

Appendix B-8
Post-Closure Care Plan

POST-CLOSURE CARE PLAN

(Applies to Scheduled and Unscheduled Closure Plans)

US ECOLOGY NEVADA

September 2010

SECTION 17
POST-CLOSURE CARE PLAN
TABLE OF CONTENTS

17.1.0 Inspection and Maintenance Activities.....	1
17.1.1 Maintenance of Final Cover.....	1
17.1.2 Maintenance and Protection of Surveyed Benchmarks.....	1
17.1.3 Installation and Maintenance of Run-On Controls.....	1
17.1.4 Maintenance and Inspection of Security Control Devices.....	2
17.1.5 Maintenance and Inspection of Monitoring Wells System.....	2
17.1.6 Maintenance and Inspection of Leachate Collection and Removal System	2
17.2.0 Facility Monitoring	3
17.2.1 Lysimeter Monitoring.....	3
17.2.1 Groundwater Monitoring.....	4
17.2.2 Leachate Monitoring.....	4
17.3.0 Post-Closure Contact	4
17.4.0 Survey Flat	4
17.5.0 Post-Closure Notices	5
17.6.0 Post-Closure Certification	5
17.7.0 Post-Closure Care Cost Estimate.....	5
17.8.0 Plan Modifications	5

APPENDICES

Appendix 17 A	Post-Closure Care Cost Estimate
---------------	---------------------------------

SECTION 17

POST-CLOSURE CARE PLAN

The post-closure care period begins upon closure of the facility and continues for 30 years. Should US Ecology Nevada determine at any time during the post-closure care period that any of the monitoring or maintenance activities are no longer necessary or that revisions to the approved plan are required, the facility operator will petition the Nevada Division of Environmental Protection (NvDEP) Administrator for a modification to the plan. The modification request will be submitted at least 60 days prior to the proposed change.

A detailed description of the post-closure care activities at the facility is provided in the following sections.

17.1.0 INSPECTION AND MAINTENANCE ACTIVITIES

Because of the infrequency of rainfall events, and the limited amount of damage that sparse rainfall could cause to the surface of the final cover system, the post-closure plan calls for semi-annual inspections of the final cover system and other facility features. Less frequent inspections of other facility features may be appropriate, but for the sake of convenience, they will be performed concurrently with inspections of the final cover.

17.1.1 Maintenance of Final Cover

The surface of the closed landfill cells will be inspected for subsidence, cracking, vegetative stress, burrowing animals or erosion semi-annually. Cracks, depressions, animal burrows and erosion ditches will be filled as necessary with site soils (from excess materials stockpiled on site), and compacted.

After installation of the final cover, there will be no need to control run-off from the disposal unit, since the landfilled waste will be completely isolated.

17.1.2 Maintenance and Protection of Surveyed Benchmarks

The two reference points forming the base of the facility grid system and the benchmark used for vertical control shall be preserved and protected by converting them to permanent markers at the beginning of the post-closure period. The resulting structures shall be visible and outside of any traffic routes.

17.1.3 Installation and Maintenance of Run-On Controls

The facility's run-on control systems will be inspected semi-annually for any condition that could prevent their proper functioning, and repaired as needed.

17.1.4 Maintenance and Inspection of Security Control Devices

Existing fences, gates and signs will remain in place to restrain access to the facility and as points of reference. These will be inspected concurrently with other facility features described in this plan, and repaired or replaced, as necessary.

17.1.5 Maintenance and Inspection of Monitoring Wells System

Because the monitoring wells will not be used for water production, it is unlikely that the well screens will clog to such an extent as to prevent the collection of representative samples. The post-closure plan provides for replacement of one well pump per year. This maintenance would be performed during a regularly scheduled semi-annual sampling event, so no additional man-hours are anticipated. The facility water supply well will be sampled on the same schedule as other monitoring wells at the facility. The water supply well will be maintained as the source of on-site maintenance water. The monitoring wells are provided with locks to minimize the risk of vandalism.

17.1.6 Maintenance and Inspection of Leachate Collection and Removal System

Inspection of the leachate collection sump risers to identify damage and maintenance needs will be conducted semi-annually while inspecting the landfill cap and other site features. Monitoring of the leachate detection system sumps and recording of sump liquid levels initially will be conducted monthly. The monitoring/recording frequency will be reduced to a quarterly if the liquid level in the sump stays below the pump operating level for two consecutive months. After two consecutive quarters of recording sump liquid levels below pump operating level, monitoring/recording frequency will be changed to semi-annual. If, at any time during the post-closure period (while following the quarterly or semi-annual schedules), the sump liquid levels exceed the pump operating level, the unit will be returned to monthly monitoring until the liquid level stays below pump operating level for two consecutive months.

For the purpose of calculating the cost associated with monitoring of liquid detection sumps, it is assumed that monthly monitoring will be required throughout the first year after completion of facility closure. After the first year, the monitoring/recording frequency will be reduced to quarterly, as the presence of leachate in the sumps is expected to diminish significantly, and the liquid level in the sumps is likely to stay below the pump operating level. The sumps will be monitored quarterly during the second year following closure completion. Thereafter, monitoring of the sumps will be conducted semi-annually.

Records of leachate generation rates will be analyzed in each post closure report to determine whether there is a statistically significant increase in the rates.

All leachate pumped from the collection sumps during the post-closure period will be stored in totes or other approved containers and be transported off-site to a facility authorized to accept F039 waste.

17.2.0 FACILITY MONITORING

Post-closure monitoring is required and is assumed for cost estimating purposes to proceed in the same manner described for the facility's active life (see the Environmental Monitoring Plan submitted as part of the Renewal Permit Application with regards to the system configuration, parameters to be monitored for, and groundwater sampling and analysis procedures). In addition, Basin Lysimeters constructed within the Trench 11 and Trench 12 final covers will be monitored to determine whether rainwater and snowmelt are infiltrating the cover.

For the purpose of calculating the cost associated with monitoring of Basin Lysimeters, it is assumed that monthly monitoring will be required throughout the first year after completion of facility closure. After the first year, the monitoring/recording frequency will be reduced to quarterly, as the first year's monitoring is expected to demonstrate that no infiltration takes place during any single month. After the second year following closure completion, the Basin Lysimeters will be monitored semi-annually.

17.2.1 Lysimeter Monitoring

Lysimeter data collection will continue for 10 years following initial installation. The 10-year period will allow for monitoring and documentation through weather cycles that should be sufficient in number to experience widely varying precipitation events. The expected long-term (30-year) average of liquid flux through the final covers is less than 10.0 millimeters per year. A flux rate not exceeding 10.0 mm/yr is roughly the equivalent to an effective hydraulic conductivity that is less than 3.2×10^{-8} centimeters per second (cm/sec). USEN will utilize the 10.0 mm/yr value as the basis for notifying NDEP of unexpected situations during lysimeter-based monitoring. If, at anytime during performance monitoring, recorded flux through the lysimeter exceeds 50% of this value (i.e., 5.0 mm) in a single month, NDEP will be notified

17.2.2 Groundwater Monitoring

Post Closure groundwater monitoring will continue in the same manner as during the active life of the facility. These parameters and procedures are discussed in detail in the Environmental Monitoring Plan and the Sample and Analysis Plan.

