

US EPA ARCHIVE DOCUMENT

Facility Unit Outline Example

Wonka Environmental

(Based on units in Part A)

Container Storage Areas

Container Storage Area A

Container Storage Area B

Solids PPE Storage Area

Tanks

Tanks TT1-TT6 **Can lump together tank farms by containment*

Tanks TT8-TT9

Burn Tank (TT 10)

Incinerators

Thermal Oxidizer X

***Please note that this example has been given to set the framework for a cost estimate format not all items have been checked to confirm accuracy on any given values.**

Container Storage areas:

Container Storage Area A

Decontamination

Sec. Cont. Dimensions: (90' X 60')
 Equipment Surface Area: (NA)
 Estimated Amount of Decon Fluid for Area: (800 gallons)

Sampling

Amount of Samples including QA/QC: (16 samples 8 soil + 8 rinsate)

Test Methods:

Secondary Containment

8260 (7 solid + 6 liquid)	8081 (7 solid + 6 liquid)
8270 (7 solid + 6 liquid)	8015 (7 solid + 6 liquid)
6010 (7 solid + 6 liquid)	8082 (7 solid + 6 liquid)
1311 (7 solid + 6 liquid)	9010 (7 solid + 6 liquid)
9056 (7 solid + 6 liquid)	

QC Samples

8260 (1 solid + 2 liquid)	8081 (1 solid + 2 liquid)
8270 (1 solid + 2 liquid)	8015 (1 solid + 2 liquid)
6010 (1 solid + 2 liquid)	8082 (1 solid + 2 liquid)
1311 (1 solid + 2 liquid)	9010 (1 solid + 2 liquid)

Test Method #	Solid Test Method Cost	Liquid Test Method Cost
8260	\$55.00	\$55.00
8270	\$132.00	\$132.00
6010	\$60.23	\$48.10
1311	\$12.00	\$12.00
8081	\$78.00	\$78.00
8015	\$186.00	\$186.00
8082	\$63.20	\$63.20
9010	\$100.00	\$100.00

Transportation

Maximum Capacity: (300 X 55 gallon drums = 16,500 gallons)
 (6 X 3 cubic yard Roll-offs)

5 Loads 60 drums per load
 300 miles @ \$6.25 per mile (ABC Facility, Nowhere, Mo.)

3 Loads Rolloffs 6yd³ per rolloff
 100 miles @ \$12.22 per mile (ACME Disposal, Albuquerque, NY.)

1 Load Decon fluid
 700 miles @ \$5.66 per mile (Dewy, Cheatem, & Howe Disposal Timbuktu, NM)

Disposal

16,500 gallons @ \$168 per gallons for liquids waste
 18yds of Haz-waste solids @ \$80.36 per yard
 800 gallons of decon liquid @ \$.36 per gallon (disposed in bulk)

Labor and Equipment Cost per Unit Summary

(Decon, Sampling, Loading/Unloading)

Decontamination Costs:

4 people Level C protection Tyvex 4 X \$20 = \$60
 4 people x 4 days x 8 hours (\$200/hour (includes all 4 people))
 Costs include power washer rental =\$1,660

Sampling:

Drilling and Sampling Costs =\$2,500
 Test Method Costs: =\$6,523

Loading:

4 people x 4 days x 8 hours (\$200/hour (includes all 4 people))
 Costs include forklift =\$6,400

Engineering Expenses (for unit)

(Food, Travel, Lodging, Post Closure Landfill cap installation....etc..etc)

Food expenses	\$50 a day per diem X 4 days	= \$200 total
Lodging	\$120 a day X 4 days	<u>= \$480 total</u>
	Subtotal	= \$680 total

Closure Certification (for unit)

(All expenses incurred for engineering review of documentation, physical inspection, report preparation....etc..etc)

Engineering review \$150 per hour X 10 hours review =\$1500

Tanks:

Tanks TT1 - TT6

Decontamination

Sec. Cont. Dimensions: (110' X 55' X 3')
 Equipment Surface Area: (8230ft²) (1371 ft² x 6 tanks)
 Estimated Amount of Decon Fluid for Area: (1200 gallons for tanks + 350 gallons for Containment)

Sampling

Amount of Samples including QA/QC: (10 samples 4 soil + 6 rinsate)

Tanks + Secondary Containment

8260 (3 solid + 5 liquid)	8081 (3 solid + 5 liquid)
8270 (3 solid + 5 liquid)	8015 (3 solid + 5 liquid)
6010 (3 solid + 5 liquid)	8082 (3 solid + 5 liquid)
1311 (3 solid + 5 liquid)	9010 (3 solid + 5 liquid)

QC Samples

8260 (1 solid + 1 liquid)	8081 (1 solid + 1 liquid)
8270 (1 solid + 1 liquid)	8015 (1 solid + 1 liquid)
6010 (1 solid + 1 liquid)	8082 (1 solid + 1 liquid)
1311 (1 solid + 1 liquid)	9010 (1 solid + 1 liquid)

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1311	\$12.00	\$12.00
8081	\$78.00	\$78.00
8015	\$186.00	\$186.00
8082	\$63.20	\$63.20
9010	\$100.00	\$100.00

Transportation

Maximum Capacity: (6 X 25,000 gallon tanks = 150,000 gallons)

30 Loads 5000gallons per tanker

300 miles @ \$6.25 per mile (ABC Facility, Nowhere, Mo.)

