4. Little Yellow Creek Watershed

a. General

The headwaters of Little Yellow Creek originate near Strongstown and the stream flows in a generally westerly direction for approximately 12 miles where it discharges into Yellow Creek at Yellow Creek State Park.

The total stream length, including all tributaries, is about 34.6 miles. The total area of the watershed is about 18.6 square miles.

The area has several active and abandoned deep and surface mines which are described further below, however, mine drainage is minimal and is not seriously degrading the Little Yellow Creek.

b. Deep Mines

Active deep mines are: Valley #11 and #12 and Glory #2. (See Map Sheets 6, 8 , and 11, Appendix A.)

Water from the active mines is being treated in accordance with state law.

Abandoned deep mines are: Rhems #4 and #5 and Heilwood
Fuel Mine #3.

The abandoned deep mines are not discharging any substantial mine drainage.

c. Strip Mines

Past and present strip mining activity has been centered in the Strongstown and Pineton areas. (See Map Sheets 7 , 8 , and 11, Appendix A .)

Auger mining is being employed in at least one of the active strips. Here again, it is assumed that water from active strips is being treated according to state law.

None of the abandoned strips are sources of serious mine drainage. The new strips have been backfilled, contoured, and revegetated. However, during periods of high precipitation and runoff, these strips are contributing the bulk of the contamination found in Little Yellow Creek as indicated by Sampling Station #407.

This contamination should decrease substantially during the next decade. The process of natural revegetation will eventually reduce the amount of erosion.

Most of Little Yellow Creek is annually stocked with trout by the Pennsylvania Fish Commission, and several tributaries maintain productive trout populations year round.

Water samples taken on tributaries never affected by mine drainage indicate that a considerable amount of natural acidity is evident in the watershed.

Table 24 on the following pages shows minimums, maximums, and yearly averages-of water quality data collected from several sampling stations established in the watershed.

Plate 20 shows the locations of the sampling stations and the various tributaries of the watershed.

Plate 21 graphically illustrates the monthly relationship between stream flow, contamination load, and weather elements within the watershed as measured at Sampling Station #407 near the mouth of Little Yellow Creek.

Peak contamination loads occurred during the months of February, April, and June during periods of high runoff.

The pH level remained fairly consistent throughout the study period with the yearly average of pH 6.3.

Little Yellow Creek contributed the following percentages of flow and contamination load to the total pollution loads of Yellow Creek at Sampling Station #408: Flow - 25%; Acidity - 34%; Iron - 4%; and Sulfate - 14%.

Approximately 8,427,000 gallons of water per day entered Yellow Creek from Little Yellow Creek during the study period.

Table 24

Water Quality Data

Little Yellow Creek Watershed

Sampling Station	Flow GPM	pH Range	Acid Load Lbs./Day	Acidity Mg./L.	Iron Mg./L.	Sulfate Mg./L.
407	Max. 11,262	3.9 - 7.0	480	Max. 20	Max. 1	Max. 700
	Min. 828			Min. 1	Min. 0.1	Min. 2
	Ave. 5,853			Ave. 7	Ave. 0.3	Ave. 67
228	Max. 3	5.1 - 5.5	.3	Max. 26	Max. 1	Max. 35
	Min. 0.4			Min. 6	Min. 0.05	Min. 3
	Ave. 1			Ave. 23	Ave. 1	Ave. 23
227	Max. 21	4.3 - 5.5	1	Max. 22	Max. 1	Max. 30
	Min. 0.4			Min. 2	Min. 0.1	Min. 11
	Ave. 7			Ave. 16	Ave. 0.4	Ave. 27
189	Max. 1,404	4.9 - 6.1	33	Max. 8	Max. 8	Max. 200
	Min. 39			Min. 2	Min. 0.2	Min. 39
	Ave. 458			Ave. 6	Ave. 1	Ave. 64
188	Max. 2,223	4.2 - 5.6	83	Max. 10	Max. 1	Max. 350
	Min. 60			Min. 2	Min. 0.2	Min. 37
	Ave. 902			Ave. 8	Ave. 1	Ave. 137
176	Max. 1,066	4.7 - 5.6	12	Max. 26	Max. 0.5	Max. 30
	Min. 88			Min. 0.2	Min. 0.2	Min. 15
	Ave. 392			Ave. 2	Ave. 0.3	Ave. 20
157	Max. 745	3.7 - 5.9	10	Max. 26	Max. 8	Max. 320
	Min. 0.4			Min. 2	Min. 0.2	Min. 22
	Ave. 156			Ave. 6	Ave. 0.4	Ave. 96
156	Max. 765	5.4 - 5.6	2	Max. 8	Max. 0.3	Max. 180
	Min. 7			Min. 0.1	Min. 0.1	Min. 55
	Ave. 69			Ave. 2	Ave. 0.1	Ave. 91