17.2.3 Leachate Monitoring

Records of leachate generation rates will be analyzed in each post closure report to determine whether there is a statistically significant increase in the rates. The amount of leachate generated will be compared to historical values to determine trends and to ensure the final cover is performing as designed. Leachate will always be analyzed for the same parameters as the groundwater and those values compared to confirm the liner system is working as designed.

17.3.0 POST-CLOSURE CONTACT

The contact for information at any time during the post-closure care period will be:

Director of Environmental Affairs
US Ecology, Inc.
Lakepointe Centre I
300 East Mallard Drive, Suite 300
Boise, Idaho 83706
(208) 331-8400

17.4.0 SURVEY PLAT

No later than the date when the landfill closure certification is submitted, US Ecology Nevada, will submit to the NvDEP Administrator and the Recorder's Office of Nye County, Nevada, a survey plat indicating the location and dimensions of the landfill cell with respect to permanently surveyed benchmarks. The plat will be prepared and certified by a professional land surveyor, and will contain a note, prominently displayed, stating US Ecology's obligation to restrict disturbance in accordance with the requirements of 40 CFR 264. 117(c).

17.5.0 POST-CLOSURE NOTICES

By contractual agreement with the facility owner (The State of Nevada), the facility will revert to state control at the time of closure and the State will provide post closure care using funds already set aside for this purpose.

No later than 60 days after certification of landfill closure, US Ecology Nevada will submit to the Nevada Department of Environmental Protection (NvDEP) Administrator, and the Recorder's Office of Nye County, Nevada, a record of the type, location and quantities of hazardous waste disposed of within each cell.

Within 60 days after closure certification, a notation will be recorded on the facility deed, (as recorded in the Recorder's Office of Nye County, Nevada) that will notify potential purchasers that:

- The property has been used for disposal of hazardous waste, and
- The use of the property is restricted under 40 CFR 264. 117(c) (relating to Post- Closure Care and Use of Property), and
- The survey plat and record of the type, location, and quantity of hazardous wastes disposed of within each cell have been filed with the Recorder's Office of Nye County, Nevada, and with the NvDEP Administrator.

A certification, signed by a company representative, will be submitted to the Administrator stating that the above notation has been recorded in the facility deed. A copy of the deed will be provided with the certification.

17.6.0 POST-CLOSURE CERTIFICATION

Within 60 days of completion of the post-closure care period, US Ecology, Inc. will submit to the NDEP Administrator a certification attesting that the post-closure care period for the hazardous waste disposal unit was performed in accordance with specifications of the approved post-closure plan. The certification will be signed by a facility representative, and by an independent professional engineer, registered in the State of Nevada.

17.7.0 POST-CLOSURE CARE COST ESTIMATE

The cost estimate for post-closure care activities of the disposal units at US Ecology Nevada facility is included at Appendix A.

17.8.0 PLAN MODIFICATIONS

US Ecology will submit a written notification of, or request for a permit modification to authorize a change in the approved Post-Closure Plan if:

- Changes in operating plans or facility design affect the approved plan, or

- There is a change in the expected year of final closure, or
- Events which occur during the active life of the facility affect the plan.

The request for permit modification will be submitted at least 60 days prior to the proposed change in facility design or operation, or no later than 60 days after an unexpected event which requires revisions to the approved plan.



May 2, 2008

RCRA Permitting Branch Supervisor
Bureau of Waste Management
Nevada Division of Environmental Protection
901 South Stewart Street, Suite 4001
Carson City, NV 89701-5249

Attention: Mr. Mike Leigh, P.E.

RE: US Ecology Nevada, Inc. HW Permit NEVHW0019
2008 Adjustment of Closure/Post-Closure Cost Estimates

Dear Mr. Leigh:

In accordance with Permit NEVHW0019 condition 14.5, US Ecology Nevada, Inc. (USEN) is submitting the updated Closure/Post-Closure Cost Estimates for the facility. The attached closure/post-closure documentation updates the cost estimate submitted in 2007.

USEN contracted Aqua-Ter to perform an updated closure/post-closure estimate. The total cost estimate decreased \$854,589 from 2007 to 2008. The decrease is due to updated cost model and accurately reflects the costs associated with closure/post-closure of the facility. Please refer to the included spreadsheets for cost estimates.

Per your recent email, the balance of the NDEP managed trust fund as of April 14, 2008 was \$9,460,807. The USEN provided post-closure insurance certificate amount is \$469,031. The total value of the trust fund and USEN post-closure insurance is \$9,929,838.

The total closure and post-closure cost estimates are \$7,345,608, providing an excess amount of \$2,584,230. Taking into consideration the excess, USEN requests your authorization to decrease the Post-Closure Insurance coverage from \$469,031 to \$0.00. If this is acceptable, please provide written authorization of the requested change.

Should you have questions or require additional information regarding this request, please contact me at 800-239-3943 extension 127.

Sincerely,

Scott Wisniewski
Environmental Compliance Manager

Enclosures:
Closure/Post-Closure Cost Estimate Summary and Itemization spreadsheets
Trust fund value request

cc: Mr. Robert Marchand, General Manager - US Ecology Nevada
Mr. Richard O'Hara, Environmental Health & Safety Director - American Ecology
Ms. Karen Frank, Risk Manager - American Ecology
Ms. Paula Bishop, Toxic Program Cross Media Division - U.S. EPA, Region IX
File

Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment, for knowing violations.

Signed:

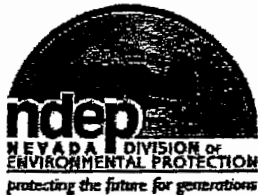
Date: 5/2/08

Scott Wisniewski

From: Mike Leigh [mleigh@ndep.nv.gov]
Sent: Monday, April 14, 2008 11:30 AM
To: Marisa Quinn
Cc: Scott Wisniewski; Bob Marchand; Eric Noack; Sree Kailash
Subject: RE: USEN Closure/Post Closure

Marissa:

I confirmed with our accounting group this morning that the current Closure & Post Closure fund balance is **\$9,460,806.82**. Please let me know if I can be of any other assistance. **THANKS!**



Mike Leigh, P.E.
Supervisor, Hazardous Waste Facilities
Bureau of Waste Management
Nevada Division of Environmental Protection
901 S. Stewart St., Ste 4001
Carson City NV 89701
phone: 775.687-9465 fax: 775.687-5856
www.ndep.nv.gov

From: Marisa Quinn [mailto:mquinn@usecology.com]
Sent: Monday, April 14, 2008 7:48 AM
To: Mike Leigh
Subject: RE: USEN Closure/Post Closure

Okay, thank you.

