MONTOUR RUN WATERSHED

ALLEGHENY COUNTY, PENNSYLVANIA

WATER QUALITY AND AQUATIC LIFE RESOURCES

Prepared for:

Core Organizations of the Montour Valley Alliance:

Coraopolis Sportsmen's Association
Forest Grove Sportsmen's Club
The Hollow Oak Land Trust
Montour Trail Council
Penns Woods Chapter of Trout Unlimited

Prepared by:

U.S. Army Corps of Engineers
Pittsburgh District

1997

MONTOUR RUN WATERSHED
ALLEGHENY COUNTY, PENNSYLVANIA
WATER QUALITY AND AQUATIC LIFE RESOURCES
1997

TABLE OF CONTENTS

TABLE OF CONTENTS

TABLE OF CONTENTS

TABLE OF CONTENTS

I. Introduction

I. A. Purpose of Study

The Montour Run watershed is located in Western Allegheny County, Pennsylvania, with much of its basin less than ten miles distance from Pittsburgh, Pennsylvania (PLATE 3). Long dominated by a large airport complex, bituminous coal mining, woodlands, golf courses, small communities, and rural residential housing, land use in the 36.6 square mile Montour Run watershed is now in a highly accelerated state of transition. In recent years, construction of a major highway, interchanges, a new airport terminal, plus landfill, housing, retail commercial, office, and light industrial complexes have been completed within and adjacent to the watershed, and additional development continues at a rapid pace. These past and present land use patterns have contributed to serious degradation of the water quality of Montour Run. Despite extensive development, for much of its course Montour Run still flows through a steep-sloped, flood-prone, wooded, scenic valley inhabited by deer, wild turkey, and other wildlife. Portions of this valley are inaccessible to motor vehicles and are poorly suited for development.

An 11.5 mile long reach of the grade of the former Montour Railroad, which follows Montour Run from its source to its mouth, has been converted to a very popular and highly utilized hiking trail and bikeway. When complete, this multi-use, non-motorized, recreational rail-trail will ultimately extend 54 miles from Coraopolis to Clairton, Pennsylvania. Also, Allegheny County has

developed plans, programs, model ordinances, and mechanisms for a multi-faceted greenway system which would include green corridors along the valleys of Montour Run and several of its tributaries.

In response to the new availability of bike trail access, and some improvement in the water quality of Montour Run (related to improved sewage treatment and a decline in acid mine drainage pollution from old bituminous coal mines), local sportsmen organizations have stocked Montour Run with trout since 1991. While it does not meet Pennsylvania Fish and Boat Commission criteria for "Approved Trout Waters" because of continued water quality deficiencies, a very popular spring season (put-and-take) trout fishery has nonetheless developed along the stream. The scenic bikeway and the existence of even a compromised trout fishery, have considerably improved the public image of the stream, and sparked the interest of the general public, news media, numerous private organizations, and resource agencies in regard to the health and future of Montour Run. In reference to all of these past and present activities, the intent of this study is to provide a baseline overview of water quality and aquatic life resources throughout the Montour Run basin, and to identify and recommend measures that could contribute to the restoration and protection of the waters of the Montour Run drainage basin.

I. B. Authority This study was conducted by the U.S. Army Corps of Engineers for the core group of organizations comprising the Montour Valley Alliance, including the Coraopolis Sportsmen's Association, the Forest Grove Sportsmen's Club, the Hollow Oak Land Trust, the Montour Trail Council, and the Penns Wood Chapter of Trout Unlimited. The public sponsor was the Allegheny County Conservation District. The study was performed under the authorities of Section 22 of the Water Resources Development Act of 1974 (Public Law 93-25, as amended) and Section 319 of the Water Resources Development Act of 1990 (Public Law 101-640). These authorize the Corps of Engineers to assist the states in the preparation of plans for the development, utilization, and conservation of water and related land resources, and for recovering cost shares of the program from non-Federal entities.

I. C. Sponsors and Participants

The following agencies and organizations have provided sponsorship or assistance in the planning and performance of this study of the water quality and aquatic life resources of the Montour Run watershed:

Allegheny County, Pennsylvania, Aviation (ACAD), Health ACHD), and Planning Departments (ACPD)

Baker, Michael Jr. Inc.

Coraopolis Sportsmen's Association

Forest Grove Sportsmen's Club

Hollow Oak Land Trust (HOLT)

Laurel Foundation

Montour Trail Council

Montour Valley Alliance (MVA)

Trout Unlimited (TU), Penns Woods West Chapter

Penn's Corner Conservancy Charitable Trust

Pennsylvania Department of Environmental Protection (PADEP)

Pennsylvania Fish and Boat Commission (PFBC)

U.S. Army Corps of Engineers, Pittsburgh District (COE)

U.S. Department of Agriculture (USDA),

Natural Resources Conservation Service (NRCS),

Allegheny County Conservation District.

The Pennsylvania Department of Environmental Protection assumed the responsibility for chemical laboratory analyses and the Allegheny County Health Department for bacteriological analyses. Also, we wish to acknowledge the efforts of USDA volunteer, Tom Page, and also the assistance of James (Red) Givven, from ACAD, for providing an escort and guidance for crews working on the Pittsburgh International Airport portion of the watershed. Roy Kraynyk was the Montour Valley Alliance (MVA) representative. This report was prepared by Michael Koryak of the U.S. Army Corps of Engineers, Pittsburgh District, with the assistance of Linda Stafford, Rosemary Reilly, and Robert Hoskin, and was typed by Jan Detwiler and Marcia Haberman.

II. Description of the Montour Run Drainage Basin

II. A. General Hydrology and Stream Nomenclature

Montour Run is formed by the confluence of its North and South Forks in the community of Imperial, Pennsylvania. From Imperial, it first meanders towards the east for 6.8 miles. It then turns towards the north and flows another 6 miles to its confluence with the Ohio River, in the Neville Island backchannel of the Ohio River, at Coraopolis, 9.4 miles downstream of Pittsburgh, Pennsylvania.

Montour Run drains 36.6 square miles of western Allegheny County, Pennsylvania. This drainage includes portions of Findlay, Moon, Robinson, and North Fayette Townships and Coraopolis Borough. The drainage basin has a roughly rectangular shape (approximately 8 miles from east to west and about 4 miles from north to south), between the approximate limits of 40.43° and 40.51° north latitude and 80.13° and 80.29° west longitude. Total relief in the drainage basin is 600 feet, ranging from elevation 692 feet National Geodetic Vertical Datum (NGVD) at the mouth of Montour Run (the normal pool elevation of Dashields Lock and Dam on the Ohio River) to over 1,300 feet NGVD on the western edge of the basin. In its lower reach, Montour Run flows through a 350 feet deep gorge.

The Montour Run watershed, as well as the drainage basins of its ten major tributaries, is shown on PLATE 1. These ten tributaries and other subbasins of Montour Run are listed and described in TABLE 1. Stream courses are shown on PLATE 2.

Of the tributaries, only Meeks Run, Trout Run, McClarens Run, and the North and South Forks of Montour Run are named streams, listed in the Pennsylvania Gazetter of Streams and named on U.S. Geological Survey topographic maps. Because of a general public interest in the waters of the Montour Run watershed, specifically expressed interest by the Moon Area School District in performing follow up studies in the basin, and to reduce as much as possible tedious and confusing references to unnamed tributaries, we have taken the liberty to use some unofficial but locally recognized names and to nominate new names for additional streams in the basin. These newly named streams are identified in TABLE 1.

On the subject of stream nomenclature, historical references to Montour Run are venerable, going back to the 1760's. It was then called Montour's Run because the Seneca half-breed hunter and trader Andrew Montour lived in a cabin a short distance upstream of its confluence with the Ohio River. Neville Island was also then known as Montour's Island. Andrew Montour served as a guide and interpreter for Alexander McKee, deputy Indian agent under George Groghan, and on military campaigns of Col. Daniel Broadhead, and of Capt. Samuel Brady's Rangers. Montour was killed on October 22, 1781 by a Muncey Delaware warrior named Shingwelah, his forehead caved in by a blow from a heavy whisky jug (Ref. 9).

TABLE 1

MONTOUR RUN TRIBUTARY DRAINAGE BASINS

Major Tributaries to Montour Run				
Basin	Name of Stream	Confluence of Tributary with Montour Run	Drainage Area (square miles)	Percent of Total Montour Run Drainage Area
1.	Meeks Run	left bank @ mile 3.0	2.3	6.3
2.	Holt Run *	left bank @ mile 3.6	0.7	1.9
3.	Salamander Run *	right bank @ mile 3.6	0.8	2.2
4.	Grimm Creek *	right bank @ mile 5.1	1.6	4.4
5.	Trout Run	left bank @ mile 6.6	1.0	2.7
6.	McClarens Run	left bank @ mile 8.0	6.5	17.8
a.	Below East & West Forks		0.6	1.7
b.	West Fork McClarens Run *		3.4	9.3
c.	East Fork McClarens Run *		2.5	6.8

TABLE 1 (con't)

MONTOUR RUN TRIBUTARY DRAINAGE BASINS

Basin	Name of Stream	Confluence of Tributary with Montour Run	Drainage Area (square miles)	Percent of Total Montour Run Drainage Area
7.	Milk Run *	right bank @ mile 9.1	1.1	3.0
8.	Enlow Run *	left bank @ mile 11.7	7.6	20.8
a.	Below East & West Forks		0.6	1.7
b.	West Fork Enlow Run *		3.4	9.3
c.	East Fork Enlow Run *		3.6	9.8
9.	North Fork Montour Run	left bank @ mile 12.8	2.3	6.3
10.	South Fork Montour Run	right bank @ mile 12.8	2.6	7.1

TABLE 1 (con't)

MONTOUR RUN TRIBUTARY DRAINAGE BASINS

Additional Local Drainage to Montour Run				
Basin	Name of Stream		Drainage Area (square miles)	Percent of Total Montour Run Drainage Area
A.	Between Montour Run mile 0-3.6		2.5	6.8
B.	" " " mile 3.6-6.6		1.6	4.4
C.	" " " mile 6.6-8.0		1.7	4.6
D.	" " " mile 8.0-11.7		2.9	7.9
E.	" " " mile 11.7-12.8		1.4	3.8
		TOTAL	36.6	100.0

* Indicates assigned names. These streams are not named in the Pennsylvania Gazetter of Streams, or on the U.S. Geological Survey's 7.5 Minute Series (the Oakdale, Clinton, Ambridge and Aliquippa, Pennsylvania Quadrangles) Topographic Maps of the study area.

II. B. Impacts of Local Geology and Mineral Extraction Activities on Water Quality

The Montour Run drainage basin is located within the unglaciated Appalachian Plateaus physiographic province. Except for hilltop areas with elevations in excess of about 1,100 feet NGVD, the exposed rock strata in the basin belongs to the Conemaugh Formation of the Pennsylvania System. On the hilltops, however, the lower portion of rocks from the Monongahela Formation of the Pennsylvania System are also present. The very valuable, but prone to produce acid mine drainage pollution, Pittsburgh Coal Seam (number 8 coal) lies at the base of these Monongahela Group rocks.

Along with natural gas and oil extraction, the Pittsburgh coal seam has been extensively mined in this basin, and high elevation hilltop deep and strip mines encircle the drainage basin boundaries of Montour Run, and partially ring the high elevation boundaries of essentially every major tributary subbasin of Montour Run. The mines contribute metal polluted and highly mineralized mine drainage to essentially every perennial stream within the basin, and have long degraded the water quality of Montour Run.

In terms of the origin and impacts of mine drainage, bituminous coal mine drainage in Western Pennsylvania almost invariably contains sulfuric acid and high concentrations of metals, especially iron, manganese, and aluminum. The acid is formed by the oxidation of sulfur occurring in the coal and the

rock or clay found above and below the coal seams, particularly in the roof shales, binders, and rider seams. Most of the sulfur in the unexposed coal is found in a pyritic form as iron pyrite and marcasite (both having the composition FeS_2).

In the process of mining, the sulfide is uncovered and exposed to the oxidizing action of air, water, and sulfur-oxidizing bacteria. Autotrophic sulfur-oxidizing bacteria such as Thiobacillus thiooxidans are the major catalysts of the process. They utilize the energy obtained from the conversion of inorganic sulfur to sulfate and sulfuric acid. The end products of the reaction are as follows:

$$2FeS_2 + 7O_2 + 2H_2O \longrightarrow 2FeSO_4 + 2H_2SO_4 \qquad (1)$$

The oxidation of ferrous iron in acid solution is generally slow, although it is thought to be also partially achieved by microorganisms. This reaction may be represented as:

$$2Fe^{2+} + {}^{1}/_{2}\, O_2 + 2H^{+} \longrightarrow 2Fe^{3+} + H_2O \qquad (2)$$

As the acid ferrous solution is further diluted and neutralized in a receiving stream and the pH rises, the ferric iron hydrolyses and ferric hydroxide may precipitate according to the reaction:

$$Fe^{3+} + 3H_2O \longrightarrow Fe(OH)_3 + 3H^{+} \qquad (3)$$

The brownish yellow ferric hydroxide may remain suspended in the stream even when it is no longer acidic. The overall stoichiometric relationship is shown in equation (4):

$$FeS_2(s) + {}^{15}/_4\ O_2 + {}^{7}/_2\ H_2O \text{ <----> } 4H^+ + 2SO_4^- + Fe(OH)_3(s) \qquad (4)$$

Reaction (4) indicates that a net of 4 moles of H^+ are liberated for each mole of pyrite (FeS_2) oxidized, making this one of the most acidic weathering reactions known.

Acid mine drainage can ruin domestic and industrial water supplies and can destroy aquatic life. In addition to rendering a stream environmentally unsuitable for fish and other aquatic life, a depressed pH interferes with the natural stream self-purification processes. At low pH levels, the iron associated with mine drainage pollution is soluble. However, in downstream reaches where the pH begins to improve, most of the $Fe_2(SO_4)_3$ is hydrolyzed to essentially insoluble $Fe(OH)_3$ (equation 3). The stream bottom then can become covered with sterile orange or yellow-brown iron oxide or white aluminum oxide deposits which are deleterious to benthic algae, invertebrates, and fish.

Bottom-dwelling organisms are particularly sensitive to this form of pollution. Depressed food supplies, gill clogging, and general smothering by iron or aluminum precipitates, along with direct toxicity from ingested metals, contribute to the decline of benthic invertebrates in metal oxide polluted streams and

invertebrate populations are typically very low in these waters. With fish food thus diminished, fish populations can be limited even when the degree of degradation is not severe enough to cause direct acute distress to fish.

Besides these effects, which seriously degrade the aesthetic and recreational value of our natural waters, streams containing acid mine drainage also cause damage by corroding pipes, pumps, bridges, boats, and navigation facilities, such as locks and dams. In addition to the iron, aluminum, and sulfuric acid previously discussed, numerous other minerals can be dissolved in the acid waters, further contributing to the degradation of surface and underground potable water supplies.

Most of the acid mine drainage (AMD) pollution in the Montour Run watershed originates from old (pre-1940) deep mines, and from abandoned 1950's and 1960's strip mining operations, although some limited strip mining extraction of Pittsburgh Coal is still occurring. Most of the coal extraction activities now occurring in the basin are secondary coal recovery operations, in conjunction with non-coal mining construction projects. The most recent, and by far the most extensive, mining activities in the basin are concentrated toward the western half of the watershed.

Acid production is declining in many of these old mines, and literally thousands of acres of old strip mines have been partially reclaimed as a consequence of construction of the Pittsburgh International Airport and the utilization of old strip mines as landfills. The use of locally available alkaline steel

mill slag for fill, and as a concrete and bituminous aggregate (as well as alkaline cement) in massive highway, airport, and commercial construction projects in the basin, and exposed alkaline limestones in lower elevations of the Conemaugh Group strata, all tend to neutralize the acid produced by the Pittsburgh Coal Seam mining operations.

This neutralization process from alkaline minerals, in fact, now totally overwhelms the AMD acidity, and most streams of the basin today tend to be highly alkaline. The principal impact of AMD on the waters of the Montour Run watershed then is not acidity, but residual AMD mineralization and metal pollution, especially, gross and widespread aluminum oxide pollution.

II. C. Other Land Uses and Water Quality

Land use patterns in the Montour Run watershed are now in a highly accelerated state of transition (PLATE 3). Major highway and airport construction projects have recently been completed (i.e. the Route 60 Southern Expressway and the Pittsburgh International Airport [PIA] Midfield Terminal). Numerous residential, light industrial, and commercial developments, such as the massive Robinson Town Center retail complex and associated satellite businesses, have also been either recently completed, are now actively under construction, or are planned for future development. Development activity is now especially intense along the Route 22 and Route 60 corridors. The basin covers portions of what is perhaps the most rapidly developing suburban area in the Pittsburgh Metropolitan Region. Towards the western

portion of the watershed, agricultural lands, rural residential housing, woodlands, and abandoned strip mines are rapidly being converted to large landfill waste disposal sites. There are also some significant "brownfield" industrial sites in the basin, such as the old Breslube-Penn refinery site on Montour Run, about 1.5 miles upstream from its confluence with the Ohio River, which has recently been recommended for Superfund remediation by Region III of the U.S. Environmental Protection Agency because of PCB and other contamination problems.

Some unique land uses include an unusual temporary building Bruce Willis had constructed several years ago for a Hollywood movie prop in a river flood plain, mature swamp forest setting at the mouth of Montour Run. There are also two abandoned Nike missile bases in the watershed. A chamber excavated into the rock face of a sheer cliff near the bike trail at the mouth of Meeks Run, constructed for the apparent purpose of concealing a Prohibition Era whisky distilling operation, complete with an old fire pit and plumbing artifacts, provides additional colorful evidence of the diversity of economic activities previously practiced within the Montour Run watershed.

The recent leveling of woodlands in the Montour Run watershed, and the transition from forest cover to broad expanses of open pavement and short grasslands associated with mining, landfilling, and construction activities have, in fact, been so extensive and intensive t[illegible] they have provoked a very interesting and noticeable response from the avifauna. Namely,

in response to the creation of these broad open areas, the Montour Run basin has been invaded by an entire assemblage of birds typical of treeless western prairies, that are usually very rare or totally absent from the forests and farmlands of Western Pennsylvania.

For instance, Byers (Ref. 8) recently referred to one landfill near Imperial, Pennsylvania as both "The hottest birding spot in Western Pennsylvania" and "an ornithological Holy Grail". Among the "incredible variety of birds" noted at the location were: "lark sparrows; LeConte's sparrows; breeding blue grosbeaks; horned larks; bobolinks; shorebirds; summer tanagers; grasshopper, Henslow's, and savannah sparrows; and winter harriers and short-eared owls in the double digits. Twenty-eight short-eared owls were flushed last winter with ten in the air at one time."

While it is convenient that the basin has been cleared and modified to such a degree that local bird watchers can now view western prairie bird species without having to travel west, the presence of this assemblage of birds far outside their normal range is also a clear signal that changes in land use in the Montour Run watershed are occurring on a very significant scale.

All of these past and present land use activities influence the water quality of the streams in the Montour Run watershed. However, along with bituminous coal mining, the Pittsburgh International Airport's overwhelming presence in the basin, and

activities associated with its operation and maintenance, probably have the most significant impact on these waters.

The Pittsburgh International Airport (PIA) is owned by Allegheny County, Pennsylvania and managed by the county's Department of Aviation (ACDA). PIA is the 18th busiest airport in the nation and nearly 12,000 people are employed by businesses located on PIA grounds. The total project covers about 10,000 acres (15.6 square miles). The airfield was originally constructed by the U.S. Army Corps of Engineers, Pittsburgh District during World War II. Construction began in April 1942, with the District leveling 1,100 rugged acres in Moon Township, which were supplied by Allegheny County, and building three runways, each a mile long, plus taxiways, hangars, a control tower, and the barracks, mess halls, and repair shops necessary for military units. The field became the base of the 71st Interceptor Squadron and the 81st Airbase Squadron, and in postwar years was converted by Allegheny County into the Greater Pittsburgh International Airport. Existing developed airport facilities, including the newly constructed Midfield Terminal, comprise approximately 1,900 acres of the total project. Nearly the entire project is within the boundaries of the 36.6 square mile Montour Run drainage basin, as are the Pennsylvania Air National Guard (PANG) and the U.S. Air Force Reserve base. Therefore, approximately half of the Montour Run Watershed is devoted to and influenced by airport operations (PLATE 3).

Airport fuel transportation, storage, and refueling activities are one potential impact of PIA operations. In the past, prior to recent upgrading and decommissioning of refueling operations, fuel spill and overflow problems at PIA were chronic in nature (Ref. 6), and there has been one previously documented 80,000 gallon magnitude PIA fuel spill incident into the East Fork of McClarens Run. However, the most significant airport operational activity in terms of ambient Montour Run water quality is now airplane and runway deicing.

The airlines utilize large quantities of propylene glycol ($C_3H_8O_2$) at specific pad locations with deicer recovery systems to deice aircraft. The ACDA uses a mixture of ethylene glycol ($C_2H_6O_2$) and urea (CH_4N_2O) to deice runways. Small amounts of potassium acetate ($C_2H_3KO_2$) are also now being applied to deice runways on an experimental basis. The amounts of reagents used vary annually with the weather, but during the winter of 1995-96 about 800,000 gallons of ethylene glycol, 600 tons of urea, and about 50,000 pounds of potassium acetate were spread on the runways and presumably drained into Montour Run.

Safety benefits of bare pavement, cost and management considerations, corrosion, and environmental impacts are all significant considerations when evaluating deicer alternatives. Deicers work by depressing the freezing point of water. However, some deicers can accelerate scaling in concrete pavements with low air entrainments, corrode airport runway lighting systems and other equipment, and may cause serious adverse environmental

impacts. Donald Walker, of the College of Engineering at the University of Wisconsin at Madison, summarized commonly utilized deicing reagent impacts as follows (Ref. 21):

Calcium magnesium acetate (CMA) is non-corrosive and melts snow at temperatures above 25°F. Since it does not produce a brine, CMA is utilized on corrosion sensitive areas such as bridges, and in areas where brine pollution is a sensitive environmental issue, such as Arizona and in the drainage of some Wisconsin lakes. Principal disadvantages to CMA are its cost and its potential to exert a high biochemical oxygen demand and depress dissolved oxygen levels in receiving waters.

Urea is non-corrosive and is commonly used on airport pavements. Although it melts snow, urea has a limited melting point of 25°F. While it is less damaging to roadside vegetation than salt, it is a fertilizer rich in nitrogen that can promote undesirable algae growth in surface waters and is relatively expensive. One of the break-down products from the decay of urea is ammonia which is toxic to aquatic organisms at relatively low concentrations.

Ethylene Glycol is an anti-freeze ingredient and is toxic to humans. Normally mixed with urea, it is frequently utilized as a deicing agent at airports. Ethylene glycol is highly effective at low temperatures (its eutectic temperature is -51°F). It is non-corrosive, but expensive and can cause serious oxygen depletions in surface waters.

Potassium acetate is now being considered as an alternative to urea/glycol mixtures at many airports. While it is generally

considered to offer low corrosive characteristics, there are concerns with its effect on runway lighting systems.

Magnesium chloride works well at temperatures as low as 0°F (eutectic temperature -22°F). It attracts moisture from the air which hastens its dissolving and ice melting capabilities. However, this can cause the chemical to keep pavements wet for extended periods. Also, it is corrosive and generates a brine.

Calcium chloride is effective at lower temperatures than salt (it can be used to -20°F), and like magnesium chloride, attracts moisture from the air which hastens its dissolving and melting capabilities. This chemical releases heat when it dissolves. The major disadvantage of calcium chloride is its high cost. In addition, this chemical is supplied in bags and requires extra handling efforts. It is corrosive and keeps pavements wet.

Salt (NaCl) is the standard bearer of deicers. It has a low initial cost, is effective above 20°F, melts snow and penetrates ice. It may be prewetted with liquid calcium chloride to speed dissolving and reduce losses due to it being blown off pavements. Salt also can be mixed with dry calcium chloride for use in low temperature applications. Salt, though, is slow to work below 20°F, and must dissolve before ice melting begins. It is also corrosive, harmful to adjacent vegetation, and can contaminate surface and drinking water supplies. Corrosion inhibitors may be added to salt to minimize corrosion impacts, and these inhibitors show promise in laboratory tests.

