

**APPENDIX A-4**

Pennsylvania Fish and Boat Commission Stream Surveys and Correspondence

COMMONWEALTH OF PENNSYLVANIA

August 3, 1998

**SUBJECT:** SMP #17980109, Mine #28 Site  
D. L. Spear Mining, Inc.  
Receiving Stream: Beech Creek

**TO:** John Varner, Chief  
Hawk Run District Office  
Bureau of Mining and Reclamation  
Department of Environmental Protection

**FROM:** Daniel J. Angelo, Fisheries Biologist Aide DA  
Division of Environmental Services  
Pennsylvania Fish and Boat Commission

Dept. of Env. Protection  
Hawk Run District Office

AUG 24 1998

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An aquatic biological investigation was conducted on 12 and 15 June 1998 for the subject application to determine the sensitivity of the receiving stream. Three stations were sampled qualitatively for benthic macroinvertebrates and fish populations (Figure 1).

Results of sampling showed good benthic macroinvertebrate communities with Station SR01 containing 15 taxa, Station SR02 containing 9 taxa and Station SR03 containing 7 taxa. At these three sampling stations, over 50 percent of the benthic macroinvertebrates found were ephemeropterans (mayflies), plecopterans (stoneflies) or trichopterans (caddisflies), which indicates the sensitivity of the watershed.

Fish population sampling was conducted at each site. A one hundred-meter sampling area was electrofished at Station SR01 with the results being presented in Table 2. A total of 26 brook trout (*Salvelinus fontinalis*) were captured ranging from 25 mm - 224 mm during one electrofishing pass with a population estimate of 984 trout per hectare and 40.2 kilograms per hectare. Station SR02 showed a total of 16 brook trout captured in a 65 m sampling area. The brook trout captured ranged from 50 mm - 174 mm during one electrofishing pass. The population estimate was 693 trout per hectare and was calculated to be a total of 15.9 kilograms per hectare. Station SR02 results are presented in Table 3. Station SR03 showed a total of 3 brook trout captured in a 100 m sampling area. The brook trout captured during one electrofishing pass ranged from 125 mm - 224 mm. The population estimate was 85 fish per hectare and was calculated to be a total of 4.48 kilograms per hectare. Station SR03 results are presented in Table 4. In addition a 50-m station on Contrary Run, a tributary to Sandy Run, was electrofished with no fish being captured. This could be a result of historical mining activities causing AMD production.

In conclusion, the sampling for Sandy Run revealed a good population of benthic macroinvertebrates and naturally reproducing brook trout upstream of the confluence with Contrary Run. The stations below the confluence of Contrary Run showed reduced populations of both macroinvertebrates and fish, probably as a result of water quality impacts from mining activities in the Contrary Run watershed. Surface mine activities have been proposed along the stream reaches of Sandy Run above the confluence of Contrary Run and any changes in the water quality (either chemically or sediment) could impact the aquatic system mentioned above. Because of the overburden quality associated with this site and the high alkaline addition rates, extra precautions need to be taken in insure protection of the receiving stream. The PFBC

recommends that oversized E&S controls be included as special permit conditions. Additionally, any wetlands associated with the stream system would be classified as Exceptional Value (EV) wetlands and need to be protected accordingly. During the follow-up meeting on 16 July 1998, numerous enhancement projects were discussed and need to be further evaluated prior to any permitting decisions.

c: John Berry – Hawk Run, DEP  
WCO Brian Burger  
Bruce Hollender, AFM, PFBC  
Steven Kepler, PFBC

Figure 1. Stream Survey Locations on Sandy Run and Contrary Run, Centre County, Pennsylvania, 12-15 June 1998.

