster, 30,000 psi	1	$ 14,786.00	$ 59,144.00
LS	1	Mob, Demob, Permits and Misc. Expenses	1	$ 2,957.00	$ 2,957.00
Week	21	Air Compressors	2	$ 451.00	$ 18,942.00
Week	21	Trucks	2	$ 408.00	$ 17,136.00
Week	12	Koppus Blowers	2	$ 89.00	$ 2,136.00
Week	21	Scaffolding	1	$ 222.00	$ 4,662.00
Supplies					
Manday	1	PPE	1,833	$ 30.00	$ 54,990.00
Drums	25	Drums of Detergent	1	$ 740.00	$ 18,500.00
Week	20	Small Tools	1	$ 296.00	$ 5,920.00
Week	21	Sampling Supplies	1	$ 185.00	$ 3,885.00
Bag	1	Bag Grit for Sand Blasting	710	$ 12.00	$ 8,520.00
Roll	1	Absorbent Mats	54	$ 163.00	$ 8,802.00
Roll	1	Plastic	264	$ 89.00	$ 23,496.00
Case	1	Duct Tape	30	$ 185.00	$ 5,550.00
Each	1	Drums	330	$ 44.00	$ 14,520.00
Roll	1	Drum Liner	66	$ 103.00	$ 6,798.00
				Total	$ 530,107.00

Notes

[1]Every calculation is rounded up to its nearest whole value.

Decontamination Project Administration

Entered in values

Unit	Unit Qty	Item Description	Item Qty	Rate	Extension
Project Management Personnel					
Hourly	700	Project Manager	1	$ 96.00	$ 67,200.00
Hourly	900	Field Supervisor	1	$ 48.00	$ 43,200.00
Hourly	900	Quality Assurance Officer	1	$ 44.00	$ 39,600.00
Hourly	500	Clerical	1	$ 23.00	$ 11,500.00
Administrative Equipment/Supplies					
Month	6	Project Office	1	$ 1,183.00	$ 7,098.00
Month	6	Fax Copier	1	$ 370.00	$ 2,220.00
Month	6	Phone	1	$ 296.00	$ 1,776.00
Week	18	Postage	1	$ 44.00	$ 792.00
Month	6	Utilities	2	$ 148.00	$ 1,776.00
Month	6	Supplies	1	$ 370.00	$ 2,220.00
Month	6	Cleaning and Disposal	1	$ 370.00	$ 2,220.00
Day	80	PPE for Administrative Personnel	2	$ 30.00	$ 4,800.00
Week	18	Administrative Truck	1	$ 333.00	$ 5,994.00
Incidental Costs					
Each	1	Travel	20	$ 740.00	$ 14,800.00
Day	80	Subsistence	4	$ 112.00	$ 35,840.00
				Total	$ 241,036.00

Notes

[1]Every calculation is rounded up to its nearest whole value.

Section VI

Certification of Closure

Certification of Closure

Entered in values

Area	Engineering Certification hours	Engineer Cost	Certification Direct Cost	Total
Container Storage	100	$ 18,500.00	$ 3,500.00	$ 22,000.00
Tank Farm	100	$ 18,500.00	$ 3,500.00	$ 22,000.00
Bulk Solids	60	$ 11,100.00	$ 1,500.00	$ 12,600.00
Sludge Tanks	24	$ 4,440.00	$ 5,500.00	$ 9,940.00
Kiln	96	$ 17,760.00	$ 4,000.00	$ 21,760.00

Notes

[1]Every calculation is rounded up to its nearest whole value.

Section VII

General Costs and Conversion Factor Information

General Costs and Conversion Factors Information

Item	Cost	Per Unit	Source and Comments
PCB Wipe Sample	$ 79.00	Sample	American West 1/3/2022 prices
Rinsate Samples	$ 551.00	Sample	American West 1/3/2022 prices
Drum Truck	$ 4,891.27	per load	Quote from Clean Harbors Logistics
Explosive Truck	$ 12,800.00	per load	Quote from CH-Colfax
Disposal Rate for Containerized Waste	$ 476.00	a container	Quote from CH (TSCA waste)
Disposal Rate for Explosives	$ 8.50	pound	Quote from CH-Colfax
Frac Tank	$ 1,085.00	month	https://emcooilfield.com/frac-tank-rental/ ($35 a day, 31 day month)
Engineer Certification	$ 185.00	hour	Updated to 2022 wages using inflation factor
Cost of Man Power	$ 37.00	hour	Updated to 2022 wages using inflation factor
Rail Tanker (Liquid) Transportation to CH-DE	$ 7,410.00	a tanker car	Quote from Union Pacific
Rolloff Box to Grassy	$ 706.40	a load	Quote from CH-GM
Scrap Metal Waste	$ 120.00	a ton	Quote from CH-GM ($0.06 per pound)
Direct Burn Disposal Cost	$ 1,260.00	a ton	Quote from CH ($0.63 per pound)
Bulk Aqueous Disposal Cost	$ 500.00	a ton	Quote from CH ($0.25 per pound)
Bulk High BTU Disposal Cost	$ 180.00	a ton	Quote from CH ($0.09 per pound)
Non-Aqueous Samples	$ 223.00	Sample	American West 1/3/2022 prices
Rail Bulk Solids Transportation to CH-DE	$ 9,823.00	per rail flat car	Quote from Union Pacific
Bulk Solids Disposal	$ 700.00	per ton	Quote from CH ($0.35 per pound)
Sludge Disposal	$ 900.00	per ton	Quote from CH ($0.45 per pound)
Solid Residue Disposal	$ 120.00	a ton	Quote from CH-GM ($0.06 per pound)
Direct Labor Cost	$ 296.00	Manday/task	$37/hr. for an 8 hour day

Item	Cost	Per Unit	Source and Comments (if needed)
Drums per truck	80	drums	
Explosives per truck	30,000	pounds	
Rinsate	1	gal/ft^2	
Frac Tank	20,000	gallons/Frac Tank	
Drum	55	gallons	
Specific Gravity of Bulk Solids	1.56	specific gravity	From 2021 facility data on bulk solids. Also used as density of containerized waste
Specific Gravity of Bulk Liquids	1.00	specific gravity	From 2021 facility data on bulk liquids
Density of water	8.34	lbs./gal	
Work hours a day	8	hours/day	
Tank scrap per tank	10	tons	Includes 10,000 pounds for the tank and 10,000 pounds for the associated piping, pumps, and strainers
lbs. to tons	2000	pounds per ton	
Rail Tanker Capacity	20000	gal/rail tanker	
Flat Car Size Capacity	6	roll-offs/flat car	
20 yd^3 Roll-off Capacity	12	tons/roll-off	Average net weight of a roll-off filled with slag