Abrasives improve friction and begin working on snow and ice immediately. The usefulness of abrasives is limited however, because to work, the abrasive must be kept between the tire and the ice. Cleanup of abrasives from roads, runways, and storm sewers can also be costly.

Among the most obvious impacts of deicing activities at PIA are periodic cool season incidents of strong urea and glycol odors along Montour Run and its tributaries, especially Enlow Run, McClarens Run, and the mainstream of Montour Run downstream of the confluence of Enlow Run. Also, the high organic load of deicing materials and their breakdown products encourages profuse growths of a type of "sewage fungi" (resembling and more than likely Sphaerotilus) on the substrate surface of the East Fork of Enlow Run and the West Fork of McClarens Run, and along Enlow and McClarens Runs downstream of the confluence of these tributaries. Underneath the dense and heavy fungi coated rock substrate, the streambed sands and gravels are drenched with organics, and the "sewage fungi" and the bedload and streambank accumulations of organics persist and continue to influence stream biology and quality into the warm summer season.

While commonly referred to as sewage fungus or Sphaerotilus, these waste nutrient biological slimes are more typically heterogeneous communities of microorganisms held in a matrix of Sphaerotilus, which is not actually a genus of a fungus, but a filamentous bacterium. These slimes grow in sewers, the effluents of untreated food processing wastes, and paper

manufacturing spent sulphite liquors rich in organic materials and organic nitrogen. In terms of organic load similarities to sewage, the glycol required to deice one 747 is equivalent to the daily sewage effluent from about 5,000 homes (Ref. 2). The Sphaerotilus growths create wooly coatings on submerged objects, or tufts and strands, sometimes 15 inches or more long, streaming in the current from point of attachment. They vary in color from milky white, in fresh new growth, to dull gray-white, brown, or rusty-red, depending on age, nutrition, and type and amount of solids they entrap from the passing water. The Montour Run basin growths appear to vary from milky white in the spring to red by late summer.

Biological slimes coat fish eggs and smother aquatic fauna. If any macroscopic life is present at all, it is usually limited to sludgeworms and some pollution tolerant midge larvae. These slimes are aesthetically unpleasant and foul smelling. There can be secondary pollution resulting from the decomposition of the "sewage fungus" for months after the addition of organic waste, which originally stimulated their growths, is terminated. The biochemical oxygen demand of dead Sphaerotilus sludge is about ten times that of the same amounts of living Sphaerotilus. Also, during the decomposition process, or because of physical disturbances, large mats may seethe to the water's surface in unsightly and foul-smelling eruptions. The mats are often carried downstream to areas where the flow velocity permits

settli ·. Therefore, sludge banks can form many miles downstream from the initial pollution sources (Ref. 14).

In the Montour Run watershed the substrate at the mouths of both Enlow Run and McClarens Run was still wooly with lush growths of sewage fungi in early June of 1996. Also, in particular, the East Fork of Enlow Run at its mouth was still rank with septic and glycol odors in early June. By early September 1996, abundant growths of sewage fungi and septic and glycol odors in the watershed were largely limited to the headwaters of the East Fork of Enlow Run.

These glycol problems are not unique to PIA. A recently published article in Engineering News Record (ENR) (Deicing is a Hot Problem, Ref. 2), linked airport deicing activities to odor and runoff problems in Milwaukee, Boston, and Denver, and pointed out that "Glycol awareness as an environmental issue has dramatically increased in the last two years".

III. Previous Studies

The earliest references to mention any aspect of the water quality or aquatic life resources of Montour Run date back to August 6, 1780, when John Slover was captured by Wyandot Indians while hunting for snapping turtles in Montour Run (Ref.9). About two hundred years later, some additional information on this topic began trickling in. Turtles, incidentally, have either survived the centuries since John Slover's Montour Run adventure, or have subsequently recolonized the stream. On June 7, 1996 one

large snapping turtle and a small spiny softshell turtle were shocked out of undercut bank refuges at Montour Run mile 0.15 during an electrofishing survey.

More recent reports on the Montour Run watershed were reviewed and summarized by Jandrlich (Ref. 11), and portions of Section III. were drawn from his draft review.

III. A. Deicing Operations Runoff Studies

The majority of studies performed in this basin have addressed deicing operations from the Pittsburgh International Airport (PIA) into the Montour Run watershed. Deicing runoff studies were conducted for ACAD by the PADEP which involved concentrated sampling from 12/15/92 to 3/15/95. Also, deicing reagent sampling was conducted by Baker Environmental Inc. (Tom Biskey and John Lightner) between 11/1/93 and 12/22/94. Both the PADEP and Baker Environmental Inc. chemical analyses emphasized ethylene glycol and propylene glycol testing. Both also monitored five-day-biochemical-oxygen-demand (BOD_5), ammonia nitrogen (NH_3-N), chemical-oxygen-demand (COD), pH, phosphorous, methyl blue anionic surfactants (MBAS), and chlorine. Baker Environmental Inc. sampled 26 different, predictably affected locations within the Montour Run watershed. Of the 14 sampling sites tested by the PADEP, the highest concentration of propylene glycol found (16,900 mg/l) was at the storm drain channel from Deicing Pad A at Pittsburgh International Airport (PIA). The second highest concentration (548 mg/l) was measured at McClarens Run near the Pennsylvania Air National Guard (PANG) Base.

III. B. Pittsburgh International Airport Management Plan

Allegheny County has prepared a four volume management plan for Pittsburgh International Airport. The development of the four Management Programs grew out of a commitment that the County of Allegheny made to the various natural resource agencies during the development of the process that led to the construction of the Airport Parkway, then known as the Southern Expressway. During the environmental analysis and planning activities for that highway, a series of meetings was held between the Pennsylvania Department of Transportation, Federal Aviation Administration, Federal Highway Administration, County of Allegheny, and the various environmental resource agencies. Those agencies included the United States Environmental Protection Agency, U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, Pennsylvania Department of Environmental Resources, Pennsylvania Fish Commission, and Pennsylvania Game Commission. The general concern and topic of these meetings was how to protect the sensitive resources of PIA property and still allow for the development of the property as would be required for future growth of this important national aviation facility. It was the belief of the environmental agencies that uncontrolled or poorly planned growth of PIA would further degrade the environment. In response to those concerns, the County of Allegheny's Department of Aviation agreed to undertake a two phase planning study of the PIA property. The commitment to that planning study was made in a Memorandum of Understanding entered

into between the County of Allegheny, the Federal Aviation Administration, and those resource agencies named above.

Following development and acceptance by all parties of the Memorandum of Understanding, development of the four Management Programs commenced. The four Management Programs are heavily weighted towards the resource agencies concern for meeting water quality standards. Therefore, the management studies concentrated on water quality issues. Water quality analyses and control were divided into three subcategorizes for the development of Management Programs. Those programs are: Wetland Management; Stormwater Management; and Water Quality Management. A fourth area of concern was Upland Habitat Quality and Wildlife Management.

All four Management Programs began with a data collection phase of current conditions of the PIA property. All of the data were entered into an intelligent geographic information system (GIS). This includes mapping files as well as database files that were used to generate and analyze data presented in each of the four Management Program volumes. Each of the four plans is discussed below.

III. B. 1. Wetland Management Program

All wetland systems on PIA property were field viewed and an approximation of their boundaries was placed on project mapping. Additionally, approximately 90% of the wetland systems on the property were delineated utilizing the U.S. Army Corps of Engineers' 1987 Wetland Delineation Manual. Wetland systems

identified were also qualitatively assessed for characteristics that would indicate the functions and values of that particular wetland system. A strategy was presented for wetland protection on PIA property.

III. B. 2. Upland Habitat-Wildlife Management Program

A land cover map of the PIA property was developed based on aerial photography, topographic mapping, and ground truthing. Following development of land cover mapping, field work was undertaken to determine the density and distribution of mammalian species that could interfere with airport operations. Additionally, data were collected on the abundance and distribution of other mammalian species. Following collection of these data and development of population estimates, a strategy of habitat management was developed to mitigate interactions between wildlife and airport operations. Finally, an abandoned strip mine in the southern quadrant of the PIA property was evaluated as a potential site for wildlife mitigation.

III. B. 3. Stormwater Management Program

The Stormwater Management Program consisted of the preparation of an inventory of all 52 existing culverts that were identified on PIA property. These culverts were individually examined to determine their condition and capacity to handle current stormwater conditions from PIA land use. Ten existing ponds and stormwater management basins were analyzed to determine their present and future storage capacity. The PIA property was subdivided into 120 subbasins and the stormwater runoff from each

of these was calculated for both current and future conditions. Following this analysis, locations on PIA property were identified for future stormwater management basins. Thirteen locations were identified and stormwater management basins were designed for each.

III. B. 4. Water Quality Management Program

Using the 120 subwatersheds selected for the Stormwater Management Plan, appropriate physical and chemical water quality sampling regimes were developed for each perennial stream in each of the subwatersheds. Physical parameters measured included flow rate, overland drainage patterns, depth, velocity, and substrate. Chemical parameters included pH, conductivity, heavy metal concentrations, and other water quality parameters which were required by the Pennsylvania Department of Environmental Protection and those which were unique to airport operations. Following the physical chemical water quality characterization of each of the streams, water quality improvement measures were developed.

TABLES 2 and 3 are abbreviated statistical summaries of the results of sampling for a selected group of water quality parameters in the Enlow Run and McClarens Run watersheds, respectively, which were extracted from the PIA Management Program report. As demonstrated by comparing the results in these two tables, except for nitrogen species which may be related to urea applications, both mine drainage pollution and

airport operations related parameters tend to be generally most elevated in the Enlow Run drainage portion of the airport.

TABLE 2
PITTSBURGH INTERNATIONAL AIRPORT WATER QUALITY MANAGEMENT PROGRAM
STATISTICAL SUMMARY OF SURFACE WATER RESULTS FOR THE ENLOW RUN DRAINAGE

PARAMETER *	AVERAGE **	MAXIMUM	MINIMUM	FREQUENCY OF DETECTION (%)
Ethylene Glycol	50.83	266.00	140.00+	100
BOD	62.70	104.00	2.60	58
COD	51.22	189.00	4.00	100
Total Organic Carbon	24.22	111.00	2.15	100
Nitrate-N	0.96	2.30	0.12	92
Nitrite-N	0.07	0.11	0.02	42
Ammonia-N	0.84	3.00	0.18	100
Oil and Grease	NO DATA			
Aluminum	16.85	68.00	0.05	42
Iron	3.29	30.70	0.18	100
Manganese	5.38	29.80	0.21	92
Conductivity (Field)	1195	2651	529	100
Sulfate	764	3091	113	100

* Units = except for conductivity which is expressed as umhos/cm, all other units used are mg/l.

** The average values listed are based on hits only.

\+ There is an apparent error in the Ref. 6 source material used to prepare this table. With a 100% frequency of detection it is not possible for the average concentration of ethylene glycol to be less than the minimum concentration detected. Comparing other related parameters, it would appear that the high minimum value reported is a typographic error.

TABLE 3

**PITTSBURGH INTERNATIONAL AIRPORT WATER QUALITY MANAGEMENT PROGRAM
STATISTICAL SUMMARY OF SURFACE WATER RESULTS FOR THE
McCLARENS RUN DRAINAGE**

PARAMETER *	AVERAGE **	MAXIMUM	MINIMUM	FREQUENCY OF DETECTION (%)
Ethylene Glycol	18.00	18.00	18.00	14
BOD	26.57	50.00	2.10	86
COD	42.97	136.00	4.00	100
Total Organic Carbon	13.57	36.90	3.77	100
Nitrate-N	1.45	3.10	0.41	100
Nitrite-N	0.83	1.77	0.23	43
Ammonia-N	3.00	5.20	0.10	100
Oil and Grease	25.15	28.40	21.90	29
Aluminum	0.07	0.11	0.03	29
Iron	0.50	0.86	0.22	100
Manganese	1.14	2.75	0.04	100
Conductivity (Field)	978.00	1211.00	803.00	100
Sulfate	176.00	285.00	134.00	100

* Units = except for conductivity which is expressed as umhos/cm, all other units used are mg/l.

** The average values listed are based on hits only.

III. C. Pollution Complaint Reports

The following is a summary of representative historical pollution complaint incidents which have occurred in the Montour Run watershed.

The first pollution complaint was reported on February 25, 1966 by Louis W. Bercheni of the PADEP and Mr. Paul Sower, of the Pennsylvania Fish and Boat Commission (PAFBC). They investigated a complaint that industrial wastes were being discharged into McClarens Run (tributary of Montour Run) by the PIA. This investigation concluded that the industrial wastes came from washwaters (oil and detergents from washing down airplanes). These washwaters drained into a county owned storm sewer which drained into McClarens Run at the Pennsylvania Air National Guard Base.

On May 27, 1966 Robert Shilcosky and Herb Gleiditsch of the Allegheny County Health Department investigated a fish kill on Montour Run, near the Coraopolis Sportsmen Club. The fish kill damage zone was described as having a "milky color, hydrocarbon smell, and a substantial amount of floating soap suds with a handful of large carp and suckers seen floating near the Coraopolis Sportsmen Club on Montour Run." An investigation was made of the PIA treatment facilities to identify problems in an effort to prevent future fish kills on Montour Run.

The third of the pollution complaint reports involved Allegheny Airlines on March 3, 1969. Allegheny Airlines was discharging a mixture of paint remover and detergents from the

company's cleaning area which drained into a storm sewer at the PIA, leading into McClarens Run and then Montour Run. This discharge complaint was reported to the Allegheny County Department of Health, and Mr. James Smith of the Pennsylvania Fish and Boat Commission. They subsequently carried out a joint inspection of the airport's main overhaul hanger. There they found a discharge of fuel oil emanating from a concrete headwall beside the western area of the airport, leading into an unnamed tributary of McClarens Run. Sampling documented a 75 gallon per minute discharge containing 160 ppm (parts per million) of oil. Mr. George Pidanich, Director of Allegheny Airlines, agreed with Mr. James Smith's plan for an improved "housekeeping policy" to prevent Allegheny Airline's industrial wastes from entering McClarens Run in the future.

There was a pollution incident report of an oil sheen on a tributary to Montour Run on August 18, 1976. This incident was detected by the U.S. Coast Guard. The cause was found to be discarded, used oil containers. No clean up was considered to be necessary because only relatively small amounts of oil were spilled.

A fifth pollution complaint involved Industrial Waste World Pipe Service on June 30, 1981. Sam Harper, Water Quality Specialist with the PADEP, confirmed that an oil spill had occurred at Industrial Waste World Pipe Service. Damages were documented along a stream reach starting at about 1/2 miles below the Montour Exit of the Parkway West and extending downstream to

the mouth of Montour Run in Coraopolis. Industrial Waste World Pipe Service and PADEP subsequently met to discuss actions to prevent future oil spills from entering waters of the Montour watershed.

When a station located at Montour Run stream mile 11.7, just upstream of the confluence of Enlow Run, was visited for sampling during this 1996 study, it was apparent that significant quantities of a light petroleum distillate were seeping into the stream from its right descending bank. The material appeared to be gasoline and its likely source was a leaking underground storage tank.

III. D. Other Studies

Other field studies of Montour Run were conducted to investigate water quality for potential trout stocking. The following is a brief narrative summary of five such surveys.

1. On April 16, 1973 Harry Barnett of the Allegheny County Conservation District; W. Smith, Fish Warden; and Al Carl of the Allegheny County Planning Department examined Montour Run to determine its suitability for a put-and-take basis trout stream. During their survey, they found acid mine drainage pollution in the headwaters of the stream above Imperial. Organic pollution (high volatile solids) was apparent from the Aloe Brothers Stripping and Restoration facility. Also evident was that the Holiday Inn's motel wastes were being discharged directly into Montour Run.

On June 10, 1975 and July 10,1975 Harry Barnett of the Allegheny County Conservation District, and Al Carl of the Allegheny County Planning Department collected water samples along Montour Run. The results demonstrated that there were elevated concentrations of metals in the headwaters of the North and South Forks of Montour Run and their tributaries. The problem sources were traced to AMD and to acid pickling waste treatment operations of Cenco Industrial Corporation.

3. The Allegheny County Conservation District conducted a survey of Montour Run on January 26, 1976. The following measures to improve water quality were recommended: that the sewer trunk line at the McClarens-Montour Run confluence be lengthened to extend upstream to the Imperial area, that South Fork Montour Run acid waste waters be neutralized, and that landfills be improved by liming to assist in bacterial stabilization of buried organic solids.

4. On July 8, 1982 Sam Harper and Tom Proch (PADEP) surveyed Montour Run above its confluence with McClarens Run to collect invertebrates and fish. A total of only five taxa of invertebrates and five species of fish (white sucker, creek chub, carp, blacknose dace, and emerald shiners) were collected at 6 examined sites.

5. A fifth study conducted by the Pennsylvania Fish and Boat commission in October 1991 will be discussed in detail in section V.C.2 of this report.

IV. Study Plan and Methods

The study approach involved first dividing the Montour Run drainage basin into smaller and more manageable hydrologic units. The ten principal Montour Run tributary basins, shown on PLATE 1 and described in TABLE 1, together account for 72.4% of the 36.6 square mile Montour Run drainage, and were each selected as study units. The east and west forks of the two largest tributaries of the Montour Run drainage, Enlow Run (20.8%) and McClarens Run (17.8%), were also identified as significant study units for a total of 14 initial tributary mouth sampling stations (PLATE 4).

In addition to these 14 tributaries, four stations were selected on Montour Run proper. The first is located towards the headwaters of Montour Run at mile 11.7, where the drainage area (D.A.) is 6.3 square miles. This point is above the confluence of Enlow Run and any drainage from the Pittsburgh International Airport, and represents mainly coal mining and landfilling activities in a rural residential area. The second Montour Run station is located at stream mile 6.6 (D.A. 26.1 square miles), and is influenced by additional coal mining and landfilling and by Enlow Run and McClarens Run airport drainage, as well as ongoing active construction development activities in the Robinson Township area. The third station is located at Montour Run stream mile 2.8 (D.A. 36.0 square miles), below the confluence's of some relatively undisturbed tributaries. There is a little additional local drainage (0.6 square miles) between this station and the mouth of Montour Run. However, a final

Montour Run station was established at its mouth, near its confluence with the Ohio River. The stations at miles 11.7 and 2.8 are equivalent to locations previously sampled by the Pennsylvania Fish and Boat Commission in October of 1991 and therefore provide continuity with past studies.

Four rounds of sampling surveys were conducted. The first round consisted of April-May 1996 modified rapid biological assessments with companion field and laboratory water chemistry data collection, at the 14 tributary and 4 Montour Run proper initial stations described above. Tributaries which demonstrated evidence of chemical pollution and/or biological stress in the first sampling round were then selected for more extensive reconnaissance in the second sampling round.

The second sampling round involved only field reconnaissance and the collection of limited field data at 19 additional locations plus eight locations sampled during round one, to identify the sources of water quality problems documented in the first sampling round. A number of significant mine pollution discharges and potential acid mine drainage remediation sites were located during this round. At the request of the Montour Valley Alliance (MVA), these potential remediation sites were shown to MVA personnel and Pennsylvania Department of Environmental Protection Mine Conservation Inspectors for their advanced consideration of the sites for construction of mine drainage remediation projects.

From the numerous sites visited during the second sampling round, a total of 36 priority stations were selected for a third comprehensive chemical and flow sampling survey. The 18 initial first round stations are all included among these 36 stations, and the initial 18 stations were also identified as approximate sites for bacteriological sampling in the third round survey.

The fourth round of sampling involved electrofishing and quantified triplicate Surber benthic macroinvertebrate sampling of the four Montour Run proper stations, and of one relatively undisturbed tributary (Meeks Run) as a control station. Because of an observed abundance of fish, the East Fork of McClarens Run and Trout Run were also electrofished during the fourth sampling round.

The Montour Run drainage basin sampling plan, including the locations of first, second, third, and fourth round sampling stations, and their designated station identification codes, is outlined in TABLE 4. APPENDIX A provides detailed descriptions of the locations of all 41 Montour Run watershed sampling stations and PLATE 4 is a map of the sampling stations.

The general intention was to design an integrated, broad-brush, total watershed study, while avoiding duplication of the monitoring efforts of ACAD and their consultants on PIA.

TABLE 4
MONTOUR RUN BASIN SAMPLING PLAN
April - September 1996

Sampling Station ID (prefix 4 MTR 1)	Major Subbasin	First Round Sampling	Second Round Sampling	Third Round Sampling		Fourth Round Sampling	
		Rapid Invertebrate Assessment & Companion Chemical Data Collection	Field Recon with Limited Sampling	Water Chemistry and Flow Sampling	Bacteriological Sampling	Surber Sample Invertebrates	Fish Sampling
3001	Montour Run	X		X	X	X	X
3028	"	X		X	X	X	X
3066	"	X		X	X	X	X
3115	"	X	X	X	X	X	X
2101	Meeks Run	X		X	X	X	X
2201	Holt Run	X		X	X		
2301	Salamander Run	X		X	X		
2401	Grimm Creek	X		X	X		
2501	Trout Run	X		X	X		X
2601	McClarens Run	X		X	X		
2602	W. Fork McClarens	X	X	X	X		
2615	"		X	X			
2603	E. Fork McClarens	X	X	X	X		X
2604	"		X	X			
2701	Milk Run	X		X	X		
2801	Enlow Run	X	X	X	X		
2802	W. Fork Enlow	X	X	X	X		
2805	"		X	X			
2806	"			X			
2809	"		X	X			
2810	"		X				
2815	"			X			

TABLE 4 (con't)
MONTOUR RUN BASIN SAMPLING PLAN
April - September 1996

Sampling Station ID (prefix 4 MTR 1)	Major Subbasin	First Round Sampling	Second Round Sampling	Third Round Sampling		Fourth Round Sampling	
		Rapid Invertebrate Assessment & Companion Chemical Data Collection	Field Recon with Limited Sampling	Water Chemistry and Flow Sampling	Bacteriological Sampling	Surber Sample Invertebrates	Fish Sampling
2803	E. Fork Enlow	X	X	X	X		
2818	"		X	X			
2819	"		X				
2820	"		X	X			
2822	"		X	X			
2823	"		X				
2901	N. Fork Montour Run	X	X	X	X		
2903	"		X				
2904	"		X	X			
2908	"		X	X			
2910	"			X			
2912	"			X			
2001	S. Fork Montour Run	X	X	X	X		
2004	"		X	X			
2005	"		X				
2006	"		X	X			
2010	"		X	X			
2012	"		X	X			
2014	"		X	X			
	TOTAL	18	27	36	18	5	7

V. Results

V. A. Chemical

The results of chemical analyses described in the previously discussed study plan portion of this report are presented in APPENDIX B. From this information and relative to other local streams draining the unglaciated Appalachian Plateau, the waters of Montour Run can be characterized as being moderately mineralized (calcium sulfate dominated), hard, and alkaline. Waters draining from the western portion of the basin are degraded by metals (iron, manganese, and especially aluminum) originating from extensive abandoned bituminous coal mines. Waters draining the central portion of the basin are impaired by high biochemical oxygen demands (BOD) and elevated ammonia concentrations that result from airport deicing operations. Water from tributaries draining the eastern portion of the Montour Run watershed are relatively high quality. Water quality problems related to sewage discharges, construction runoff, mill slag fill leachates, oil well seepage, and other sources are apparent in the watershed. However, these all appear to be relatively minor problems in comparison with the magnitude of the pollution generated from mine drainage and airport operations.

Looking at the chemical data collected during the April/May 1996 first round sampling surveys, conductivity values along the mainstem of Montour Run averaged about 1,100 umhos/cm. The mean mainstem alkalinity was 36 mg/l as $CaCO_3$, the mean calcium concentration was 125 mg/l, and the mean sulfate concentration

was 296 mg/l. The North and South Forks of Montour Run and Milk Run leap out as the major sources of metal contamination, with aluminum concentrations of 3,550, 1,610, and 7,620 ug/l, respectively. For comparison, in the eastern portion of the basin the aluminum concentrations of Trout Run, Grimms Creek, Holt Run, Salamander Run, and Meeks Run were 602, 150, 32, 398, and 69 ug/l, respectively. Along the mainstem of Montour Run, from source to mouth, aluminum concentrations declined from 2,470 to 525 ug/l during the spring sampling round.

