Printed on 03/20/2008

Company Name Metco
Project MM1 ALD and wetland
Site Name Ankey

AMD TREAT

AMD TREAT MAIN COST FORM

Costs

Passive Treatment	A	S	
Vertical Flow Pond			$0
Anoxic Limestone Drain	1	0	$3,461
Anaerobic Wetlands			$0
Aerobic Wetlands	1	0	$10,269
Manganese Removal Bed			$0
Oxic Limestone Channel			$0
Limestone Bed			$0
BIO Reactor			$0
Passive Subtotal:			**$13,730**
Active Treatment			
Caustic Soda			$0
Hydrated Lime			$0
Pebble Quick Lime			$0
Ammonia			$0
Oxidants			$0
Soda Ash			$0
Active Subtotal:			**$0**
Ancillary Cost			
Ponds			$0
Roads			$0
Land Access			$0
Ditching			$0
Engineering Cost			$0
Ancillary Subtotal:			**$0**
Other Cost (Capital Cost)			$0
Total Capital Cost:			**$13,730**
Annual Costs			
Sampling	1	0	$535
Labor	1	0	$145
Maintenance	1	0	$137
Pumping			$0
Chemical Cost			$0
Oxidant Chem Cost			$0
Sludge Removal	1	0	$54
Other Cost (Annual Cost)			$0
Land Access (Annual Cost)			$0
Total Annual Cost:			**$871**
Other Cost			

Water Quality

Calculated Acidity	75.00	mg/L
Alkalinity	33.00	mg/L

(•) Calculate Net Acidity (Acid-Alkalinity)
( ) Enter Net Acidity manually

Net Acidity (Hot Acidity)	42.00	mg/L
Design Flow	5.00	gpm
Typical Flow	2.00	gpm
Total Iron	37.00	mg/L
Aluminum	0.00	mg/L
Manganese	14.00	mg/L
pH	5.70	su
Ferric Iron	0.00	mg/L
Ferrous Iron	0.00	mg/L
Sulfate	0.00	mg/L
Filtered Fe	0.00	mg/L
Filtered Al	0.00	mg/L
Filtered Mn	0.00	mg/L
Specific Conductivity	0.00	uS/cm
Total Dissolved Solids	0.00	mg/L
Dissolved Oxygen	0.00	mg/L

Total Annual Cost: per
1000 Gal of H2O Treated **$0.828**

Company Name

Project

Site Name

Printed on 03/20/2008

AMD TREAT

ANOXIC LIMESTONE DRAIN (ALD)

AMDTREAT

ALD Name: MM1 ALD

SIZING METHODS Select One

1. Tons of Limestone Needed	17	○ ALD Based on Acidity Neutralization			
2. Tons of Limestone Needed	92	○ ALD Based on Retention Time	5. Retention Time		hours
3. Tons of Limestone Needed	109	◉ ALD Based on Tons Limestone Entered	6. Limestone Needed	109	tons
4. Tons of Limestone Needed	4,301	○ ALD Based on Dimensions Entered	7. Top Length ALD		ft
			8. Top Width ALD		ft

☑ **Opening Screen Water Parameters**

Influent Water Parameters that Affect ALD

Calculated Acidity: 75.00 mg/L

Alkalinity: 33.00 mg/L

○ Calculate Net Acidity (Acid-Alkalinity)

○ Enter Net Acidity manually

Net Acidity (Hot Acidity): 42.00000 mg/L

Design Flow: 5.00 gpm

Typical Flow: 0.00 gpm

Total Iron: 0.00 mg/L

Aluminum: 0.00 mg/L

Manganese: 0.00 mg/L

9. System Life		years
10. Limestone Purity	90.00	%
11. Limestone Efficiency		%
12. % Void Space of Limestone Bed	35.00	%
13. Limestone Depth	4.00	ft
14. Density of Loose Limestone	107.53	lbs/ft3
15. Limestone Unit Cost	22.00	$/ton
16. Limestone Placement Unit Cost	3.00	$/yd3
17. Soil Cover Depth	2.00	ft

	Length	Width
18. Length to Width Ratio	4.00 :	1

19. Excavation Unit Cost	2.50	$/yd3
20. Soil Replacement Unit Cost	2.50	$/yd3
21. Liner Unit Cost	2.60	$/yd2
22. Total Length of Effluent / Influent Pipe	0.00	ft
23. Unit Cost of Pipe	0.00	$/ft

☐ 24. Clearing and Grubbing?