Marisa Quinn

From: Mike Leigh [mailto:mleigh@ndep.nv.gov]
Sent: Wednesday, April 09, 2008 1:24 PM
To: Marisa Quinn
Subject: RE: USEN Closure/Post Closure

Marisa:

Thanks for your inquiry. Unfortunately, I am out of the office this week so it may be next week before I can provide an updated number. The last fund number I recall was \$9.46 million early February. I'll let you know as soon as I can with a more current update. **THANKS!**

From: Marisa Quinn [mailto:mquinn@usecology.com]
Sent: Wed 04/09/2008 8:23 AM
To: Mike Leigh
Cc: Scott Wisniewski
Subject: USEN Closure/Post Closure

Mr. Leigh,

Mr. Scott Wisniewski, our compliance manager, requested that I send for the Closure/Post-Closure estimates for 2008. Will you

5/7/2008

Beatty Facility 2008 Closure and Post Closure Cost Estimates

Total Facility Closure Cost Estimate	\$3,371,969
Total Facility Post Closure Cost Estimate	<u>\$3,973,639</u>
Grand Total Cost Estimates	\$7,345,608

Beatty Facility 2008 Closure and Post Closure Trust Fund Estimates

State Administered Trust Fund Value for Closure/Post Closure (April 14, 2008)	\$9,460,807
2008 Adjusted Insurance Coverage	<u>\$ 0.00</u>
Grand Total Coverage	\$9,460,807

US Ecology Nevada, Inc.
FACILITY SCHEDULED CLOSURE AND POST CLOSURE COST ESTIMATE
2008 COST ESTIMATE SUMMARY
April 2008

TOTAL POST CLOSURE COST ESTIMATE:	\$	3,371,969
TOTAL SCHEDULED CLOSURE COST ESTIMATE:	\$	3,973,639
2008 GRAND TOTAL COST ESTIMATE:	\$	<u>\$7,345,608</u>
April 14, 2008 TRUST FUND BALLANCE	\$	9,460,807
CURRENT INSURANCE COVERAGE	\$	<u>469,031</u>
TOTAL CURRENT COVERAGE	\$	9,929,838
CURRENT COVERAGE	\$	9,929,838
CURRENT COST ESTIMATE	\$	<u>7,345,608</u>
OVERAGE	\$	2,584,230
CURRENT COST ESTIMATE (March 2008)	\$	7,345,608
April 14, 2008 TRUST FUND BALLANCE	\$	<u>9,460,807</u>
REQUESTED ADJUSTED INSURANCE COVERAGE	\$	-2,115,198
REQUESTED TO REDUCE INSURANCE COVERAGE TO		\$0.00
Annual increase for closure	\$	(1,099,434)
Annual increase for post closure	\$	<u>244,845</u>
total increase	\$	(854,589)

2008 Scheduled Closure Cost

ITEM NO.	ITEM	2008 Total
1A	Trench 11 - Scheduled	\$400,000
1B	Trench 11 - Unscheduled	\$0
1C	Trench 12 - Scheduled	\$130,000
1D	Trench 12 - Unscheduled	\$0
2	PCB Processing Building & RCRA Storage Area	\$334,195
3	Truck Parking Storage Area	\$135,568
4	Truck Wash and Evaporation Pad	\$39,472
6	Corrective Action	\$209,000
9	Batch Stabilization Tanks	\$224,316
11	Decontamination-Contractors large Equipment	\$8,291
12	Personal Protective Equipment	\$7,498
13	Groundwater Monitoring	\$64,160
14	Closure Certification	\$16,150
16	Low Temperature Thermal Desorption Unit	\$37,014
17	Dry Hazardous Waste Storage Area	\$1,049,970
18	Container Management Building	\$1,023,661
	Management Oversight	\$284,344
TOTAL FACILITY CLOSURE COST ESTIMATE		\$3,973,639

2008 Post Closure Cost

ITEM NO.	ITEM	UNIT	UNIT COST	UNIT COST REF	QUANTITY	2008 Total
1	SITE MONITORING (Inc. Groundwater Sampling - 4 Events/Yr, 6 Days per Event for 30 years)					
	Labor	Hr	\$ 65.00	40E	5760	\$374,400
	Subtotal 1					\$374,400
2A	QUARTLY LABORATORY TESTING (" 18 wells - Analyzed for Constituents in Permit Tables 10.4, 10.5, and 10.6, analyzed quarterly for 30 years)					
	Analyte	Each	\$ 1,000.00	35A	2160	\$2,160,000
	Subtotal 2A					\$2,160,000
2B	ANNUAL LABORATORY TESTING (" 8 Supplemental wells - Analyzed for Constituents in Permit Tables 10.4, 10.5, 10.6, analyzed every 6th quarter for 30 years)					
	Analyte	Each	\$ 1,000.00	35A	120	\$120,000
	Subtotal 2B					\$120,000
3	SITE MONITORING (Run-on controls, etc. 2 events/yr, 1 day/event, combined w/ groundwater monitoring)					
	Labor	Hr	\$ 65.00	40E	480	\$31,200
	Subtotal 3					\$31,200
4	WELL/FENCE MAINTENANCE					
	Well Pump Replacement	Each	\$ 9,435.25	24	30	\$283,058
	Fence Repair	LF	\$ 48.08	22	3,000	\$144,243
	Subtotal 4					\$427,301
5	LANDFILL					
	Cover Repair/Grading	Day	\$ 1,494.17	25	45	\$67,238
	2 years leachate monitoring - labor	Hr	\$ 65.00	40E	208	\$13,520
	Dispose of leachate	Gal	\$ 0.98	28	90,000	\$88,670
	Transportation of leachate	Load	\$ 1,800.00	32	12	\$21,600
	Leachate analysis (for 5 quarters)	Each	\$ 1,000.00	35B	6	\$6,000
	Leachate Pump Replacement	Each	\$ 9,435.25	24	2	\$18,871
	Subtotal 5					\$213,898
6	CORRECTIVE ACTION (Monitoring SVE)					
	Monitoring and extracting of vapors for 5 years	Each	\$ 40,000.00	NA	0	\$0
	Subtotal 6					\$0
7	SITE SURVEY					
	Survey Plat (one time event)	LF	\$ 1.71	1	11,340	\$19,347
	Re-confirmation survey 20 reference points every 5 years (5 times in 30 years)	LF	\$ 1.71	1	5,870	\$9,874
	Subtotal 7					\$29,221
8	POST CLOSURE CERTIFICATE (Consultant)					
	Principal Engineer	Hr	\$ 155.00	40A	40	\$6,200
	Senior Engineer	Hr	\$ 115.00	40C	50	\$5,750
	Clerical/Wordprocessing	Hr	\$ 55.00	40G	40	\$2,200
	Other Direct Costs (Travel, reproduction)		\$ 2,000.00	N/A	1	\$2,000
	Subtotal 8					\$16,150
TOTAL POST-CLOSURE COSTS FOR 30 YEARS						\$3,371,869

