

Sub-watershed 8R (Un-named)

General Discussion

This sub-watershed encompasses 0.67 square miles or 427.79 acres of land area, approximately 1.04% of the total study area. This basin is drained by 1.98 miles of tributaries (0.74% of the total length of watershed tributaries) and contains no lakes or ponds. State records indicate no mining of any type in this area. Our investigations have found 1 surface mine which is flowing and no deep mines.

The following information gives the combined averages of the sampling stations designated as GC8R3, GC8R4, and GC8RS, all un-named. They are shown on Drawing 7316-7, while their individual averages can be found in Table 77. In the case where more than one tributary contributes to a sub-watershed, the values have been combined. The percentages of pollution load and flow that this sub-watershed contributes to Monitoring station GC8 near the mouth of Georges Creek are also given.

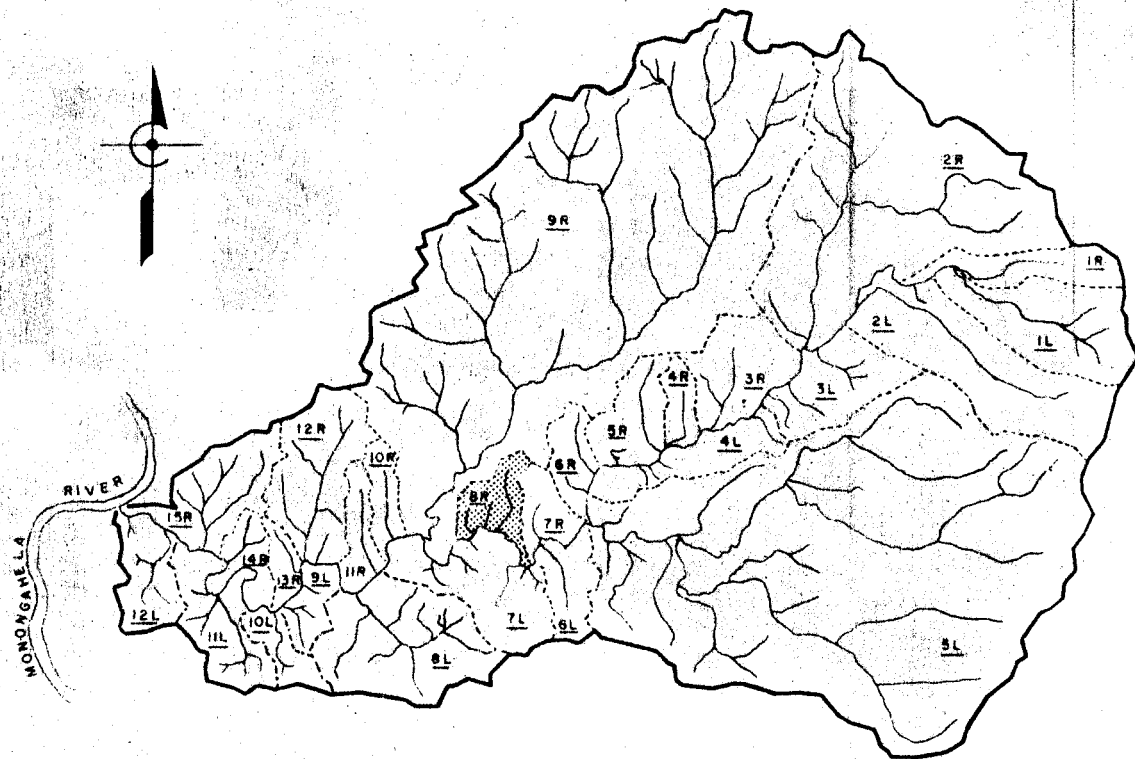
|                 | <u>Averages</u> |     | <u>Percent of<br/>Total Watershed</u> |
|-----------------|-----------------|-----|---------------------------------------|
| pH              | 5.9             |     |                                       |
| Net Hot Acidity | 560             | PPD | 2.33%                                 |
| Ferrous Iron    | 0               | PPD | 0 %                                   |
| Total Iron      | 3               | PPD | 0.10%                                 |
| Sulfate         | 956             | PPD | 1.40%                                 |
| Flow            | 244,800         | GPO | 0.41%                                 |

TABLE 77  
 TRIBUTARY AVERAGE WATER QUALITY DATA  
 Sub-watershed  
 8R





| Station | pH  | Hot Acid |        | Alkalinity |       | Net Hot Acid |        | Ferrous Iron |       | Iron as Fe |       | Sulfate |        | Flow |         |
|---------|-----|----------|--------|------------|-------|--------------|--------|--------------|-------|------------|-------|---------|--------|------|---------|
|         |     | PPM      | #/Day  | PPM        | #/Day | PPM          | #/Day  | PPM          | #/Day | PPM        | #/Day | PPM     | #/Day  | GPM  | G.P.D.  |
| GC8R3   | 7.4 | 0        | 0      | 86.67      | 79.05 | 0            | 0      | .07          | 0     | .26        | .37   | 73.67   | 86.18  | 93   | 133,920 |
| GC8R4   | 3.2 | 680.57   | 644.39 | 0          | 0     | 680.57       | 644.39 | 0            | 0     | 2.11       | 2.46  | 1068.14 | 866.95 | 62   | 89,280  |
| GC8R5   | 7.0 | 0        | 0      | 32.67      | 5.89  | 0            | 0      | 0            | 0     | .10        | .02   | 14.67   | 2.65   | 15   | 21,600  |