○ 25a. Land Multiplier		ratio
○ 25b. Clear/Grub Acres		acres
26. Clear and Grub Unit Cost		$/acre

ALD Sizing Summaries

27.Top Width	11.25	ft
28. Top Length	45.02	ft
29. Limestone Surface Area	506.8	ft2
30. Limestone Volume	75	yd3
31. Excavation Volume	112.6	yd3
32. Clear & Grub Area	0.00	acres
33. Liner Area	177	ft2
34. Theoretical Retention Time	17.69	hrs

ALD Cost Summaries

35. Limestone Cost	2,398	$
36. Excavation Cost	281	$
37. Limestone Placement Cost	225	$
38. PipeCost	0	$
39. Liner Cost	462	$
40. Clear and Grub Cost	0	$
41. Soil Replacement Cost	93	$
42. Total Cost	3,461	$

Record Number 1 of 1

Company Name

Project

Site Name

Printed on 03/20/2008

AMD TREAT

AEROBIC WETLANDS

AMDTREAT

Aerobic Wetlands Name: MM1 wetland

☑ **Opening Screen Water Parameters**

Influent Water Parameters that Affect Aerobic Wetlands

Calculated Acidity: 75.00 mg/L

Alkalinity: 33.00 mg/L

○ Calculate Net Acidity (Acid-Alkalinity)

○ Enter Net Acidity manually

Net Acidity (Hot Acidity): 42.00 mg/L

Design Flow: 5.00 gpm

Typical Flow: 0.00 gpm

Total Iron: 37.00 mg/L

Aluminum: 0.00 mg/L

Manganese: 14.00 mg/L

pH: 5.70 su

SIZING METHODS Select One

◉ Aerobic Wetland Based on Metal Removal Rates	1. Iron Removal Rate	5.0 g/m2/day	2. Mn Removal Rate	0.5 g/m2/day
○ Aerobic Wetland Based on Dimensions	3. Top Length at Freeboard	ft	4. Top Width at Freeboard	ft
○ Aerobic Wetland Based on Iron Oxidation Kinetics	5. Rate Constant	moles/sec	6. Effluent Fe Concentration	mg/l
	7. Dissolved Oxygen	mg/l	8. H2O Temperature	°C

	Length	Width
9. Length to Width Ratio	2.0 :	1.000

	Run of Slope	Rise of Slope
10. Slope of Wetland Sides	2.0 :	1.000

11. Freeboard Depth	1.50	ft
12. Free Standing Water Depth	0.50	ft
13. Organic Matter Depth	1.00	ft
14. Organic Matter Unit Cost	19.00	$/yd3
15. Organic Matter Spreading Unit Cost	3.50	$/yd3
16. Excavation Unit Cost	2.50	$/yd3
17. Wetland Planting Unit Cost	3600	$/acre

Liner Cost

◉ No Liner

○ Clay Liner

18. Clay Liner Unit Cost: $/yd3

19. Thickness of Clay Liner: ft

○ Synthetic Liner

20. Synthetic Liner Unit Cost: $/yd2

☐ 21. Clearing and Grubbing?

○ 22. Land Multiplier: ratio

○ 23. Clear/Grub Acres: acres

24. Clear and Grub Unit Cost: $/acre

Aerobic Wetland Sizing Summaries

25. Length at Top of Freeboard	150.11	ft
26. Width at Top of Freeboard	78.05	ft
27. Freeboard Volume	613	yd3
28. Water Surface Area	10,384	ft2
29. Water Volume	188	yd3
30. Organic Matter Volume	353	yd3
31. Excavation Volume	541	yd3
32. Clear and Grub Area	0.0	acres
33. Liner Area	0	ft2
34. Retention Time	126	hrs

Aerobic Cost Summaries

35. Organic Matter Cost	7,947	$
36. Excavation Cost	1,354	$
37. Liner Cost	0	$
38. Clear and Grub Cost	0	$
39. Wetland Planting Cost	968	$
40. Total Cost	10,269	$

