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Cost Estimate

**Contact Sonoma Mercury Mines EE/CA
OPINION OF PROBABLE COST**

Alternative 2: Limited Action

Item No.	Line Item	Est. Qty.	Unit*	Unit Price	Extended Price	Description
CONSTRUCTION COST ESTIMATE						
MOBILIZATION & GENERAL SITE PREPARATION						
1	Mobilization, Demobilization, Bonding, Insurance	10	%	-	22,100.00	Judgement, includes onsite clearing, grubbing, security, haul road/laydown/staging construction
2	Construction BMPs (Erosion & Sediment Controls)	5	%	-	11,000.00	Judgement, includes silt fence, checks, surfacing, other BMPs
3	Minor Road Improvements	5	DAY	1,801.04	9,000.00	HCCD Crews B10L
					42,100	
Anna Belcher Excavation						
4	Excavate sediment from Anna Belcher Creek	33	CY	4.48	100.00	HCCD 02315-424-0300; 3 CY track mounted backhoe; 2x for contamination
5	Haul sediment to tailings pile	33	CY	6.00	200.00	Judgement, 10 CY rear dump, 2X for contamination
6	Grade placed material	278	SY	1.10	300.00	Judgement, assumes placed over 50x50' area, motor grader or dozer; 2x for contamination
7	Excavate material from edge of creek at Contact	830	CY	4.50	3,700.00	HCCD 02315-424-0300; 3 CY track mounted backhoe; 2x for contamination
8	Spread and grade material pulled back at Contact	830	CY	5.00	4,200.00	Judgement, spread berm created by backhoe, medium size dozer, push <300 ft
					8,500	
Channel Excavation - Contact						
9	Excavate water diversion channel at Contact	278	CY	4.48	1,200.00	HCCD 02315-424-0300; 3 CY track mounted backhoe; 2x for contamination
10	Haul excavated material to tailings pile	278	CY	6.00	1,700.00	Judgement, 10 CY rear dump, 2X for contamination
11	Spread and grade material hauled to tailings pile	278	CY	5.00	1,400.00	Judgement, spread dumped loads, medium dozer, push <300 foot; 2x for contamination
12	Excavate collection ditch at Contact	133	CY	4.48	600.00	HCCD 02315-424-0300; 3 CY track mounted backhoe; 2x for contamination
13	Haul excavated material to tailings pile	133	CY	6.00	800.00	Judgement, 10 CY rear dump; 2x for contamination
14	Spread and grade material placed on tailings pile	133	CY	5.00	700.00	Judgement, spread dumped loads, medium dozer, push <300 foot; 2x for contamination
					6,400	
Site Reclamation-Contact						
15	Fine grade channels at Contact	411	SY	3.65	1,500.00	BCCD 02310-100-1150 Hand grading
16	Purchase and install filter fabric	411	SY	2.70	1,100.00	Judgement, nonwoven filter fabric includes installation
17	Purchase and place granular bedding in channels	21	CY	30.20	600.00	BCCD 02315-640-0050; bedding and placement
18	Haul bedding material to site	21	CY	21.96	500.00	BCCD 02315-490-0560; 12 CY dump; 20 mile RT
19	Compact bedding material in channels	21	CY	3.26	100.00	BCCD 02315-640-0500; compacting bedding in trench
20	Riprap	41	CY	33.05	1,400.00	ERCD 17 03 0418; includes materials, delivery, and dumping
21	Place riprap	41	CY	20.73	900.00	BCCD 02370-450-0100; machine placed
					6,100.00	
Channel Excavation - Sonoma						
22	Excavate water diversion Channel 1-Sonoma	611	CY	4.50	2,800.00	HCCD 02315-424-0300; 3 CY track mounted backhoe; 2x for contamination
23	Haul excavated material to tailings pile	611	CY	6.00	3,700.00	Judgement, 10 CY rear dump, 2X for contamination
24	Spread and grade material hauled to tailings pile	611	CY	5.00	3,100.00	Judgement, spread dumped loads, medium dozer, push <300 foot; 2x for contamination
25	Excavate water diversion Channel 2-Sonoma	250	CY	4.50	1,100.00	HCCD 02315-424-0300; 3 CY track mounted backhoe; 2x for contamination
26	Haul excavated material to tailings pile	250	CY	6.00	1,500.00	Judgement, 10 CY rear dump, 2X for contamination
27	Spread and grade material hauled to tailings pile	191	CY	5.00	1,000.00	Judgement, spread dumped loads, medium dozer, push <300 foot; 2x for contamination
28	Excavate ditch at Sonoma	111	CY	4.50	500.00	HCCD 02315-424-0300; 3 CY track mounted backhoe; 2x for contamination
29	Haul excavated material to tailings pile	111	CY	6.00	700.00	Judgement, 10 CY rear dump, 2X for contamination
30	Spread and grade material hauled to tailings pile	111	CY	5.00	600.00	Judgement, spread dumped loads, medium dozer, push <300 foot; 2x for contamination
31	Excavate and load Berm material from on-site borrow	66	CY	2.24	100.00	HCCD 02315-424-0300; 3 CY track mounted backhoe