1 Load Decon fluid

700 miles @ \$5.66 per mile (Dewy, Cheatem, & Howe Disposal, Timbuktu, NM)

Disposal

150,000 gallons @ \$43.50 per gallons for liquids waste

800 gallons of decon liquid @ \$.36 per gallon (disposed in bulk)

Labor and Equipment Cost per Unit Summary

(Decon, Sampling, Loading/Unloading)

Decontamination Costs:

4 people Level C protection Tyvex 4 X \$20 = \$60

4 people x 4 days x 8 hours (\$200/hour (includes all 4 people))

Costs include power washer rental =\$1,660

Sampling:

Drilling and Sampling Costs =\$2,500

Test Method Costs: =\$6,523

Loading:

4 people x 4 days x 8 hours/day (\$200/hour (includes all 4 people))

Costs include pumps and other ancillary equipment =\$6,400

Tank Dismantling and Loading

10 people x 5days x 10 hours per day (\$300/hour (includes all 10 people))

Costs trucks, cranes and welding equipment =\$15,000

Engineering Expenses (for unit)

(Food, Travel, Lodging, Post Closure Landfill cap installation....etc..etc)

Food expenses \$50 a day per diem X 4 days =\$200 total

Lodging \$120 a day X 4 days =\$480 total

Subtotal =\$680 total

Closure Certification (for unit)

(All expenses incurred for engineering review of documentation, physical inspection, report preparation....etc..etc)

Engineering review \$150 per hour X 10 hours review =\$1500

Incinerator:

Incinerator X

Decontamination

Length of piping:	6,000 ft
Surface Area of Piping:	13,000 ft ²
Surface Area of Incinerator:	17,000 ft ²
Surface Area of Secondary Containment:	10,000 ft ²
Amount of decontaminate fluid required to Piping:	NA (included in burn loop for incinerator)
Amount of decontaminate fluid required to clean incinerator: (use RS Means to determine amount of decon fluid to clean)	800 gallons
Amount of decontaminate fluid required to clean sec containment:	1,000 gallons
Amount of decontaminate fluid required to clean any miscellaneous or ancillary equipment:	100 gallons

Sampling

Amount of Samples including QA/QC: (10 samples 4 soil + 6 rinsate)

Tanks + Secondary Containment

8260 (3 solid + 5 liquid)	8081 (3 solid + 5 liquid)
8270 (3 solid + 5 liquid)	8015 (3 solid + 5 liquid)
6010 (3 solid + 5 liquid)	8082 (3 solid + 5 liquid)
1311 (3 solid + 5 liquid)	9010 (3 solid + 5 liquid)

QC Samples

8260 (1 solid + 1 liquid)	8081 (1 solid + 1 liquid)
8270 (1 solid + 1 liquid)	8015 (1 solid + 1 liquid)
6010 (1 solid + 1 liquid)	8082 (1 solid + 1 liquid)
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9010	\$100.00	\$100.00

Transportation

1 Load Decon fluid

700 miles @ \$5.66 per mile (Dewy, Cheatem, & Howe Disposal, Timbuktu, NM)

3 haz-waste brick rolloff loads 15yd³ per rolloff

100 miles @ \$12.22 per mile (ACME Disposal, Albuquerque, NY.)

3 non-liquid haz-waste rolloff loads 6yd³ per rolloff

100 miles @ \$10.00 per mile (ACME Disposal, Albuquerque, NY.)

Disposal

Amount of scrubber liquid: 1,500 gallons @ \$43.50 per gallon

Amount of haz-waste brick: 45 yd³ @ \$115.00 per yd³

Amount of non-liquid haz-waste ash,
Baghouse dust...etc...ect: 18 yd³ @ \$115.00 per yd³

Labor and Equipment Cost per Unit Summary

(Decon, Sampling, Loading/Unloading)

Decontamination Costs:

4 people Level C protection Tyvex 4 X \$20 = \$60

4 people x 4 days x 8 hours (\$200/hour (includes all 4 people))

Costs include power washer rental =\$1,660

Sampling:

Drilling and Sampling Costs =\$2,500

Test Method Costs: =\$6,523

Loading:

4 people x 4 days x 8 hours/day (\$200/hour (includes all 4 people))

Costs include pumps and other ancillary equipment =\$6,400

Incinerator, Air Pollution Control Equipment , Piping and Ancillary Equipment Dismantling and Loading:

10 people x 5days x 10 hours per day (\$300/hour (includes all 10 people))

Costs trucks, cranes and welding equipment =\$15,000

Engineering Expenses (for unit)

(Food, Travel, Lodging, Post Closure Landfill cap installation....etc..etc)

Food expenses	\$50 a day per diem X 4 days	= \$200 total
Lodging	\$120 a day X 4 days	= \$480 total
		Subtotal = \$680 total

Closure Certification (for unit)

(All expenses incurred for engineering review of documentation, physical inspection, report preparation....etc..etc)

Engineering review \$150 per hour X 10 hours review = \$1500