Record Number 1 of 1

Company Name Metco

Project MM1 ALD and wetland

Site Name Ankey

Printed on 03/20/2008

AMD TREAT

SAMPLING

Sampling Name: quarterly raw, final, upstr, downstr

Estimate Sampling Cost

1. Unit Labor Cost	35.00	$/hr
2. Collection Time per Sample	0.25	hours/sample
3. Travel Time	0.00	hr
4. Sample Frequency	0.33	samples/mo
5. Lab Cost Per Sample	25.00	$/sample
6. Number of Sample Points	4	points

Enter Established Annual Sampling Cost

7. Actual Annual Sampling Cost		$

Sampling Sub-Totals

8. Yearly Sample Analysis Cost	396	$
9. Yearly Travel Cost	0	$
10. Yearly Collection Cost	139	$

11. Sampling Cost	535	$

Record Number 1 of 1

Company Name Metco

Project MM1 ALD and wetland

Site Name Ankey

Printed on 03/20/2008

AMD TREAT

LABOR

Labor Name quarterly visits

Estimate Labor Cost

1. Site Visits per Week	0.08	
2. Site Labor Time per Visit	1.00	hours
3. Travel Time per Visit	0.00	hours
4. Unit Labor Cost	35.00	$/hour

Enter Established Annual Labor Cost

5. Actual Annual Labor Cost		$

6. Total Cost	145	$

Record Number 1 of 1

Printed on 03/20/2008

Company Name Metco

Project MM1 ALD and wetland

Site Name Ankey

AMD TREAT

MAINTANENCE

Estimate Maintenance Cost

1. Percent of Active Cost	3.00	%
2. Percent of Passive Cost	1.00	%
3. Percent of Ancillary Cost *	0.00	%
4. Percent of Other Capital Cost	0.00	%

Enter Established Annual Maintenance Cost

5. Annual Maintenance Cost		$

Maintenance Sub-Totals

6 Total Maintenance Active Cost	0	$
7. Total Maintenance Passive Cost	137	$
8. Total Maintenance Ancillary Cost	0	$
9. Total Maintenance Other Capital Cost	0	$
10. Total Maintenance Cost	137	$

* Ancillary Cost does int include Cost for Land Access and Engineering Cost

Printed on 03/20/2008

Company Name Metco
Project MM1 ALD and wetland
Site Name Ankey

AMD TREAT

SLUDGE REMOVAL

AMDTREAT

☐ Opening Screen Water Parameters

Sludge Removal Name

Influent Water Parameters that Affect Sludge Removal

Calculated Acidity: 75.00 mg/L
Alkalinity: 33.00 mg/L

- ◉ Calculate Net Acidity (Acid-Alkalinity)
- ○ Enter Net Acidity manually

Net Acidity (Hot Acidity): 42.00 mg/L

Design Flow: 5.00 gpm
Typical Flow: 2.00 gpm
Total Iron: 37 mg/L
Aluminum: 0 mg/L
Manganese: 14 mg/L

1. Select One — Selection for Method of Removing Sludge

- ◉ Sludge Removal by $ per Gallon
  - 2. Sludge Removal Unit Cost: 0.05 $/gal
- ○ Sludge Removal by Vacuum Truck
  - 3. Vacuum Truck Unit Cost: $/hr
  - 4. Mobilization Cost: $
  - 5. Hours to be Used: hr
- ○ Sludge Removal by Mechanical Excavation
  - 6. Mechanical Excavation Unit Rate: $/hr
  - 7. Mobilization Cost: $
  - 8. Hours to be Used: hr
- ○ Sludge Removal by Lagoon Cleaner
  - 9. Lagoon Cleaning Unit Rate: $/hr
  - 10. Mobilization Cost: $
  - 11. Hours to be Used: hr
- ○ Actual Sludge Removal Cost
  - 12. Actual Sludge Removal Cost: $

13. Off Site Disposal Cost: 0.00 $

Record Number 1 of 1

14. Iron Concentration: 37.00 mg/L
15. Manganese Concentration: 14.00 mg/L
16. Aluminum Concentration: 0.00 mg/L
17. Total Miscellaneous Concentration: 0 mg/L
18. Percent Solids: 5.00 %
19. Sludge Density: 8.33 lbs/gal
☐ 20 Titration?
21. Gal. of Sludge per Gal of Water Treated: gal