The BOD of Montour Run above the confluence of airport runoff via Enlow and McClarens Runs was 2.4 mg/l, but ranged from 15.2 to 34.4 mg/l along the mainstem below the confluence of airport drainage. At their mouths, the BOD of Enlow and McClarens Runs were 17.9 and 116.0 mg/l BOD, respectively. BOD values as high as 942 mg/l were measured on airport property in the headwaters of Enlow Run (Station 4 MTR 1 2820), and 229 mg/l in the headwaters of McClarens Run (Station 4 MTR 1 2615). For comparison, except for a slightly elevated BOD of 2.6 mg/l in Meeks Run, the BOD values of tributaries in the eastern portion of the watershed were all 1.0 mg/l or less.

The concentration of ammonia in Montour Run above the confluence of Enlow and McClarens Runs was 0.2 mg/l, but ranged from 1.27 to 1.83 mg/l below this confluence. Enlow and McClarens Runs at their mouths had ammonia concentrations of 2.98 and 3.15 mg/l, respectively. Ammonia concentrations as high as 53.3 mg/l were measured on airport property in the headwaters of

Enlow Run (Station 4 MTR 1 2820). The ammonia concentrations of the tributaries draining the eastern portion of the watershed were all less that 0.04 mg/l.

The large quantities of ammonia observed in Enlow Run and McClarens Run airport drainage are almost certainly microbial breakdown products of nitrogenous urea utilized for runway deicing. Urea in aqueous solution is in equilibrium with ammonium cyanate, and the cyanate ion is itself hydrolyzed to ammonium and bicarbonate ions. Ammonia is most toxic in its nonionized form (NH_3 rather that the ammonium ion NH_4^+) and the ratio of NH_3 to NH_4^+ increases rapidly between pH 7 and pH 12. Therefore, the alkaline character of the waters of the Montour Run basin tend to increase the potential of its ammonia load to cause toxicity to susceptible aquatic life.

The alkalinity of waters leaching from airport runway fill was unusually high. For instance, the alkalinity at station 4 MTR 1 2822 was 576 mg/l as $CaCO_3$, and its pH was a caustic 12.0. This suggests that extremely alkaline mill slag was probably utilized as a fill material in portions of the airport when it was originally constructed during World War II. Near the extreme opposite end of the pH scale, the pH of a mine discharge near the community of Clinton (4 MTR 1 2815) was found to be typically less than pH 3.0 (alkalinity 0 and total hot acidity 254 mg/l as $CaCO_3$). Even with such hot acid sources in the watershed, however, the acid portion of acid mine drainage pollution in the Montour Run drainage basis is very effectively

overwhelmed by the reserves of geologic and anthropogenic sources of alkalinity present in the basin, largely reducing the scope of AMD problems to metal pollution.

Concentrations of chloride were also somewhat elevated in the airport drainage, but were highest in Salamander Run (303 mg/l). These, and possibly other nearby chloride loads, were sufficient to cause the chloride concentration of Montour Run to more than double. The conductance of Salamander Run was high (1,372 umhos/cm), and metals concentrations in this stream were elevated relative to other tributaries in the eastern portion of the basin. No petroleum hydrocarbon samples were collected, but considering the abandoned derricks in the area, it is likely that the waters of Salamander Run are being influenced by seepage from old oil wells.

The third round of chemical sampling was conducted between 3-5 September 1996, during a warm low flow period when, as shown on TABLE 5, flows generally ranged from 0.09 to 0.24 cubic feet per second per square mile of drainage area (cfsm) with an average of 0.16 cfsm. Mean annual flow yields in this region are usually about 1 cfsm.

By the time that this warm season, low-flow, round of chemical sampling was conducted in early September 1996, the stream was even more mineralized and alkaline. In September, conductivity values along the mainstem of Montour Run had increased to a mean of 1,238 umhos/cm. The mean September survey

TABLE 5
MONTOUR RUN WATERSHED
3-5 SEPTEMBER 1996 FLOWS

STATION	DRAINAGE AREA mile^2	FLOW cfs	YIELD cfsm
Montour Run			
3001	36.6	5.41	0.15
3028	36.0	4.16	0.12
3066	26.1	3.59	0.14
3115	6.3	1.45	0.23
Meeks Run	2.3	0.09	0.04
Holt Run	0.7	0.13	0.19
Salamande Run	0.8	0.10	0.13
Grimm Creek	1.6	0.15	0.09
Trout Run	1.0	0.06	0.06
McClarens Run	6.5	0.98	0.15
West Fork	3.4	0.59	0.17
East Fork	2.5	0.35	0.14
Milk Run	1.1	0.46	0.41
Enlow Run	7.6	1.15	0.15
West Fork	3.4	0.58	0.17
East Fork	3.6	0.36	0.10
North Fork Montour Run	2.3	0.51	0.22
South Fork Montour Run	2.6	0.63	0.24

mainstem alkalinity was 100 mg/l as $CaCO_3$. The mean calcium concentration was 169 mg/l, and the mean sulfate concentration was 336 mg/l. The mean concentrations of iron, manganese, and aluminum along the mainstem declined to 204, 252, and 76 ug/l, respectively. The highest BOD found along the mainstem of Montour Run and at the mouth of all of its major tributaries was only 1.1 mg/l. Sim larly, along the mainstem of Montour Run, ammonia concentrations had declined to a mean of 0.025 mg/l, and the highest major tributary ammonia concentration was 0.11 mg/l at the mouth of the North Fork of Montour Run.

Nearly half a year after the seasonal termination of airport deicing operations, however, some high BOD and ammonia concentrations were still apparent in the headwaters of the East Fork of Enlow Run and the West Fork of McClarens Run. BOD concentrations, for instance, of 335 mg/l were detected at Station 4 MTR 1 2825, and 813 mg/l BOD at Station 4 MTR 1 2820. An ammonia concentration of 16.6 mg/l was still apparent in September in seepage from Runway 32R (Station 4 MTR 1 2604). The continued discharge of very high BOD concentration waters this late in the season suggests either leakage from glycol storage facilities, and/or significant groundwater contamination from deicing reagents. Besides airport drainage, by September, some elevated ammonia concentrations in the range of 1.2 to 3.3 mg/l were dete ted in drainage from landfilling operations in the headwaters of both the North and South Forks of Montour Run. While these concentrations are modest relative to the ammonia

measured coming from the airport in the spring, their potential impact is somewhat amplified by the fact that the landfills are on old strip mines and their drainage tends to be relatively acidic. McClarens Run, Enlow Run, and especially Salamander Run still stood out as brine sources, with chlorine concentrations of 131, 176, and 320 mg/l, respectively.

While the concentrations of aluminum and other heavy metals had declined in Montour Run since the spring sampling round, Milk Run still stood out as the major tributary source of aluminum contamination (1,870 ug/l). The highest single source of aluminum found was the Clinton Mine discharge, with a flow of 0.0139 cfs and iron, manganese, and aluminum concentrations of 6,720, 7,120, and 25,400 ug/l, respectively.

In summary, while the waters of the Montour Run watershed suffer numerous insults, aluminum from old bituminous coal mines, and glycol and urea from airport deicing operations appear to be the most significant pollutants in the watershed. Also, based on two sampling rounds conducted in April and September 1996, the waters of the basin appear to be most degraded during the spring months, and future sampling efforts to characterize and monitor the water quality problems of the basin should probably focus on this period of the year.

V. B. Bacteriological

Fecal coliform bacteria samples were collected and analyzed by the Allegheny County Health Department from four stations on Montour run and the mouths of fourteen of its largest tributary

streams between 3 and 4 September 1996. The results of this survey are presented in TABLE 6.

Generally, the data in TABLE 6 shows that fecal coliform bacterial concentrations were highest in the western, headwater portion of Montour Run and in the tributaries in the western portion of the watershed. Fecal coliform concentrations in the South Fork of Montour Run were 4,600/100 ml, 650/100ml in the North Fork of Montour run, 780/100ml in Enlow Run, and 790/100ml in Montour Run at mile 11.7. There is a significant rural residential population with on-lot sewage disposal systems in this part of the watershed, and the somewhat elevated concentrations of fecal coliform bacteria are likely caused largely by improperly operating septic systems discharging partially treated effluents.

Conversely, fecal coliform bacteria concentrations were very low in the tributaries draining the eastern part of the Montour Run watershed. The fecal coliform concentrations of Meeks Run, Holt Run, Salamander Run, and Trout Run, for instance were all less than 20/100ml.

TABLE 6
MONTOUR RUN WATERSHED
CONCENTRATIONS OF FECAL COLIFORM BACTERIA
4-5 SEPTEMER 1996

STATION	count/100 ml
Montour Run Mile 0.1 4 MTR 1 3001	220
Montour Run Mile 2.8 4 MTR 1 3028	90
Montour Run Mile 6.6 4 MTR 1 3066	230
Montour Run Mile 11.7 4 MTR 1 3115	790
Meeks Run @ Mouth 4 MTR 1 2101	<5
Holt Run @ Mouth 4 MTR 1 2201	<5
Salamander Run @ Mouth 4 MTR 1 2301	10
Grimm Creek @ Mouth 4 MTR 1 2401	130
Trout Run @ Mouth 4 MTR 1 2501	20
McClarens Run @ Mouth 4 MTR 1 2601	80
West Fork McClarens Run 4 MTR 1 2602	15
East Fork McClarens Run 4 MTR 1 2603	310
Milk Run @ Mouth 4 MTR 1 2701	95
Enlow Run @ Mouth 4 MTR 1 2801	780
West Fork Enlow Run 4 MTR 1 2802	190
East Fork Enlow Run 4 MTR 1 2803	310
North Fork Montour Run 4 MTR 1 2901	650
South Fork Montour Run 4 MTR 1 2001	4,600

V. C. Bioassessment

As discussed in detail in Reference 17, bioassessments may be used within a planning and management framework to prioritize water quality problems for more stringent assessments and to document "environmental recovery" following control action. Some of the advantages of using biosurveys for this type of monitoring are:

"1. Biological communities reflect overall ecological integrity (i.e., chemical, physical, and biological integrity). Therefore, biosurvey results directly assess the status of a waterbody relative to the primary goal of the Clean Water Act.
2. Biological communities integrate the effects of different pollutant stressors and thus provide a holistic measure of their aggregate impact. Communities also integrate the stresses over time and provide an ecological measure of fluctuating environmental conditions. Assessing the integrated variable pollutant inputs offers a particularly useful approach for monitoring nonpoint-source impacts and the effectiveness of certain Best Management Practices.
3. Routine monitoring of biological communities can be relatively inexpensive, particularly when compared to the cost of assessing toxic pollutants, either chemically or with toxicity tests.
4. The status of biological communities is of direct interest to the public as a measure of a pollution free environment, while reductions in chemical pollutant loadings are not as readily understood by the layman as positive environmental results.
5. Where criteria for specific ambient impacts do not exist (e.g., nonpoint-source impacts that degrade habitat), biological communities may be the only practical means of evaluation."

In this study both macroinvertebrates and fish were utilized to assess the water quality of the Montour Run watershed. Advantages of using both groups are discussed below.

The advantages of using benthic macroinvertebrates for bioassessments are:

"1. Macroinvertebrate communities are good indicators of localized conditions.
   * Because many benthic macroinvertebrates have limited migration patterns or a sessile mode of life, they are particularly well suited for assessing site-specific impacts (upstream-downstream studies).
2. Macroinvertebrate communities integrate the effects of short-term environmental variations.
   * Most species have a complex life cycle of approximately 1 year or more. Sensitive life stages will respond quickly to stress; the overall community will respond more slowly.
3. Degraded conditions can often be detected by an experienced biologist with only a cursory examination of the macroinvertebrate community.
   * Macroinvertebrates are relatively easy to identify to family; many "intolerant" taxa can be identified to lower taxonomic levels with ease.
4. Sampling is relatively easy, requires few people and inexpensive gear, and has no detrimental effect on the resident biota.
5. Benthic macroinvertebrates serve as a primary food source for many recreationally and commercially important fish.
6. Benthic macroinvertebrates are abundant in most streams.
   * Many small streams (1st and 2nd order), which naturally support a diverse macroinvertebrate fauna, only support limited fish fauna.
7. Most State water quality agencies that routinely collect biosurvey data focus on macroinvertebrates. (This may be due to the emphasis placed on macroinvertebrates for community-level evaluations in the 1976 Basic Monitoring Program Guidance.)
   * Many States already have background macroinvertebrate data."

The advantages of using fish for bioassessments are:

"1. Fish are good indicators of long-term (several years) effects and broad habitat conditions because they are relatively long-lived and mobile.
2. Fish communities generally include a range of species that represent a variety of trophic levels (omnivores, herbivores, insectivores, planktivores, piscivores). They tend to integrate effects of lower trophic levels; thus, fish community structure is reflective of integrated environmental health.

3. Fish are at the top of the aquatic food chain and are consumed by humans, making them important subjects in assessing contamination.
4. Fish are relatively easy to collect and identify to the species level. Most specimens can be sorted and identified in the field and released unharmed.
   * Environmental requirements of common fish are comparatively well known.
   * Life history information is extensive for most species.
   * Information on fish distributions is commonly available.
5. Aquatic life uses (water quality standards) are typically characterized in terms of fisheries (coldwater, coolwater, warmwater, sport, forage).
   * Monitoring fish communities provides direct evaluation of "fishability", which emphasizes the importance of fish to anglers and commercial fishermen.
6. Fish account for nearly half of the endangered vertebrate species and subspecies in the United States."

In combination with physical and chemical data, the use of integrated, multimetric, biological indicator approaches for the assessment of water quality have been strongly endorsed and highly recommended by the Intergovernmental Task Force on Monitoring Water Quality (Ref.10). With some modifications to account for local reference conditions, Ohio Environmental Protection Agency (Ref.15) assessment protocols were utilized in this report.

V. C. 1. Aquatic Invertebrates

V. C. 1. a. Rapid Biological Assessment

In addition to their intrinsic values and importance as food for fish and other forms of aquatic life, benthic macroinvertebrate communities are also highly responsive indices of water quality. A modified rapid biological assessment, with companion field and laboratory water chemistry data collection,

was conducted at four stations along Montour Run and fourteen Montour Run tributaries in April and May of 1996 (TABLE 4). The technique involved 20 minutes of net sampling per station (two samplers each collecting for 10 minutes), with field separation, identification and enumeration of invertebrates. Optimally, station reaches were selected to include a variety of habitats and substrates such as pools, riffles, and runs; midstream and near bank areas; and coarse and fine substrates. While the sampling effort was time rather than stream length or area dependent, the lengths of stream sampled at the 18 stations examined ranged from 50 to 250 feet, and on average were 111 feet long. The variations in the stream lengths at the stations were, for the most part, a consequence of the variety and quality of available habitat. For example, at Montour Run mile 2.8 (Station 4 MTR 1 3028) where there was a deep pool, a well defined riffle and run, and both very coarse and fine substrate, it was possible to collect a sample of diverse habitats within only a 60 feet long section of the stream. In contrast, near the mouth of Montour Run, upstream of Ohio River slackwater at Station 4 MTR 1 3001, the stream was characterized as mostly homogeneous, shallow run with a substrate of predominately very lightly armored, loose, and abrasive small gravel, sand, and silt. Therefore, at this station the samplers had to cover a 250 feet long reach of the stream to approach satisfying criteria for inclusion of pool, riffle, and run habitat and coarse and fine substrate. The results of the rapid biological assessment are presented in

APPENDIX C. A total of 42 different taxa of aquatic macroinvertebrates were collected and field identified (mostly to family and genus taxonomic levels) at the 18 Montour Run watershed stations sampled. The data is summarized as metrics in TABLE 7. The water quality/biological condition of each station is rated to obtain a condition score in TABLE 8 (Ref.17).

The evaluation is based on the principal that the invertebrate communities of non-degraded streams are composed of many different types of organisms, including pollution intolerant taxa such as mayflies, caddisflies, and stoneflies (Ephemeroptera, Trichoptera, and Plecoptera or ETP organisms). The invertebrate community of polluted streams, on the other hand, are dominated by a small number of pollution tolerant taxa such as sludge worms and bloodworms (Annelida and Chironomidae or AC organisms). Between the extremes are numerous organisms with intermediate tolerances. The analysis of the waters of the Montour Run watershed is complicated by the fact that they receive both mine drainage and organic pollution. Mine drainage tends to depress both diversity and productivity, while organic pollution typically results in high productivity dominated by a small group of tolerant forms.

As demonstrated in TABLE 8 and illustrated on PLATE 5, the water quality/biological condition of the mainstem of Montour Run below the confluences of Enlow Run and McClarens Run is severely impaired, with mean rapid biological assessment condition scores ranging from 12.3 to 24.6% and averaging only 17.0%. As shown at

the bottom of TABLE 8, any score of 39.0% or less is severely impaired. The slightly elevated condition score of 24.6% at mile 2.8 is apparently due to excellent substrate and some drift of pollution intolerant organisms from Meeks Run and other nearby tributaries.

As previously stated, the waters from the 10.3 square mile western portion of the basin, which enters Montour Run upstream of mile 11.5 and which is influenced by mine drainage, sewage, and landfill leachates, are moderately impaired. The range of condition scores for the three stations in this western portion of the Montour Run watershed are from 40.3 to 56.2% and average 48.1% (TABLE 8).

TABLE 7
MONTOUR RUN WATERSHED
AQUATIC INVERTEBRATE
RAPID BIOLOGICAL ASSESSMENT
SUMMARY OF INVERTEBRATE METRIC VALUES

STATION	# OF TAXA	# OF ORGANISMS	% ETP ORGANISMS *	% AC ORGANISM **	FAMILY BIOTIC INDEX***
Montour Run Mile 0.1 4 MTR 1 3001	5	21	0	90.5	8.62
Montour Run Mile 2.8 4 MTR 1 3028	9	42	4.8	64.3	6.88
Montour Run Mile 6.6 4 MTR 1 3066	2	42	0.0	100.0	8.61
Montour Run Mile 11.7 4 MTR 1 3115	11	46	0.0	39.1	6.56
Meeks Run @ Mouth 4 MTR 1 2101	17	187	38.5	3.2	3.86
Holt Run @ Mouth 4 MTR 1 2201	20	538	75.1	7.6	3.89
Salamander Run @ Mouth 4 MTR 1 2301	16	177	20.3	45.8	5.57
Grimm Creek @ Mouth 4 MTR 1 2401	14	252	14.3	70.2	6.25
Trout Run @ Mouth 4 MTR 1 2501	20	136	74.3	8.1	3.34
McClarens Run @ Mouth 4 MTR 1 2601	5	98	0.0	98.9	7.11
West Fork McClarens Run 4 MTR 1 2602	3	1022	0.0	100.0	8.92
East Fork McClarens Run 4 MTR 1 2615	12	1424	17.2	27.9	7.02
Milk Run @ Mouth 4 MTR 1 2701	9	29	6.9	13.8	5.21
Enlow Run @ Mouth 4 MTR 1 2801	6	92	2.2	89.1	6.91
West Fork Enlow Run 4 MTR 1 2802	11	27	63.0	11.1	3.96

TABLE 7 (con't)
MONTOUR RUN WATERSHED
AQUATIC INVERTEBRATE
RAPID BIOLOGICAL ASSESSMENT
SUMMARY OF INVERTEBRATE METRIC VALUES

STATION	# OF TAXA	# OF ORGANISMS	% ETP ORGANISMS *	% AC ORGANISM **	FAMILY BIOTIC INDEX***
East Fork Enlow Run					
4 MTR 1 2803	5	18	0.0	66.7	6.33
North Fork Montour Run					
4 MTR 1 2901	9	22	18.2	18.2	4.82
South Fork Montour Run					
4 MTR 1 2001	13	38	39.5	26.3	5.00

* ETP = Ephemeroptera, Trichoptera and Plecoptera, or Mayflies, caddisflies, and stone flies, which are generally intolerant of pollution and indices of good water quality.

** AC = Annelida and Chironomidae, in the Montour Run Basin, mostly represented by sludgeworms and bloodworms, which are tolerant of pollution and indices of degraded water.

*** Family Biotic Index (FBI) = Adapted from Hilsenhoff and OEPA (Reference 17) where FBI =

$$\sum \frac{x_i t_i}{n}$$

x_i = number of individuals within a taxon
t_i = tolerance value of a taxon (0 to 10 with increasing tolerance)
n = total number of organisms in the sample

TABLE 8
MONTOUR RUN WATERSHED
AQUATIC INVERTEBRATE
RAPID BIOLOGICAL ASSESSMENT
COMPARATIVE SCORING

STATION	TAXA RICHNESS AS % REFER. STATION *	PROD. AS % REFER. STATION	% ETP ORGANISM	% NOT AC ORGANISM	FBI AS % REFER. STATION	MEAN COND. SCORE ** (%)
Montour Run Mile 0.1 4 MTR 1 3001	25	15.4	0.0	9.2	20.6	14.0
Montour Run Mile 2.8 4 MTR 1 3028	45	30.9	4.8	35.7	46.8	24.6
Montour Run Mile 6.6 4 MTR 1 3066	10	30.9	0.0	0.0	20.8	12.3
Montour Run Mile 11.7 4 MTR 1 3115	55	33.8	0.0	60.9	51.7	40.3
Meeks Run @ Mouth 4 MTR 1 2101	85	100+	36.9	97.9	92.2	82.4
Holt Run @ Mouth 4 MTR 1 2201	100	100+	75.1	92.4	91.7	91.8
Salamander Run @ Mouth 4 MTR 1 2301	80	100+	20.3	54.2	66.5	64.2
Grimm Creek @ Mouth 4 MTR 1 2401	70	100+	14.3	29.8	56.3	54.1
Trout Run @ Mouth *** 4 MTR 1 2501	100	100+	74.3	92.0	100.0	93.3
McClarens Run @ Mouth 4 MTR 1 2601	25	72.0	0.0	1.1	43.4	28.3
West Fork McClarens Run 4 MTR 1 2602	15	100+	0.0	0.0	16.2	26.4
East Fork McClarens Run 4 MTR 1 2615	60	100+	17.2	72.1	44.7	58.8
Milk Run @ Mouth 4 MTR 1 2701	45	21.3	6.9	86.2	71.8	46.2

TABLE 8 (con't)
MONTOUR RUN WATERSHED
AQUATIC INVERTEBRATE
RAPID BIOLOGICAL ASSESSMENT
COMPARATIVE SCORING

STATION	TAXA RICHNESS AS % REFER. STATION *	PROD. AS % REFER. STATION	% ETP ORGANISM	% NOT AC ORGANISM	FBI AS % REFER. STATION	MEAN COND. SCORE ** (%)
Enlow Run @ Mouth 4 MTR 1 2801	30	69.1	2.1	12.8	46.4	32.1
West Fork Enlow Run 4 MTR 1 2802	55	19.8	63.0	88.9	90.7	63.5
East Fork Enlow Run 4 MTR 1 2803	25	13.2	0.0	44.5	55.4	27.6
North Fork Montour Run 4 MTR 1 2901	45	16.2	18.2	81.8	77.8	47.8
South Fork Montour Run 4 MTR 1 2001	65	27.9	39.5	73.7	75.1	56.2

* Trout Run was utilized as the reference station

** Scoring categories

Mean condition score(%)	Biological/Water Quality condition category
>80%	Nonimpaired
60-79%	Slightly impaired
40-59%	Moderately impaired
≤39%	Severely impaired

(Scores close to criteria end points require subjective judgment to characterize, and may also require use of habitat and chemical data in the decision process.)

*** Reference Station

The 12.2 square mile eastern portion of the Montour Run watershed, which enters Montour downstream of mile 7.9, is moderately to nonimpaired. The condition scores for the five tributary stations in the eastern portion of the basin range from 54.1 to 93.3% and average 77.2%

In the central portion of the Montour Run watershed, McClarens Run and the West Fork of McClarens Run are severely impaired, with condition scores of 28.3 and 26.4% respectively, while the East Fork of McClarens Run is only slightly to moderately impaired (58.8%). Similarly, Enlow Run and the East, Fork of Enlow Run are both severely impaired, with condition scores of 32.1 and 27.6% respectively, while the west Fork of Enlow Run is only slightly impaired (63.5%).

While there are obvious moderate contributions of pollution from other tributary sources, this bioassessment data very clearly points to the East Fork of Enlow Run and the West Fork of McClarens Run as the two tributary sources which are overwhelmingly responsible for the severe degradation of Montour Run. This pollution affects the reach of Montour Run adjacent to the bike trail, including the trout fishery reach which is of primary interest to the study sponsors.