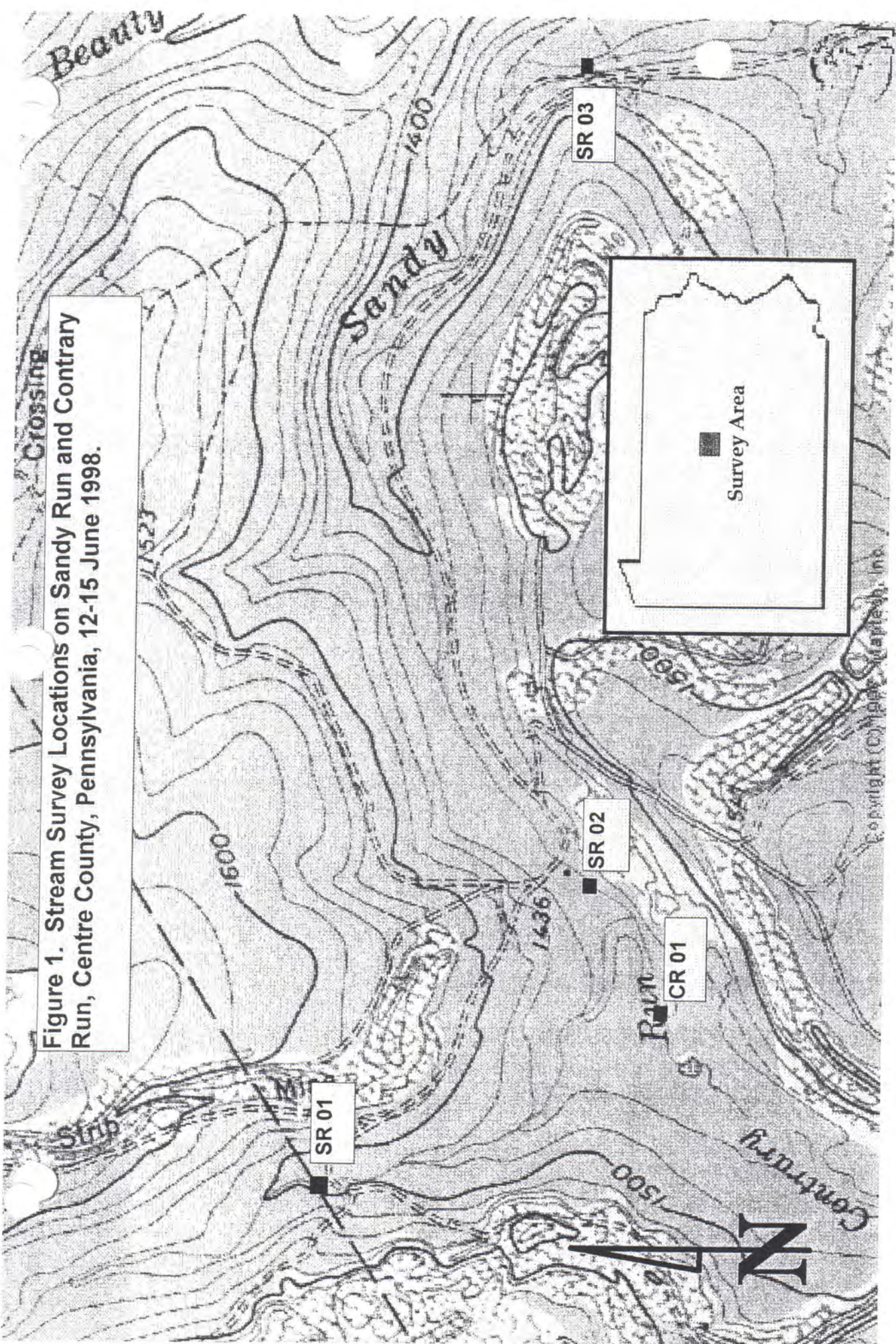


Table 1. Qualitative Benthic Macroinvertebrate Sampling for Stream Survey Locations on Sandy Run, Centre County, Pennsylvania, 12-15 June 1998.

	SR 01 KICK	SR 02 KICK	SR 03 KICK
<b>Diptera</b>			
Chironomidae	X	X	X
Simulidae			
<i>Simulium</i>	X	X	X
Tipulidae			
<i>Antocha</i>	X		
<i>Dicranota</i>	X		
<i>Hexatoma</i>	X		
<b>Trichoptera</b>			
Brachycentridae			
<i>Brachycentrus</i>			X
Hydropsychidae			
<i>Diplectrona</i>	X	X	
Lepidostomatidae			
<i>Lepidostoma</i>	X		
Rhyacophilidae			
<i>Rhyacophila</i>	X	X	X
Uenoidae			
<i>Neophylax</i>	X		
<b>Plecoptera</b>			
Leuctridae			
<i>Leuctra</i>	X	X	X
Nemouridae			
<i>Amphinemura</i>	X	X	X
Perlidae			
<i>Acroneuria</i>	X		
Perlodidae			
<i>Isoperla</i>	X		
<b>Ephemeroptera</b>			
Baetidae			
<i>Baetis</i>		X	
Ephemerellidae			
<i>Ephemerella</i>		X	
<i>Serratella</i>	X		
<b>Megaloptera</b>			
Sialidae			
<i>Sialis</i>		X	
<b>Coleoptera</b>			
Elmidae			
<i>Ancyronyx</i>	X		
<b>Other</b>			
Cambaridae			X
<b>Total Taxa</b>	<b>15</b>	<b>9</b>	<b>7</b>

Table 2. Results of Electrofishing Sandy Run Station SR01, Centre Cour Pennsylvania, 12-15 June 98.