**BEATTY FACILITY DETAILED COST ESTIMATE
SCHEDULED CLOSURE, WITH ABOVE GRADE WASTE**

ITEM NO.	ITEM	UNIT	2008 Unit Cost	UNIT COST REF	QUANTITY	COST TOTAL
1A - Trench 11 Scheduled Closure						
1	COVER					
	Backfill - Intermediate Cap Layer (1 ft thick)	CY	\$ 4.63	19C and 19D	0	\$ -
	Backfill - Surficial Cap Layer (2 ft thick)	CY	\$ 4.63	19C and 19D	67,190	\$ 311,246
	Final Grading of Cover	MSF	23.265	67	907	\$ 21,097
	Partial Subtotal 1					\$ 332,342
	QA/QC for Cap	MSF	\$ 25	.65	907	\$ 22,670
	Subtotal 1					\$ 355,012
2	LEACHATE COLLECTION SYSTEM					
	Pipe for Riser Extension - West Phase	LF	\$ 91.77	21	0	\$ -
	Labor of Riser Extension - West Phase	Hr	\$ 65.00	40E	10	\$ 650
	Leachate Disposal	Gal	\$ 0.96	28	15,000	\$ 14,445
	Transportation	Load	\$ 1,800.00	32	3	\$ 5,400
	Labor (Monitor & Pump Sumps)	Hour	\$ 65.00	40E	36	\$ 2,340
	Leachate Analysis - Monthly -VOAs and PCBs	Analy.	\$ 240.00	36	3	\$ 720
	Leachate Analysis - Quarterly - Permit Parameters	Analy.	\$ 1,000.00	35B	1	\$ 1,000
	Subtotal 2					\$24,555
	Subtotal Cost of Landfill Closure					\$ 380,000
	Engineering and Design (5%)					\$19,000
Total Cost of Landfill Closure						\$ 400,000

**BEATTY FACILITY DETAILED COST ESTIMATE
SCHEDULED CLOSURE, WITH ABOVE GRADE WASTE OF TRENCH 12**

ITEM NO.	ITEM	UNIT	2008 Unit Cost	UNIT COST REF	QUANTITY	COST TOTAL
1C- Trench 12 Scheduled Closure						
1	COVER					
	Backfill - Surficial Cap Layer (2 ft thick)	CY	\$ 4.63	19C and 19D	21,925	\$ 101,564
	Final Grading of Cover	MSF	\$ 23.27	67	296	\$ 6,891
	Partial Subtotal 1					\$ 108,455
	QA/QC for Cap	MSF	\$ 25	65	296	\$ 7,405
	Subtotal 2					\$ 115,860
2	LEACHATE COLLECTION SYSTEM					
	Leachate Disposal	Gal	\$ 0.96	28	5,000	\$ 4,815
	Transportation	Load	\$ 1,800.00	32	1	\$ 1,800
	Labor (Monitor & Pump Sumps)	Hour	\$ 65.00	40E	12	\$ 780
	Leachate Analysis - Monthly -VOAs and PCBs	Analy.	\$ 240.00	36	1	\$ 240
	Leachate Analysis - Quarterly - Permit Parameters	Analy.	\$ 1,000.00	35B	1	\$ 1,000
	Subtotal 2					\$ 8,635
	Subtotal Cost of Landfill Closure					\$ 124,495
	Engineering and Design (5%)					\$6,225
Total Cost of Landfill Closure						\$ 130,000

ITEM NO.	ITEM	UNIT	UNIT COST	UNIT COST REF	QUANTITY	COST TOTAL
2 - PCB Processing Building & RCRA Storage Area						
1	WASTE INVENTORY DISPOSAL COST					
	Liquid PCB Waste (1,310 drums)	Lb	\$ 0.26	29	605,220	\$157,357
	Transport Liquid PCB Waste Offsite	Load	\$ 5,705.05	31	15	\$85,576
	Solid PCB Waste (562 drums) - Dispose in Cell	CY	\$ -	n/a	153	\$0
	Labor - Hand load liquid PCB waste	CY	\$ 44.98	3	356	\$16,013
	Load and haul solid PCB drums to cell	CY	\$ 20.17	4,5	153	\$3,087
	Subtotal 1					\$262,032
2	PCB BUILDING - SHELL					
	Demolish	Day	\$ 4,634.08	26	2	\$9,268
	Load and transport to cell	CY	\$ 20.17	4,5	12.10	\$244
	Subtotal 2					\$9,512
3	PCB BUILDING - SLAB					
	Demolish (slab 6 " thick)	SF	\$ 7.29	6	4,653	\$33,919
	Dispose on site	CY	\$ 9.10	10	86.17	\$784
	Dispose of Rinseate	Lb	\$ 0.26	29	11,199	\$2,912
	Transportation	Load	\$ 5,705.05	31	1	\$5,705
	Labor & Equipment Rental	SF	\$ 0.87	2	4,653	\$4,041
	Subtotal 3					\$47,361
4	PCB BUILDING - FOUNDATION SOILS					
	Excavate top 3 layers of foundation soil & load	CY	\$ 15.51	15A	277.80	\$4,309
	Haul to cell	CY	\$ 4.58	19	277.80	\$1,272
	Analytical (Foundation Soil, PCBs)	Each	\$ 90.00	47	4	\$360
	Subtotal 4					\$5,941
5	PCB BUILDING - SYNTHETIC LINERS					
	Labor - Inspect secondary liner	Hour	\$ 110.00	40D	2	\$220
	Hand excavation to prepare liner for inspection	CY	\$ 97.20	14	92.60	\$9,000
	Load and haul to cell	CY	\$ 45.82	3,5	2.80	\$128
	Subtotal 5					\$9,349
Total Cost of PCB Processing and RCRA Storage Area Closure						\$334,195

ITEM NO.	ITEM	UNIT	UNIT COST	UNIT COST REF	QUANTITY	COST TOTAL
3 - TRUCK PARKING STORAGE AREA						
1	WASTE INVENTORY					
	Stabilization/Disposal of solid waste offsite	Ton	\$ 50.00	48	405	\$ 20,250
	Transportation	Load	\$ 2,400.00	33	20	\$ 48,000
	Subtotal 1					\$ 68,250
2	CONCRETE SLAB					
	Demolish	SF	\$ 7.29	6	7,448	\$ 54,294
	Dispose on site	CY	\$ 9.10	10	137.90	\$ 1,255
	Dispose of Rinsate	Gal	\$ 0.96	28	1,986.00	\$ 1,913
	Transportation	Load	\$ 1,800.00	32	1	\$ 1,800
	Labor & Equipment Rental	SF	\$ 0.87	2	7,448	\$ 6,469
	Subtotal 2					\$ 65,730
3	FOUNDATION SOILS					
	Excavate foundation soil and load (3 inches)	CY	\$ 15.51	15A	69	\$ 1,070
	Haul to cell	CY	\$ 4.58	19	39	\$ 179
	Analytical (Foundation soil, metals)	Each	\$ 85.00	45	4	\$ 340
	Subtotal 3					\$ 1,588
Total Truck Parking Area						\$ 135,568

