

EXHIBIT T

Commonwealth of Pennsylvania
Department of Mines and Mineral Industries

**MD Pollution Abatement Measures
for the Beech Creek Watershed**

**PERTINENT DESIGN AND COST DATA FOR THE
RECOMMENDED ABATEMENT PLAN**

	Estimated AMD Reduction			Project Cost	Average Annual Cost											Cost For 300 Years	
	Volume (GPM)	Iron (lbs/day)	Acid (lbs/day)		Initial 3 Years			4th thru 30th Years			31st thru 300 Years			Total	Per Ton of Acid Removed(2)		
					Fixed	Operation and Maintenance	Per Ton of Acid Removed(2)	Fixed	Operation and Maintenance	Per Ton of Acid Removed(2)	Fixed	Operation and Maintenance	Per Ton of Acid Removed(2)				
I Preventive Measures(1)																	
Complex A																	
1. Excavate and restore subsidence area B-20, 4.1 acres, 132,000 cu. yds. of material to be moved; reconstruct stream channels across AA and BB, 3,000 feet	377	213	890	\$ 138,200	\$ 8,980	\$ 3,610	\$ 77.67	\$ 8,980	\$ 125	\$ 56.11	\$ 400	\$ 125	\$ 3.23	\$ 420,000	\$ 8.72		
2. Construct surface water diversion ditches around or across strip mines S-8, 55 and 57, 3,050 feet; close Deep Mine Entry D-2	4	8	54	\$ 18,400	\$ 1,200	\$ 670	\$ 190	\$ 1,200	\$ 675	\$ 190	None	\$ 675	\$ 68.50	\$ 230,000	\$ 80.50		
3. Restore strip mines S-41, 110, 115, 119, 121 and south portion of S-133, 273 acres, 4,070,000 cu. yds. of material to be moved; move Refuse Area R-19 into strip mine; to the maximum extent possible use other Refuse to meet fill requirements	1,244	309	8,772	\$ 3,670,000	\$ 239,000	\$ 193,000	\$ 270	\$ 239,000	None	\$ 149	None	None	None	\$ 7,700,000	\$ 16.10		
Complex C																	
1. Eliminate Mercer seam deep mine workings under hill in from Deep Mine Entries D-70 and D-71, 3.2 acres, 93,000 cu. yds. of material to be moved; this work will also result in the elimination of subsidence area B-20 and Deep Mine Entries D-70 and D-71	65	93	543	\$ 55,600	\$ 3,620	\$ 3,320	\$ 71.72	\$ 3,620	None	\$ 37.36	None	None	None	\$ 115,000	\$ 4.09		

Preventive Measures(Cont.)	Estimated AMD Reduction			Project Cost	Average Annual Cost									Cost For 300 Years	
	Volume (GPM)	Iron (lbs/day)	Acid (lbs/day)		Initial 3 Years			4th thru 30th Years			31st thru 300 Years			Total	Per Ton of Acid Removed(2)
					Fixed	Operation and Maintenance	Per Ton of Acid Removed(2)	Fixed	Operation and Maintenance	Per Ton of Acid Removed(2)	Fixed	Operation and Maintenance	Per Ton of Acid Removed(2)		
2. Strip around hill adjacent to strip mines S-151, 152, 153 and 154, pack exposed deep mine workings, backfill and grade 36 acres, 1,997,000 cu. yds. of material to be moved; this work will also result in the elimination of subsidence areas B-31 and B-32; backfill and grading operation will to some extent affect strip mines S-151, 152 and 154	262	41	1,893	\$ 1,190,000	\$ 77,400	\$ 28,600	\$ 307	\$ 77,400	None	\$ 224	None	None	None	\$ 2,400,000	\$ 23.23
3. Restore strip mines S-84, 120, 126, 129, 130, 131, 150, north portions of S-128 and 149, and northwest portion of S-153, 442 acres, 4,490,000 cu. yds. of material to be moved; move Refuse Areas R-20 and R-21 into strip mine; to the maximum extent possible use other Refuse to meet fill requirements	911	269	7,551	\$ 4,160,000	\$ 271,000	\$ 295,000	\$ 411	\$ 271,000	None	\$ 197	None	None	None	\$ 9,000,000	\$ 21.77
Complex E Neutralize strip mine S-184, 435.6 acres	830	9	1,694	\$ 98,600	\$ 6,400	\$ 49,300	\$ 180	\$ 6,400	None	\$20.73	None	None	None	\$ 335,000	\$ 3.67
Complex D Restore strip mines S-159, 166, 167, 168 and portions of S-160 and 161 south of Kato-Orviston Road, 504 acres, 7,515,000 cu. yds. of material to be moved; move Refuse Areas R-29 and R-30 into strip mines; chemically neutralize surface mine water pool in vicinity of MD Discharge 157; to the maximum extent possible use other Refuse to meet fill requirements	483	45	2,360	\$ 6,769,200	\$ 440,000	\$ 358,000	\$ 1,853	\$ 440,000	None	\$1,022	None	None	None	\$14,300,000	\$111
Subtotal	4,176 or 6.01 MGD	987 or 0.49 tons/day	23,757 or 11.90 tons/day	\$16,100,000	\$ 1,047,600	\$ 931,500	\$ 457	\$1,047,600	\$800	\$ 242	\$400	\$800	\$0.28	\$34,500,000	\$ 26.56