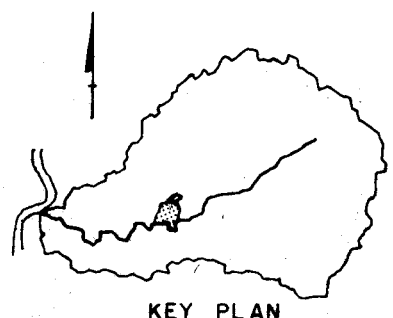
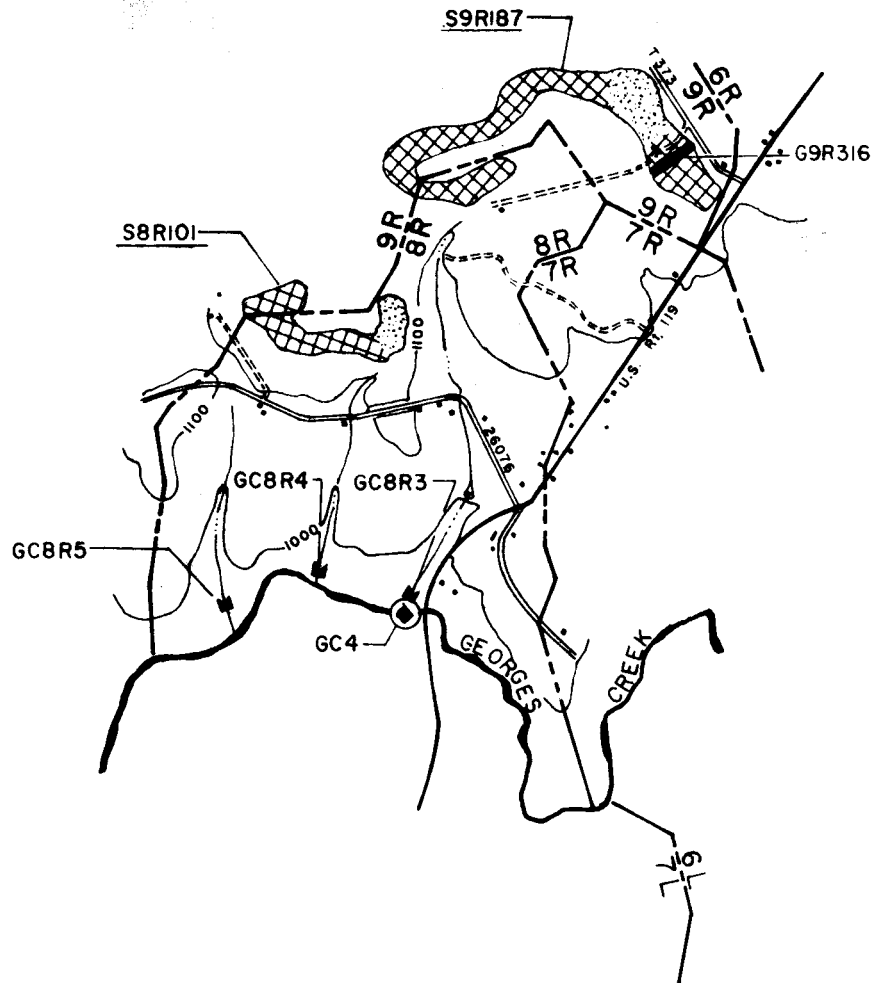
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# Location Plan



## LEGEND FOR THE FOLLOWING PLATES

- Y DEEP MINE OPENING (M9R59A)
- ▲ DEEP MINE PIPE (SAMPLE STATIONS - MP5L2A, or BH9R2)
- ▼ WEIR (TRIBUTARY SAMPLE STATION - GC7L1)
- CROSS-SECTION (TRIBUTARY SAMPLE STATION - GC9R1)
- ⊙ GEORGES CREEK CROSS-SECTION (SAMPLE STATION - GC5)
-  STRIP MINE (ABANDONED-UNRECLAIMED - S11L102)
-  STRIP MINE (ACTIVE - S4R107)
-  STRIP MINE (ABANDONED-RECLAIMED - S7L106)
-  GOB PILE (G9R301)
- A,B,C UNDERLINED SUFFIX INDICATES FLOWING DEEP MINE SAMPLE STATIONS - M9R74A,B,C
- S7L101 UNDERLINE - INDICATES FLOWING STRIP MINE, GOB PILE, OR BORE HOLE SAMPLE STATION



**MAP OF  
SUB-WATERSHED 8R**  
(UN-NAMED)  
SCALE: 1" = 2000'

## Strip Mines

The Commonwealth records indicate there are no strip mines in this sub-watershed. Our field investigations located 1 surface mine, and it was flowing. Table 78 shows the abandoned strip mine, and the following information: the name of the mine or operator if known, permit number, the acres of area mined and which seam was mined, the designation we give the mine, whether or not there is a flow, and whether it is connected to a deep mine.