32	Haul material to berm locations	66	CY	3.00	200.00	HCCD 02315-490-2010, 1000' haul, 10 CY rear dump
33	Place and compact berm material	66	CY	4.00	300.00	Judgement, med dozer and compactor
34	Regrade borrow source area	200	SY	1.10	200.00	Judgement, regrade disturbed area to blend to existing topography.
					15,800.00	
Site Reclamation-Sonoma						
35	Fine grade channels at Sonoma	1,389	SY	3.65	5,100.00	BCCD 02310-100-1150 Hand grading
36	Purchase and install filter fabric	1,389	SY	2.70	3,800.00	Judgement, nonwoven filter fabric includes installation
37	Purchase and place granular bedding in channels	49	CY	30.20	1,500.00	BCCD 02315-640-0050; bedding and placement
38	Haul bedding material to site	49	CY	21.96	1,100.00	BCCD 02315-490-0560; 12 CY dump; 20 mile RT
39	Compact bedding material in channels	49	CY	3.26	200.00	BCCD 02315-640-0500; compacting bedding in trench
40	Riprap	97	CY	33.05	3,200.00	ERCD 17 03 0418; includes materials, delivery, and dumping
41	Place riprap	97	CY	20.73	2,000.00	BCCD 02370-450-0100; machine placed
					16,900	
Perimeter Fencing						
42	Locking Gates at Contact	4	EA	952.92	3,800.00	BCCD 02800-130-5020; 20' opening, 6' high, including installation
43	Locking Gates at Sonoma	2	EA	952.92	1,900.00	BCCD 02800-130-5020; 20' opening, 6' high, including installation
44	Perimeter Fencing at Contact	2,900	LF	4.65	13,500.00	HCCD 01560-250-0200
45	Perimeter Fencing at Sonoma	1,600	LF	4.65	7,400.00	HCCD 01560-250-0200
46	Access Restriction Signs	26	EA	100.00	2,600.00	Judgement, includes purchase and installation
					29,200	
Miscellaneous						
47	Provide Dust Control	2,382	CY	1.05	2,500.00	HCCD 02315-310-9010, 3000 gal. Water truck, 6 mile haul
47	Revegetate (Contact and Sonoma)	4	AC	2,500.00	10,000.00	Judgement based on similar projects, includes soil amendments
48	Stormwater Pollution Prevention Plan	1	LS	3,000.00	3,000.00	Judgement and experience with similar projects
49	Provide Decon Area	30	SY	32.47	1,000.00	HCCD 02370-450-0400, stone truck washes
50	Two dozers with winches to assist equipment	20	DAY	4526.71	90,500.00	HCCD Crews B10, dozer/operator
51	Survey Control and As-built Documentation	20	DAY	1,080.00	21,600.00	Judgement (ave 0.5hr PLS @160, 8 hr GPS tech @\$100, 0.5hr datamgr @\$100, \$100 ODCs per day)
					128,600	
SUBTOTAL FOR CONSTRUCTION						253,600
52	Additional line items allowance	15	%	253,600.00	38,000.00	Higher percentage to account for accessibility issues
SUBTOTAL FOR CONSTRUCTION WITHOUT CONTINGENCY						291,600
53	Contingency	25	%	291,600.00	72,900.00	Higher contingency to account for difficult, steep terrain
SUBTOTAL FOR CONSTRUCTION WITH CONTINGENCY						364,500
DESIGN COST ESTIMATE						
CLOSURE ENGINEERING DESIGN AND CONSTRUCTION MANAGEMENT						
54	Prepare design drawings and specifications	1	LS	25,360.00	25,400.00	Judgement, assumes 10% of construction cost w/o contingency
55	Prepare Closure Plan	1	LS	5,000.00	5,000.00	Judgement
56	State & local agency notifications	1	LS	3,000.00	3,000.00	Judgement
57	General public notification	1	LS	3,000.00	3,000.00	Judgement
58	Construction oversight	1	LS	25,360.00	25,400.00	Judgement, assumes 10% of construction cost w/o contingency
59	Construction management	1	LS	20,288.00	20,300.00	Judgement, assumes 8% of construction cost w/o contingency
					82,100	
POST CLOSURE REQUIREMENTS						
60	Prepare post-closure monitoring and maintenance plan	1	LS	4,000.00	4,000.00	Judgement
61	Recordkeeping	30	YR	1,000.00	12,400.00	Judgement (\$1,000/yr)
62	Post Closure Site Inspections and Sampling	30	YR	1,800.00	22,300.00	Judgement (20hr@\$80/hr, \$200 ODC)(1 inspection/yr)
63	Laboratory costs	30	YR	500.00	6,200.00	Judgement (\$500/inspection event)
64	Maintenance costs	30	YR	1,000.00	12,400.00	Judgement (\$1000/yr)
					57,300	
SUBTOTAL FOR DESIGN, CM, AND POST-CLOSURE MONITORING						139,400.00
65	Additional line items allowance	10	%	139,400.00	13,900.00	budget for future changes prior to final design
SUBTOTAL FOR DESIGN, CM, AND POST-CLOSURE MONITORING WITHOUT CONTINGENCY						153,300.00
66	Contingency	15	%	153,300.00	23,000.00	
SUBTOTAL FOR DESIGN, CM, AND POST-CLOSURE MONITORING WITH CONTINGENCY						176,300
TOTAL FOR DESIGN + CONSTRUCTION + POST CLOSURE MONITORING (ROUNDED)						541,000