ITEM NO.	ITEM	UNIT	UNIT COST	UNIT COST REF	QUANTITY	COST TOTAL
4 - TRUCK WASH and EVAPORATION PAD						
1	WASTE INVENTORY					
	Dispose offsite	Gal	\$ 0.96	28	10,000	\$ 9,630
	Transportation	Mile	\$ 1,800.00	32	2	\$ 3,600
	Subtotal 1					\$ 13,230
2	CONCRETE SLAB					
	Demolish	SF	\$ 7.29	6	2,080	\$ 15,163
	Treatment/Disposal of Concrete	Ton	\$ 50.00	48	78	\$ 3,900
	Transportation	Mile	\$ 3.88	11	400	\$ 1,551
	Subtotal 2					\$ 20,614
3	FOUNDATION SOILS					
	Excavate foundation soil and load	CY	\$ 15.51	15A	38.50	\$ 597
	Haul to cell	CY	\$ 4.58	19	38.50	\$ 176
	Analytical (Foundation soil, metals)	Each	\$ 85.00	45	4	\$ 340
	Analytical (Foundation soil, PCBs)	Each	\$ 90.00	47	4	\$ 360
	Analytical (Foundation soil, TOC)	Each	\$ 45.00	46	4	\$ 180
	Subtotal 3					\$ 1,653
4	SYNTHETIC LINERS					
	Labor - Inspect secondary liner	Hr	\$ 110.00	40D	2.0	\$ 220
	Hand Excavation to prepare liner for inspection	CY	\$ 97.20	14	38.52	\$ 3,744
	Load and haul to cell	CY	\$ 45.82	3,5	0.24	\$ 11
	Subtotal 4					\$ 3,975
Total Truck Wash and Evaporation Pad						\$ 39,472

ITEM NO.	ITEM	UNIT	UNIT COST	UNIT COST REF	QUANTITY	COST TOTAL
6 - CORRECTIVE ACTION (Install/maintain SVE units for 18 months)						
6A	SOIL VAPOR EXTRACTION SYSTEM (SVE)					
	Well(s) Installation	LF	\$ 150	68	200	\$ 30,000
	Regulators	Each	\$ 92	N/A	6	\$ 549
	Pressure Gauges	Each	\$ 24	N/A	2	\$ 49
	Piping	LF	\$ 2.44	N/A	150	\$ 366
	Pressure Relief Valves	Each	\$ 31	N/A	2	\$ 61
	Valves	Each	\$ 31	N/A	3	\$ 92
	Flow Meters	Each	\$ 207	N/A	2	\$ 415
	Subtotal 6A					\$ 31,531
6B	EQUIPMENT					
	Blowers	Each	\$ 3,050	N/A	2	\$ 6,100
	Filter housing	Each	\$ 732	N/A	2	\$ 1,464
	Piping	Each	\$ 2.44	N/A	150	\$ 366
	Vapor Phase GAC	Each	\$ 6,710	N/A	1	\$ 6,710
	Subtotal 6B					\$ 14,640
6C	ELECTRICAL					
	Material	LS	\$ 2,440	N/A	1	\$ 2,440
	Subtotal 6C					\$ 2,440
6D	CONTRACTOR CONSULTING SERVICES					
	Pilot system design review (complete)	Hr		N/A		\$ -
	Evaluation of pilot test results (complete)	Hr		N/A		\$ -
	Operation system Design	Hr	\$ 112	N/A	120	\$ 13,469
	Misc.	LS	\$ 2,440	N/A	1	\$ 2,440
	Subtotal 6D					\$ 15,909
6E	COMPANY LABOR SUPPORT					
	Project Management	Hr	\$ 49	N/A	550	\$ 26,840
	License / Permit Specialist - Well head changes/air permit	Hr	\$ 43	N/A	240	\$ 10,248
	Site Labor - Well head modification for SVE blower	Hr	\$ 22	N/A	120	\$ 2,635
	Site Labor - Well head modification for AS blower	Hr	\$ 22	N/A	80	\$ 1,757
	Site Labor - Install and connect power	Hr	\$ 22	N/A	160	\$ 3,514
	Site Labor - Plumbing and gauges	Hr	\$ 22	N/A	80	\$ 1,757
	Site Labor - Pollution control equipment installation	Hr	\$ 22	N/A	80	\$ 1,757
	Subtotal 6E					\$ 48,507
6F	SYSTEM MAINTENANCE/LABOR FOR 18 MONTHS					
	Blowers	Each	\$ 423	N/A	18	\$ 7,620
	Filters	Each	\$ 305	N/A	18	\$ 5,490
	Piping	LF	\$ 61	N/A	18	\$ 1,098
	Vapor phase GAC	Each	\$ 6,710	N/A	2	\$ 13,420
	Subtotal 6F					\$ 27,628
6G	LICENSE/PERMIT SAMPLING REQUIREMENTS					
	Sample Analysis	Each	\$ 610	N/A	18	\$ 10,980
	Subtotal 6G					\$ 10,980
6H	ELECTRICAL					
	Power requirements	LS	\$ 732	N/A	18	\$ 13,176
	Subtotal 6H					\$ 13,176
6I	COMPANY LABOR SUPPORT FOR O&M PERIOD					
	Project management	Hr	\$ 49	N/A	450	\$ 21,960
	Equipment maintenance	Hr	\$ 22	N/A	360	\$ 7,906
	Sampling	Hr	\$ 43	N/A	144	\$ 6,149
	Inspection	Hr	\$ 22	N/A	72	\$ 1,581
	GAC change out	Hr	\$ 22	N/A	288	\$ 6,324
	Subtotal 6I					\$ 43,920
Total Cost for CA - note this is an estimate only - actual costs will not be determined until a CA is selected						\$ 209,980

ITEM NO.	ITEM	UNIT	UNIT COST	UNIT COST REF	QUANTITY	Adjusted Cost Total
9 - BATCH STABILIZATION TANKS						
1	RCRA WASTE INVENTORY REMOVAL					
	Stabilization/Disposal of Solid Waste	Ton	\$ 50.00	48	213	\$ 10,650
	Transport of Solid Waste (Total Miles)	Load	\$ 2,400.00	33	32	\$ 76,800
	Subtotal 1					\$ 87,450
2	MIXING VESSELS (1)					
	Cut and Dismantle	LF	\$ 2.42	23	3,966	\$ 9,596
	Load and Haul to Cell	CY	\$ 20.17	4,5	12	\$ 242
	Dispose of Rinsate	Gal	\$ 0.96	28	5,760	\$ 5,547
	Transportation of Rinsate	Load	\$ 1,800.00	32	2	\$ 3,600
	Labor & Equipment Rental	Hr	\$ 70.79	27	24	\$ 1,699
	Subtotal 2					\$ 18,985
3	CONCRETE SPLASH PAD					
	Demolish	SF	\$ 7.29	6	9,102	\$ 66,351
	Dispose on site	CY	\$ 9.10	10	168.60	\$ 1,534
	Subtotal 3					\$ 67,885
4	SYNTHETIC LINERS					
	Labor - Inspect HDPE Liner	Hr	\$ 110.00	40D	3.00	\$ 330
	Hand excavation to prepare liner for inspection	CY	\$ 97.20	14	478.50	\$ 46,508
	Load and Haul to cell	CY	\$ 45.82	3,5	4.05	\$ 186
	Subtotal 4					\$ 47,024
5	FOUNDATION SOILS					
	Haul to cell (Excavation included in 4 above)	CY	\$ 4.58	19	478.50	\$ 2,192
	Analytical (Foundation Soils, Metals)	Each	\$ 85.00	45	6	\$ 510
	Analytical (Foundation Soils, TOC)	Each	\$ 45.00	46	6	\$ 270
	Subtotal 5					\$ 2,972
Total Batch Stabilization Tank						\$ 224,316