The total acreage of the abandoned surface mine is 14.69 acres or 3.43% of the total sub-watershed land area.,

Table 79 gives the averages of the abandoned surface mine flow. Directly under the averages are the percentages of flows and pollution loads that each contributes to the pollution load of the sub-watershed as measured at sampling stations GC8R3, GC8R4, and GC8RS.

Where a single surface mine has more than one flow, the averages of the flows are added together.

Where more than one major tributary drains a sub-watershed, the averages of each are also combined.

Following Table 79 are the descriptions of the flowing strip mines along with abatement recommendations.

TABLE 78  
 ABANDONED SURFACE MINES  
 Sub-Watershed  
 8R

| Mine Number | Name of Mine or Operator | Permit No. | Area Mined (Acres) | Seam Mined | Flowing | Connection w/Deep Mine |
|-------------|--------------------------|------------|--------------------|------------|---------|------------------------|
| S8R101      | Unknown                  | --         | 14.69              | PGH *      | Yes     | --                     |

TABLE 79  
 ABANDONED SURFACE MINE AVERAGE WATER QUALITY DATA  
 Sub-Watershed  
 8R

| Station | pH  | Hot Acid |       | Alkalinity |       | Net Hot Acid |         | Ferrous Iron |       | Iron as Fe |        | Sulfate |        | Flow |        |
|---------|-----|----------|-------|------------|-------|--------------|---------|--------------|-------|------------|--------|---------|--------|------|--------|
|         |     | PPM      | #/Day | PPM        | #/Day | PPM          | #/Day   | PPM          | #/Day | PPM        | #/Day  | PPM     | #/Day  | GPM  | G.P.D. |
| S8R101  | 2.6 | 3043     | 620.2 | 0          | 0     | 3043         | 620.2   | 0            | 0     | 13.46      | 2.73   | 3719    | 745.9  | 16   | 23,040 |
| %       | -   | -        | -     | -          | -     | -            | 110.86% | -            | 0%    | -          | 95.79% | -       | 78.04% | -    | 9.41%  |

## Strip Mine S8R101

### General Description:

This strip mine is located approximately 2,500 feet northwest of the intersection between u.s. Route 119 and L.R. 26076. The strip lies 600 feet north of L.R. 26076. It contains 14.69 acres and is assumed to have mined the Pittsburgh coal seam. There are no deep mine connections. The strip is 85% reclaimed through grading and revegetation. About 80% of the strip is vegetated with grasses. The eastern edge is abandoned and has a 10 foot highwall. The leach originates from an area south of the abandoned portion. The strip is shown on the map of Sub-watershed 8R.

### Recommendations:

An apparent mine fire exists here and recommendations are withheld until it is investigated by others.

## Recommendations

Table 80 gives the recommendations for the polluting deep and strip mines, along with the costs associated with each recommendation. The order in which they are placed is determined by the cost per pound of acid removal.

An estimated effectiveness of 75% reduction of pollution load is assigned for each recommendation.

Table 81 lists the sources abated, the amount of beneficiation, and the costs associated with each plan.

The distance from Sampling Station GC8R4 to the next polluting tributary downstream, GC7L5, is .6 miles. This is the minimum distance on Georges Creek that would benefit from the recommended work.



**TABLE 80**  
**RECOMMENDED ABATEMENT PROCEDURES - COST BENEFICATION**  
**SUB-WATERSHED**  
 8R

| Rank | Mine No. | TOTAL COSTS   |                   | COST \$/POUND ACID REMOVAL |                   | Total Acid Abated Ppd | Total Iron Abated Ppd | % of Total Sub-Watershed |      |
|------|----------|---------------|-------------------|----------------------------|-------------------|-----------------------|-----------------------|--------------------------|------|
|      |          | Known Sources | Potential Sources | Known Sources              | Potential Sources |                       |                       | Acid                     | Iron |
|      |          |               |                   |                            |                   |                       |                       |                          |      |

**TABLE 81**  
**BENEFICATION - RECOMMENDED PLANS**  
**SUB-WATERSHED**  
 8R

| PLAN | ABATED | ACID |                          | IRON |                          | SULFATE |                          | TOTAL CONS'T COSTS |                   |
|------|--------|------|--------------------------|------|--------------------------|---------|--------------------------|--------------------|-------------------|
|      |        | Ppd  | % of Total Sub-Watershed | Ppd  | % of Total Sub-Watershed | Ppd     | % of Total Sub-Watershed | Known Sources      | Potential Sources |
|      |        |      |                          |      |                          |         |                          |                    |                   |