ASSUMPTIONS & LIMITATIONS:

- Pricing is for 2010 present value with 7 percent discount rate.
- Annual costs are set at 30 years for long-term monitoring activities at the Site.
- Extended prices are rounded to the nearest \$100; however, in cases where the nearest \$100 value is \$0, an extended price of \$100 has been assigned

***UNITS:**

AC = acre
CY = cubic yard
EA = each
LF = linear foot
LS = lump sum
SY = square yard
YR = year

HCCD = RSMMeans Heavy Construction Cost Data 2006, adjusted for inflation
BCCD = RSMMeans Building Construction Cost Data 2005, adjusted for inflation
ERCD = RSMMeans Environmental Remediation Cost Data 2005, adjusted for inflation
Judgement = Professional judgement or estimation by E & E.

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Alternative 3: Onsite Consolidation and Capping

Item No.	Line Item	Est. Qty.	Unit*	Unit Price	Extended Price	Description
CONSTRUCTION COST ESTIMATE						
MOBILIZATION & GENERAL SITE PREPARATION						
1	Mobilization, Demobilization, Bonding, Insurance	10	%	-	50,200.00	Judgement, includes onsite clearing, grubbing, security, haul road/laydown/staging construction
2	Construction BMPs (Erosion & Sediment Controls)	5	%	-	25,100.00	Judgement, includes silt fence, checks, surfacing, other BMPs
3	Minor to Moderate Road Improvements	7	DAY	1,801.04	12,600.00	HCCD Crews B10L
					87,900	
Excavate and Haul Material to Consolidation Area-Contact						
4	Excavate material	3,500	CY	4.48	15,700.00	HCCD 02315-424-0300; 3 CY track mounted backhoe; 2x for contamination
5	Haul excavated material to consolidation area	3,500	CY	6.00	21,000.00	Judgement, 10cy end dump, 2x for contamination
6	Finish grade excavated surfaces	11,085	SY	0.12	1,400.00	HCCD 02310-100-3300
					38,100	
Excavate Diversion Channel -Contact						
7	Excavate stormwater drainage channels	296	CY	4.48	1,300.00	HCCD 02315-424-0300; 3 CY track mounted backhoe; 2x for contamination
8	Haul excavated material to consolidation area	296	CY	6.00	1,800.00	Judgement, 10cy end dump, 2x for contamination
9	Excavate and load Berm material from on-site borrow	100	CY	2.24	200.00	HCCD 02315-424-0300; 3 CY track mounted backhoe
10	Haul berm material to channels	100	CY	2.03	200.00	HCCD 02315-490-2010, 1000' haul, 22 CY rear dump
11	Compact berm material	100	CY	0.36	100.00	BCCD 02315-110-2350
					3,600	
Site Reclamation-Contact						
12	Fine grade channels	444	SY	3.65	1,600.00	BCCD 02310-100-1150 Hand grading; 400 LF of channel
13	Purchase and install filter fabric	444	SY	2.70	1,200.00	Judgement, nonwoven filter fabric includes installation
14	Purchase and place granular bedding in channels	22	CY	30.20	700.00	BCCD 02315-640-0050; bedding and placement
15	Haul bedding material to site	22	CY	21.96	500.00	BCCD 02315-490-0560; 12 CY dump; 20 mile RT
16	Compact bedding material in channels	22	CY	3.26	100.00	BCCD 02315-640-0500; compacting bedding in trench
17	Riprap	44	CY	33.05	1,500.00	ERCDD 17 03 0418; includes materials, delivery, and dumping
18	Place riprap	44	CY	20.73	900.00	BCCD 02370-450-0100; machine placed
19	Final grading of borrow areas	2,000	SY	0.12	200.00	HCCD 02310-100-3300
					6,700	
Consolidation Area Capping - Contact						
18	Spread contaminated material at consolidation area	3,500	CY	5.00	17,500.00	Judgement, spread dumped loads, medium dozer, push <300 foot; 2x for contamination
19	Compact material at consolidation area	3,500	CY	0.56	1,900.00	BCCD 02-315-310-5080; 12" lifts, 3 passes, 2x for contamination