22. Estimated Sludge Volume: 5 yd3/yr

Cost for Sludge Removal Types

23. Removal by $ per Gallon: 54 $
24. Removal by Vacuum Truck: 0 $
25. Removal by Mechanical Excavation: 0 $
26. Removal by Lagoon Cleaner: 0 $
27. Actual Sludge Removal Cost: 0 $

Sludge Removal Sub-Totals

28. Currently Selected Removal Cost Plus Off Site Disposal Cost: 54 $

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Company Name Metco

Project MM1 ALD and wetland

Site Name Ankey

AMD TREAT
RECAPITIZALITION COST

Calculation Period 75 yrs Inflation Rate 3.10 % Net Return Rate 6.00 %

Recapitizalition Name MM1 bond

A.	B	C	D	E	F	G
Description of Item	Unit Cost Per Item	Quantity	Total Item Cost	Life Cycle	Number of Periods	Total PV
1. replace MM1 ALD	3,461	1	3,461	7	10	13,833
2. replace Aerobic wetland	10,269	1	10,269	10	7	27,514
3.	0	0	0	0	0	0
4.	0	0	0	0	0	0
5.	0	0	0	0	0	0
6.	0	0	0	0	0	0
7.	0	0	0	0	0	0
8.	0	0	0	0	0	0
9.	0	0	0	0	0	0
10.	0	0	0	0	0	0
11.	0	0	0	0	0	0
12.	0	0	0	0	0	0
13.	0	0	0	0	0	0
14.	0	0	0	0	0	0
15.	0	0	0	0	0	0
16.	0	0	0	0	0	0
17.	0	0	0	0	0	0
18.	0	0	0	0	0	0
19.	0	0	0	0	0	0
20.	0	0	0	0	0	0

Total Capital Cost 13,730 $ PV Grand Total 41,347 $

Printed on 03/20/2008

Company Name Metco
Project MM5 OLC
Site Name Ankey

AMD TREAT

AMD TREAT MAIN COST FORM

Costs

AMDTREAT

Passive Treatment	A	S	
Vertical Flow Pond			$0
Anoxic Limestone Drain			$0
Anaerobic Wetlands			$0
Aerobic Wetlands			$0
Manganese Removal Bed			$0
Oxic Limestone Channel	1	0	$2,711
Limestone Bed			$0
BIO Reactor			$0
Passive Subtotal:			**$2,711**
Active Treatment			
Caustic Soda			$0
Hydrated Lime			$0
Pebble Quick Lime			$0
Ammonia			$0
Oxidants			$0
Soda Ash			$0
Active Subtotal:			**$0**
Ancillary Cost			
Ponds			$0
Roads			$0
Land Access			$0
Ditching			$0
Engineering Cost			$0
Ancillary Subtotal:			**$0**
Other Cost (Capital Cost)			$0
Total Capital Cost:			**$2,711**
Annual Costs			
Sampling	1	0	$535
Labor			$0
Maintenance	1	0	$27
Pumping			$0
Chemical Cost			$0
Oxidant Chem Cost			$0
Sludge Removal			$0
Other Cost (Annual Cost)			$0
Land Access (Annual Cost)			$0
Total Annual Cost:			**$562**
Other Cost			

Water Quality

Calculated Acidity	0.00	mg/L
Alkalinity	170.00	mg/L

(•) Calculate Net Acidity (Acid-Alkalinity)
( ) Enter Net Acidity manually

Net Acidity (Hot Acidity)	-170.00	mg/L
Design Flow	5.00	gpm
Typical Flow	2.00	gpm
Total Iron	32.00	mg/L
Aluminum	0.00	mg/L
Manganese	14.00	mg/L
pH	6.50	su
Ferric Iron	0.00	mg/L
Ferrous Iron	0.00	mg/L
Sulfate	0.00	mg/L
Filtered Fe	0.00	mg/L
Filtered Al	0.00	mg/L
Filtered Mn	0.00	mg/L
Specific Conductivity	0.00	uS/cm
Total Dissolved Solids	0.00	mg/L
Dissolved Oxygen	0.00	mg/L

Total Annual Cost: per 1000 Gal of H2O Treated **$0.534**

Company Name

Project

Site Name

Printed on 03/20/2008

AMD TREAT

Oxic Limestone Channel (OLC)