Finally, while not an invertebrate, the presence of pollution sensitive larval salamanders in the rapid assessment samples collected from four tributary stations in the lower basin (Meeks, Holt, Salamander, and Trout Runs) additionally confirm their characterization as good quality, non-impaired streams.

V. C. 1. b. Surber Samples

Surber benthic macroinvertebrate samples were collected by the Corps of Engineers at five stations in the Montour Run watershed on June 7, 1996. Four of these stations were located along Montour Run at Montour Run stream miles 11.7, 6.6, 2.8, and 0.1. The fifth station, selected as a control on a relatively undisturbed tributary, was located near the mouth of Meeks Run.

Each sample consisted of triplicate sub-samples collected with a one square foot Surber bottom sampler from stony riffles less than one foot deep. The organisms were hand separated from detritus, identified, enumerated, and wet and dry weighted. Numerical invertebrate data for each of the five triplicate Surber samples collected is presented in TABLE 9. More detailed information for each individual subsample, including wet and dry weights, is available in APPENDIX D. TABLE 10 is a summary analysis of the Montour Run watershed Surber sample aquatic invertebrate data.

In contrast to the rapid biological assessment (RBA) of invertebrates discussed in the previous section, each Surber sample represents only three square feet of just one specific aquatic habitat. Therefore, Surber samples can be expected to show less diversity that RBA samples. Also, Surber sampling is more time consuming and expensive to perform. However, the Surber analysis technique compliments the RBA analysis and allows for more precise quantification of invertebrate productivity per unit area of streambed.

TABLE 9
MONTOUR RUN WATERSHED
BENTHIC MACROINVERTEBRATES COLLECTED BY SURBER SAMPLER, 7 JUNE 1996
(Average Number of Organisms/ft^2)

ORGANISM	MONTOUR RUN				MEEKS RUN
	Mile 0.1	Mile 2.8	Mile 6.6	Mile 11.7	
Class					
Order					
Family					
Genius					
Insecta					
Ephemeroptera (Mayflies)					
Stenonema ithaca	-	-	-	-	0.3
Heptagenia sp.	-	-	-	-	0.3
Paraleptophlebia sp.	-	-	-	-	2.0
Baetis sp.	0.3	2.3	-	-	0.7
Eurylophella sp.	-	-	-	-	0.7
Plecoptera (Stoneflies)					
Acroneuria sp.	0.3	-	-	-	-
Amphinemura sp.	-	0.3	-	-	-
Perlesta sp.	-	-	-	-	1.3
Trichoptera (Caddisflies)					
Hydropsyche betteni	-	-	-	0.7	-
Hydropsyche slossonae	-	-	-	-	0.7
Diplectrona sp.	-	-	-	-	8.0
Cheumatopsyche sp.	-	-	-	0.3	-
Hydroptila sp.	-	0.7	0.3	5.3	1.7
Chimarra sp.	-	-	-	-	0.7
Neophylax sp.	-	-	-	-	0.3
Coleoptera (Beetles)					
Elmidae (Riffle Beetle)	-	-	-	-	-
Stenelmis sp.	0.3	-	-	0.3	3.3
Optioservus sp.	-	-	-	-	8.3
Megaloptera (Dobsonflies)					
Nigronia sp.	-	-	-	-	0.7
Diptera					
Chironomidae	2.7	148.3	182.7	42	94.7
Simuliidae					
Simulium sp.		0.7	4.7		0.3
Empididae (Dance Flies)					
Hemerodromia sp.	-	-	-	1.3	-
Tipulidae (Crane Flies)					
Tipula sp.	-	-	0.3	0.3	1.0
Antocha sp.	-	-	-	0.3	-
Limnophila sp.		0.3	-	-	1.0
Ceratopogonidae (Biting Midges)	-	-	-	0.3	-
Psychodidae (Moth Flies)					
Psychoda threticus	-	0.7	1.3	-	-
Ephydridae (Shore Flies)	-	-	-	-	0.7
Crustacea (Crustacean)					
Decapoda (Crayfish)					
Cambarus bartoni	-	-	-	-	0.3
Isopoda (Sowbugs)					
Caecidotea sp.	0.7	-	-	1.7	25.3
Amphipoda (Scuds)					
Gammarus sp.	-	2.3	0.3	0.3	80.7
Oligochaetas (Aquatic Worms)	2.3	83.3	32.3	2.0	8.7

A total of 31 different taxa of aquatic invertebrates were collected in the five June 1996 Surber samples, 18 taxa from the four stations on Montour Run and 23 taxa from the single station on Meeks Run. As is apparent in TABLE 10, relative to the reference stream (Meeks Run), the quality of all four stations along Montour Run was severely stressed. The average total number of invertebrate taxa present in the Montour Run stations was 36.9% of the reference station (range 26.1 - 52.2%). The average number of organisms per square feet in Montour Run was 54.1% of the reference station (range 2.8 - 98.9%). However, since the Montour Run invertebrate community was overwhelmingly dominated by pollution tolerant AC organisms such as sludgeworms and bloodworms, which tend to be much smaller than the clean water organisms found in the reference stream, the average wet weight of Montour Run invertebrates per unit area was only 6.1% of the reference station (range 0.06 - 19.2%). Similarly, the average dry weight of organisms per unit area of Montour Run was only 4.7% of that of the reference station (range 0.2 - 12.1%).

It is notable that the percentage composition of ETP organisms found in Meeks Run in the June 1996 Surber samples was numerically only 6.9% of the total sample, compared to 37.9% ETP organisms in the earlier total Meeks Run RBA sample (APPENDIX C). This shift in community structure was probably a consequence of seasonal emergence of ETP organisms. The reference station, however, was still nonetheless dominated by clean water invertebrates, and especially by the crustacean Gammarus.

TABLE 10
MONTOUR RUN WATERSHED
SUMMARY OF BENTHIC MACROINVERTEBRATE DATA
COLLECTED BY SURBER SAMPLER 7 JUNE 1996

PARAMETER	MONTOUR RUN				MEEKS RUN
	Mile 0.1	Mile 2.8	Mile 6.6	Mile 11.7	
Total Number of Taxa	6	9	7	12	23
Average Number of Taxa/ft^2	3.3	6.0	5.0	6.3	12.3
Average Number of Organisms/ft^2	6.7	239.0	222.0	55.0	241.7
Average Diversity Indices*	1.54	1.16	0.72	1.38	2.04
Average Wet Weight/mg/ft^2	1.9	70.9	613.2	88.6	3191.3**
Average Dry Weight/mg/ft^2	0.8	14.2	46.9	11.9	387.6**
Percent by Number AC organisms***	75.0	96.9	96.8	80.0	42.8
Percent by Number ETP Organisms****	10.0	1.4	0.2	11.5	6.9
Percent by Number Total Crustacea	10.0	1.0	0.2	3.6	44.0
Percent by Number ETP Organisms Plus Gammarus	10.0	2.4	0.3	12.1	40.3

*Cairns and Dickson, 1971
**The average wet and dry weights at this station, excluding Decopoda, were 2,190.8 and 201.4 mg/ft^2, respectively
***Annelida and Chironomidae (sludgeworms and bloodworms)
****Ephemeroptera, Trichoptera, and Plecoptera (mayflies, caddisflies, and stoneflies)

Gammarus accounted for 33.4% of the Surber sample and 42.1% of the RBA sample collected from Meeks Run. Since crustaceans, and Gammarus in particular, appear to be such important fauna elements of Meeks Run and other nondegraded tributaries of Montour Run, the percentage composition of crustacea and ETP organisms plus Gammarus for each Surber sample have been added for comparison to TABLE 10.

As with the RBA samples, the Surber sample data summarized in TABLE 10 demonstrates that the headwaters of Montour Run at mile 11.6 are water quality degraded with a stressed invertebrate community. Montour Run by mile 6.6, below the confluences of Enlow Run and McClarens Run, is very severely impacted and grossly degraded. There is then an apparent trend towards water quality and biological recovery at stations further downstream as Montour Run receives higher quality water and invertebrate drift from tributaries in the lower eastern portion of the watershed.

V. C. 2. Fish

An electrofishing survey of four stations along Montour Run and three of its tributaries was conducted by the U.S. Army Corps of Engineers in May and June 1996. The Stations sampled were located on Montour Run at stream miles 11.7, 6.6, 2.8, and 0.1, and near the mouths of Meeks Run, Trout Run, and the East Fork of McClarens Run. Each sampling station was selected to include pool, riffle, and run stream segments.

An operator utilized a Coffet Model BP-2 backpack electrofishing unit powered by a 120 watt generator to stun fish,

which were collected by three people with nets. The netted fish were kept alive in five gallon buckets until they could be processed. Lengths to the nearest millimeter (mm) and weights to the nearest gram (g) were recorded for all sport fish and all other large or unique fishes. Species of abundant smaller fishes were length ranged, separated into size groups, and then group weighted. All fish were released after processing, with negligible apparent mortality. The Montour Run watershed electrofishing effort and results are presented in APPENDIX E and are summarized in TABLES 11 to 13.

The species of fish collected at each station are indicated in TABLE 11. A total of sixteen species of fish were captured in the 1996 Corps of Engineers' survey. The fourteen species of fish collected from Montour Run by the Pennsylvania Fish and Boat Commission (PFBC) in 1991, and the five species collected by the Pennsylvania Department of Environmental Protection (PADEP) in 1982 are also indicated in this table (22 species total collected between these three fish sampling surveys).

A total of 573 fish weighing 40,612 grams (88.84 lbs.) were collected at the seven Montour Run watershed stations sampled in 1996. The total electrofishing effort was 125 minutes (2.08 hours) along 2,712 linear feet of stream. The average catch per unit effort (CPUE) was 275.5 fish/hour and 19.53 kilograms/hour (TABLES 12 and 13).

TABLE 11
SPECIES OF FISH COLLECTED
IN THE MONTOUR RUN WATERSHED

FISH SPECIES	LOCATION AND DATE OF COLLECTION									
	MONTOUR RUN							EAST FORK McCLARENS RUN	TROUT RUN	MEEKS RUN
	MILE 11.7		MILE 6.6		MILE 2.8		MILE 0.1			
	PFBC OCT 91	COE MAY 96	COE MAY 96	COE JUN 96	PFBC OCT 91	COE JUN 96	COE JUN 96	COE MAY 96	COE MAY 96	COE MAY 96
Gizzard Shad *Dorosoma cepedianum*					X					
Rainbow Trout *Oncorhynchus mykiss*				X		X				
Brook Trout *Salvelinus fontinalis*				X		X				X
Carp * *Cyprinus carpio*				X	X	X	X			
Golden Shiner *Notemigonus crysoleucas*			X				X			
Blacknose Dace * *Rhinichthys atratulus*	X	X	X		X			X	X	X
Creek Chub * *Semotilus atromaculatus*	X	X	X	X	X			X	X	X
Emerald Shiner * *Notropis atherinoides*					X					
Sand Shiner *Notropis stramineus*										X

TABLE 11 (con't)
SPECIES OF FISH COLLECTED
IN THE MONTOUR RUN WATERSHED

FISH SPECIES	LOCATION AND DATE OF COLLECTION									
	MONTOUR RUN							EAST FORK McCLARENS RUN	TROUT RUN	MEEKS RUN
	MILE 11.7		MILE 6.6		MILE 2.8		MILE 0.1			
	PFBC OCT 91	COE MAY 96	COE MAY 96	COE JUN 96	PFBC OCT 91	COE JUN 96	COE JUN 96	COE MAY 96	COE MAY 96	COE MAY 96
Bluntnose Minnow *Pimephales notatus*					X					
Golden Redhorse *Moxostoma erythrurum*					X		X			
Shorthead Redhorse *Moxostoma macrolepidotum*				X			X			
Black Redhorse *Moxostoma duquesnei*							X			
Northern Hog Sucker *Hypentelium nigricans*					X					
White Sucker * *Catostomus commersoni*	X	X	X	X	X	X		X	X	X
Quillback Carpsucker *Carpiodes cyprinus*						X				
White Bass *Morone chrysops*					X					

TABLE 11 (con't)
SPECIES OF FISH COLLECTED
IN THE MONTOUR RUN WATERSHED

FISH SPECIES	LOCATION AND DATE OF COLLECTION									
	MONTOUR RUN							EAST FORK McCLARENS RUN	TROUT RUN	MEEKS RUN
	MILE 11.7		MILE 6.6		MILE 2.8		MILE 0.1			
	PFBC OCT 91	COE MAY 96	COE MAY 96	COE JUN 96	PFBC OCT 91	COE JUN 96	COE JUN 96	COE MAY 96	COE MAY 96	COE MAY 96
Smallmouth Bass *Micropterus dolomieui*					X		X			
Spotted Bass *Micropterus punctulatus*					X					X
Bluegill *Lepomis macrochirus*						X	X			
Sauger *Stizostedion canadense*										
Freshwater Drum *Aplodinotus g[illegible]iens*				X	X	X				
TOTAL NUMBER OF SPECIES	3	3	5	7	14	7	7	3	3	6

* Among the five species of fish collected at five Montour Run sampling sites by the PADEP on 8 July 1982.

** Because flows were relatively high and waters turbid when the Montour Run mile 6.6 station was sampled on May 8, 1996, there was concern that the sample might not have been representative. Therefore, this station was resampled at a lower flow on June

TABLE 12
MONTOUR RUN WATERSHED
TOTAL NUMBER AND TOTAL WEIGHT (#/g) OF FISH BY SPECIES AND SAMPLING LOCATION
8 MAY AND 7 JUNE 1996

SPECIES	MONTOUR RUN					MEEKS RUN	TROUT RUN	E.FORK McCLARENS RUN	TOTAL NUMBER
	Mile 11.7	Mile 6.6 May	Mile 6.6 June	Mile 2.8	Mile 0.1				
Rainbow trout			2/775	1/144					3/919
Brook trout			1/265	2/273		3/318			6/856
Carp			3/4,600	2/2,225	14/16,560				19/23,385
Golden shiner		1/10			1/9				2/19
Blacknose dace	20/22	2/4				11/15	26/30	91/165	150/236
Creek chub	71/228	13/215	3/41			23/128	34/139	176/1,487	320/2,238
Sand shiner						1/2			1/2
Golden redhorse		2/1,407			2/1,656				4/3,063
Shorthead redhorse			1/525		1/180				2/705
Black redhorse					1/84				1/84
White sucker	3/16	11/1,304	2/345	2/506		8/680	12/407	11/849	49/4,107
Quillback carpsucker				4/2,384					4/2,384
Smallmouth bass					1/410				1/410
Spotted bass						3/413			3/413
Bluegill				2/10	2/15				4/25
Freshwater drum			1/490	3/1276					4/1,766
TOTAL	94/266	29/2,940	13/7,041	16/6,818	22/18,914	49/1,556	72/576	278/2,501	573/40,612

Sport Fish
Rough Fish

TABLE 13
MONTOUR RUN WATERSHED
ELECTROFISHING EFFORT AND PHYSICAL DESCRIPTION OF SAMPLING LOCATIONS
8 MAY AND 7 JUNE 1996

	MONTOUR RUN					MEEKS RUN	TROUT RUN	E.FORK McCLARENS RUN	TOTAL NUMBER
	Mile 11.7	Mile 6.6 May	Mile 6.6 June	Mile 2.8	Mile 0.1				
Number of fish/hour (CPUE)	553	88	30	40	63	288	867	1,853	275
Kilograms (BPUE /hours	1.56	8.91	16.37	17.05	54.04	9.15	6.94	16.67	19.53
Number /hectare	6,483	603	270	276	228	2,130	8,182	24,386	1,856
Kilograms /hectare	18.34	61.12	146.38	117.55	195.80	67.65	65.45	219.39	131.56
Effort (hours)	0.17	0.33	0.43	0.40	0.35	0.17	0.083	0.15	2.08
Length of stream sampled (feet)	195	488	488	616	941	225	140	107	2,712
Area sampled (hectares)	.0145	.0481	.0481	.0581	.0966	.0230	.0088	.0114	.3087
Stream bed materials	small rubble	clay to boulder	clay to boulder	medium to large rubble	sand & gravel to small rubble	gravel & small rubble	small rubble	medium rubble	
Average width (feet)	16	27	27	28	30	11	7	10.5	
Gradient	medium	low	low	medium	low	medium	medium	medium	
AMD affected	X								
Airport affected		X	X	X	X			X	

The most numerous fishes collected throughout the study period were creek chub (320), blacknose dace (150), and white sucker (49). These three fish species combined represented 90.6% of the total number and 16.2% of the total weight of all fish collected in the watershed. Numerically, this trio of species dominated the fisheries observed at headwaters and tributary stations: 100% at Montour Run at mile 11.7, Trout Run, and East Fork McClarens Run; 90% for Montour Run at mile 6.6 in May; and 86% of Meeks Run. Rough fish originating from the nearby Ohio River (carp, drum, quillback, golden redhorse, shorthead redhorse, and black redhorse) dominated the fishery of the lower portion of Montour Run by weight, 47.9% at mile 6.6 in May, 79.7% at mile 6.6 in June, 86.3% at mile 2.8, and 97.7% at mile 0.1. The closer to the Ohio River, the higher the dominance of Ohio River origin rough fish, which can come and go as they please on this stream. Five sport fish species were collected: brook trout, rainbow trout, bluegill, spotted bass, and smallmouth bass. Combined, the sport fish represented only 3.0% of the total number and 6.5% of the total weight of all fish collected. The trout, of course, were stocked and represented 52.9% and 67.7% of sport fish numbers and weight, respectively. The bass likely were transient from the Ohio River.

The Montour Run watershed appears to have two distinct fisheries. The first is the headwaters and tributaries fishery, dominated almost exclusively by large numbers of creek chubs, blacknose dace, and white suckers. These three species are very

tolerant of pollution and do well in shallow, narrow streams with relatively small pools. Their headwater distribution, and the wide size ranges observed for each species, is a good indication that several year classes were present, and that the three species are full-time and reproducing residents of the Montour Run basin. Station catch-per-unit-effort (CPUE) for all fish at the headwaters and tributary stations ranged from 288 to 1,853 fish/hour. Biomass-per-unit-effort (BPUE) ranged from 1.56 to 16.67 kilograms/hour. Considering the area sampled at each station, catches ranged from 2,130 to 24,386 fish/hectare, and 18.34 to 219.39 kilograms/hectare (TABLE 13). It is interesting to note that brook trout and bass had invaded the high quality waters of Meeks Run. Meeks Run also produced a single sand shiner, the only one collected during the study. Small Meeks Run can apparently function as a good water quality refuge for Montour Run fishes and has a diverse and productive invertebrate community to provide forage (see Section V.C.1.).

When Pillard (Ref. 16) examined the impacts of airport drainage on Sand Creek, in Denver, Colorado, he found dominance by a trio of pollution tolerant fishes, similar to the three species that dominate the Montour Run headwaters. Prior to the opening of Denver International Airport in 1995, Stapleton International Airport (SIA) was the largest and busiest airport in Colorado. Over 700,000 gallons of ethylene and propylene glycols were used annually at SIA. Typically storm water runoff from SIA was collected and directed to a water treatment

facility. However, during the winter months when deicers were being used, heavy snows or rains periodically taxed the capacity of the storm water collection system and untreated glycol laden waters were diverted to Sand Creek.

The Sand Creek fishery was dominated by pollution tolerant creek chubs, white suckers, and fathead minnows, and its invertebrate community was dominated by chironomidae. However, Sand Creek is also degraded by sewage, urban runoff, wastes from oil refineries, and has disturbed and limited habitat. Therefore, additional adverse impacts from occasional SIA storm runoff on its already impaired water quality and aquatic life were not obvious.

The lower Montour Run stations have wider stream widths and have longer deeper pools than the headwaters stations. In this lower portion of Montour Run, even the highly pollution tolerant trio of permanent resident, reproducing fishes (creek chubs, white suckers, and blacknose dace) which are abundant in the headwaters upstream of the influence of airport runoff, are uncommon or totally absent. As discussed previously and shown in TABLE 12, the fish population of the lower Montour Run mainstem is dominated by apparently transient Ohio River fishes and stocked trout.

To further characterize the lower Montour Run fishery, an Index of Biotic Integrity (IBI) was computed for each station

electrofished in 1996 which has a drainage area in excess of 20 square miles (the lower drainage area criteria reliable limit of this IBI technique).

The IBI metrics utilized and the results obtained are presented in TABLE 14. As shown in this table, the lower Montour Run mainstem fishery is generally poor. The IBI rating scores found there ranged from 21 to 29, where ≤14 can be considered to be very poor, 15-24 poor, 25-34 fair, 35-49 good, and >50 exceptional.

For the sake of comparison with Montour Run, an example of a good to exceptional value cool/warmwater fishery with an important stocked trout population can be found in the nearby Kings Creek watershed. The headwaters of the Kings Creek drainage basin begin only about ten miles to the west of the headwaters of the Montour Run basin. The two streams both drain basins of a similar size area, with similar topography and geology, and the compositions of their fisheries are also both strongly influenced by movements of transient fishes from the Ohio River. Relative to other local streams draining the unglaciated Appalachian Plateau, the waters of Kings Creek and Montour Run are both mineralized (calcium sulfate dominated), hard, and alkaline.

Four stations along lower Kings Creek, with drainage areas ranging from 24 to 48 square miles, were recently electrofished (June-July 1995) by the same team using the same equipment and techniques used at Montour Run in May-June of 1996 (Ref. 19).

TABLE 14
MONTOUR RUN WATERSHED FISHERY
INDEX OF BIOTIC INTEGRITY (IBI)*
AT THREE LOWER MONTOUR RUN STATIONS SAMPLED IN 1996

IBI Metric	IBI Metric Value ( ) and Score for Stations Identified by Stream Mile							
	Mile 6.6				Mile 2.8		Mile 0.1	
	May		June		May		June	
Total Number of Species	(5)	1	(7)	1	(7)	1	(7)	1
Number of Darter Species	(0)	1	(0)	1	(0)	1	(0)	1
Number of Sunfish Species	(0)	1	(0)	1	(1)	1	(1)	1
Number of Sucker Species	(2)	3	(2)	3	(2)	3	(3)	3
Number of Intolerant Species	(0)	1	(0)	1	(0)	1	(1)	1
Percent Tolerant Species	(93.1)	0	(61.5)	1	(12.5)	5	(68.2)	1
Percent Omnivores	(41.4)	1	(30.8)	3	(50.0)	0	(68.2)	0
Percent Insectivores Species	(6.9)	1	(23.1)	1	(56.2)	5	(27.3)	1
Percent Top Carnivores	(0)	1	(0)	1	(0)	1	(4.5)	3
Number of Individuals/300m	(29)	1	(24)	1	(24)	1	(21)	1
Percent Hybrids	(0)	5	(0)	5	(0)	5	(0)	5
Percent DELT Anomalies	(0)	5	(0)	5	(0)	5	(0)	5
SCORE		21		24		29		23
RATING		POOR		POOR		FAIR		POOR

* IBI determined from criteria established by the Ohio Environmental Protection Agency for data collected by wading from streams with drainage areas between 20 and 300 square miles, with each station drainage area weighted for each metric, as outlined in "*Biological Criteria for the Protection of Aquatic Life: Volume II: Users Manual for Biological Field Assessment of Ohio Surface Waters. October 30, 1987 (Updated January 1, 1988).*" Recently stocked trout were excluded from the Percent Insectivorous Species metric. To reward recovery from the toxic influences of AMD pollution, tolerant species were not exclude from the Number of Individuals/300m metric.

Ratings are as follows: >50 exceptional, 35-49 good, 25-34 fair, 15-24 poor, and ≤14 very poor

The results, however, were quite different. At the four Kings Creek Stations, only 0.9 hours of electrofishing effort resulted in the collection of 1,132 fish of 28 species weighing 23,772 grams. The fish collected included five species of darters, three species of sunfish, and twelve species of cyprinidae (minnows). Pollution intolerant species such as hog sucker, rainbow darter, mottled sculpin, and the uncommon and very sensitive longnose dace were collected at every station sampled. While restricted to the lower West Virginia portion of the stream, smallmouth bass were still, on the average, the dominant Kings Creek fish species by weight (31.9%). The IBI rating scores along the reach of K ıgs Creek examined ranged from 40 to 54, characterizing the stream as an outstanding fishery resource.