20	Excavate select fill at onsite borrow	278	CY	2.24	600.00	HCCD 02315-424-0300; 3 CY track mounted backhoe
21	Haul select fill from onsite borrow	278	CY	3.00	800.00	Judgement, 10cy end dump
22	Place select fill	278	CY	2.24	600.00	HCCD 02315-520-0170, spread fill from stockpile, 2.5 CY FE loader, 300' haul
23	Compact select fill	278	CY	0.28	100.00	BCCD 02315-310-5080; 12" lifts, 3 passes
24	Excavate topsoil from onsite borrow	93	CY	2.24	200.00	HCCD 02315-424-0300; 3 CY track mounted backhoe
25	Haul topsoil from onsite borrow	93	CY	3.00	300.00	Judgement, 10cy end dump
26	Place topsoil	556	SY	2.24	1,200.00	HCCD 02315-520-0170, spread topsoil from stockpile, 2.5 CY FE loader, 300' haul
27	Amend topsoil	556	SY	1.50	800.00	Judgement, deliver place and spread compost
					24,000	
Excavate and Haul Material to Consolidation Area-Sonoma						
28	Excavate sediment from Anna Belcher Creek	33	CY	4.48	100.00	HCCD 02315-424-0300; 3 CY track mounted backhoe; 2x for contamination
29	Haul sediment to consolidation area	33	CY	6.00	200.00	Judgement, 10cy end dump, 2x for contamination
30	Excavate contaminated material	11,000	CY	2.24	24,600.00	HCCD 02315-424-0300; 3 CY track mounted backhoe
31	Haul excavated material to consolidation area	11,000	CY	2.24	24,600.00	HCCD 02315-520-0170, spread fill from stockpile, 2.5 CY FE loader, 300' haul
32	Finish grade excavated surfaces	6,105	SY	0.12	800.00	HCCD 02310-100-3300
					50,300.00	
Excavate Diversion Channel -Sonoma						
33	Excavate stormwater drainage channels	191	CY	4.48	900.00	HCCD 02315-424-0300; 3 CY track mounted backhoe; 2x for contamination
34	Haul excavated material to consolidation area	191	CY	6.00	1,100.00	Judgement, 10cy end dump, 2x for contamination
					2,000	
Site Reclamation-Sonoma						
12	Fine grade channels	444	SY	3.65	1,600.00	BCCD 02310-100-1150 Hand grading; 400 LF of channel
13	Purchase and install filter fabric	444	SY	2.70	1,200.00	Judgement, nonwoven filter fabric includes installation
14	Purchase and place granular bedding in channels	22	CY	30.20	700.00	BCCD 02315-640-0050; bedding and placement
15	Haul bedding material to site	22	CY	21.96	500.00	BCCD 02315-490-0560; 12 CY dump; 20 mile RT
16	Compact bedding material in channels	22	CY	3.26	100.00	BCCD 02315-640-0500; compacting bedding in trench
17	Riprap	44	CY	33.05	1,500.00	ERCDD 17 03 0418; includes materials, delivery, and dumping
18	Place riprap	44	CY	20.73	900.00	BCCD 02370-450-0100; machine placed
19	Final grading of borrow areas	3,000	SY	0.12	400.00	HCCD 02310-100-3300
					6,900	
Consolidation Area Capping - Sonoma						
20	Spread contaminated material at consolidation area	11,033	CY	5.00	55,200.00	Judgement, spread dumped loads, medium dozer, push <300 foot; 2x for contamination
21	Compact material at consolidation area	11,033	CY	0.56	6,100.00	BCCD 02-315-310-5080; 12" lifts, 3 passes, 2x for contamination
22	Excavate select fill at onsite borrow	833	CY	2.24	1,900.00	HCCD 02315-424-0300; 3 CY track mounted backhoe
23	Haul select fill from onsite borrow	833	CY	3.00	2,500.00	Judgement, 10cy end dump
24	Place select fill	833	CY	2.24	1,900.00	HCCD 02315-520-0170, spread fill from stockpile, 2.5 CY FE loader, 300' haul
25	Compact select fill	833	CY	0.28	200.00	BCCD 02315-310-5080; 12" lifts, 3 passes
26	Excavate topsoil from onsite borrow	278	CY	2.24	600.00	HCCD 02315-424-0300; 3 CY track mounted backhoe
27	Haul topsoil from onsite borrow	278	CY	3.00	800.00	Judgement, 10cy end dump