ITEM NO.	ITEM	UNIT	UNIT COST	UNIT COST REF	QUANTITY	COST TOTAL
11 - DECONTAMINATION - CONTRACTOR'S LARGE EQUIPMENT						
	DECONTAMINATION - PRESSURE WASHING					
	Labor & Equipment Rental	Hr	\$ 70.79	27	21.5	\$ 1,522
	Rinsate	Gal	\$ 0.96	28	5,160	\$ 4,969
	Transport of rinsate (combine one load w/ bldg)	Load	\$ 1,800	32	1	\$ 1,800
	Total Equipment Decontamination					\$ 8,291
12 - PERSONAL PROTECTIVE EQUIPMENT						
	Respirators	Each	\$ 214.00	53	30	\$ 6,420
	Respirators, cartridges, organic vapor	Pkg.	\$ 10.30	54	5	\$ 52
	Respirators, cartridges, dusts, fumes, mists	Pkg.	\$ 12.70	55	5	\$ 64
	Tyvek coveralls	Each	\$ 8.40	58	100	\$ 840
	Shoe covers	Box	\$ 25.60	56	3	\$ 77
	Disposable Gloves	Box	\$ 15.30	57	3	\$ 46
	Total Personal Protective Equipment					\$ 7,498
13 - GROUNDWATER MONITORING						
	Labor	Hr	\$ 65.00	40E	64	\$ 4,160
	Analysis including shipping	Each	\$ 1,000	35A	60	\$ 60,000
	Total Groundwater Monitoring					\$ 64,160
14 - CLOSURE CERTIFICATION						
	Consultant - Principle Engineer	Hr	\$ 155.00	40A	40	\$ 6,200
	Consultant - Senior Engineer	Hr	\$ 115.00	40C	50	\$ 5,750
	Consultant - Clerical/Wordprocessing	Hr	\$ 55.00	40G	40	\$ 2,200
	Consultant - Other Direct Costs (Travel, reproduction, etc.)	Lump Sum	\$ 2,000		1	\$ 2,000
	Total Closure Certification					\$ 16,150

ITEM NO.	ITEM	UNIT	UNIT COST	UNIT COST REF	QUANTITY	COST TOTAL
16 - Low Temperature Thermal Desorption Unit						
1	WASTE INVENTORY					
	Stabilization/Disposal of solid waste offsite	Tons	\$ 50.00	48	52	\$ 2,600
	Transportation	Load	\$ 2,400.00	33	3	\$ 7,200
	Subtotal 1					\$ 9,800
2	PAD - SOIL/CEMENT, DECONTAMINATION OF STRUCTURES					
	Excavation of Containment Tank Structure (2,025 square feet, 8" thick base, plus 4 x 45' long x 2' high x 5" thick walls (360 square feet)	CY	\$ 15.51	15A	56	\$ 869
	Excavation of cement pad (7,150 sq. ft, 6 - 8" depth, 6"-8" thick, average 7" thickness)	CY	\$ 15.51	15A	160	\$ 2,482
	Dispose on site (LTTD pad and containment tank)	CY	\$ 9.10	10	216	\$ 1,965
	Excavation of steel/soil pad (5,780 sq. ft, 18" soil above, 6" soil below, 24" total)	CY	\$ 15.51	15A	430	\$ 6,669
	Dispose on site	CY	\$ 9.10	10	430	\$ 3,913
	Dispose of Rinsate (LTTD units, concrete pad, etc.)	Gal	\$ 0.96	28	4,000	\$ 3,852
	Transportation	Load	\$ 1,800.00	32	1	\$ 1,800
	Labor & Equipment Rental	SF	\$ 0.87	2	2,385	\$ 2,072
	Subtotal 2					\$ 23,621
3	FOUNDATION SOILS					
	Excavate foundation soil and load (14,955 sq. ft. 3" depth)	CY	\$ 15.51	15A	140	\$ 2,171
	Haul to cell	CY	\$ 4.58	19	140	\$ 641
	Analytical (Foundation soil, metals)	Each	\$ 85.00	45	6	\$ 510
	Analytical (Foundation soil, TOC)	Each	\$ 45.00	46	6	\$ 270
	Subtotal 3					\$ 3,593
Total - Low Temperature Thermal Desorption Unit						\$ 37,014

ITEM NO.	ITEM	UNIT	UNIT COST	UNIT COST REF	QUANTITY	COST TOTAL
17 - Dry Hazardous Waste Storage Area						
1	WASTE INVENTORY					
	Stabilization/Disposal of solid waste offsite	Ton	\$ 50.00	48	5,544	\$ 277,200
	Transportation	Load	\$ 2,400.00	33	277	\$ 664,800
	Subtotal 1					\$ 942,000
2	PAD - SOIL/CEMENT, DECONTAMINATION OF STRUCTURES					
	Excavation of soil/cement pad (75,502 sq. ft, 8"-18" thick, average 12" thickness)	CY	\$ 15.51	15A	2,796	\$ 43,372
	Dispose on site	CY	\$ 9.10	10	2,796	\$ 25,445
	Dispose of Rinseate from structures (e.g. dock, lights, etc)	Gal	\$ 0.96	28	18,415	\$ 17,734
	Transportation	Load	\$ 1,800.00	32	4	\$ 7,200
	Labor & Equipment Rental	Hr	\$ 70.79	27	4	\$ 283
	Subtotal 2					\$ 94,033
3	FOUNDATION SOILS					
	Excavate foundation soil and load (75,502 sq. ft. 3" depth)	CY	\$ 15.51	15A	699	\$ 10,843
	Haul to cell	CY	\$ 2.48	19	699	\$ 1,734
	Analytical (Foundation soil, metals)	Each	\$ 85.00	45	16	\$ 1,360
	Subtotal 3					\$13,937
Total - Dry Hazardous Waste Storage Area						\$1,049,970