While the quality of the waters and the aquatic life resources of Kings Creek also were damaged by past bituminous coal mining activities and residual AMD related mineralization of the stream persists, AMD pollution in Kings Creek was apparently never as intensive nor extensive as in the Montour Run watershed. The continued presence, and general basin-wide restoration, of numerous small headwater stream fish species suggests that headwater refuges of these fishes were never totally eliminated by water quality degradation in the Kings Creek drainage basin, as they have been in the Montour Run watershed. Also, in contrast to the Montour Run basin, the Kings Creek watershed is still largely rural and has not been severely influenced by

sewage and urban and airport runoff. Nevertheless, the outstanding fishery in nearby Kings Creek can still serve as an example of the fishery potential of local streams of similar size, and perhaps as a standard to be achieved by continuing efforts to restore the water quality and aquatic life resources of Montour Run.

A final comment on the Montour Run fishery is that Ohio River backwater reaches a short distance upstream from the mouth of Montour Run, where it forms a small but deep embayment. Beyond the embayment, a gravel bar located at the mouth of Montour Run extends out into the Ohio River in the backchannel of Neville Island. This short terminal portion of the stream provides excellent and diverse fish habitat and easy fish access from the Ohio River. It is utilized by local anglers, who report good catches of walleye, sauger, smallmouth bass, and channel catfish from both the embayment and the edge of the gravel bar.

VI. Summary and Conclusions

The Montour Run watershed is located in Western Allegheny County, Pennsylvania, with much of its basin less than ten miles distance from Pittsburgh, Pennsylvania. Long dominated by a large airport complex, bituminous coal mining, woodlands, golf courses, small communities, and rural residential housing, land use in the 36.6 square mile Montour Run watershed is now in a highly accelerated state of transition. In recent years, construction of a major highway, interchanges, and a new airport terminal, plus landfill, housing, retail commercial, office, and

light industrial complexes have been completed within and adjacent to the watershed, and additional development continues at a rapid pace. These past and present land use patterns have contributed to serious degradation of the water quality of Montour Run. Despite extensive development, for much of its course Montour Run still flows through a steep-sloped, flood-prone, wooded, scenic valley inhabited by deer, wild turkey, and other wildlife. Portions of this valley are inaccessible to motor vehicles and are poorly suited for development.

An 11.5 mile long reach of the grade of the former Montour Railroad, which follows Montour Run from its source to its mouth, has been converted to a very popular and highly utilized hiking trail and bikeway. When complete, this multi-use, non-motorized, recreational rail-trail will ultimately extend 54 miles from Coraopolis to Clairton, Pennsylvania. Also, Allegheny County has developed plans, programs, model ordinances, and mechanisms for a multi-faceted greenway system which would include green corridors along the valleys of Montour Run and several of its tributaries.

In response to the new availability of bike trail access and some improvement in the water quality of Montour Run (related to improved sewage treatment and a decline in acid mine drainage pollution from old bituminous coal mines), local sportsmen organizations have stocked Montour Run with trout since 1991. While it does not meet Pennsylvania Fish and Boat Commission criteria for "Approved Trout Waters" because of continued water quality deficiencies, a very popular spring season (put-and-take)

trout fishery has nonetheless developed along the stream. The scenic bikeway and the existence of even a compromised trout fishery, have considerably improved the public image of the stream and sparked the interest of the general public, the news media, numerous private organizations, and resource agencies in regards to the health and future of Montour Run. In reference to all of these past and present activities, the intent of this study was to provide a baseline overview of water quality and aquatic life resources throughout the Montour Run basin, and to identify and recommend measures that could contribute to the restoration and protection of the waters of the Montour Run drainage basin.

Along with natural gas and oil extraction, the Pittsburgh coal seam has been extensively mined in this basin, and high elevation hilltop deep and strip mines encircle the drainage basin boundaries of Montour run, and partially ring the high elevation boundaries of essentially every major tributary subbasin of Montour Run. The mines contribute metal polluted and highly mineralized mine drainage to essentially every perennial stream within the basin, and have long degraded the water quality of Montour Run.

Most of the acid mine drainage (AMD) pollution in the Montour Run watershed originates from old (pre-1940) deep mines, and from abandoned 1950's and 1960's strip mining operations, although some limited strip mining extraction of Pittsburgh Coal is still occurring. Most of the coal extraction activities now

occurring in the basin are secondary coal recovery operations, in conjunction with non-coal mining construction projects. The most recent, and by far the most extensive, mining activities in the basin are concentrated toward the western half of the watershed.

Acid production is declining in many of these old mines, and literally thousands of acres of old strip mines have been partially reclaimed as a consequence of construction of the Pittsburgh International Airport and the utilization of old strip mines as landfill. The use of locally available alkaline steel mill slag for fill and as a concrete and bituminous aggregate (as well as alkaline cement) in massive highway, airport, and commercial construction projects in the basin, and exposed alkaline limestones in lower elevations of the Conemaugh Group strata, all tend to neutralize the acid produced by the Pittsburgh Coal Seam mining operations.

This neutralization process from alkaline minerals, in fact, now totally overwhelms the AMD acidity, and most streams of the basin today tend to be highly alkaline. The principal impact of AMD on the waters of the Montour Run watershed then is not acidity, but residual AMD mineralization and metal pollution, most especially, gross and widespread aluminum oxide pollution. Among the ten major tributaries of Montour Run, Milk Run is the single greatest source of aluminum pollution.

Along with bituminous coal mining, the Pittsburgh International Airport's overwhelming presence in the Montour Run drainage basin, along with the activities associated with its

operation and maintenance, has a significant impact on the quality of these waters. Airport fuel transportation, storage, and refueling activities are one potential impact of PIA operations. In the past, prior to recent upgrading and decommissioning of refueling operations, fuel spill and overflow problems at PIA were chronic in nature, and there has been one previously documented 80,000 gallon magnitude PIA fuel spill incident into the East Fork of McClarens Run. However, the most significant airport operations activity, in terms of ambient Montour Run water quality, is now aircraft and runway deicing, particularly, high biochemical oxygen demands and ammonia concentrations from the breakdown of the deicing agents ethylene and/or propylene glycol and urea.

Among the most obvious impacts of deicing activities at PIA are periodic cool season incidents of strong urea and glycol odors along Montour Run and its tributaries, especially the mainstem of Montour Run downstream of the confluence of Enlow Run, and along Enlow Run and McClarens Run. Also, the high organic load of deicing materials and their breakdown products encourages profuse growths of a type of “sewage fungi” (resembling and more than likely Sphaerotilus) on the substrate surface of the East Fork of Enlow Run and the West Fork of McClarens Run, and along Enlow and McClarens Runs downstream of the confluences of these tributaries.

Two rounds of chemical sampling, bacteriological sampling, macroinvertebrate and fish bioassessments, and Surber sample

invertebrate surveys were performed at an extensive network of stations in the Montour Run watershed between April and September of 1996. All of the data generated from these surveys confirm that the water quality and aquatic life of tributaries draining the western portion of the Montour Run basin are impaired by metal pollution from old bituminous coal mines. Streams draining the airport in the central portion of the basin, are severely impaired by airport runoff. Tributaries draining the eastern portion of the basin are generally not water quality impaired or only moderately degraded.

Numerous opportunities exist to remediate water quality problems in the Montour Run watershed, a number of which are identified and discussed in the following recommendations section.

VII. Recommendations

VII. A. Mine Drainage Pollution Remediation

VII. A. 1. Major Deep Mine Discharges

Metal pollution from mine drainage is a major water quality and aesthetic problem in the Montour Run watershed. There are a number of grossly degraded and high volume discharge deep mine effluents in the watershed where the construction of AMD remediation projects could have a very positive impact on the water quality and aquatic life resources of Montour Run and its tributaries.

Since these deep mine discharges tend to be located very high in the headwaters of Montour Run, towards the extreme

western portion of the basin, they negatively influence many miles of streams. Therefore, remediation of these sites would be consistent with PADEP policies for the commitment of AMD reclamation funds by prioritizing the most upstream sites in a watershed to maximize benefits accrued from expenditures.

Two large discharges that appear to have a high potential for effective remediation are described below.

VII. A. 1. a. The Clinton Deep Mine Complex

The Clinton Mine discharges into the West Fork of Enlow Run in the community of Clinton, between 3.76 to 3.86 miles upstream of its confluence with the East Fork of Enlow Run (Stations 4 MTR 1 2809, 4 MTR 1 2810, and 4 MTR 1 2815). A reduction in metals concentrations from this discharge would benefit 3.8 miles of the West Fork of Enlow Run, 1.2 miles of Enlow Run, and 11.6 miles of Montour Run (16.6 total stream miles). It is by far the most significant AMD discharge into this tributary. Not only would abatement of AMD from this single source provide substantial benefits along Montour Run, it could lead to the near complete restoration of water quality and aquatic life along the West Fork of Enlow Run (D.A. 3.4 square miles, 9.3% of the total Montour Run D.A.). PADEP has already committed to further investigate this site as a candidate for reclamation.

VII A. 1. b. North Fork Montour Run Headwaters Deep Mine Complex

Another deep mine discharge which is a potential remediation site is located in the headwaters of the North Fork of Montour

Run between 2.1 and 2.2 miles upstream of its confluence with the South Fork in Imperial (Stations 4 MTR 1 2908, 4 MTR 1 2910, and 4 MTR 1 2912). This site is particularly interesting and promising because it may be suitable for remining, which would totally and permanently eliminate problems from this large source. Substantial benefits would extend along a total of 14.7 stream miles. There is also another nearby deep mine source in this basin located on a small tributary which has its confluence to the right bank of the North Fork of Montour Run at mile 1.9. It may be part of the same mine complex as the discharges to this stream previously described, and merits further investigation.

Mineral deposition processes catalyzed by iron bacteria have created elevated volcano crater-like rims around several mine discharge upwellings located within the North Fork Montour Run potential rededication site. Also, on the slope draining these discharges, growths of iron bacteria have formed well defined steps or terraces, similar to hot spring mineral deposits that attract tourist attention at Yellowstone Park and other areas. The site is colored with orange and yellow metal oxide deposits, leached white salts, and bright yellowish green and dark purple bacteria/algae growths. This site is unique in being a compact and classic example of some extreme situations that can develop at mine discharges. It is ugly but interesting, very easily accessible from Route 30, and might serve local educational institutions as a laboratory on AMD, or more generally of geochemical processes on a fast track.

VII. A. 2. Other Potential Lower Cost Mine Drainage Pollution Remediation Sites

There also exists numerous (perhaps dozens) of potential opportunities for much simpler technology, lower cost, mine drainage remediation projects in the Montour Run basin. Many of these could be maintained at minimal costs by school or private conservation oriented groups. A number of them also have the advantage of being located on lands already owned by Allegheny County or waste disposal corporations which might be interested in participation in remediation projects. Some proposed project sites contain wetlands that are already functioning to trap AMD generated metal oxides, and these projects might not involve much more than minimal grading, monitoring and/or maintenance. A few examples of such projects are listed below.

VII. A. 2. a. Beaver Dam on West Fork Enlow Run

A large beaver dam controlled impoundment and cattail marsh on the West Fork of Enlow Run is now very effectively filtering and capturing metal pollution discharged by the Clinton Deep Mine Complex. The value of this dam could be recognized and documented. Beaver trapping could be locally restricted, and if the dam were to be abandoned by the beavers, and fall into disrepair, it could be reconstructed with a low dike and outlet control structure. This wetland was detrmined to be of high significance in the Allegheny County Natural Heritage Inventory.

VII. A. 2. b. Stormwater Drainage Facility on an Unnamed Left Bank Tributary to the West Fork of Enlow Run at Mile 2.05

A cattail marsh, which is capturing AMD generated metal pollution, has formed in a stormwater basin on an unnamed left bank tributary to the West Fork of Enlow Run at West Fork Enlow Run stream mile 2.05, next to the Route 60 exit to the Pittsburgh International Airport (Station 4 MTR 1 2805). Some regrading and adjustments to the basin might improve its effectiveness.

VII. A. 2. c. Cattail Marsh on BFI Site on an Unnamed Right Bank Tributary to the North Fork of Montour Run at Mile 0.4.

The cattail marsh, located from the right bank on an unnamed stream tributary to the North Fork of Montour Run at North Fork Montour Run stream mile 0.4, is already responsible for the near complete abatement of AMD pollution along this tributary, and should be monitored, maintained, and if possible, improved (Station 4 MTR 1 2904).

VII. A. 2. d. Extensive Cattail Marsh Along Santiago Run, Below the Santiago Mine, in the South Fork Montour Run Basin

A cattail marsh located at mile 0.13 of Santiago Run, a right bank tributary to the South Fork of Montour Run at South Fork stream mile 0.95, is functioning to capture metal pollution

and improve water quality along this tributary (Station 4 MTR 1 2004). It should be monitored, maintained, and improved if possible.

VII. A. 2. e. Headwaters of the South Fork of Montour Run

A need exists for trapping metals in the extreme headwaters of the South Fork of Montour Run (Stations 4 MTR 1 2012, and 4 MTR 1 2014). It might be possible to construct a wetland at this location at a reasonable cost.

VII. B. Airport Drainage Control

While Pittsburgh International Airport has made considerable progress in recent years in controlling drainage of deicing reagents to the waters of the Montour Run watershed, the results of this study demonstrate that additional efforts will be required to protect these waters. Since the breakdown of glycols and urea by microorganisms is a time dependent reaction, detention of runoff following deicing operations within the large stormwater management impoundment south of Runway 28L, on the East Fork of Enlow Run, might diminish the total organic load exerted on this stream. Such an operation should be investigated as one possible mitigation alternative.

Another recommendation, in addition to the existing plan for monitoring of glycol concentrations in airport runoff, is that PIA and their consultants consider documenting stream bedload accumulations of these chemicals and their breakdown products, and the impacts of the glycols and urea on the substrate and

biology of receiving streams. The results of this study demonstrate that, while apparently not always obvious from the results of specific chemical analyses of surface waters, the adverse impacts of these chemicals on stream substrates and organisms are nonetheless very substantial and persistent. Ammonia is a breakdown product of urea. The elevated concentrations of toxic ammonia found in streams draining the airport during this study suggest that substitution of alternative deicing materials for urea might be one relatively painless and very significant step towards the restoration of water quality and aquatic life in the Montour Run watershed.

VII. C. Restoration of Extirpated Aquatic Life

Prior disturbances, most likely extensive mine drainage pollution, have completely eliminated numerous common fishes from the waters of the Montour Run drainage basin. Natural recolonization of some of the larger extirpated fish species by way of the Ohio River now appears to be occurring. However, despite of the availability of apparently suitable habitat, smaller headwater fish species (i.e. darters, sculpins, and a variety of minnows) have so far failed to repopulate previously recovered AMD polluted portions of the Montour Run watershed. Since no headwater populations survived in the watershed, timely reinvasions of these fishes is unlikely.

The recolonization of such extirpated fishes could easily be accelerated by reintroductions of small headwater species seined from nearby biologically healthy streams such as Kings Creek.

Based on water chemistry, habitat, and macroinvertebrate indicator organisms, it is probable that such introductions could now be successful in two Montour Run tributaries, Meeks Run and Trout Run. If breeding populations of native headwater fish species were reestablished in these tributaries, they could then naturally move into other portions of the watershed as water quality problems continue to be abated. Technically and economically, such a project would be within the abilities of interested school groups.

VIII. References

1. Allegheny County Planning Department, 1995. Allegheny County Greenways, Allegheny County, Pennsylvania.

2. Angelo, William J., 1996. Deicing is a Hot Problem. Engineering News Record/March 4, 1996.

3. Baker, Michael Jr., Inc., 1995. Pittsburgh International Airport, Volume I: Wetland Management Program. The Allegheny County Department of Aviation, Allegheny County, Pennsylvania.

4. 1995. Pittsburgh International Airport, Volume II: Upland Management Program. The Allegheny County Department of Aviation, Allegheny County, Pennsylvania.

5. 1995. Pittsburgh International Airport, Volume III: Stormwater Management Program. The Allegheny County Department of Aviation, Allegheny County, Pennsylvania.

6. 1995. Pittsburgh International Airport, Volume IV: Water Quality Management Program. The Allegheny County Department of Aviation, Allegheny County, Pennsylvania.

7. Biksey, T.M. and W. C. Stuenkel, 1993. Pittsburgh (PA) International Airport Water Quality Management Program. In Proceedings of the 66th Annual Conference of the Water Environment Federation, October 3-7, 1993, Anaheim, California.

8. Byers, Dick, 1995. Hottest Birding Spot in Western Pennsylvania. Westmoreland County Bird Club Newsletter, Vol. 15, No. 3.

9. Eckert, Allan W., 1995. That Dark and Bloody River: Chronicles of the Ohio River Valley. Bantam Books, New York, New York.

10. Intergovernmental Task Force on Monitoring Water Quality, 1995. The Strategy for Improving Water Quality Monitoring in the United States, Final Report and Technical Appendixes. U.S. Geological Survey, Office of Water Data Coordination, Reston, Virginia.

11. Jandrlich, William, 1995. History of the Montour Run Watershed, Summary of Studies Conducted from 2/25/66 to 5/02/95 (DRAFT). Hollow Oak Land Trust, Pittsburgh, Pennsylvania.

12. Koryak, Michael, Maurice A. Shapiro, and Jan L. Sykora, 1972. Riffle Zoobenthos in Streams Receiving Acid Mine Drainage. Water Research, Volume 6: 1239-1247.

13. Lorson, Rick, 1992. Results of an October 1991 Survey of Montour Run (820G), Allegheny County. Pennsylvania Fish and Boat Commission, Fisheries Management Area 8, Somerset, Pennsylvania.

14. Mackenthun, Kenneth M., 1969. The Practice of Water Pollution Biology. United States Department of the Interior, Federal Water Pollution Control Administration, Washington, D.C.

15. Ohio Environmental Protection Agency, 1988. Biological Criteria for the Protection of Aquatic Life: Volume II: Users Manual for Biological Field Assessment of Ohio Surface Waters. Ohio Environmental Protection Agency, Ecological Assessment Section, Division of Water Quality, Columbus, Ohio.

16. Pillard, David A., 1996. Assessment of Benthic Macroinvertebrate and Fish Communities in a Stream Receiving Storm Water Runoff from a Large Airport. Journal of Freshwater Ecology, 11 (1): 51-59.

17. Plafkin, James L., Michael T. Barbour, Kimberly D. Porter, Sharon K. Gross. and Robert M. Hughes, 1989. Rapid Bioassessment Protocols for Use in Streams and Rivers: Benthic Macroinvertebrates and Fish. U.S. Environmental Protection Agency, Assessment and Watershed Protection Division, Washington, D.C.

18. U.S. Army Engineer District, Pittsburgh, 1989. Steel Mill Slag: Leachate Characteristics and Environmental Suitability for Use as a Streambank Protection Material. U.S. Army Engineer District Pittsburgh, Corps of Engineers, Pittsburgh, Pennsylvania.

19. U.S. Army Engineer District, Pittsburgh, 1995. Kings Creek Watershed, Flood Protection Project, Hancock County, West Virginia, Chemical and Bacteriological Water Quality, Aquatic Macroinvertebrates, Musssels, and Fish. U.S. Army Engineer District Pittsburgh, Corps of Engineers, Pittsburgh, Pennsylvania.

20. U.S. Geological Survey, 1981. Hydrology of Area 4, Eastern Coal Provence, Pennsylvania, Ohio, and West Virginia, Water Resources Investigations Open-file Report 81-343. United States Department of the Interior Geological Survey, Columbus, Ohio.

21. Walker, Donald, 1995. Assessing Deicer Alternatives. Proceedings of the North American Snow Conference, April 17-20, 1995, Milwaukee, Wisconsin.

Plate 1.
Montour Run Tributary Drainage Basins
(Square Miles)

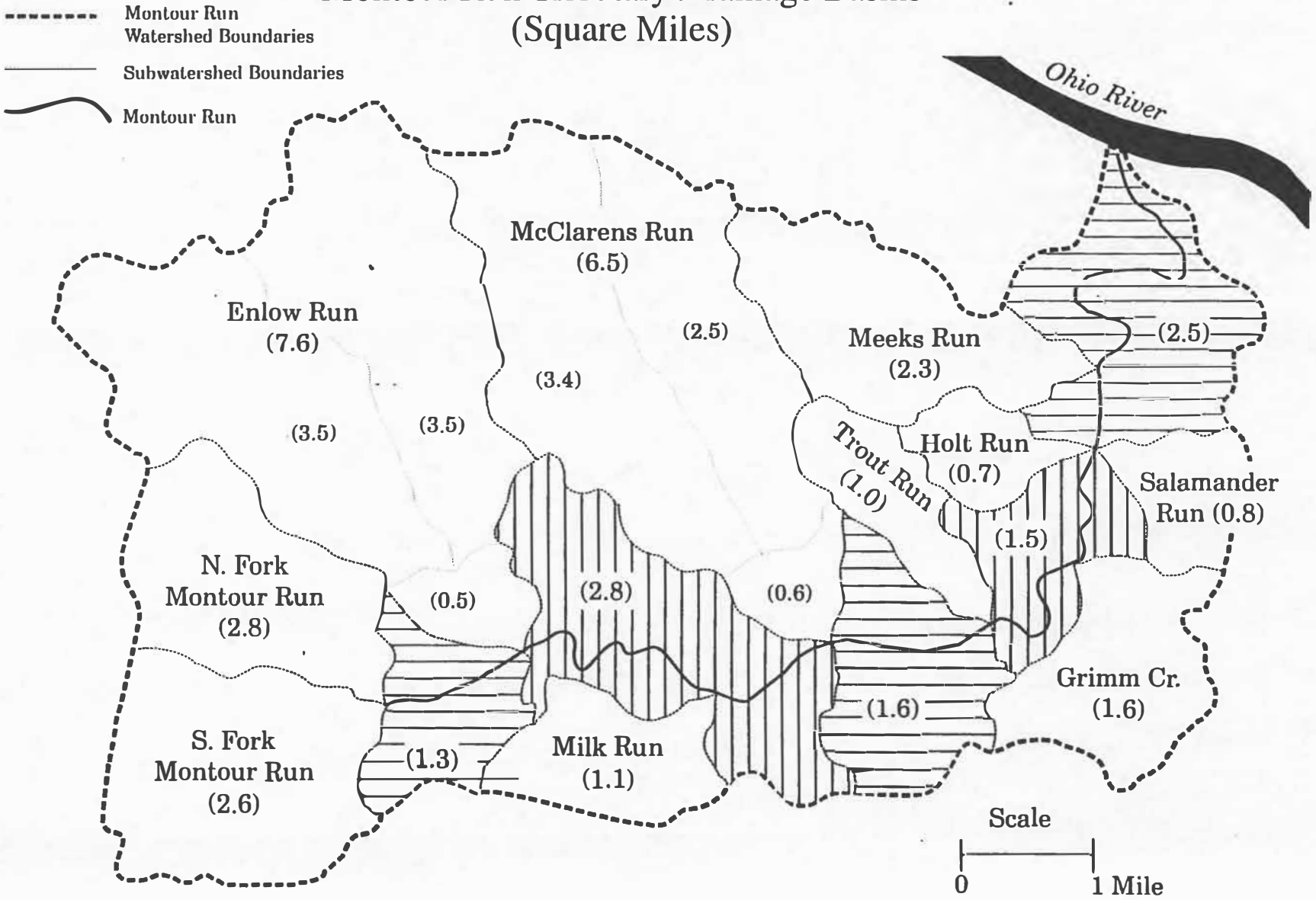
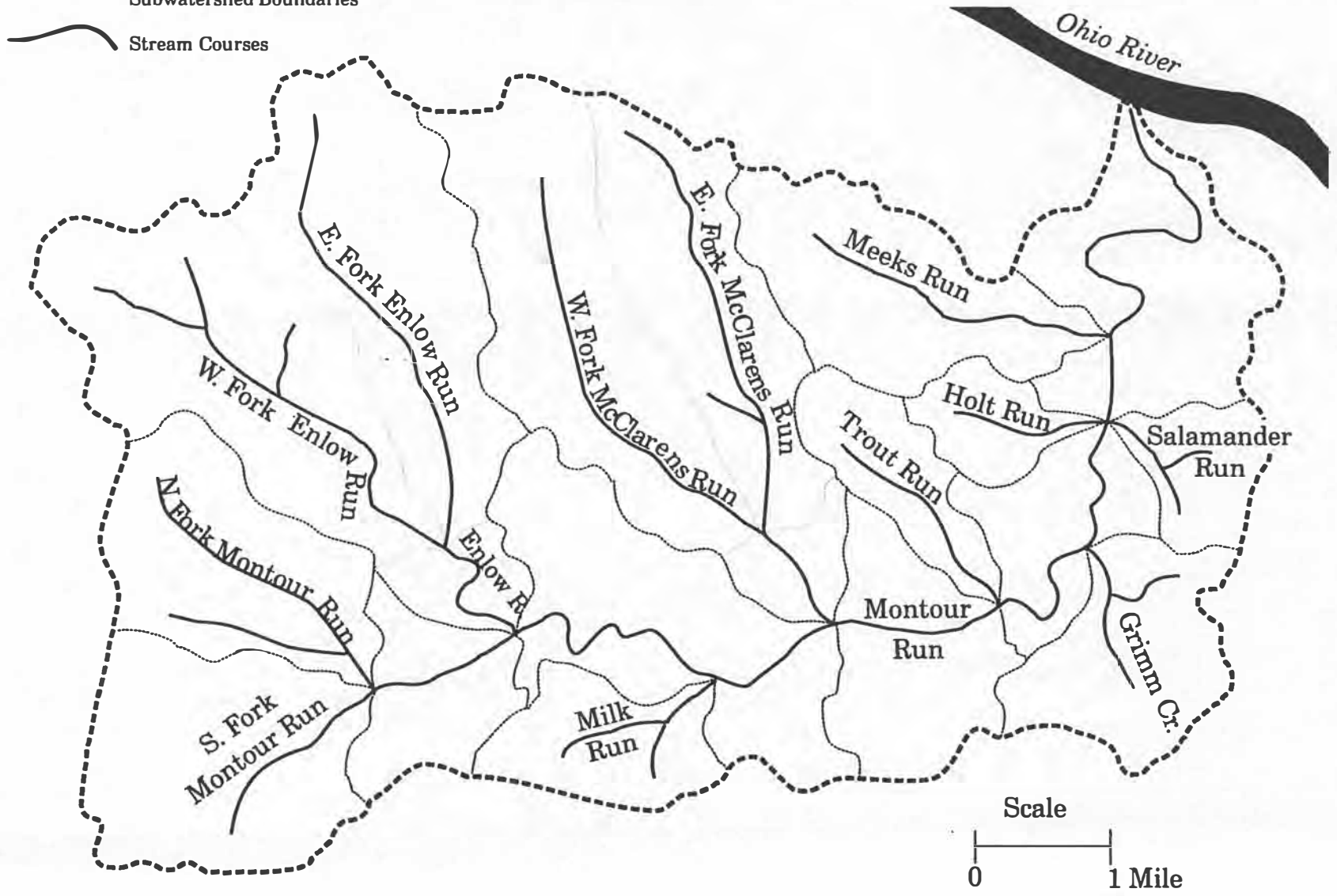


Plate 2.
Montour Run Watershed
Stream Courses



APPENDIX A

MONTOUR RUN WATERSHED

WATER QUALITY AND BIOLOGICAL

SAMPLING STATION DESCRIPTIONS

APPENDIX A
MONTOUR RUN WATERSHED
WATER QUALITY AND BIOLOGICAL
SAMPLING STATION DESCRIPTIONS

Station Identification	Stream	Stream Mile
4 MTR 1 3001	Montour Run	0.06

Mouth of Montour Run (D.A. 36.6 square miles). Station is located 200 feet upstream of railroad bridge and 300 ft upstream of the confluence of Montour Run with the Ohio River at Ohio River mile 9.4, in the Neville Island backchannel in Coraopolis, PA (U.S.G.S Ambridge Quadrangle). N 40° 30' 48" / W 80° 09' 03".