AMDTREAT

Oxic Limestone Channel Name: MM5 OLC

1. Ditch Length Rock	200	ft
2. Bottom Width of the Ditch	4.0	ft
3. Ditch Depth	2.00	ft
4. Geo Textile Unit Cost	0.00	$/yd2
5. Length of GeoTextile	0	ft
6. Slope Ratio of Ditch Sides (Run : Rise)	2.00 : 1.00	
☐ 7. Surveying?		
8. Survey Rate		acres/day
9. Survey Unit Cost		$/day
☐ 10. Clearing and Grubbing?		
11. Clear and Grub Cost		$/acre
12. Ditch Depth of Limestone	1.00	ft
13. Cost of Limestone	22.00	$/yd3
14. Cost to Place Limestone	3.00	$/yd3
15. Excavation Unit Cost	2.50	$/yd3
16. Revegetation Unit Cost	1500.00	$/acre

OLC Sub-Totals

17. Excavation Cost	296	$
18. Survey Cost	0	$
19. Clear and Grub Cost	0	$
20. Limestone Cost	2,397	$
21. Filter Fabric Cost	0	$
22. Revegetation Cost	18	$
23. Total Cost	2,711	$

Record Number 1 of 1

Company Name Metco

Project MM5 OLC

Site Name Ankey

Printed on 03/20/2008

AMD TREAT

SAMPLING

Sampling Name: quarterly sampling raw, final, upst, dwnst

Estimate Sampling Cost

1. Unit Labor Cost	35.00	$/hr
2. Collection Time per Sample	0.25	hours/sample
3. Travel Time	0.00	hr
4. Sample Frequency	0.33	samples/mo
5. Lab Cost Per Sample	25.00	$/sample
6. Number of Sample Points	4	points

Enter Established Annual Sampling Cost

7. Actual Annual Sampling Cost		$

Sampling Sub-Totals

8. Yearly Sample Analysis Cost	396	$
9. Yearly Travel Cost	0	$
10. Yearly Collection Cost	139	$
11. Sampling Cost	535	$

Record Number 1 of 1

Printed on 03/20/2008

Company Name Metco

Project MM5 OLC

Site Name Ankey

AMD TREAT

MAINTANENCE

Estimate Maintenance Cost

1. Percent of Active Cost	3.00	%
2. Percent of Passive Cost	1.00	%
3. Percent of Ancillary Cost *	0.00	%
4. Percent of Other Capital Cost	0.00	%

Enter Established Annual Maintenance Cost

5. Annual Maintenance Cost		$

Maintenance Sub-Totals

6 Total Maintenance Active Cost	0	$
7. Total Maintenance Passive Cost	27	$
8. Total Maintenance Ancillary Cost	0	$
9. Total Maintenance Other Capital Cost	0	$
10. Total Maintenance Cost	27	$

* Ancillary Cost does int include Cost for Land Access and Engineering Cost

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Company Name Metco

Project MM5 OLC

Site Name Ankey

AMD TREAT
RECAPITIZALITION COST

AMDTREAT

Calculation Period 75 yrs Inflation Rate 3.10 % Net Return Rate 6.00 %

Recapitizalition Name MM5 OLC bond

A.	B	C	D	E	F	G
Description of Item	Unit Cost Per Item	Quantity	Total Item Cost	Life Cycle	Number of Periods	Total PV
1. replace MM5 OLC	2,711	1	2,711	7	10	10,835
2.	0	0	0	0	0	0
3.	0	0	0	0	0	0
4.	0	0	0	0	0	0
5.	0	0	0	0	0	0
6.	0	0	0	0	0	0
7.	0	0	0	0	0	0
8.	0	0	0	0	0	0
9.	0	0	0	0	0	0
10.	0	0	0	0	0	0
11.	0	0	0	0	0	0
12.	0	0	0	0	0	0
13.	0	0	0	0	0	0
14.	0	0	0	0	0	0
15.	0	0	0	0	0	0
16.	0	0	0	0	0	0
17.	0	0	0	0	0	0
18.	0	0	0	0	0	0
19.	0	0	0	0	0	0
20.	0	0	0	0	0	0

Total Capital Cost 2,711 $ PV Grand Total 10,835 $

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Company Name Metco
Project MM9
Site Name Ankey