Estimated AMD Reduction			Average Annual Cost									Cost For 300 Years		
			Initial 3 Years			4th thru 30th Years			31st thru 300 Years					
Volume (MGD)	Iron (tons/day)	Acid (tons/day)	Project Cost	Fixed	Operation and Maintenance	Per Ton of Acid Removed(2)	Fixed	Operation and Maintenance	Per Ton of Acid Removed(2)	Fixed	Operation and Maintenance	Per Ton of Acid Removed(2)	Total	Per Ton of Acid Removed(2)
II Collection Systems And Treatment Measures(1)														
Complex A														
Collection System														
20,655 feet of conveyance sewers from 6 to 18 inches diameter; 2,570 feet of open channel; 5 flow equalization basins, 1 with pumping station														
			\$ 1,700,000	\$ 111,100	\$ 57,700		\$ 111,000	\$ 57,700		\$ 32,460	\$ 57,700		\$ 29,410,000	
Treatment Measures														
1 plant located on North Fork Beech Creek at Clarence Village with design loadings of 2.20 MGD, 0.83 tons per day of iron and 5.35 tons per day of acid														
			\$ 514,000	\$ 33,760	\$ 98,300		\$ 33,760	\$ 98,300		\$ 33,760	\$ 98,300		\$ 39,620,000	
Complex B														
Collection System														
2,530 feet of conveyance sewers from 8 to 18 inches diameter; 1 flow equalization basin														
			\$ 180,000	\$ 12,240	\$ 5,080		\$ 12,240	\$ 5,080		\$ 2,970	\$ 5,080		\$ 2,690,000	
Treatment Measures														
1 plant located on South Fork Beech Creek 2,000 feet downstream from Interstate Route 80 crossing with design loadings of 0.28 MGD, 0.001 tons per day of iron and 0.15 tons per day of acid														
			\$ 42,000	\$ 2,700	\$ 5,800		\$ 2,700	\$ 5,800		\$ 2,700	\$ 5,800		\$ 2,550,000	

Collection Systems And Treatment Measures (Cont.)	Estimated AMD Reduction			Project Cost	Average Annual Cost									Cost For 300 Years	
	Volume (MGD)	Iron (tons day)	Acid (tons day)		Initial 3 Years			4th thru 300 Years			31st thru 300 Years			Total	Per Ton of Acid Removed(2)
					Fixed	Operation and Maintenance	Per Ton of Acid Removed(2)	Fixed	Operation and Maintenance	Per Ton of Acid Removed(2)	Fixed	Operation and Maintenance	Per Ton of Acid Removed(2)		
Complex C															
Collection System 12,570 feet of conveyance sewers from 6 to 24 inches diameter; 2,430 feet of open channel; 3 flow equalization basins, 1 with pumping station				\$ 2,060,000	\$ 134,200	\$ 72,520		\$ 134,200	\$ 72,520		\$ 38,260	\$ 72,520		\$ 36,120,000	
Treatment Measures 1 plant located on Sandy Run 4,000 feet upstream from its confluence with Beech Creek with design loadings of 7.00 MGD, 1.04 tons per day of iron and 12.22 tons per day of acid				\$ 804,000	\$ 52,700	\$ 153,000		\$ 52,700	\$ 153,000		\$ 52,700	\$ 153,000		\$ 61,710,000	
Subtotal	5.74	0.98	11.10	\$ 5,300,000	\$ 346,700	\$ 392,400	\$ 188	\$ 346,700	\$ 392,400	\$ 188	\$ 162,850	\$ 392,400	\$ 141	\$ 172,100,000	\$ 145
III. Total For Preventive Measures, Collection Systems and Treatment Measures	11.75	1.47	23.00	\$21,400,000	\$ 1,394,300	\$ 1,323,900	\$ 329	\$1,394,300	\$393,200	\$216	\$163,250	\$393,200	\$ 67.19	\$206,600,000	\$ 83.35

(1) See Plates IV-A and IV-B for location of Preventive Measures, Collection Systems and Treatment Measures.
(2) Calculated on basis of Design Average conditions.