Field and laboratory water chemistries, rapid invertebrate assessment, Surber sample invertebrates, and bacteriological and fish sampling.

---

4 MTR 1 3028	Montour Run	2.8

Located on Montour Run (D.A. 36.0 square miles) 0.15 miles downstream of the confluence of Meeks Run with Montour Run, and upstream of the Moon Township Wastewater Treatment Plant, off Sharon Grade Road in Moon/Robinson Townships, at Montour Bike Trail bridge (the old Montour Railroad Bridge) over Montour Run (U.S.G.S. Oakdale Quadrangle). N 40° 29' 28" / W 80° 09' 04".

Field and laboratory water chemistries, rapid invertebrate assessment, Surber sample invertebrates, and bacteriological and fish sampling.

Station Identification	Stream	Stream Mile
4 MTR 1 3066	Montour Run	6.6

Located on Montour Run (D.A. 26.1 square miles) immediately upstream of the confluence of Trout Run with Montour Run, near the intersection of Montour Run Road with Hookstown Grade Road, at the Montour Bike Trail Bridge over Montour Run in Moon/Robinson Townships, PA (U.S.G.S. Oakdale Quadrangle). N 40° 27' 40" / W 80° 10' 04".

Field and laboratory water chemistries, rapid invertebrate assessment, Surber sample invertebrates, and bacteriological and fish sampling.

---

4 MTR 1 3115	Montour Run	11.7

Located on Montour Run (D.A. 6.3 square miles) just upstream of the confluence or Enlow Run at Montour Run mile 11.7 at old Route 978 on Enlow Road bridge in Findlay/North Fayette Townships, PA (U.S.G.S. Oakdale Quadrangle). N 40° 27' 20" / W 80° 14' 02".

Field and laboratory water chemistries, rapid invertebrate assessment, Surber sample invertebrates, bacteriological and fish sampling, and reconnaissance survey.

4MTR 1 2101	Meeks Run	0.01

Mouth of Meeks Run (D.A. 2.3 square miles). Station is located 60 feet upstream of the confluence with Montour Run at Montour Run stream mile 3.0 in Moon Township, PA (U.S.G.S. Oakdale Quadrangle). N 40° 29' 26" / W 80° 09' 10".

Field and laboratory water chemistries, rapid invertebrate assessment, Surber sample invertebrates, and bacteriological and fish sampling.

Station Identification	Stream	Stream Mile
4 MTR 1 2201	Holt Run	0.01

Holt Run at mouth (D.A. 0.7 square miles). Station is located 60 feet upstream of the confluence with Montour Run at Montour Run stream mile 3.6 in Moon Township, PA (U.S.G.S. Oakdale Quadrangle). N 40° 28' 50" / W 80° 09' 18".

Field and laboratory water chemistries, bacteriological sampling, and rapid invertebrate assessment.

---

4 MTR 1 2301	Salamander Run	0.01

Salamander Run at mouth (DA 0.8 square miles). Station is located 120 feet upstream of its confluence with Montour Run at Montour Run stream mile 3.6 and 50 feet upstream of the Montour Bike Trail Bridge (the old Montour Railroad Bridge) in Robinson Township, PA (U.S.G.S. Oakdale Quadrangle). N 40° 28' 51" / W 80° 09' 14".

Field and laboratory water chemistries, bacteriological sampling, and rapid invertebrate assessment.

---

4 MTR 1 2401	Grimm Creek	0.01

Grimm Creek at mouth (DA 1.6 square miles). Station is located 30 feet upstream of the Montour Bike Trail Bridge (the old Montour Railroad Bridge), near the confluence of Grimm Creek with Montour Run at Montour Run stream mile 5.1, off Beaver Grade Road near the intersection of Montour Run Road in Robinson Township, PA (U.S.G.S. Oakdale Quadrangle). N 40° 28' 00" / W 80° 09' 19".

Field and laboratory water chemistries, bacteriological sampling, and rapid invertebrate assessment.

Station Identification	Stream	Stream Mile
4 MTR 1 2501	Trout Run	0.04

Mouth of Trout Run (DA 1.0 square miles). Station is located 200 feet upstream of the confluence of Trout Run with Montour Run at Montour Run stream mile 6.6, off Hookstown Grade Road near the intersection with Montour Run Road, in Moon Township, PA (U.S.G.S. Oakdale Quadrangle). N 40° 27' 41" / W 80° 10' 08".

Field and laboratory water chemistries, rapid invertebrate assessment, and bacteriological and fish sampling.

---

4 MTR 1 2601	McClarens Run	0.12

Mouth of McClarens Run (DA 6.5 square miles). Station is located 0.12 miles upstream of the confluence of McClarens Run with Montour Run at Montour Run stream mile 7.95, at Cliff Mine Road Bridge crossing of McClarens Run near the Marriott Inn, in Findlay Township, PA (U.S.G.S. Oakdale Quadrangle). N 40° 27' 31" / W 80° 11' 27".

Field and laboratory water chemistries, rapid invertebrate assessment, and bacteriological sampling.

---

4 MTR 1 2602	West Fork of McClarens Run	0.30

Mouth of West Fork of McClarens Run (DA 3.4 square miles). Station is located 0.30 mile upstream of the confluence of the West and East Forks of McClarens Run, and 0.2 mile upstream of an approximately 1,000 feet long tunnel under a Route 60 cloverleaf, adjacent to a barricaded section of McClaren Road near its intersection with Resurrection Road, in Findlay/Moon Townships, PA (U.S.G.S. Oakdale Quadrangle). N 40° 28' 09" / W 80° 12' 13".

Station Identification	Stream	Stream Mile
4 MTR 1 2602 (con't)	West Fork of McClarens Run	0.30
	Field and laboratory water chemistries, rapid invertebrate assessment, bacteriological sampling, and reconnaissance survey.	
4 MTR 1 2603	East Fork of McClarens Run	0.64
	Mouth of the East Fork of McClarens Run (DA 2.5 square miles). Station is located 0.64 mile upstream of the confluence of the East and West Forks of McClarens Run at end of ramp connecting Route 60 to old Business Route 60, at end of PADOT cyclone fencing and rock-lined channelized section of stream, in Moon Township, PA (U.S.G.S. Oakdale Quadrangle). N 40° 28' 19" / W 80° 11' 56".	
	Field and laboratory water chemistries, rapid invertebrate assessment, bacteriological and fish sampling, and reconnaissance survey.	
4 MTR 1 2615	West Fork of McClarens Run	2.6
	Station is located on the West Fork of McClarens Run, 2.6 miles upstream of its confluence with the East Fork of McClarens Run, in an area of the Pittsburgh International Airport referred to as "Dinosaur Gulch", north of runway 28 center (Taxiway Echo) and southwest of runway 32 R, just upstream of a right bank descending mine water, iron polluted tributary that flows into the "Gulch" from the west, in Moon Township, PA (U.S.G.S. Oakdale Quadrangle). N 40° 29' 34" / W 80° 13' 36".	
	Field and laboratory water chemistries and reconnaissance survey.	

Station Identification	Stream	Stream Mile
4 MTR 1 2604	Seepage from Airport Runway 32 Fill, Tributary to the East Fork of McClarens Run	0.15

Station is located at a seep 0.15 mile upstream of its confluence with the East Fork of McClarens Run at stream mile 0.86, draining fill of southeast end of Pittsburgh International Airport Runway 32, at the intersection of Resurrection Road and an airport maintenance road, just west of the intersection of Resurrection Road and Business (old) Route 60, in Moon Township, PA (U.S.G.S. Oakdale Quadrangle). N 40° 28' 47" / W 80° 12' 07".

Field and laboratory water chemistries and reconnaissance survey.

---

4 MTR 1 2701	Milk Run	0.06

Milk Run at mouth (DA 1.1 square miles). Station is located 300 feet upstream of the confluence of Milk Run with Montour Run at Montour Run stream mile 9.1, approximately 50 feet upstream of the Cliff Mine Road Bridge crossing of Milk Run, near Chitchat Inn, in North Fayette Township, PA (U.S.G.S. Oakdale Quadrangle). N 40° 27' 05" / W 80° 12' 21".

Field and laboratory water chemistries, rapid invertebrate assessment, and bacteriological sampling.

---

4 MTR 1 2801	Enlow Run	0.01

Enlow Run at mouth (DA 7.6 square miles). Station is located 35 feet upstream of the confluence of Enlow Run with Montour Run at Montour Run stream mile 11.7, at McClaren Road Bridge over Enlow Run, just east of the intersection with Enlow Road (old

Station Identification	Stream	Stream Mile
4 MTR 1 2801 (con't)	Enlow Run	0.01

Route 978) (caution: Montour Run also flows under McClaren Road Bridge in a different barrel), in Findlay Township, PA (U.S.G.S.Oakdale Quadrangle). N 40° 27' 18" / W 80° 14' 00".

Field and laboratory water chemistries, rapid invertebrate assessment, bacteriological sampling, and reconnaissance survey.

---

4 MTR 1 2802	West Fork of Enlow Run	0.03

West Fork of Enlow Run at mouth (DA 3.4 square miles). Station is located on West Fork of Enlow Run, 150 feet upstream of the confluence of the West and East Forks of Enlow Run and 1.18 miles upstream of the confluence of Enlow Run with Montour Run, near the Clinton Road Bridge crossing of the East Fork of Enlow Run, in Findlay Township, PA (U.S.G.S. Oakdale Quadrangle). N 40° 27' 58" / W 80° 14' 31".

Field and laboratory water chemistries, bacteriological sampling, rapid invertebrate assessment, and reconnaissance survey.

---

4 MTR 1 2805	Unnamed Left Bank Tributary to the West Fork of Enlow Run at Stream Mile 2.05	0.06

Mouth of unnamed left bank tributary to the West Fork of Enlow Run. Station is located on unnamed left bank tributary of the West Fork of Enlow Run, 300 feet upstream of its confluence with the West Fork of Enlow Run at stream mile 2.05, from culvert on Clinton Road below where stream exits from under Route 60, near the entrance to Pittsburgh International Airport, in Findlay

Station Identification	Stream	Stream Mile
4 MTR 1 2805 (con't)	Unnamed Left Bank Tributary to the West Fork of Enlow Run at Stream Mile 2.05	0.06

Township, PA (U.S.G.S. Clinton Quadrangle). N 40° 29' 01" / W 80° 16' 13".

Field and laboratory water chemistries, and reconnaissance survey.

---

4 MTR 1 2806	Unnamed Right Bank Tributary to the West Fork of Enlow Run at Stream Mile 2.5	0.01

Station is located 75 feet upstream of the mouth of unnamed right bank tributary to the West Fork of Enlow Run at West Fork Enlow Run stream mile 2.5, from bridge off Clinton Road, in Findlay Township, PA (U.S.G.S. Clinton Quadrangle). N 40° 28' 59" / W 80° 15' 52".

Field and laboratory water chemistries.

---

4 MTR 1 2809	West Fork of Enlow Run after It has Captured Combined Discharges from the Old Clinton Deep Mine in Clinton, PA	3.76

Station is located on the West Fork of Enlow Run at a culvert on a dirt road along the southeast portion of the Findlay Township Public Works Complex, downstream of both Clinton Lake and the old Clinton Deep Mine, 450 feet southeast of the intersection of this

Station Identification	Stream	Stream Mile
4 MTR 1 2809 (con't)	West Fork of Enlow Run after It has Captured Combined Discharges from the Old Clinton	3.76

dirt road and Moon Clinton Road, in the community of Clinton, Findlay Township, PA (U.S.G.S. Clinton Quadrangle). N 40° 29' 33" / W 80° 17' 23".

Field and laboratory water chemistries and reconnaissance survey.

---

4 MTR 1 2810	Aluminum Polluted Mine Seepage, Tributary to the West Fork of Enlow Run at stream mile 3.81 in Clinton, PA	0.01

Station is located on an aluminum polluted mine seep where it enters the left bank of the West Fork of Enlow Run at stream mile 3.8, immediately upstream of station 4 MTR 1 2809, in the community of Clinton, Findlay Township, PA (U.S.G.S. Clinton Quadrangle). N 40° 29' 33" / W 80° 17' 24".

Field water chemistries and reconnaissance survey.

---

4 MTR 1 2815	White Plastic Pipe Acidic Discharge from the Clinton Deep Mine, Tributary to the West Fork of Enlow Run at stream mile 3.9 in Clinton, PA	0.01

This discharge enters the left bank of the West Fork of Enlow Run after flowing beneath Moon Clinton Road. The discharge is on Moon Clinton Road across from the entrance to the Findlay

Station Identification	Stream	Stream Mile
4 MTR 1 2815 (con't)	White Plastic Pipe Acidic Discharge from the Clinton Deep Mine, Tributary to the West Fork of Enlow Run at stream mile 3.9 in Clinton, PA	0.01
	Township Public Works Complex, in the community of Clinton, Findlay Township, PA (U.S.G.S. Clinton Quadrangle). N 40° 29' 32" / W 80° 17' 29". Field and laboratory water chemistries.	
4 MTR 1 2803	East Fork Enlow Run	0.01
	East Fork of Enlow Run at mouth (DA 3.6 square miles). Station is located 75 feet upstream of the confluence of the East and West Forks of Enlow Run, and 1.2 miles upstream of the confluence of Enlow Run with Montour Run, at the Clinton Road Bridge crossing of the East Fork of Enlow Run, in Findlay Township, PA (U.S.G.S. Oakdale Quadrangle). N 40° 27' 59" / W 80° 14' 29". Field and laboratory water chemistries, rapid invertebrate assessment, bacteriological sampling, and reconnaissance survey.	
4 MTR 1 2818	East Fork of Enlow Run	1.3
	Station is located on the East Fork of Enlow Run, 1.3 miles upstream of its confluence with the West Fork of Enlow Run, south of Pittsburgh International Airport Runway 28L and 600 feet	

Station Identification	Stream	Stream Mile
4 MTR 1 2818 (con't)	East Fork of Enlow Run	1.3

upstream of the sedimentation impoundment constructed on the East Fork of Enlow Run, in Findlay Township, PA (U.S.G.S. Oakdale Quadrangle). N 40° 28' 59" / W 80° 14' 47".

Field and laboratory water chemistries and reconnaissance survey.

---

4 MTR 1 2819	Unnamed Left Bank Tributary to the East Fork of Enlow Run at Stream Mile 1.2	0.1

Station is located on unnamed left bank tributary to the East Fork of Enlow Run which drains Pittsburgh International Airport Runway 28L and confluences with the East Fork of Enlow Run at mile 1.2, 0.1 mile upstream of its confluence with the East Fork of Enlow Run, within the pool of a sedimentation impoundment, in Findlay Township, PA (U.S.G.S. Oakdale Quadrangle). N 40° 28' 59" / W 80° 14' 43".

Field and laboratory water chemistries and reconnaissance sampling.

---

4 MTR 1 2820	Unnamed Left Bank Tributary to the East Fork of Enlow Run at Stream Mile 1.2	0.22

Station located on unnamed left bank tributary to the East Fork of Enlow Run that confluences with the East Fork of Enlow Run at mile 1.2, within the pool of a sedimentation impoundment, 0.22 mile upstream of its confluence with the East Fork of Enlow Run where the unnamed tributary discharges from the left, or east, culvert under Pittsburgh International Airport Runway 28L, in

Station Identification	Stream	Stream Mile
MTR 1 2820 (con't)	Unnamed Left Bank Tributary to the East Fork of Enlow Run at Stream Mile 1.2	0.22

Findlay Township, PA (U.S.G.S. Oakdale Quadrangle). N 40° 30' 05" / W 80° 14' 38".

Field and laboratory water chemistries and reconnaissance survey.

---

4 MTR 1 2822	Right Bank Descending Seepage from Runway 28L Discharging into an Unnamed Left Bank Tributary of the East Fork of Enlow Run at Stream Mile 0.22	0.01

Station is located at a white mineralized seep draining Pittsburgh International Airport Runway 28L, which discharges into the right bank of an unnamed left bank tributary of the East Fork of Enlow Run, 0.22 mile upstream of the unnamed tributary's confluence with the East Fork of Enlow Run, to the immediate right or west of station 4 MTR 1 2820. The unnamed tributary which receives this discharge then has its confluence with the East Fork of Enlow Run, within the pool of a sedimentation impoundment, 1.2 miles upstream of the confluence of the East Fork with the West Fork of Enlow Run. Findlay Township, PA (U.S.G.S. Oakdale Quadrangle). N 40° 30' 05" / W 80° 14' 38".

Field and laboratory water chemistries and reconnisassance survey.

Station Identification	Stream	Stream Mile
4 MTR 1 2823	Left Bank Descending Spring Seepage, Discharging into an Unnamed Left Bank Tributary of the East Fork of Enlow Run at Stream Mile 0.2	0.01

Station is located on a spring seep which discharges to the left bank of an unnamed left bank tributary of the East Fork of Enlow Run, 0.2 mile upstream of its confluence with the East Fork of Enlow Run, to the immediate left or east of station 4 MTR 1 2820. The unnamed tributary which receives this discharge then has its confluence with the East Fork of Enlow Run, within the pool of a sedimentaion impoundment, 1.2 miles upstream of the confluence of the East Fork with the West Fork of Enlow Run. Findlay Township, PA (U.S.G.S. Oakdale Quadrangle). N 40° 30' 05" / W 80° 14' 38".

Laboratory water chemistries and reconnaissance survey.

---

4 MTR 1 2901	North Fork of Montour Run	0.01

Mouth of North Fork of Montour Run (DA 2.3 square miles). Station is located 35 feet upstream of the confluence of the North and South Forks of Montour Run, at Montour Run stream mile 12.8, behind the Church of the Nazarene parking lot, off U.S. Route 30, in the community of Imperial, Findlay Township, PA (U.S.G.S. Clinton Quadrangle). N 40° 26' 59" / W 80° 15' 04".

Field and laboratory water chemistries, rapid invertebrate assessment, bacteriological sampling, and reconnasissance survey.

Station Identification	Stream	Stream Mile
4 MTR 1 2903	North Fork of Montour Run	0.43

Station is located on the North Fork of Montour Run, 0.4 mile upstream of the confluence of the North and South Forks of Montour Run at Montour Run Stream mile 12.8, at the Imperial/Burgettstown Road Bridge, just upstream of the confluence of an unnamed right bank tributary with the North Fork of Montour Run. Imperial, Findlay Township, PA (U.S.G.S. Clinton Quadrangle). N 40° 27' 13" / W 80° 15' 21".

Field water chemistries and reconnaissance survey.

---

4 MTR 1 2904	Unnamed Right Bank Tributary to the North Fork of Montour Run at Stream Mile 0.4	0.02

Station is located at the mouth of an unnamed right bank tributary to the North Fork of Montour Run, 0.02 mile upsteam of its confluence with the North Fork of Montour Run at North Fork Montour Run stream mile 0.4, at the Imperial/Burgettstown Road Bridge, near the intersection of Imperial/Burgettstown Road and U.S. Route 30, in Findlay Township, PA (U.S.G.S. Clinton Quadrangle). N 40° 27' 12" / W 80° 15' 22".

Field and laboratory water chemistries and reconnaissance survey.

---

4 MTR 1 2908	North Fork of Montour Run	2.1

Station is located on the North Fork of Montour Run, 2.1 miles upstream of its confluence with the South Fork of Montour Run, downstream of the confluences of two major deep mine discharges to the stream, off of SR 3080, near its intersection with U.S. Route 30, in Findlay Township, PA (U.S.G.S. Clinton Quadrangle). N 40° 28' 11" / W 80° 16' 47".

Station Identification	Stream	Stream Mile
4 MTR 1 2908 (con't)	North Fork of Montour Run	2.1
	Field and laboratory water chemistries and reconnaissance survey.	
4 MTR 1 2910	Right Bank Mine Discharge to the North Fork of Montour Run at Stream Mile 2.17	0.03
	Station is located at a right bank (west) deep mine discharge, 150 feet upstream of its confluence with the North Fork of Montour Run at stream mile 2.17, approximately 180 feet upstream of Station 4 MTR 1 2908, in Findlay Township, PA (U.S.G.S. Clinton Quadrangle). N 40° 28' 12" / W 80° 16' 49".	
	Field and laboratory water chemistries.	
4 MTR 1 2912	Left Bank Deep Mine Discharge to the North Fork of Montour Run at Stream Mile 2.2	0.03
	Station is located at a left bank (east) deep mine discharge, 75 feet upstream of its confluence with the North Fork of Montour Run at stream mile 2.2, immediately upstream of Station 4 MTR 1 2908, on the east side of U.S. Route 30 just north of its intersection with SR 3080, in Findlay Township, PA (U.S.G.S. Clinton Quadrangle). N 40° 28' 15" / W 80° 16' 46".	
	Field and laboratory water chemistries.	