AMD TREAT

Costs AMD TREAT MAIN COST FORM

AMDTREAT

Passive Treatment	A	S	
Vertical Flow Pond			$0
Anoxic Limestone Drain			$0
Anaerobic Wetlands			$0
Aerobic Wetlands	1	0	$525
Manganese Removal Bed			$0
Oxic Limestone Channel			$0
Limestone Bed			$0
BIO Reactor			$0
Passive Subtotal:			**$525**
Active Treatment			
Caustic Soda			$0
Hydrated Lime			$0
Pebble Quick Lime			$0
Ammonia			$0
Oxidants			$0
Soda Ash			$0
Active Subtotal:			**$0**
Ancillary Cost			
Ponds			$0
Roads			$0
Land Access			$0
Ditching			$0
Engineering Cost			$0
Ancillary Subtotal:			**$0**
Other Cost (Capital Cost)			$0
Total Capital Cost:			**$525**
Annual Costs			
Sampling	1	0	$674
Labor	1	0	$837
Maintenance	1	0	$5
Pumping			$0
Chemical Cost			$0
Oxidant Chem Cost			$0
Sludge Removal			$0
Other Cost (Annual Cost)			$0
Land Access (Annual Cost)			$0
Total Annual Cost:			**$1,516**
Other Cost			

Water Quality

Calculated Acidity	0.00	mg/L
Alkalinity	0.00	mg/L

( ) Calculate Net Acidity (Acid-Alkalinity)
(•) Enter Net Acidity manually

Net Acidity (Hot Acidity)	20.00	mg/L
Design Flow	5.00	gpm
Typical Flow	1.00	gpm
Total Iron	1.00	mg/L
Aluminum	0.00	mg/L
Manganese	1.00	mg/L
pH	0.05	su
Ferric Iron	0.00	mg/L
Ferrous Iron	0.00	mg/L
Sulfate	50.00	mg/L
Filtered Fe	0.00	mg/L
Filtered Al	0.00	mg/L
Filtered Mn	0.00	mg/L
Specific Conductivity	0.00	uS/cm
Total Dissolved Solids	0.00	mg/L
Dissolved Oxygen	0.00	mg/L

Total Annual Cost: per 1000 Gal of H2O Treated **$2.882**

Company Name

Project

Site Name

Printed on 03/20/2008

AMD TREAT

AEROBIC WETLANDS

AMDTREAT

Aerobic Wetlands Name

☑ **Opening Screen Water Parameters**

Influent Water Parameters that Affect Aerobic Wetlands

Calculated Acidity: 0.00 mg/L

Alkalinity: 0.00 mg/L

○ Calculate Net Acidity (Acid-Alkalinity)

○ Enter Net Acidity manually

Net Acidity (Hot Acidity): 20.00 mg/L

Design Flow: 5.00 gpm

Typical Flow: 0.00 gpm

Total Iron: 1.00 mg/L

Aluminum: 0.00 mg/L

Manganese: 1.00 mg/L

pH: 0.05 su

SIZING METHODS Select One

◉ Aerobic Wetland Based on Metal Removal Rates	1. Iron Removal Rate	5.0 g/m2/day	2. Mn Removal Rate	0.5 g/m2/day
○ Aerobic Wetland Based on Dimensions	3. Top Length at Freeboard	ft	4. Top Width at Freeboard	ft
○ Aerobic Wetland Based on Iron Oxidation Kinetics	5. Rate Constant	moles/sec	6. Effluent Fe Concentration	mg/l
	7. Dissolved Oxygen	mg/l	8. H2O Temperature	°C

	Length		Width
9. Length to Width Ratio	2.0	:	1.000
	Run of Slope		Rise of Slope
10. Slope of Wetland Sides	2.0	:	1.000
11. Freeboard Depth	1.50 ft		
12. Free Standing Water Depth	0.50 ft		
13. Organic Matter Depth	1.00 ft		
14. Organic Matter Unit Cost	19.00 $/yd3		
15. Organic Matter Spreading Unit Cost	3.50 $/yd3		
16. Excavation Unit Cost	2.50 $/yd3		
17. Wetland Planting Unit Cost	3600 $/acre		

Liner Cost

◉ No Liner

○ Clay Liner

18. Clay Liner Unit Cost $/yd3

19. Thickness of Clay Liner ft

○ Synthetic Liner

20. Synthetic Liner Unit Cost $/yd2

☐ 21. Clearing and Grubbing?