Table 24 Continued

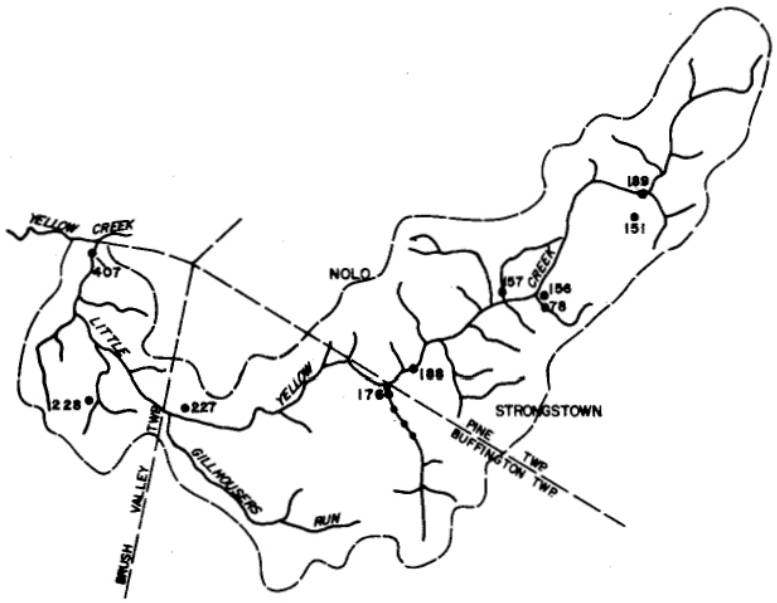
Water Quality Data

Little Yellow Creek Watershed

Sampling Station	Flow GPM		pH Range	Acid Load Lbs./Day	Acidity Mg./L.		Iron Mg./L.		Sulfate Mg./L.	
151	Max.	122	4.6 - 6.1	2	Max.	10	Max.	1	Max.	290
	Min.	16			Min.	2	Min.	0.1	Min.	5
	Ave.	63			Ave.	3	Ave.	0.3	Ave.	51
78	Max.	862	4.9 - 6.9	8	Max.	80	Max.	1	Max.	64
	Min.	0.6			Min.	2	Min.	0.03	Min.	5
	Ave.	166			Ave.	4	Ave.	1	Ave.	27