Station Identification	Stream	Stream Mile
4 MTR 1 2001	South Fork of Montour Run	0.01

Mouth of the South Fork of Montour Run (DA 2.6 square miles). Station is located 30 feet upstream of the confluence of the South and North Forks of Montour Run at Montour Run stream mile 12.8, behind the Church of the Nazarene parking lot, off U.S. Route 30, in the community of Imperial, Findlay/North Fayette Townships, PA (U.S.G.S. Clinton Quadrangle). N 40° 26' 58" / W 80° 15' 04".

Field and laboratory water chemistries, bacteriological sampling rapid invertebrate assessment, and reconnaissance sampling.

---

4 MTR 1 2004	Santiago Run, Tributary to the South Fork of Montour Run at Stream Mile 0.95	0.13

Station is located on Santiago Run, a right bank tributary to the South Fork of Montour Run at South Fork Montour Run stream mile 0.95 off of Santiago Road near its intersection with Kennedy Road, 0.13 mile upstream of the confluence of Santiago Run with the South Fork of Montour Run and 75 feet upstream of the confluence of a small right bank unnamed tributary of Santiago Run in the community of Santiago, North Fayette Township, PA (U.S.G.S. Clinton Quadrangle). N 40° 26' 23" / W 80° 15' 48".

Field and laboratory water chemistries and reconnaissance survey.

Station Identification	Stream	Stream Mile
4 MTR 1 2005	Unnamed Right Bank Tributary to Santiago Run at Santiago Run Stream Mile 0.10	0.01

Station is located at the mouth of an unnamed right bank tributary to Santiago Run at stream mile 0.1, near the intersection of Santiago Road and Kennedy Road, 75 feet upstream of the confluence of this unnamed tributary with Santiago Run, at the Santiago Road Bridge in North Fayette Township, PA (U.S.G.S. Clinton Quadrangle). N 40° 26' 24" / W 80° 15' 46".

Reconnaissance survey.

---

4 MTR 1 2006	South Fork Montour Run	1.4

Station is located on the South Fork of Montour Run, 1.4 miles upstream of its confluence with the North Fork of Montour Run, off Boggs Road, west of Wilson Elementary School and 150 feet upstream of the confluence of a small unnamed left bank tributary, in Findlay/North Fayette Townships, PA (U.S.G.S. Clinton Quadrangle). N 40° 26' 30" / W 80° 16' 17".

Field and laboratory water chemistries, and reconnaissance survey

---

4 MTR 1 2010	Unnamed Left Bank Tributary to the South Fork of Montour Run at Stream Mile 1.35	0.04

Station is located on an unnamed left bank tributary to the South Fork Montour Run at South Fork stream mile 1.35, at a culvert on Boggs Road, west of Wilson Elementary School, in Findlay Township, PA (U.S.G.S. Clinton Quadrangle). N 40° 26' 33" / W 80° 16' 15".

Station Identification	Stream	Stream Mile
4 MTR 1 2010 (con't)	Unnamed Left Bank Tributary to the South Fork of Montour Run at Stream Mile 1.35	0.04

Field and laboratory water chemistries and reconnaissance survey.

---

4 MTR 1 2012	South Fork of Montour Run	2.0

Station is located on the South Fork of Montour Run, 2.0 miles upstream of its confluence with the North Fork of Montour Run, at Montour Run stream mile 12.7, off Boggs Road, near a white house at the bend in the road, 15 feet upstream of the confluence of a small left bank tributary, in Findlay/North Fayette Townships, PA (U.S.G.S. Clinton Quadrangle). N 40° 26' 33" / W 80° 16' 56".

Field and laboratory water chemistries and reconnaissance survey.

---

4 MTR 1 2014	Unnamed Left Bank Tributary to the South Fork of Montour Run at Stream Mile 2.0	0.01

Station is located on an unnamed left bank tributary to the South Fork of Montour Run, 15 feet upstream of the confluence of the unnamed tributary with the South Fork of Montour Run at South Fork stream mile 2.0, off Boggs Road, near the white house at bend in the road, in Findlay Township, PA (U.S.G.S. Clinton Quadrangle). N 40° 26' 35" / W 80° 16' 57".

Field and laboratory water chemistries and reconnaissance survey.

APPENDIX B

MONTOUR RUN WATERSHED
RESULTS OF 1996 CHEMICAL ANALYSIS

STATION 4 MTR 1 3001

COMMONWEALTH OF PENNSYLVANIA — PAGE: 1
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT — RECEIVED 4/12/96
FOR SAMPLE NUMBER H9618196 — REPORTED 5/08/96

COLLECTOR	S. BOSTJANCIC BWQM5	SAMPLING DATE	4/11/96
COLLECTOR NO.	0527350	SAMPLING TIME	8:30
ESTABLISHMENT	ALLEGHENY	STANDARD ANAL	012
CASE NAME		TYPE CODE	
FACILITY		WQN	
ID CODE		STREAM CODE	
		RIVER MILE IND	

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT				V	SLH	4/16/96
	COMMENT: INSUFFICENT SAMPLE FOR ANAL.						
00314	8005 DAY INH		15.2000	MG/L	G	WET	4/18/96
00403	PH LAB		7.4000		G	HWS	4/12/96
00410	T ALK CACO3		90.0000	MG/L	G	HWS	4/12/96
00515	RES DISS/105		426.0000	MG/L	G	DHN	4/16/96
00530	RES TOT NONF	<	2.0000	MG/L	G	DHN	4/16/96
00610A	NH3-N		1.3100	MG/L	G	DJD	4/15/96
00615A	NO2-N		0.0360	MG/L	G	BLF	4/12/96
00620A	NO3-N		0.9800	MG/L	G	BLF	4/12/96
00623A	KJEL-N DISS			MG/L	V	LBS	5/01/96
	COMMENT: NO SEP. SAMPLE RECEIVED						
00625A	KJELD-N TOT		2.8400	MG/L	G	DJD	5/02/96
00665A	PHOS-TOTAL		0.0210	MG/L	G	CHR	4/24/96
00900A	T HARD CACO3		434.0000	MG/L	G	EVC	4/17/96
00916A	CA TOTAL		110.0000	MG/L	G	CAG	4/18/96
00927A	MG		29.3000	MG/L	G	CAG	4/18/96
00940	CL		127.0000	MG/L	G	FFV	4/16/96
00945	SO4 TOTAL		295.0000	MG/L	G	FFV	4/16/96
00951	FLUORIDE TOT		0.2700	MG/L	G	FFV	4/15/96
01002H	AS	<	4.0000	UG/L	G	BBM	4/12/96
01007H	BA		41.8000	UG/L	G	BBM	4/12/96
01012H	BE	<	1.0000	UG/L	G	BBM	4/12/96
01022A	B	<	250.0000	UG/L	G	DJD	5/02/96
01027H	CD		0.2000	UG/L	G	BBM	4/12/96
01032A	CR HEX	<	1.0000	UG/L	G	FFV	4/12/96
01034H	CR TOT	<	4.0000	UG/L	G	BBM	4/12/96
01037A	CO TOT	<	20.0000	UG/L	G	CAG	4/17/96
01040H	CU DISS			UG/L	V	DHN	4/12/96
	COMMENT: NO SEP. SAMPLE RECEIVED						
01042H	CU	<	4.0000	UG/L	G	BBM	4/12/96

LABORATORY REPORT
FOR SAMPLE NUMBER H9618196

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
01045A	FE		380.0000	UG/L	G	CAG	4/17/96
01046A	FE DISS			UG/L	V	DHN	4/12/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01049H	PB DISS			UG/L	V	DHN	4/12/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01051H	PB	<	1.0000	UG/L	G	BBM	4/12/96
01055H	MN		1230.0000	UG/L	G	DHN	4/15/96
01056H	MN DISS			UG/L	V	DHN	4/12/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01059H	TL	<	2.0000	UG/L	G	BBM	4/12/96
01065H	NI DISS			UG/L	V	DHN	4/12/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01067H	NI		22.7000	UG/L	G	BBM	4/12/96
01077H	AG	<	0.4000	UG/L	G	BBM	4/12/96
01087H	V	<	13.0000	UG/L	G	BBM	4/12/96
01090H	ZN DISS			UG/L	V	DHN	4/12/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01092H	ZN		20.5000	UG/L	G	BBM	4/12/96
01097H	SB	<	2.0000	UG/L	G	BBM	4/12/96
01102A	SN	<	200.0000	UG/L	G	CAG	4/26/96
01105H	AL		525.0000	UG/L	G	BBM	4/12/96
01106H	AL DISS			UG/L	V	DHN	4/12/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01132A	LI	<	30.0000	UG/L	G	CAG	4/17/96
01147H	SE	<	7.0000	UG/L	G	BBM	4/12/96
31616	FEC COLI			/100	V	CJB	4/16/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
38260	MBAS	<	0.5000	MG/L	G	FFV	4/12/96
70508	T ACIDITY HT		0.0000	MG/L	G	859	4/12/96
71900I	MERCURY TOT	<	0.2000	UG/L	G	SAH	4/15/96
82079	TURBIDITY		4.9000	NTU	G	DHN	4/25/96
82550	OSMOTIC PRES		0.0000	MOSM	G	TAB	4/22/96
	COMMENT:	NOT AMENABLE TO ANALYSIS					

TOTAL NUMBER OF TESTS FOR THIS SAMPLE 53

STATION 4 MTR 1 3028

COMMONWEALTH OF PENNSYLVANIA PAGE: 1
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT RECEIVED 4/12/96
FOR SAMPLE NUMBER H9618197 REPORTED 5/08/96

COLLECTOR	S. BOSTJANCIC BWQM5	SAMPLING DATE	4/11/96
COLLECTOR NO.	0527351	SAMPLING TIME	11:00
ESTABLISHMENT		STANDARD ANAL	012
CASE NAME		TYPE CODE	
FACILITY		WQN	
ID CODE		STREAM CODE	
		RIVER MILE IND	

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT		1090.0000		G	SLH	4/16/96
00314	BOD5 DAY INH		34.4000	MG/L	G	WET	4/18/96
00403	PH LAB		7.4000		G	HWS	4/12/96
00410	T ALK CACO3		90.0000	MG/L	G	HWS	4/12/96
00515	RES DISS/105		790.0000	MG/L	G	DHN	4/16/96
00530	RES TOT NONF	<	2.0000	MG/L	G	DHN	4/16/96
00610A	NH3-N		1.2700	MG/L	G	DJD	4/15/96
00615A	NO2-N		0.0380	MG/L	G	BLF	4/12/96
00620A	NO3-N		0.8100	MG/L	G	BLF	4/12/96
00623A	KJEL-N DISS			MG/L	V	LBS	5/01/96
	COMMENT: NO SEP. SAMPLE RECEIVED						
00625A	KJELD-N TOT		3.1300	MG/L	G	DJD	5/02/96
00665A	PHOS-TOTAL		0.0150	MG/L	G	CHR	4/24/96
00900A	T HARD CACO3		430.0000	MG/L	G	EVC	4/17/96
00916A	CA TOTAL		114.0000	MG/L	G	CAG	4/18/96
00927A	MG		30.4000	MG/L	G	CAG	4/18/96
00940	CL		127.0000	MG/L	G	FFV	4/16/96
00945	SO4 TOTAL		297.0000	MG/L	G	FFV	4/16/96
00951	FLUORIDE TOT		0.2900	MG/L	G	FFV	4/15/96
01002H	AS	<	4.0000	UG/L	G	BBM	4/12/96
01007H	BA		41.4000	UG/L	G	BBM	4/12/96
01012H	BE	<	1.0000	UG/L	G	BBM	4/12/96
01022A	B	<	250.0000	UG/L	G	DJD	5/02/96
01027H	CD		0.4000	UG/L	G	BBM	4/12/96
01032A	CR HEX	<	1.0000	UG/L	G	FFV	4/12/96
01034H	CR TOT	<	4.0000	UG/L	G	BBM	4/12/96
01037A	CO TOT	<	20.0000	UG/L	G	CAG	4/17/96
01040H	CU DISS			UG/L	V	DHN	4/12/96
	COMMENT: NO SEP. SAMPLE RECEIVED						
01042H	CU	<	4.0000	UG/L	G	BBM	4/12/96
01045A	FE		454.0000	UG/L	G	CAG	4/17/96
01046A	FE DISS			UG/L	V	DHN	4/12/96
	COMMENT: NO SEP. SAMPLE RECEIVED						

LABORATORY REPORT
FOR SAMPLE NUMBER H961B197

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
01049H	PB DISS			UG/L	V	DHN	4/12/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01051H	PB	<	1.0000	UG/L	G	BBM	4/12/96
01055H	MN		1160.0000	UG/L	G	DHN	4/15/96
01056H	MN DISS			UG/L	V	DHN	4/12/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01059H	TL	<	2.0000	UG/L	G	BBM	4/12/96
01065H	NI DISS			UG/L	V	DHN	4/12/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01067H	NI		22.9000	UG/L	G	BBM	4/12/96
01077H	AG	<	0.4000	UG/L	G	BBM	4/12/96
01087H	V	<	13.0000	UG/L	G	BBM	4/12/96
01090H	ZN DISS			UG/L	V	DHN	4/12/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01092H	ZN		23.7000	UG/L	G	BBM	4/12/96
01097H	SB	<	2.0000	UG/L	G	BBM	4/12/96
01102A	SN	<	200.0000	UG/L	G	CAG	4/26/96
01105H	AL		941.0000	UG/L	G	BBM	4/12/96
01106H	AL DISS			UG/L	V	DHN	4/12/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01132A	LI		33.0000	UG/L	G	CAG	4/17/96
01147H	SE	<	7.0000	UG/L	G	BBM	4/12/96
31616	FEC COLI			/100	V	CJB	4/16/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
38260	MBAS	<	0.5000	MG/L	G	FFV	4/12/96
70508	T ACIDITY HT		0.0000	MG/L	G	859	4/12/96
71900I	MERCURY TOT	<	0.2000	UG/L	G	SAH	4/15/96
82079	TURBIDITY		6.8000	NTU	G	DHN	4/25/96
82550	OSMOTIC PRES		20.0000	MOSM	G	TAB	4/22/96

TOTAL NUMBER OF TESTS FOR THIS SAMPLE 53

STATION 4 MTR 1 3066

COMMONWEALTH OF PENNSYLVANIA PAGE: 1
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT RECEIVED 4/19/96
FOR SAMPLE NUMBER H9619882 REPORTED 5/07/96

COLLECTOR S. BOSTJANCIC BWQM5 SAMPLING DATE 4/18/96
COLLECTOR NO. 0527359 SAMPLING TIME 14:30
ESTABLISHMENT STANDARD ANAL 012
CASE NAME TYPE CODE
FACILITY MONTOUR RUN WQN
ID CODE STREAM CODE
RIVER MILE IND

TEST	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT	1062.0000		G	SLH	4/23/96
00314	BOD5 DAY INH	20.0000	MG/L	G	WET	4/24/96
00403	PH LAB	7.2000		G	HWS	4/19/96
00410	T ALK CACO3	92.0000	MG/L	G	HWS	4/19/96
00515	RES DISS/105	894.0000	MG/L	G	MYM	4/23/96
00530	RES TOT NONF <	2.0000	MG/L	G	MYM	4/23/96
00610A	NH3-N	1.8300	MG/L	G	DJD	4/19/96
00615A	NO2-N	0.0920	MG/L	G	BLF	4/19/96
00620A	NO3-N	1.1600	MG/L	G	BLF	4/19/96
00623A	KJEL-N DISS		MG/L	V	LBS	4/19/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
00625A	KJELD-N TOT	3.7800	MG/L	G	DJD	5/02/96
00665A	PHOS-TOTAL	0.0280	MG/L	G	CHR	5/06/96
00666A	P-D WET METH		MG/L	V	LBS	4/19/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
00671A	P DISS ORTHO		MG/L	V	LBS	4/19/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
00719A	CN FREE HBG		UG/L	V	LBS	4/19/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
00720A	CYANIDE		MG/L	V	LBS	4/19/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
00900A	T HARD CACO3	399.7000	MG/L	G	DJD	4/25/96
00916A	CA TOTAL	116.0000	MG/L	G	REW	4/22/96
00927A	MG	31.0000	MG/L	G	REW	4/22/96
00940	CL	47.3000	MG/L	G	WVM	4/19/96
00945	SO4 TOTAL	113.0000	MG/L	G	WVM	4/19/96
00951	FLUORIDE TOT <	1.0000	MG/L	G	FFV	4/30/96
	COMMENT: INSUFFICENT SAMPLE FOR ANAL.					

FOR SAMPLE NUMBER H9619882

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
01002H	AS	<	4.0000	UG/L	G	BHL	4/22/96
01007H	BA	<	7.0000	UG/L	G	BHL	4/22/96
01012H	BE	<	1.0000	UG/L	G	BHL	4/22/96
01022A	B	<	250.0000	UG/L	G	DJD	5/02/96
01027H	CD		0.2200	UG/L	G	BHL	4/22/96
01032A	CR HEX	<	1.0000	UG/L	G	WVM	4/19/96
01034H	CR TOT	<	4.0000	UG/L	G	BHL	4/22/96
01037A	CO TOT	<	25.0000	UG/L	G	REW	4/22/96
01040H	CU DISS			UG/L	V	LBS	4/19/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01042H	CU	<	4.0000	UG/L	G	BHL	4/22/96
01045A	FE		494.0000	UG/L	G	REW	4/22/96
01046A	FE DISS			UG/L	V	LBS	4/19/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01049H	PB DISS			UG/L	V	LBS	4/19/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01051H	PB	<	1.0000	UG/L	G	BHL	4/22/96
01055H	MN		972.0000	UG/L	G	BHL	4/22/96
01056H	MN DISS			UG/L	V	LBS	4/19/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01059H	TL	<	2.0000	UG/L	G	BHL	4/22/96
01065H	NI DISS			UG/L	V	LBS	4/19/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01067H	NI		23.1000	UG/L	G	BHL	4/22/96
01077H	AG	<	0.4000	UG/L	G	BHL	4/22/96
01087H	V	<	13.0000	UG/L	G	BHL	4/22/96
01090H	ZN DISS			UG/L	V	LBS	4/19/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01092H	ZN	<	50.0000	UG/L	G	BHL	4/22/96
01097H	SB	<	2.0000	UG/L	G	BHL	4/22/96
01102A	SN	<	200.0000	UG/L	G	REW	4/22/96
01105H	AL		765.0000	UG/L	G	BHL	4/22/96
01106H	AL DISS			UG/L	V	LBS	4/19/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01132A	LI		41.0000	UG/L	G	REW	4/22/96
01147H	SE	<	7.0000	UG/L	G	BHL	4/22/96
31616	FEC COLI			/100	V	CJB	4/26/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					

LABORATORY REPORT
FOR SAMPLE NUMBER H9619882

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
32730A	PHENOLS			UG/L	V	LBS	4/24/96
	COMMENT: NO SEP. SAMPLE RECEIVED						
38260	MBAS	<	0.5000	MG/L	G	WVM	4/19/96
70508	T ACIDITY HT		0.0000	MG/L	G	859	4/19/96
71900I	MERCURY TOT	<	0.2000	UG/L	G	SAH	4/22/96
82079	TURBIDITY		8.5000	NTU	G	DHN	4/25/96
82550	OSMOTIC PRES		15.0000	MOSM	G	TAB	4/22/96

TOTAL NUMBER OF TESTS FOR THIS SAMPLE 58

STATION 4 MTR 1 3066

COMMONWEALTH OF PENNSYLVANIA — PAGE: 1
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT — RECEIVED 5/07/96
FOR SAMPLE NUMBER H9622862 — REPORTED 5/28/96

COLLECTOR	[redacted]	SAMPLING DATE	[redacted]
COLLECTOR NO.	0527359	SAMPLING TIME	8:45
ESTABLISHMENT		STANDARD ANAL	012
CASE NAME		TYPE CODE	
FACILITY		WQN	
ID CODE		STREAM CODE	
		RIVER MILE IND	

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT		957.0000		G	SLH	5/08/96
00314	BOD5 DAY INH		0.9200	MG/L	G	WET	5/13/96
00403	PH LAB		7.3000		G	HWS	5/07/96
00410	T ALK CACO3		32.0000	MG/L	G	HWS	5/07/96
00515	RES DISS/105		376.0000	MG/L	G	DHN	5/09/96
00530	RES TOT NONF	<	2.0000	MG/L	G	DHN	5/09/96
00610A	NH3-N		0.0900	MG/L	G	HEM	5/08/96
00615A	NO2-N		0.0040	MG/L	G	KLS	5/07/96
00620A	NO3-N		0.3700	MG/L	G	KLS	5/07/96
00623A	KJEL-N DISS			MG/L	V	LBS	5/08/96
	COMMENT: SAMP MUST BE FILT IN FIELD						
00625A	KJELD-N TOT		0.4000	MG/L	G	DJD	5/13/96
00665A	PHOS-TOTAL		0.0100	MG/L	G	CHR	5/23/96
00666A	P-D WET METH			MG/L	V	LBS	5/08/96
	COMMENT: SAMP MUST BE FILT IN FIELD						
00671A	P DISS ORTHO			MG/L	V	LBS	5/08/96
	COMMENT: SAMP MUST BE FILT IN FIELD						
00900A	T HARD CACO3		443.3000	MG/L	G	DJD	5/09/96
00916A	CA TOTAL		118.0000	MG/L	G	CAG	5/10/96
00927A	MG		33.4000	MG/L	G	CAG	5/10/96
00940	CL		63.5000	MG/L	G	FFV	5/08/96
00945	SO4 TOTAL		386.0000	MG/L	G	FFV	5/08/96
00951	FLUORIDE TOT		0.2700	MG/L	G	FFV	5/08/96
01002H	AS	<	4.0000	UG/L	G	BBM	5/07/96
01007H	BA		26.5000	UG/L	G	BBM	5/07/96
01012H	BE	<	1.0000	UG/L	G	BBM	5/07/96
01022A	B	<	250.0000	UG/L	G	MLB	5/10/96
01027H	CD		0.4000	UG/L	G	BBM	5/07/96
01032A	CR HEX	<	1.0000	UG/L	G	WVM	5/07/96
01034H	CR TOT	<	4.0000	UG/L	G	BBM	5/07/96
01037A	CO TOT		32.0000	UG/L	G	CAG	5/24/96

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
01040H	CU DISS			UG/L	V	DHN	5/07/96
	COMMENT: NO SEP. SAMPLE RECEIVED						
01042H	CU	<	4.0000	UG/L	G	BBM	5/07/96
01045A	FE		275.0000	UG/L	G	CAG	5/08/96
01046A	FE DISS			UG/L	V	DHN	5/07/96
	COMMENT: NO SEP. SAMPLE RECEIVED						
01049H	PB DISS			UG/L	V	DHN	5/07/96
	COMMENT: NO SEP. SAMPLE RECEIVED						
01051H	PB	<	1.0000	UG/L	G	BBM	5/07/96
01055H	MN		1430.0000	UG/L	G	DHN	5/08/96
01056H	MN DISS			UG/L	V	DHN	5/07/96
	COMMENT: NO SEP. SAMPLE RECEIVED						
01059H	TL	<	2.0000	UG/L	G	BBM	5/07/96
01065H	NI DISS			UG/L	V	DHN	5/07/96
	COMMENT: NO SEP. SAMPLE RECEIVED						
01067H	NI		40.0000	UG/L	G	BBM	5/07/96
01077H	AG	<	0.4000	UG/L	G	BBM	5/07/96
01087H	V	<	13.0000	UG/L	G	BBM	5/07/96
01090H	ZN DISS			UG/L	V	DHN	5/07/96
	COMMENT: NO SEP. SAMPLE RECEIVED						
01092H	ZN		52.9000	UG/L	G	BBM	5/07/96
01097H	SB	<	2.0000	UG/L	G	BBM	5/07/96
01102A	SN	<	200.0000	UG/L	G	DHN	5/09/96
01105H	AL		495.0000	UG/L	G	BBM	5/07/96
01106H	AL DISS			UG/L	V	DHN	5/07/96
	COMMENT: NO SEP. SAMPLE RECEIVED						
01132A	LI		54.0000	UG/L	G	CAG	5/24/96
01147H	SE	<	7.0000	UG/L	G	BBM	5/07/96
31616	FEC COLI			/100	V	CJB	5/08/96
	COMMENT: NO SEP. SAMPLE RECEIVED						
32730A	PHENOLS			UG/L	V	EVC	5/08/96
	COMMENT: NO SEP. SAMPLE RECEIVED						
38260	MBAS	<	0.5000	MG/L	G	FFV	5/07/96
70508	T ACIDITY HT		0.0000	MG/L	G	859	5/07/96
71900I	MERCURY TOT	<	0.2000	UG/L	G	SAH	5/08/96
82079	TURBIDITY		4.3000	NTU	G	DHN	5/08/96