ITEM NO.	ITEM	UNIT	UNIT COST	UNIT COST REF	QUANTITY	COST TOTAL
18 - Container Management Building						
1	WASTE INVENTORY DISPOSAL COST					
	Liquid Waste (3251 Drum @ 458.7 lbs each)	Lb	\$ 0.26	29	1,491,234	\$387,721
	Transport Liquid Waste Offsite	Load	\$ 5,705.05	31	36	\$205,382
	Solid Waste (3250 drums) - Dispose in Cell	CY	\$ -	n/a	885	\$0
	Labor - Hand load liquid waste	CY	\$ 44.98	3	885	\$39,806
	Load and haul solids drums to cell	CY	\$ 20.17	4,5	885	\$17,853
	Subtotal 1					\$650,762
2	BUILDING - SHELL					
	Demolish	Day	\$ 4,634.08	26	10.9	\$50,511
	Load and transport to cell	CY	\$ 20.17	4,5	66	\$1,330
	Subtotal 2					\$51,842
3	BUILDING - SLAB					
	Demolish (slab 6" thick)	SF	\$ 7.29	6	25,343	\$184,743
	Dispose on site	CY	\$ 9.10	10	469	\$4,270
	Dispose of Rinsate	Lb	\$ 0.26	29	61,034.55	\$15,869
	Transportation	Load	\$ 5,705.05	31	6	\$34,230
	Labor & Equipment Rental	Hr	\$ 70.79	27	31	\$2,160
	Subtotal 3					\$241,273
4	BUILDING - FOUNDATION SOILS					
	Excavate top 3 layers of foundation soil & load	CY	\$ 15.51	15A	1,514	\$23,482
	Haul to cell	CY	\$ 4.58	19	1,514	\$6,935
	Analytical (Foundation Soil, metals)	Each	\$ 85.00	45	22	\$1,853
	Subtotal 4					\$32,270
5	BUILDING - SYNTHETIC LINERS					
	Labor - Inspect secondary liner	Hour	\$ 110.00	40D	10.90	\$1,199
	Hand excavation to prepare liner for inspection	CY	\$ 97.20	14	469	\$45,616
	Load and haul to cell	CY	\$ 45.82	3,5	15.26	\$699
	Subtotal 5					\$47,514
Total Cost of Container Management Closure						\$1,023,661

Unit Cost Basis
Beatty Facility Closure Estimate and Post Closure Estimate

Ref. No.	Line Number	Page	Unit	Cost per Unit	Cost Index	Unit Price	Description	Crew
1	02 21 13.13 0800	22	L.F.	1.85	1.034	1.71	property lines, perimeter, cleared land	A-7
2	04 01 30.20 2020	77	S.F.	0.84	1.034	0.87	steam cleaning, average	B-9
3	02 41 19.23 3040	38	C.Y.	43.50	1.034	44.98	hand loading truck, 50 foot haul	B-16
4	02 41 19.23 3080	38	C.Y.	18.70	1.034	19.34	machine loading truck	B-17
5	02 41 19.23 5000	38	C.Y.	0.81	1.034	0.84	haul, per mile up to 8 C.Y. truck	B-34B
6	02 41 18.17 0440	34	S.F.	7.05	1.034	7.29	concrete floor removal, 6" slab on grade reinforced with steel rods	B-9C
7	02 41 18.17 1140	34	L.F.	23.00	1.034	23.78	concrete footing removal, 2' thick, 3' wide	B-5
8	02 41 18.17 2600	34	%	10	1.034	10.34	add to 02 41 18.17 1140 for average reinforcing	NA
9	02 41 18.17 2620	34	%	20	1.034	20.68	add to 02 41 18.17 1140 for heavy reinforcing	NA
10	02 41 18.17 4200	34	C.Y.	8.80	1.034	9.10	add for disposal, on site	B-11A
11	02 81 20.10 1280	38	Mile	3.75	1.034	3.88	hazardous waste transportation in 25 C.Y. truck, minimum	NA
11A	02 81 20.10 1270	38	Mile	6.80	1.034	6.82	hazardous waste transportation in 25 C.Y. truck, maximum	NA
12	31 23 23.14 4420	223	L.C.Y.	2.51	1.034	2.80	backfill, structural, common earth, 200 H.P., 300' haul	B-10B
13	31 23 16.50 0400	220	B.C.Y.	4.98	1.034	5.15	excavation, bulk, scrapers, common earth, 5,000' haul	B-33F
14	31 23 16.18 0700	215	B.C.Y.	94.00	1.034	97.20	hand excavation, structural, 12' to 18' deep	
15	31 23 16.18 8080	215	B.C.Y.	11.15	1.034	11.53	machine excavation 1.5 C.Y. bucket, structural, small foundation, sand and gravel	B-12B
15A	31 23 16.18 9024	215	%	15.00	1.034	15.51	add to 31 23 16.18 8080 for loading onto trucks	NA
16	31 23 23.23 5080	232	E.C.Y.	0.23	1.034	0.24	compaction, riding, vibrating roller, 12" lifts, 2 passes	B-10Y
17	31 23 23.23 5020	232	E.C.Y.	0.52	1.034	0.54	compaction, riding, vibrating roller, 8" lifts, 3 passes	B-10Y
18	Category Not Used							
19	31 23 23.18 0330	225	L.C.Y.	4.43	1.034	4.58	haul, 1 mile roundtrip, 2.7 loads/hr.	B-34B
19B	31 23 23.18 1250	225	L.C.Y.	9.20	1.034	9.51	20 CY haul, 10 mile roundtrip, 0.75 loads/hr.	B-34D
19C	31 23 23.18 2020	226	L.C.Y.	2.63	1.034	2.72	22 CY haul, 1/2 mile roundtrip, 4.2 loads/hr.	B-34F
19D	31 23 23.17 0020	225	L.C.Y.	1.85	1.034	1.91	spread dump material, no compaction, by dozer	B-10B
20	33 51 13.10 1840	319	L.F.	71	1.034	73.41	polyethylene pipe, 80 PSI, 40' joints, 8" diameter, SDR 11	B-21A
21	33 51 13.10 xxxx		L.F.	88.75	1.034	91.77	estimated value, polyethylene pipe, 80 PSI, 40' joints, 10" diameter, SDR 11	NA
22	32 31 13.20 0820	289	L.F.	48.50	1.034	48.08	fence, chain-link, 8', Industrial, 6 ga. wire, galvanized steel	B-80C
23	05 05 21.10 0100	94	L.F.	2.34	1.034	2.42	steel cutting, hand burning with torch, up to 1/2" thick	E-25
24	33 21 13.10 3100	305	Each	9,125	1.034	9,435.25	pump, 8" submersible, 25' to 500' deep, 30 HP, 100 to 300 GPM	Q-22
25	31 22.18.10 0012	209	DAY	1445.04	1.034	1494.17138	site grading crew and equipment daily rate	B-11L
26	02 41 18.13 0500	33	DAY	4481.70	1.034	4634.0778	building demo crew and labor and equipment daily rate	B-3
27	Crew B-9B	482	Hr	68.48	1.034	70.78764	steam cleaning labor including equipment rental	B-9B