28	Place topsoil	1,667	SY	2.24	3,700.00	HCCD 02315-520-0170, spread topsoil from stockpile, 2.5 CY FE loader, 300' haul
29	Amend topsoil	1,667	SY	1.50	2,500.00	Judgement, deliver place and spread compost
					75,400.00	
Perimeter Fencing						
28	Locking Gates at Contact	4	EA	952.92	3,800.00	BCCD 02800-130-5020; 20' opening, 6' high, including installation
29	Locking Gates at Sonoma	2	EA	952.92	1,900.00	BCCD 02800-130-5020; 20' opening, 6' high, including installation
30	Perimeter Fencing at Contact	2,900	LF	4.65	13,500.00	HCCD 01560-250-0200
31	Perimeter Fencing at Sonoma	1,600	LF	4.65	7,400.00	HCCD 01560-250-0200
32	Access Restriction Signs	26	EA	100.00	2,600.00	Judgement, includes purchase and installation
					29,200	
Miscellaneous						
33	Provide Dust Control	20,179	CY	1.05	21,100.00	HCCD 02315-310-9010, 3000 gal. Water truck, 6 mile haul
34	Revegetate all capped and disturbed areas (both mines)	23	AC	2,500.00	57,500.00	Judgement based on similar projects, includes soil amendments
35	Stormwater Pollution Prevention Plan	1	LS	5,000.00	5,000.00	Judgement and experience with similar projects
36	Provide Decon Area	30	SY	32.47	1,000.00	HCCD 02370-450-0400, stone truck washes
37	Two dozers with winches to assist equipment	30	DAY	4526.71	135,800.00	HCCD Crews B10, dozer/operator
37	Survey Control and As-built Documentation	30	DAY	1,080.00	32,400.00	Judgement (ave 0.5hr PLS @160, 8 hr GPS tech @\$100, 0.5hr datamgr @\$100, \$100 ODCs per day)
					252,800	
SUBTOTAL FOR CONSTRUCTION					576,900	
38	Additional line items allowance	15	%	576,900.00	86,500.00	Higher percentage to account for accessibility issues
SUBTOTAL FOR CONSTRUCTION WITHOUT CONTINGENCY					663,400	
39	Contingency	25	%	663,400.00	165,900.00	Higher contingency to account for difficult, steep terrain
SUBTOTAL FOR CONSTRUCTION WITH CONTINGENCY					829,300	
DESIGN COST ESTIMATE						
CLOSURE ENGINEERING DESIGN AND CONSTRUCTION MANAGEMENT						
40	Prepare design drawings and specifications	1	LS	57,690.00	57,700.00	Judgement, assumes 10% of construction cost w/o contingency
41	Prepare Closure Plan	1	LS	5,000.00	5,000.00	Judgement
42	State & local agency notifications	1	LS	3,000.00	3,000.00	Judgement
43	General public notification	1	LS	3,000.00	3,000.00	Judgement
44	Construction oversight	1	LS	57,690.00	57,700.00	Judgement, assumes 10% of construction cost w/o contingency
45	Construction management	1	LS	46,152.00	46,200.00	Judgement, assumes 8% of construction cost w/o contingency
					172,600	
POST CLOSURE REQUIREMENTS						
46	Prepare post-closure monitoring and maintenance plan	1	LS	7,000.00	7,000.00	Judgement
47	Recordkeeping	30	YR	2,000.00	24,800.00	Judgement (\$2,000/yr)
48	Post Closure Site Inspections and Sampling	30	YR	7,200.00	89,300.00	Judgement (20hr@\$80/hr, \$200 ODC), (4 events/yr)
49	Laboratory costs	30	YR	2,000.00	24,800.00	Judgement (\$500/inspection event)
50	Maintenance costs	30	YR	2,000.00	24,800.00	Judgement (\$2000/yr)
					170,700	
SUBTOTAL FOR DESIGN, CM, AND POST-CLOSURE MONITORING					343,300.00	
1	Additional line items allowance	10	%	343,300.00	34,300.00	budget for future changes prior to final design
SUBTOTAL FOR DESIGN, CM, AND POST-CLOSURE MONITORING WITHOUT CONTINGENCY					377,600.00	
2	Contingency	15	%	377,600.00	56,600.00	
SUBTOTAL FOR DESIGN, CM, AND POST-CLOSURE MONITORING WITH CONTINGENCY					434,200	
TOTAL FOR DESIGN + CONSTRUCTION + POST CLOSURE MONITORING (ROUNDED)					1,264,000	