○ 22. Land Multiplier ratio

○ 23. Clear/Grub Acres acres

24. Clear and Grub Unit Cost $/acre

Aerobic Wetland Sizing Summaries

25. Length at Top of Freeboard	41.92	ft
26. Width at Top of Freeboard	23.96	ft
27. Freeboard Volume	45	yd3
28. Water Surface Area	645	ft2
29. Water Volume	10	yd3
30. Organic Matter Volume	16	yd3
31. Excavation Volume	27	yd3
32. Clear and Grub Area	0.0	acres
33. Liner Area	0	ft2
34. Retention Time	7	hrs

Aerobic Cost Summaries

35. Organic Matter Cost	373	$
36. Excavation Cost	69	$
37. Liner Cost	0	$
38. Clear and Grub Cost	0	$
39. Wetland Planting Cost	83	$
40. Total Cost	525	$

Record Number 1 of 1

Company Name Metco

Project MM9

Site Name Ankey

Printed on 03/20/2008

AMD TREAT

SAMPLING

Sampling Name quarterly - raw, final, upstr, dwnst

Estimate Sampling Cost

1. Unit Labor Cost	35.00	$/hr
2. Collection Time per Sample	0.25	hours/sample
3. Travel Time	1.00	hr
4. Sample Frequency	0.33	samples/mo
5. Lab Cost Per Sample	25.00	$/sample
6. Number of Sample Points	4	points

Enter Established Annual Sampling Cost

7. Actual Annual Sampling Cost		$

Sampling Sub-Totals

8. Yearly Sample Analysis Cost	396	$
9. Yearly Travel Cost	139	$
10. Yearly Collection Cost	139	$
11. Sampling Cost	674	$

Record Number 1 of 1

Company Name Metco

Project MM9

Site Name Ankey

Printed on 03/20/2008

AMDTREAT

AMD TREAT

LABOR

Labor Name quarterly visit

Estimate Labor Cost

1. Site Visits per Week	0.23	
2. Site Labor Time per Visit	1.00	hours
3. Travel Time per Visit	1.00	hours
4. Unit Labor Cost	35.00	$/hour

Enter Established Annual Labor Cost

5. Actual Annual Labor Cost		$

6. Total Cost	837	$

Record Number 1 of 1

Printed on 03/20/2008

Company Name Metco

Project MM9

Site Name Ankey

AMD TREAT

MAINTANENCE

Estimate Maintenance Cost

1. Percent of Active Cost	3.50	%
2. Percent of Passive Cost	1.00	%
3. Percent of Ancillary Cost *	0.00	%
4. Percent of Other Capital Cost	0.00	%

Enter Established Annual Maintenance Cost

5. Annual Maintenance Cost		$

Maintenance Sub-Totals

6 Total Maintenance Active Cost	0	$
7. Total Maintenance Passive Cost	5	$
8. Total Maintenance Ancillary Cost	0	$
9. Total Maintenance Other Capital Cost	0	$
10. Total Maintenance Cost	5	$

* Ancillary Cost does int include Cost for Land Access and Engineering Cost

Printed on 03/20/2008

Company Name Metco
Project MM9
Site Name Ankey

AMD TREAT
RECAPITIZALITION COST

AMDTREAT

Calculation Period 75 yrs Inflation Rate 3.10 % Net Return Rate 6.00 %

Recapitizalition Name MM9 - bond

A.	B	C	D	E	F	G
Description of Item	Unit Cost Per Item	Quantity	Total Item Cost	Life Cycle	Number of Periods	Total PV
1. replace aerobic wetland	525	1	525	10	7	1,407
2.	0	0	0	0	0	0
3.	0	0	0	0	0	0
4.	0	0	0	0	0	0
5.	0	0	0	0	0	0
6.	0	0	0	0	0	0
7.	0	0	0	0	0	0
8.	0	0	0	0	0	0
9.	0	0	0	0	0	0
10.	0	0	0	0	0	0
11.	0	0	0	0	0	0
12.	0	0	0	0	0	0
13.	0	0	0	0	0	0
14.	0	0	0	0	0	0
15.	0	0	0	0	0	0
16.	0	0	0	0	0	0
17.	0	0	0	0	0	0
18.	0	0	0	0	0	0
19.	0	0	0	0	0	0
20.	0	0	0	0	0	0

Total Capital Cost 525 $ PV Grand Total 1,407 $