Unit Cost Basis

Beatty Facility Closure Estimate and Post Closure Estimate

Ref. No.	Line Number	Page	Unit	Cost per Unit	Cost Index	Unit Price	Description	Crew
28	Site expense: Siemens Water Treatm		GAL	0.98	1.0	0.98	disposal of leachate in Los Angeles, CA	
29	Site expense: Veolia (281) 425-7165		LB	0.28	1.0	0.28	disposal of PCB liquids in Port Arthur, TX	
30	Category Not Used							
31	Site expense: Triad (801) 936-6393		Load	5705.05	1.0	5705.05	transport of liquid PCB to Veolia in Port Arthur - max 5,000 gal. load; Triad Trucking	
32	Site expense: Triad (801) 936-6393		Load	1800	1.0	1800	transport of leachate to Siemens in Los Angeles - max 5,000 gal. load; Triad Trucking	
33	Site expense: Triad (801) 936-6393		Load	2,400	1.0	2400	transport of DWSA waste to USE Grandview, ID	
34	Category Not Used							
35	Category Not Used							
35A	Site expense: AnalySys 512.385.5884		Each	1000	1.0	1000	groundwater analysis - groundwater for constituents in Tables 10.4, 10.5, and 10.6 including shipping	
35B	Site expense: AnalySys 512.385.5884		Each	1000	1.0	1000	groundwater analysis - groundwater for constituents in Table 10.7 including shipping	
36	Test America (303) 738-0100		Each	240	1.0	240	groundwater analysis (VOAs and PCBs)	
37	Category Not Used							
38	Category Not Used							

Note: All of the above costs include labor, equipment and miscellaneous items unless otherwise noted. All Means costs utilized include overhead and profit.

Unit Cost Basis
Beatty Facility Closure Estimate and Post Closure Estimate

Ref. No.	Line Number	Page	Unit	Cost per Unit	Cost Index	Unit Price	Description	Crew
39	Vector Engineering			NA	1.0	NA	Technical charges - Use Reference 40E for gw sampling Use Reference 40D for liner inspection	
40A	AquaAeTer Inc.		Per Hour	155	1.0	155	Technical Director - 2008 Schedule of Rates	
40B	AquaAeTer Inc.		Per Hour	125	1.0	125	Project Director - 2008 Schedule of Rates	
40C	AquaAeTer Inc.		Per Hour	115	1.0	115	Senior Engineer/Scientist - 2008 Schedule of Rates	
40D	AquaAeTer Inc.		Per Hour	110	1.0	110	Project Engineer/Scientist - 2008 Schedule of Rates	
40E	AquaAeTer Inc.		Per Hour	65	1.0	65	Engineer/Scientist - 2008 Schedule of Rates	
40F	AquaAeTer Inc.		Per Hour	70	1.0	70	Draftsman/Technician - 2008 Schedule of Rates	
40G	AquaAeTer Inc.		Per Hour	55	1.0	55	Clerical/Admin Support - 2008 Schedule of Rates	
43A	Las Vegas Paving Corp.		S.F.	0.87	1.0	0.87	GCL on slope	
43B	Las Vegas Paving Corp.		S.F.	0.81	1.0	0.81	60-Mil HDPE Liner on slope	
43C	Las Vegas Paving Corp.		S.F.	0.68	1.0	0.68	LDS - Double-sided geocomposite on slope	
43D	Las Vegas Paving Corp.		S.F.	1.01	1.0	1.01	60-mil HDPE Liner on slope	
43E	Las Vegas Paving Corp.		S.F.	0.48	1.0	0.48	LCRS - Geonet on slope	
43F	Las Vegas Paving Corp.		S.F.	0.34	1.0	0.34	Non-woven geotextile on slope	
43G	Las Vegas Paving Corp.		S.F.	0.48	1.0	0.48	Sacrificial 30-mil geomembrane on slope	
43H	Las Vegas Paving Corp.		C.Y.	2.40	1.0	2.40	Excavation/backfill surface soil	
43I	Las Vegas Paving Corp.		C.Y.	12.00	1.0	12.00	Liner trench backfill	
45	Test America (303) 736-0100		Each	85	1.0	85.00	laboratory analysis for 8 RCRA metals in soil	
46	Test America (303) 736-0100		Each	45	1.0	45.00	laboratory analysis for TOC in soil	
47	Test America (303) 736-0100		Each	90	1.0	90.00	laboratory analysis for PCBs in soil	
48	USEN Grandview, Idaho		Ton	50	1.0	50.00	stabilization and disposal, Grandview, ID	
49	Hertz Rental Car		Day	67.99	1.0	67.99	mid-size rental car from McCarran Airport	
50	Continental Airlines		Round Trip	482.00	1.0	482.00	houston to las vegas, roundtrip	
51	Motel 8		Per Night	52.99	1.0	52.99	lodging, Beatty, NV	
52	Per Diem		Per Day	40.00	1.0	40.00	cost allowance for meals	
53	Lab Safety Supply		Each	214.00	1.0	214	north full face respirator, 7600 series	
54	Lab Safety Supply		Pkg.	10.30	1.0	10.3	respirator cartridge, organic vapor, 78B-41564	
55	Lab Safety Supply		Pkg.	12.70	1.0	12.7	respirator cartridge, dust, fumes, mist, 78B-44302 and 78B-44303	
56	Lab Safety Supply		Box	25.60	1.0	25.6	shoe covers, box of 50, Tyvek	
57	Lab Safety Supply		Box	15.3	1.0	15.3	disposable nitrile n-dex gloves, box of 100	
58	Lab Safety Supply		Each	8.4	1.0	8.4	tyvek coveralls	
59	Las Vegas Paving Corp.		CY		1.0	0	backfill including excavation, hauling, placement, light compaction	
60	Las Vegas Paving Corp.		CY		1.0	0	backfill including excavation, hauling, placement, moderate compaction	
61	Las Vegas Paving Corp.		CY	2.4	1.0	2.4	backfill including excavation, hauling, placement, no compaction	

Unit Cost Basis
Beatty Facility Closure Estimate and Post Closure Estimate

Ref. No.	Line Number	Page	Unit	Cost per Unit	Cost Index	Unit Price	Description	Crew
62	USEN		CY		1.0	0	water supply for compaction	
63	D&H Mining		CY	7.22	1	7.22	Fill material delivered to USEN from local source.	
64	Category Not Used							
65	AquaAeTer, Inc.		MSF	25	1.0	25	Based on use of 3 ft monolithic cover as specified in the supplement to the Landfill Report, 1998, Design specifications for Alternative Cover - Trenches 11 and 12.	
66B	AquaAeTer, Inc.		MSF	85	1.0	85	QA/QC with Compaction Testing	
66	32 92 19.14 6800	283	MSF	49.6	1.034	61.18	Hydroseeding with mulch and fertilizer (wildflower mix)	B-81
67	31 22 18.10 3312	209	MSF	22.60	1.034	23.27	disking final cover, assumed similar effort as fine grading on steep slopes with large quantities	B-11L
68	Layne Christensen		LF	150	1.0	150		

COST REFERENCE
MEANS HEAVY CONSTRUCTION COST DATA, 22ND ANNUAL EDITION, 2008