ASSUMPTIONS & LIMITATIONS:

- Pricing is for 2008 present value with 7 percent discount rate.
- Annual costs are set at 30 years for long-term monitoring activities at the Site.

*UNITS:

- AC = acre
- CY = cubic yard
- EA = each
- LF = linear foot
- LS = lump sum
- SY = square yard
- YR = year

- HCCD = RSMeans Heavy Construction Cost Data 2006, adjusted for inflation
- BCCD = RSMeans Building Construction Cost Data 2005, adjusted for inflation
- ERCDD = RSMeans Environmental Remediation Cost Data 2005, adjusted for inflation
- Judgement = Professional judgement or estimation by E & E.

need to add revegetation

**Contact Sonoma Mercury Mines EE/CA
OPINION OF PROBABLE COST**

Alternative 4: Onsite Lined Repository

Item No.	Line Item	Est. Qty.	Unit*	Unit Price	Extended Price	Description
CONSTRUCTION COST ESTIMATE						
MOBILIZATION & GENERAL SITE PREPARATION						
1	Mobilization, Demobilization, Bonding, Insurance	10	%	-	128,000.00	Judgement, includes onsite clearing, grubbing, security, haul road/laydown/staging construction
2	Construction BMPs (Erosion & Sediment Controls)	5	%	-	64,000.00	Judgement, includes silt fence, checks, surfacing, other BMPs
3	Moderate Road Improvements	9	DAY	1,801.04	16,200.00	HCCD Crews B10L
					208,200	
Construct Lined Repository at Sonoma						
4	Excavate waste from repository subgrade	11,850	CY	4.48	53,100.00	HCCD 02315-424-0300; 3CY track mounted backhoe; 2x for contamination
5	Finish grade subgrade surface	3,333	SY	0.12	400.00	HCCD 02310-100-3300
6	Excavate, haul, place and compact clay from onsite borrow source	2,222	CY	12.00	26,700.00	Judgement, 1000' haul
7	Geocomposite drainage layer installation	3,333	SY	6.30	21,000.00	Judgement, purchase, delivery, and installation
8	Sump installation with riser pipe	1	LS	5,000.00	5,000.00	Judgement, 24 inch HDPE riser pipe, lid, and submersible pump
					106,200	
Excavate and Haul Contaminated Material						
9	Excavate contaminated material at Contact	19,000	CY	4.48	85,100.00	HCCD 02315-424-0300; 3 CY track mounted backhoe; 2x for contamination
10	Haul Contact material to repository	19,000	CY	8.00	152,000.00	Judgement, 10cy end dump, 2x for contamination; 2,000 ft haul
11	Place Contact material in repository	19,000	CY	4.48	85,100.00	HCCD 02315-520-0170, spread fill from stockpile, 2.5 CY FE loader, 300' haul; 2x for contamination
12	Excavate contaminated material at Sonoma	20,000	CY	4.48	89,600.00	HCCD 02315-424-0300; 3 CY track mounted backhoe; 2x for contamination
13	Haul Sonoma material to repository	20,000	CY	6.00	120,000.00	Judgement, 10cy end dump, 2x for contamination; 1,000 ft haul
14	Place Sonoma material in repository	20,000	CY	4.48	89,600.00	HCCD 02315-520-0170, spread fill from stockpile, 2.5 CY FE loader, 300' haul; 2x for contamination
15	Compact contaminated material in repository	39,000	CY	0.56	21,700.00	BCCD 02-315-310-5080; 12" lifts, 3 passes; 2x for contamination
16	Final grading of placed material at repository	3,333	SY	0.25	800.00	HCCD 02310-100-3300, finishing grading slopes, gentle; 2x for contamination
					643,900	
Cap Lined Repository						
17	Excavate, haul, place and compact clay from onsite borrow source	2,222	CY	12.00	26,700.00	Judgement, 1000' haul
18	Excavate select fill at onsite borrow	1,111	CY	2.24	2,500.00	HCCD 02315-424-0300; 3 CY track mounted backhoe
19	Haul select fill from onsite borrow	1,111	CY	3.00	3,300.00	Judgement, 10cy end dump
20	Place select fill	1,111	CY	2.24	2,500.00	HCCD 02315-520-0170, spread fill from stockpile, 2.5 CY FE loader, 300' haul
21	Compact select fill	1,111	CY	0.28	300.00	BCCD 02315-310-5080; 12" lifts, 3 passes
22	Excavate topsoil from onsite borrow	556	CY	2.24	1,200.00	HCCD 02315-424-0300; 3 CY track mounted backhoe
23	Haul topsoil from onsite borrow	556	CY	3.00	1,700.00	Judgement, 10cy end dump
24	Place topsoil	556	CY	2.24	1,200.00	HCCD 02315-520-0170, spread topsoil from stockpile, 2.5 CY FE loader, 300' haul
25	Amend topsoil	556	SY	1.50	800.00	Judgement, deliver place and spread compost
					40,200	
Construct Surface Water Controls						
26	Excavate surfacewater control channels at/around repository	444	CY	2.24	1,000.00	HCCD 02315-424-0300; 3 CY track mounted backhoe; assume 600 LF channels