LITTLE YELLOW CREEK WATERSHED

WATERSHED AREA



LEGEND

- LITTLE YELLOW CREEK DRAINAGE BASIN
- SAMPLING STATION
- MODERATELY ACID

1 0 2 MILES

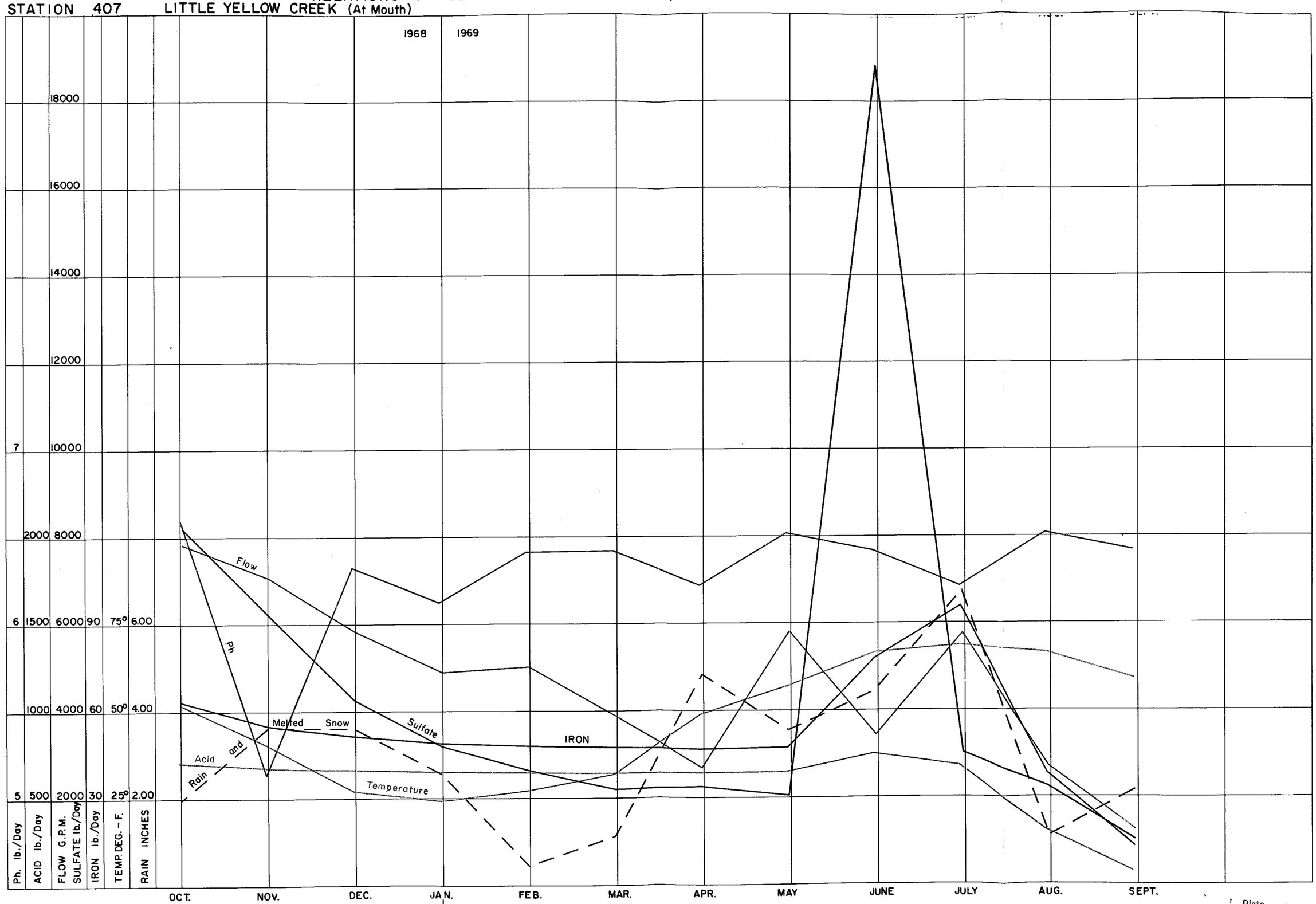
SCALE

MARCH 1970

PREPARED BY	TWO LICK CREEK MINE DRAINAGE POLLUTION ABATEMENT PROJECT	PREPARED FOR
L. ROBERT KIMBALL *Consulting Engineers* EBENSBURG, PENNSYLVANIA	INDIANA COUNTY, PENNSYLVANIA	PENNSYLVANIA DEPARTMENT OF MINES AND MINERAL INDUSTRIES

RELATIONSHIP BETWEEN STREAM FLOW, POLLUTION LOAD AND WEATHER ELEMENTS

STATION 407 LITTLE YELLOW CREEK (At Mouth)



Ph. lb./Day	ACID lb./Day	FLOW G.P.M. SULFATE lb./Day	IRON lb./Day	TEMP. DEG. – F.	RAIN INCHES
7	2000	18000 / 16000 / 14000 / 12000 / 10000 / 8000			
6	1500	6000	90	75°	6.00
	1000	4000	60	50°	4.00
5	500	2000	30	25°	2.00

D. Polluted Watersheds

There are eight (8) watersheds in the Two Lick Creek System that are classified as polluted. Two of the watersheds, Two Lick Creek Proper, excluding its principal tributaries and Yellow Creek, excluding Little Yellow Creek are further broken down into upper and lower portions for the purpose of this analysis.

Overall stream conditions for the polluted watersheds in total stream miles is:

Total Stream Length - 278.2 miles Total Length Non-Polluted - 215.0 miles Total Length Severely Polluted - 41.3 miles Total Length Moderately Polluted - 21.9 miles

Approximately 23 percent of the above polluted watersheds' streams are seriously degraded by mine drainage.

This represents about 18.4 percent of the total stream length within the entire Two Lick Creek Watershed that is polluted.

The total area of the polluted watersheds is 161.4 square miles.

The key on the following page is provided to define the symbols used in Recommended Abatement Procedures, Cost Benefication tables for each of the polluted watersheds.

See Section X for more complete details relating to abatement methods and costs.

KEY TO RECOMMENDED ABATEMENT PROCEDURES

R1 - Grass and legumes - Method #1

R2 - Grass and legumes - Method #2 R3 - Seedlings

F - Flumes

D - Ditching

B - Terrace backf ill

A - Acreage on strip mines and refuse piles

RP - Standard Refuse Pile Reclamation

RB - Refuse Burial and Reclamation SC - Soil Cover

Plant - Treatment Plant
Pond - Pond Construction and Reclamation

Seal - Mine Seal