Station 01	Brook Trout ( <i>Salvelinus fontinalis</i> )			
	Number Collected	Avg Weight	Fish / ha	kg / ha
25-49	6	1.0	227.0	0.2
50-74	0	0.0	0.0	0.0
75-99	5	13.2	500.0	6.6
100-124	3	22.0	114.0	2.5
125-149	5	37.2	189.0	7.0
150-174	3	64.3	114.0	7.3
175-199	3	103.0	114.0	11.7
200-224	1	127.0	38.0	4.8

Station Length (m)	100
Station Width (m)	2.64
Station Area (ha)	0.0264
Fish/ha	984
Total kg / ha	40.227

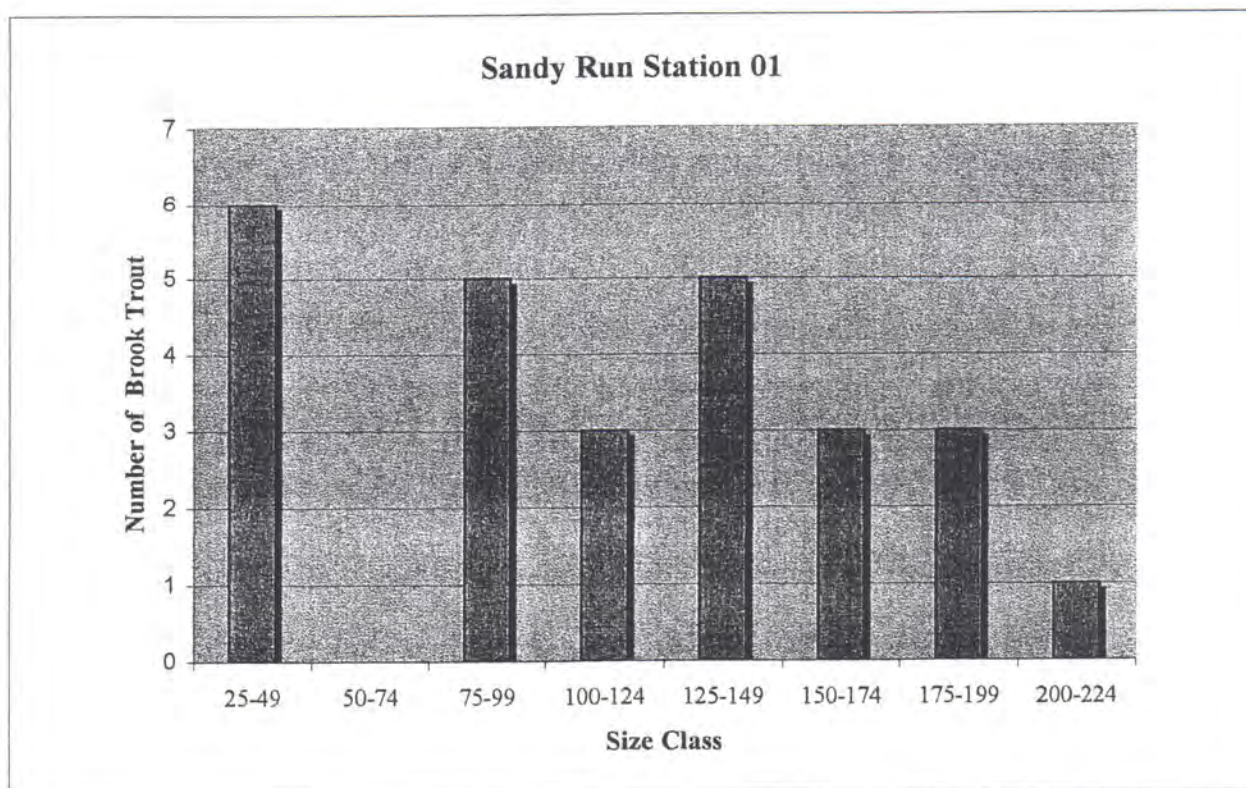


Table 3. Results of Electrofishing Sandy Run Station SR02, Centre Cour Pennsylvania, 12-15 June 98.