27	Fine grade channels	667	SY	3.65	2,400.00	BCCD 02310-100-1150 Hand grading; 400 LF of channel
28	Purchase and install filter fabric	667	SY	2.70	1,800.00	Judgement, nonwoven filter fabric includes installation
29	Purchase and place granular bedding in channels	33	CY	30.20	1,000.00	BCCD 02315-640-0050; bedding and placement
30	Haul bedding material to site	33	CY	21.96	700.00	BCCD 02315-490-0560; 12 CY dump; 20 mile RT
31	Compact bedding material in channels	33	CY	3.26	100.00	BCCD 02315-640-0500; compacting bedding in trench
32	Riprap	67	CY	33.05	2,200.00	ERCD 17 03 0418; includes materials, delivery, and dumping
33	Place riprap	67	CY	20.73	1,400.00	BCCD 02370-450-0100; machine placed
					10,600	
Site Reclamation-Contact and Sonoma						
34	Fill for excavated areas, borrowed soil (placement)	10,000	CY	1.60	16,000.00	HCCD 02315-120-3320,
35	Final grading excavated areas	12,556	SY	0.12	1,600.00	HCCD 02310-100-3300,
					17,600	
Perimeter Fencing						
36	Locking Gates at Contact	4	EA	952.92	3,800.00	BCCD 02800-130-5020; 20' opening, 6' high, including installation
37	Locking Gates at Sonoma	2	EA	952.92	1,900.00	BCCD 02800-130-5020; 20' opening, 6' high, including installation
38	Perimeter Fencing at Contact	2,900	LF	4.65	13,500.00	HCCD 01560-250-0200
39	Perimeter Fencing at Sonoma	1,600	LF	4.65	7,400.00	HCCD 01560-250-0200
40	Access Restriction Signs	26	EA	100.00	2,600.00	Judgement, includes purchase and installation
					29,200	
Miscellaneous						
41	Provide Dust Control	67,406	CY	1.05	70,600.00	HCCD 02315-310-9010, 3000 gal. Water truck, 6 mile haul
42	Revegetate (Contact and Sonoma)	23	AC	2,500.00	57,500.00	Judgement based on similar projects, includes soil amendments
43	Stormwater Pollution Prevention Plan	1	LS	7,000.00	7,000.00	Judgement and experience with similar projects
44	Provide Decon Area	30	SY	32.47	1,000.00	HCCD 02370-450-0400, stone truck washes
45	Two dozers with winches to assist equipment	50	DAY	4526.71	226,300.00	HCCD Crews B10, dozer/operator
46	Survey Control and As-built Documentation	50	DAY	1,080.00	54,000.00	Judgement (ave 0.5hr PLS @160, 8 hr GPS tech @\$100, 0.5hr datamgr @\$100, \$100 ODCs per day)
					416,400	
SUBTOTAL FOR CONSTRUCTION						
					1,443,100	
47	Additional line items allowance	15	%	1,443,100.00	216,500.00	Higher percentage to account for accessibility issues
SUBTOTAL FOR CONSTRUCTION WITHOUT CONTINGENCY					1,659,600	
48	Contingency	25	%	1,659,600.00	414,900.00	Higher contingency to account for difficult, steep terrain
SUBTOTAL FOR CONSTRUCTION WITH CONTINGENCY					2,074,500	
DESIGN COST ESTIMATE						
CLOSURE ENGINEERING DESIGN AND CONSTRUCTION MANAGEMENT						
49	Prepare design drawings and specifications	1	LS	144,310.00	144,300.00	Judgement, assumes 10% of construction cost w/o contingency
50	Prepare Closure Plan	1	LS	5,000.00	5,000.00	Judgement
51	State & local agency notifications	1	LS	3,000.00	3,000.00	Judgement
52	General public notification	1	LS	3,000.00	3,000.00	Judgement
53	Construction oversight	1	LS	144,310.00	144,300.00	Judgement, assumes 10% of construction cost w/o contingency
54	Construction management	1	LS	115,448.00	115,400.00	Judgement, assumes 8% of construction cost w/o contingency
					415,000	
POST CLOSURE REQUIREMENTS						
55	Prepare post-closure monitoring and maintenance plan	1	LS	10,000.00	10,000.00	Judgement
56	Recordkeeping	30	YR	3,000.00	37,200.00	Judgement (\$3,000/yr)
57	Post Closure Site Inspections and Sampling	30	YR	8,480.00	105,200.00	Judgement (24hr@\$80/hr, \$200 ODC),(4 events/yr)
58	Laboratory costs	30	YR	2,400.00	29,800.00	Judgement (\$600/inspection event)
59	Maintenance costs	30	YR	3,000.00	37,200.00	Judgement (\$3000/yr)
					219,400	
SUBTOTAL FOR DESIGN, CM, AND POST-CLOSURE MONITORING						
					634,400.00	
1	Additional line items allowance	10	%	634,400.00	63,400.00	budget for future changes prior to final design
SUBTOTAL FOR DESIGN, CM, AND POST-CLOSURE MONITORING WITHOUT CONTINGENCY					697,800.00	
2	Contingency	15	%	697,800.00	104,700.00	
SUBTOTAL FOR DESIGN, CM, AND POST-CLOSURE MONITORING WITH CONTINGENCY					802,500	
TOTAL FOR DESIGN + CONSTRUCTION + POST CLOSURE MONITORING (ROUNDED)					2,877,000	

ASSUMPTIONS & LIMITATIONS:

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- Annual costs are set at 30 years for long-term monitoring activities at the Site.

***UNITS:**

AC = acre
CY = cubic yard
EA = each
LF = linear foot
LS = lump sum
SY = square yard
YR = year

HCCD = RSMMeans Heavy Construction Cost Data 2006, adjusted for inflation
BCCD = RSMMeans Building Construction Cost Data 2005, adjusted for inflation
ERCD = RSMMeans Environmental Remediation Cost Data 2005, adjusted for inflation
Judgement = Professional judgement or estimation by E & E.

**Contact Sonoma Mercury Mines EE/CA
OPINION OF PROBABLE COST**

Alternative 5: Offsite Removal

Item No.	Line Item	Est. Qty.	Unit*	Unit Price	Extended Price	Description
CONSTRUCTION COST ESTIMATE						
MOBILIZATION & GENERAL SITE PREPARATION						
1	Mobilization, Demobilization, Bonding, Insurance	10	%	-	130,300.00	judgement, includes onsite clearing, grubbing, security, haul road/laydown/staging/decon construction. Percent excludes off-site disposal fees
2	Construction BMPs (Erosion & Sediment Controls)	5	%	-	65,200.00	Judgement, includes silt fence, checks, surfacing, other BMPs. Percent excludes off-site disposal fees
3	Major Road Improvements	15	DAY	3,602.08	54,000.00	HCCD Crews B10L, 2miles, widen/straighten, no bridges or walls
					249,500	
Excavation of Material						
4	Excavate & load material onto articulated trucks at Sonoma	20,000	CY	5.15	103,000.00	Judgement+15%loading, BCCD 02315-462-9024
5	Excavate & load material onto articulated trucks at Contact	19,000	CY	5.15	97,900.00	Judgement+loading, BCCD 02315-462-9024
6	Haul to staging area and stockpile at Sonoma	20,000	CY	4.06	81,200.00	HCCD 02315-490-2010, 1000' haul, 22 CY rear dump
7	Haul to staging area and stockpile at Contact	19,000	CY	4.06	77,100.00	HCCD 02315-490-2010, 1000' haul, 22 CY rear dump
8	Load onto over-the-road trucks at Sonoma	20,000	CY	5.15	103,000.00	Judgement+loading, BCCD 02315-462-9024
9	Load onto over-the-road trucks at Sonoma	19,000	CY	5.15	97,900.00	Judgement+loading, BCCD 02315-462-9024
					560,100	
Off-Site Disposal						
10	Disposal Characterization Sampling	390	EA	250.00	97,500.00	Estimate from TestAmerica for rush TCLP Metals sample
11	Non-hazardous Waste transportation and disposal (out-of-state)	40,560	Ton	95.80	3,885,600.00	Quote from Waste Solutions Group. Includes waste profiling, manifests, trucking, disposal, taxes, fees
12	Hazardous Waste transportation and disposal (in-state)	10,140	Ton	198.00	2,007,700.00	Quote from Waste Solutions Group. Includes waste profiling, manifests, trucking, disposal, taxes, fees
					5,990,800	
Site Reclamation						
13	Re-grade disturbed areas	19,500	CY	2.24	43,700.00	HCCD 02315-520-0170, spread fill from stockpile, 2.5 CY FE loader, 300' haul
14	Compaction of fill	19,500	CY	2.71	52,800.00	BCCD 31 23 23.13-1600 (2008 adjusted); 6-12" lifts, Sheepsfoot
15	Final grading of disturbed areas at Contact and Sonoma	111,000	SY	0.58	64,800.00	BCCD 31 22 16-0100 (2008 adjusted)
16	Revegetation (Contact and Sonoma)	23	AC	2,500.00	57,300.00	judgement based on similar projects, includes soil amendments
					218,600	
Miscellaneous						
17	Provide Dust Control	58,500	CY	1.05	61,200.00	HCCD 02315-310-9010, 3000 gal. Water truck, 6 mile haul
18	Revegetate (Contact and Sonoma)	23	AC	2,500.00	57,500.00	judgement based on similar projects, includes soil amendments
19	Stormwater Pollution Prevention Plan	1	LS	7,000.00	7,000.00	Judgement and experience with similar projects
20	Provide Decon Area	30	SY	32.47	1,000.00	HCCD 02370-450-0400, stone truck washes
21	Two dozers with winches to assist equipment	60	DAY	4526.71	271,600.00	HCCD Crews B10, dozer/operator
22	Survey Control and As-built Documentation	60	DAY	1,080.00	64,800.00	Judgement (ave 0.5hr PLS @160, 8 hr GPS tech @\$100, 0.5hr datamgr @ \$100, \$100 ODCs per day)
23	Confirmation Soil Sampling	100	EA	75.00	7,500.00	Judgement and experience with similar projects
					470,600	
SUBTOTAL FOR CONSTRUCTION					7,489,600	
23	Additional line items allowance	15	%	7,489,600.00	1,123,400.00	Higher percentage to account for accessibility issues
SUBTOTAL FOR CONSTRUCTION WITHOUT CONTINGENCY					8,613,000	
24	Contingency	25	%	8,613,000.00	2,153,300.00	Higher contingency to account for difficult, steep terrain
SUBTOTAL FOR CONSTRUCTION WITH CONTINGENCY					10,766,300	
DESIGN COST ESTIMATE						
CLOSURE ENGINEERING DESIGN AND CONSTRUCTION MANAGEMENT						
25	Prepare design drawings and specifications	1	LS	74,940.00	74,900.00	Judgement, assumes 5% of onsite construction cost w/o contingency
26	Prepare Closure Plan	1	LS	5,000.00	5,000.00	Judgement
27	State & local agency notifications	1	LS	3,000.00	3,000.00	Judgement
28	General public notification	1	LS	3,000.00	3,000.00	Judgement
29	Construction oversight	1	LS	149,880.00	149,900.00	Judgement, assumes 10% of onsite construction cost w/o contingency
30	Construction management	1	LS	119,904.00	119,900.00	Judgement, assumes 8% of onsite construction cost w/o contingency
					355,700	
POST CLOSURE REQUIREMENTS						
31	Prepare post-closure monitoring and maintenance plan	1	LS	0.00	0.00	No post-closure monitoring or maintenance
32	Recordkeeping	30	YR	0.00	0.00	No post-closure monitoring or maintenance
33	Post Closure Site Inspections and Sampling	30	YR	0.00	0.00	No post-closure monitoring or maintenance
34	Laboratory costs	30	YR	0.00	0.00	No post-closure monitoring or maintenance
35	Maintenance costs	30	YR	0.00	0.00	No post-closure monitoring or maintenance
					0	
SUBTOTAL FOR DESIGN, CM, AND POST-CLOSURE MONITORING					355,700.00	
36	Additional line items allowance	10	%	355,700.00	35,600.00	budget for future changes prior to final design
SUBTOTAL FOR DESIGN, CM, AND POST-CLOSURE MONITORING WITHOUT CONTINGENCY					391,300.00	
37	Contingency	15	%	391,300.00	58,700.00	
SUBTOTAL FOR DESIGN, CM, AND POST-CLOSURE MONITORING WITH CONTINGENCY					450,000	
TOTAL FOR DESIGN + CONSTRUCTION + POST CLOSURE MONITORING (ROUNDED)					11,216,000	

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Judgement = Professional judgement or estimation by E & E.