Station 02	Brook Trout ( <i>Salvelinus fontinalis</i> )			
	Number Collected	Avg. Weight	Fish / ha	kg / ha
25-49	0	0	0	0.000
50-74	7	1	303	0.303
75-99	2	12.5	87	1.087
100-124	4	37.3	173	6.450
125-149	2	43	87	3.740
150-174	1	102	43	4.386
175-199	0	0	0	0.000
200-224	0	0	0	0.000

Station Length (m)	65
Station Width (m)	3.56
Station Area (ha)	0.0231
Fish/ha	693
Total kg / ha	15.966

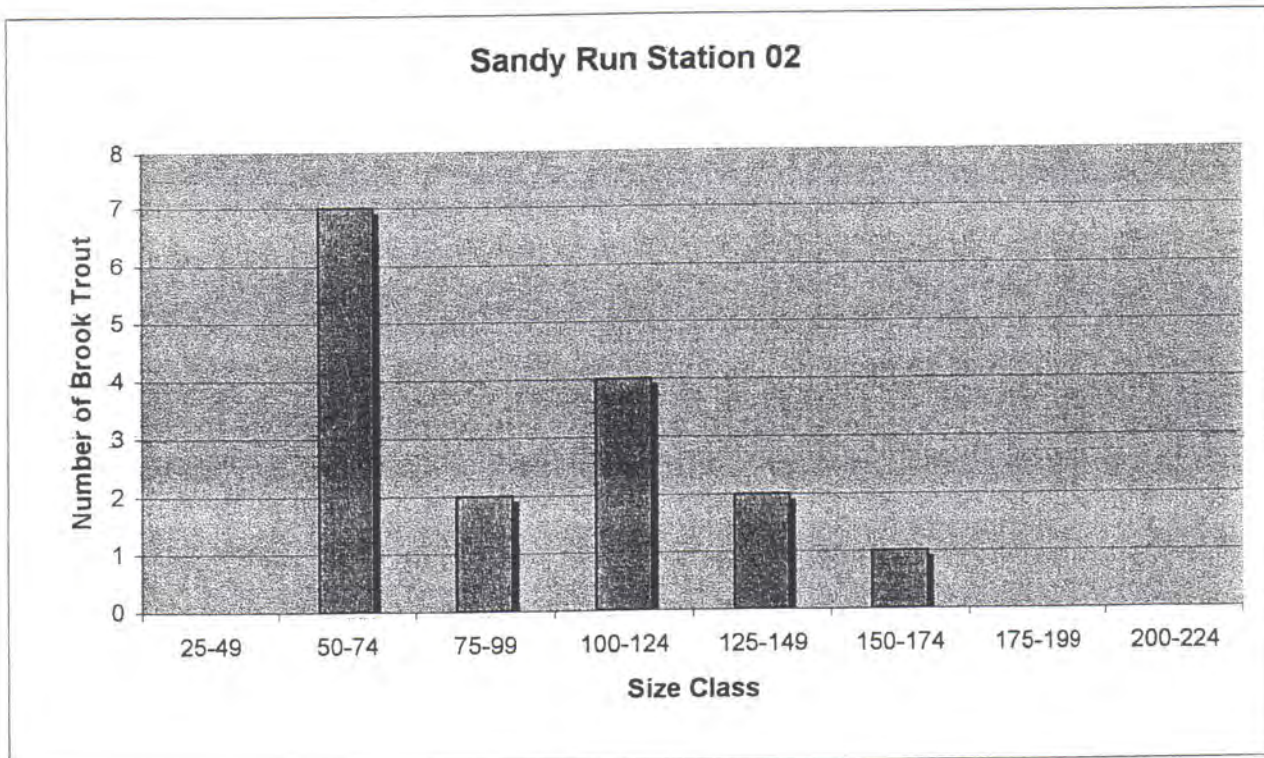


Table 4. Results of Electrofishing Sandy Run Station SR03, Centre Cour Pennsylvania, 12-15 June 98.

Station 03	Brook Trout ( <i>Salvelinus fontinalis</i> )			
	Number Collected	Avg. Weight	Fish / ha	kg / ha
25-49	0	0	0	0.00
50-74	0	0	0	0.00
75-99	0	0	0	0.00
100-124	0	0	0	0.00
125-149	1	21	28	0.59
150-174	1	43	28	1.20
175-199	0	0	0	0.00
200-224	1	96	28	2.69

Station Length (m)	100
Station Width (m)	3.54
Station Area (ha)	0.0354
Fish/ha	85
Total kg / ha	4.48