LABORATORY REPORT
FOR SAMPLE NUMBER H9622862

TEST	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
82550	OSMOTIC PRES	11.0000	MOSM	G	TAB	5/09/96

TOTAL NUMBER OF TESTS FOR THIS SAMPLE 56

STATION 4 MTR 1 3115

COMMONWEALTH OF PENNSYLVANIA — PAGE: 1
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT — RECEIVED 4/19/96
FOR SAMPLE NUMBER H9619879 — REPORTED 5/07/96

COLLECTOR S. BOSTJANCIC BWQM5 — SAMPLING DATE 4/18/96
COLLECTOR NO. 0527356 — SAMPLING TIME 10:25
ESTABLISHMENT — STANDARD ANAL 012
CASE NAME — TYPE CODE
FACILITY — WQN
ID CODE — STREAM CODE
RIVER MILE IND

TEST	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT	1176.0000		G	SLH	4/23/96
00314	BOD5 DAY INH	2.4000	MG/L	G	WET	4/24/96
00403	PH LAB	6.9000		G	HWS	4/19/96
00410	T ALK CACO3	74.0000	MG/L	G	HWS	4/19/96
00515	RES DISS/105	550.0000	MG/L	G	MYM	4/23/96
00530	RES TOT NONF	14.0000	MG/L	G	MYM	4/23/96
00610A	NH3-N	0.2000	MG/L	G	DJD	4/19/96
00615A	NO2-N	0.0140	MG/L	G	BLF	4/19/96
00620A	NO3-N	0.7400	MG/L	G	BLF	4/19/96
00623A	KJEL-N DISS		MG/L	V	LBS	4/19/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
00625A	KJELD-N TOT	0.5700	MG/L	G	DJD	5/01/96
00665A	PHOS-TOTAL	0.0320	MG/L	G	CHR	5/06/96
00666A	P-D WET METH		MG/L	V	LBS	4/19/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
00671A	P DISS ORTHO		MG/L	V	LBS	4/19/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
00719A	CN FREE HBG		UG/L	V	LBS	4/19/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
00720A	CYANIDE		MG/L	V	LBS	4/19/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
00900A	T HARD CACO3	580.8000	MG/L	G	DJD	4/25/96
00916A	CA TOTAL	159.0000	MG/L	G	REW	4/22/96
00927A	MG	46.4000	MG/L	G	REW	4/22/96
00940	CL	44.8000	MG/L	G	WVM	4/19/96
00945	SO4 TOTAL	477.0000	MG/L	G	WVM	4/19/96
00951	FLUORIDE TOT	0.3400	MG/L	G	FFV	4/30/96
01002H	AS	4.0000	UG/L	G	BHL	4/22/96
01007H	BA	28.3000	UG/L	G	BHL	4/22/96

LABORATORY REPORT
FOR SAMPLE NUMBER H9619879

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
01012H	BE	<	1.0000	UG/L	G	BHL	4/22/96
01022A	B	<	250.0000	UG/L	G	DJD	5/02/96
01027H	CD		0.4600	UG/L	G	BHL	4/22/96
01032A	CR HEX	<	1.0000	UG/L	G	WVM	4/19/96
01034H	CR TOT	<	4.0000	UG/L	G	BHL	4/22/96
01037A	CO TOT	<	25.0000	UG/L	G	REW	4/22/96
01040H	CU DISS			UG/L	V	LBS	4/19/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01042H	CU		5.0000	UG/L	G	BHL	4/22/96
01045A	FE		1440.0000	UG/L	G	REW	4/22/96
01046A	FE DISS			UG/L	V	LBS	4/19/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01049H	PB DISS			UG/L	V	LBS	4/19/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01051H	PB	<	1.0000	UG/L	G	BHL	4/22/96
01055H	MN		1740.0000	UG/L	G	BHL	4/22/96
01056H	MN DISS			UG/L	V	LBS	4/19/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01059H	TL	<	2.0000	UG/L	G	BHL	4/22/96
01065H	NI DISS			UG/L	V	LBS	4/19/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01067H	NI		45.4000	UG/L	G	BHL	4/22/96
01077H	AG	<	0.4000	UG/L	G	BHL	4/22/96
01087H	V	<	13.0000	UG/L	G	BHL	4/22/96
01090H	ZN DISS			UG/L	V	LBS	4/19/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01092H	ZN		96.4000	UG/L	G	BHL	4/22/96
01097H	SB	<	2.0000	UG/L	G	BHL	4/22/96
01102A	SN	<	200.0000	UG/L	G	REW	4/22/96
01105H	AL		2470.0000	UG/L	G	BHL	4/22/96
01106H	AL DISS			UG/L	V	LBS	4/19/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01132A	LI		74.0000	UG/L	G	REW	4/22/96
01147H	SE	<	7.0000	UG/L	G	BHL	4/22/96
31616	FEC COLI			/100	V	CJB	4/26/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
32730A	PHENOLS			UG/L	V	LBS	4/24/96
	COMMENT:	TEST DELETED					

LABORATORY REPORT
FOR SAMPLE NUMBER H9619879

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
38260	MBAS	<	0.5000	MG/L	G	WVM	4/19/96
70508	T ACIDITY HT		0.0000	MG/L	G	859	4/19/96
71900I	MERCURY TOT	<	0.2000	UG/L	G	SAH	4/22/96
82079	TURBIDITY		15.9000	NTU	G	DHN	4/25/96
82550	OSMOTIC PRES		14.0000	MOSM	G	TAB	4/22/96

TOTAL NUMBER OF TESTS FOR THIS SAMPLE 58

STATION 4 MTR 1 2101

COMMONWEALTH OF PENNSYLVANIA PAGE: 1
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT RECEIVED 4/12/96
FOR SAMPLE NUMBER H9618198 REPORTED 5/08/96

COLLECTOR	S. BOSTJANCIC BWQM5	SAMPLING DATE	4/11/96
COLLECTOR NO.	0527352	SAMPLING TIME	12:00
ESTABLISHMENT		STANDARD ANAL	012
CASE NAME		TYPE CODE	
FACILITY		WQN	
ID CODE		STREAM CODE	
		RIVER MILE IND	

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT				V	SLH	4/16/96
	COMMENT: INSUFFICENT SAMPLE FOR ANAL.						
00314	BOD5 DAY INH		2.6000	MG/L	G	WET	4/18/96
00403	PH LAB		8.6000		G	HWS	4/12/96
00410	T ALK CACO3		86.0000	MG/L	G	HWS	4/12/96
00515	RES DISSTDS		0.0000	MG/L	G	OHN	4/16/96
	COMMENT: INSUFFICENT SAMPLE FOR ANAL.						
00530	RES TOT NONF	<	2.0000	MG/L	G	OHN	4/16/96
00610A	NH3-N		0.0400	MG/L	G	OJO	4/15/96
00615A	NO2-N		0.0080	MG/L	G	BLF	4/12/96
00620A	NO3-N		0.7200	MG/L	G	BLF	4/12/96
00623A	KJEL-N DISS			MG/L	V	LBS	4/29/96
	COMMENT: NO SEP. SAMPLE RECEIVED						
00625A	KJELD-N TOT		0.4100	MG/L	G	OJD	4/29/96
00665A	PHOS-TOTAL			MG/L	V	LBS	4/15/96
	COMMENT: INSUFFICENT SAMPLE FOR ANAL.						
00900A	T HARD CACO3		178.0000	MG/L	G	EVC	4/17/96
00916A	CA TOTAL		60.0000	MG/L	G	CAG	4/18/96
00927A	MG		12.4000	MG/L	G	CAG	4/18/96
00940	CL		56.4000	MG/L	G	FFV	4/16/96
00945	SO4 TOTAL		84.1000	MG/L	G	FFV	4/16/96
00951	FLUORIDE TOT	<	0.2000	MG/L	G	FFV	4/15/96
01002H	AS	<	4.0000	UG/L	G	BBM	4/12/96
01007H	BA		31.5000	UG/L	G	BBM	4/12/96
01012H	BE	<	1.0000	UG/L	G	BBM	4/12/96
01022A	B	<	250.0000	UG/L	G	OJO	5/02/96
01027H	CD	<	0.2000	UG/L	G	BBM	4/12/96
01032A	CR HEX	<	1.0000	UG/L	G	FFV	4/12/96
01034H	CR TOT	<	4.0000	UG/L	G	BBM	4/12/96
01037A	CO TOT	<	20.0000	UG/L	G	CAG	4/17/96

LABORATOR PORT
FOR SAMPLE NU H9618198

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
01040H	CU DISS			UG/L	V	DHN	4/12/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01042H	CU	<	4.0000	UG/L	G	BBM	4/12/96
01045A	FE		98.0000	UG/L	G	CAG	4/17/96
01046A	FE DISS			UG/L	V	DHN	4/12/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01049H	PB DISS			UG/L	V	DHN	4/12/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01051H	PB	<	1.0000	UG/L	G	BBM	4/12/96
01055H	MN		13.9000	UG/L	G	BBM	4/12/96
01056H	MN DISS			UG/L	V	DHN	4/12/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01059H	TL	<	2.0000	UG/L	G	BBM	4/12/96
01065H	NI DISS			UG/L	V	DHN	4/12/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01067H	NI	<	4.0000	UG/L	G	BBM	4/12/96
01077H	AG	<	0.4000	UG/L	G	BBM	4/12/96
01087H	V	<	13.0000	UG/L	G	BBM	4/12/96
01090H	ZN DISS			UG/L	V	DHN	4/12/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01092H	ZN	<	5.0000	UG/L	G	BBM	4/12/96
01097H	SB	<	2.0000	UG/L	G	BBM	4/12/96
01102A	SN	<	200.0000	UG/L	G	CAG	4/26/96
01105H	AL		68.7000	UG/L	G	BBM	4/12/96
01106H	AL DISS			UG/L	V	DHN	4/12/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01132A	LI	<	30.0000	UG/L	G	CAG	4/17/96
01147H	SE	<	7.0000	UG/L	G	BBM	4/12/96
31616	FEC COLI			/100	V	CJB	4/16/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
38260	MBAS	<	0.5000	MG/L	G	FFV	4/12/96
70508	T ACIDITY HT		0.0000	MG/L	G	B59	4/12/96
71900I	MERCURY TOT	<	0.2000	UG/L	G	SAH	4/15/96
82079	TURBIDITY		0.0000	NTU	G	DHN	4/25/96
	COMMENT:	INSUFFICENT SAMPLE FOR ANAL.					
82550	OSMOTIC PRES		9.0000	MOSM	G	TAB	4/22/96

TOTAL NUMBER OF TESTS FOR THIS SAMPLE 53

STATION 4 MTR 1 2201

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT
FOR SAMPLE NUMBER H9623180

RECEIVED 5/08/96
REPORTED 5/24/96

COLLECTOR [illegible]
COLLECTOR NO. 0527364
ESTABLISHMENT
CASE NAME ALLEGHENY COUNTY
FACILITY [illegible]
ID CODE HOLT RUN

SAMPLING DATE [illegible]
SAMPLING TIME 10:00
STANDARD ANAL 012
TYPE CODE
WQN
STREAM CODE
RIVER MILE IND

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT		400.0000		G	SLH	5/09/96
00314	8005 DAY INH		0.8000	MG/L	G	WET	5/13/96
00403	PH LAB		8.0000		G	HWS	5/08/96
00410	T ALK CACO3		74.0000	MG/L	G	HWS	5/08/96
00515	RES DISS/105		0.0000	MG/L	G	OHN	5/20/96
	COMMENT: INSUFFICENT SAMPLE FOR ANAL.						
00530	RES TOT NONF	<	2.0000	MG/L	G	OHN	5/20/96
00610A	NH3-N	<	0.0200	MG/L	G	HEM	5/09/96
00615A	NO2-N		0.0040	MG/L	G	KLS	5/08/96
00620A	NO3-N		0.5200	MG/L	G	KLS	5/08/96
00623A	KJEL-N DISS			MG/L	V	LBS	5/08/96
	COMMENT: SAMP MUST BE FILT IN FIELD						
00625A	KJELD-N TOT	<	0.2000	MG/L	G	DJO	5/13/96
00665A	PHOS-TOTAL			MG/L	V	CHR	5/23/96
	COMMENT: INSUFFICENT SAMPLE FOR ANAL.						
00666A	P-D WET METH			MG/L	V	LBS	5/08/96
	COMMENT: SAMP MUST BE FILT IN FIELD						
00671A	P DISS ORTHO			MG/L	V	LBS	5/08/96
	COMMENT: SAMP MUST BE FILT IN FIELD						
00719A	CN FREE HBG			UG/L	V	EVC	5/08/96
	COMMENT: NO SEP. SAMPLE RECEIVED						
00720A	CYANIDE			MG/L	V	EVC	5/08/96
	COMMENT: NO SEP. SAMPLE RECEIVED						
00900A	T HARD CACO3		132.6000	MG/L	G	OJO	5/09/96
00916A	CA TOTAL		55.2000	MG/L	G	REW	5/09/96
00927A	MG		9.1500	MG/L	G	REW	5/09/96
00940	CL		36.0000	MG/L	G	FFV	5/08/96

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
00945	SO4 TOTAL		62.4000	MG/L	G	FFV	5/08/96
00951	FLUORIDE TOT	<	0.2000	MG/L	G	FFV	5/08/96
01002H	AS	<	4.0000	UG/L	G	BBM	5/09/96
01007H	BA		25.9000	UG/L	G	BBM	5/09/96
01012H	BE	<	1.0000	UG/L	G	BBM	5/09/96
01022A	B	<	250.0000	UG/L	G	MLB	5/17/96
01027H	CD	<	0.2000	UG/L	G	BBM	5/09/96
01032A	CR HEX	<	1.0000	UG/L	G	WVM	5/08/96
01034H	CR TOT	<	4.0000	UG/L	G	BBM	5/09/96
01037A	CO TOT	<	25.0000	UG/L	G	REW	5/09/96
01040H	CU DISS			UG/L	V	LBS	5/08/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01042H	CU	<	4.0000	UG/L	G	BBM	5/09/96
01045A	FE		35.0000	UG/L	G	REW	5/09/96
01046A	FE DISS			UG/L	V	LBS	5/08/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01049H	PB DISS			UG/L	V	LBS	5/08/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01051H	PB	<	1.0000	UG/L	G	BBM	5/09/96
01055H	MN		3.4000	UG/L	G	BBM	5/09/96
01056H	MN DISS			UG/L	V	LBS	5/08/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01059H	TL	<	2.0000	UG/L	G	BBM	5/09/96
01065H	NI DISS			UG/L	V	LBS	5/08/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01067H	NI	<	4.0000	UG/L	G	BBM	5/09/96
01077H	AG	<	0.4000	UG/L	G	BBM	5/09/96
01087H	V	<	13.0000	UG/L	G	DHN	5/09/96
01090H	ZN DISS			UG/L	V	LBS	5/08/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01092H	ZN	<	5.0000	UG/L	G	BBM	5/09/96
01097H	SB	<	2.0000	UG/L	G	BBM	5/09/96
01102A	SN	<	200.0000	UG/L	G	REW	5/09/96
01105H	AL		31.8000	UG/L	G	BBM	5/09/96
01106H	AL DISS			UG/L	V	LBS	5/08/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01132A	LI	<	25.0000	UG/L	G	REW	5/09/96
01147H	SE	<	7.0000	UG/L	G	BBM	5/09/96

FOR SAMPLE NUMBER H9623180

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
31616	FEC COLI			/100	V	CJB	5/10/96
	COMMENT: NO SEP. ~~SAMPLE RECEIVED~~						
32730A	PHENOLS			UG/L	V	EVC	5/08/96
	COMMENT: NO SEP. ~~SAMPLE RECEIVED~~						
38260	MBAS	<	0.5000	MG/L	G	FFV	5/08/96
70508	T ACIDITY HT		0.0000	MG/L	G	859	5/08/96
71900I	MERCURY TOT	<	0.2000	UG/L	G	SAH	5/09/96
82079	TURBIDITY	<	1.0000	NTU	G	DHN	5/08/96
82550	OSMOTIC PRES		6.0000	MOSM	G	TAB	5/09/96

TOTAL NUMBER OF TESTS FOR THIS SAMPLE 58

STATION 4 MTR 1 2301

COMMONWEALTH OF PENNSYLVANIA — PAGE: 1
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT — RECEIVED 5/08/96
FOR SAMPLE NUMBER H9623179 — REPORTED 5/24/96

COLLECTOR S. BOSTJANCIC - DVORS
COLLECTOR NO. 0527363
ESTABLISHMENT
CASE NAME ALLEGHENY COUNTY
FACILITY WAVELY CREEK
ID CODE SALAMANDER RUN

SAMPLING DATE 5/07/96
SAMPLING TIME 8:45
STANDARD ANAL 012
TYPE CODE
WQN
STREAM CODE
RIVER MILE IND

TEST	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT	1372.0000		G	SLH	5/09/96
00314	BOD5 DAY INH	1.0000	MG/L	G	WET	5/13/96
00403	PH LAB	7.2000		G	HWS	5/08/96
00410	T ALK CACO3	60.0000	MG/L	G	HWS	5/08/96
00515	RES DISS/105	1189.0000	MG/L	G	DHN	5/20/96
00530	RES TOT NONF	19.0000	MG/L	G	DHN	5/20/96
00610A	NH3-N	0.0200	MG/L	G	HEM	5/09/96
00615A	NO2-N	0.0060	MG/L	G	KLS	5/08/96
00620A	NO3-N	0.9000	MG/L	G	KLS	5/08/96
00623A	KJEL-N DISS		MG/L	V	LBS	5/08/96
	COMMENT: SAMP MUST BE FILT IN FIELD					
00625A	KJELD-N TOT	0.9100	MG/L	G	DJD	5/13/96
00665A	PHOS-TOTAL		MG/L	V	CHR	5/23/96
	COMMENT: INSUFFICENT SAMPLE FOR ANAL.					
00666A	P-D WET METH		MG/L	V	LBS	5/08/96
	COMMENT: SAMP MUST BE FILT IN FIELD					
00671A	P DISS ORTHO		MG/L	V	LBS	5/08/96
	COMMENT: SAMP MUST BE FILT IN FIELD					
00719A	CN FREE HBG		UG/L	V	EVC	5/08/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
00720A	CYANIDE		MG/L	V	EVC	5/08/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
00900A	T HARD CACO3	330.2000	MG/L	G	DJD	5/09/96
00916A	CA TOTAL	110.0000	MG/L	G	REW	5/09/96
00927A	MG	27.6000	MG/L	G	REW	5/09/96
00940	CL	303.0000	MG/L	G	FFV	5/08/96
00945	SO4 TOTAL	157.0000	MG/L	G	FFV	5/08/96
00951	FLUORIDE TOT	0.3000	MG/L	G	FFV	5/08/96

LABORATORY REPORT
FOR SAMPLE NUMBER H9623179

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
01002H	AS	<	4.0000	UG/L	G	BBM	5/09/96
01007H	BA		58.2000	UG/L	G	BBM	5/09/96
01012H	BE	<	1.0000	UG/L	G	BBM	5/09/96
01022A	B	<	250.0000	UG/L	G	MLB	5/10/96
01027H	CD	<	0.2000	UG/L	G	BBM	5/09/96
01032A	CR HEX	<	1.0000	UG/L	G	WVM	5/08/96
01034H	CR TOT	<	4.0000	UG/L	G	BBM	5/09/96
01037A	CO TOT	<	25.0000	UG/L	G	REW	5/09/96
01040H	CU DISS			UG/L	V	LBS	5/08/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01042H	CU	<	4.0000	UG/L	G	BBM	5/09/96
01045A	FE		889.0000	UG/L	G	REW	5/09/96
01046A	FE DISS			UG/L	V	LBS	5/08/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01049H	PB DISS			UG/L	V	LBS	5/08/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01051H	PB		1.3000	UG/L	G	BBM	5/09/96
01055H	MN		380.0000	UG/L	G	BBM	5/09/96
01056H	MN DISS			UG/L	V	LBS	5/08/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01059H	TL	<	2.0000	UG/L	G	BBM	5/09/96
01065H	NI DISS			UG/L	V	LBS	5/08/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01067H	NI		11.4000	UG/L	G	BBM	5/09/96
01077H	AG	<	0.4000	UG/L	G	BBM	5/09/96
01087H	V	<	13.0000	UG/L	G	DHN	5/09/96
01090H	ZN DISS			UG/L	V	LBS	5/08/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01092H	ZN		10.0000	UG/L	G	BBM	5/09/96
01097H	SB	<	2.0000	UG/L	G	BBM	5/09/96
01102A	SN	<	200.0000	UG/L	G	REW	5/09/96
01105H	AL		398.0000	UG/L	G	BBM	5/09/96
01106H	AL DISS			UG/L	V	LBS	5/08/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01132A	LI	<	25.0000	UG/L	G	REW	5/09/96
01147H	SE	<	7.0000	UG/L	G	BBM	5/09/96
31616	FEC COLI			/100	V	CJB	5/10/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					

FOR SAMPLE NUMBER H9623179

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
32730A	PHENOLS			UG/L	V	EVC	5/08/96
	COMMENT: NO SEP. SAMPLE RECEIVED						
38260	MBAS	<	0.5000	MG/L	G	FFV	5/08/96
70508	T ACIDITY HT		0.0000	MG/L	G	859	5/08/96
719001	MERCURY TOT	<	0.2000	UG/L	G	SAH	5/09/96
82079	TURBIDITY		9.8000	NTU	G	DHN	5/08/96
82550	OSMOTIC PRES		21.0000	MOSM	G	TAB	5/09/96

TOTAL NUMBER OF TESTS FOR THIS SAMPLE 58

STATION 4 MTR 1 2401

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT
FOR SAMPLE NUMBER H9623181

RECEIVED 5/08/96
REPORTED 5/24/96

COLLECTOR [redacted]
COLLECTOR NO. 0527365
ESTABLISHMENT
CASE NAME ALLEGHENY COUNTY
FACILITY GRIM CREEK
ID CODE

SAMPLING DATE [redacted]
SAMPLING TIME 12:00
STANDARD ANAL 012
TYPE CODE
WQN
STREAM CODE
RIVER MILE IND

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT		1010.0000		G	SLH	5/09/96
00314	8OD5 DAY INH		0.4000	MG/L	G	WET	5/13/96
00403	PH LAB		8.2000		G	HWS	5/08/96
00410	T ALK CACO3		90.0000	MG/L	G	HWS	5/08/96
00515	RES DISS/105		0.0000	MG/L	G	DHN	5/20/96
	COMMENT: INSUFFICENT SAMPLE FOR ANAL.						
00530	RES TOT NONF	<	2.0000	MG/L	G	OHN	5/20/96
00610A	NH3-N	<	0.0200	MG/L	G	HEM	5/09/96
00615A	NO2-N	<	0.0040	MG/L	G	KLS	5/08/96
00620A	NO3-N		0.3500	MG/L	G	KLS	5/08/96
00623A	KJEL-N DISS			MG/L	V	LBS	5/08/96
	COMMENT: SAMP MUST BE FILT IN FIELD						
00625A	KJELD-N TOT		0.6400	MG/L	G	DJO	5/13/96
00665A	PHOS-TOTAL			MG/L	V	CHR	5/23/96
	COMMENT: INSUFFICENT SAMPLE FOR ANAL.						
00666A	P-D WET METH			MG/L	V	LBS	5/08/96
	COMMENT: SAMP MUST BE FILT IN FIELD						
00671A	P DISS ORTHO			MG/L	V	LBS	5/08/96
	COMMENT: SAMP MUST BE FILT IN FIELD						
00719A	CN FREE HBG			UG/L	V	EVC	5/08/96
	COMMENT: NO SEP. SAMPLE RECEIVED						
00720A	CYANIDE			MG/L	V	EVC	5/08/96
	COMMENT: NO SEP. SAMPLE RECEIVED						
00900A	T HARD CACO3		325.7000	MG/L	G	OJO	5/09/96
00916A	CA TOTAL		111.0000	MG/L	G	REW	5/09/96
00927A	MG		31.0000	MG/L	G	REW	5/09/96
00940	CL		140.0000	MG/L	G	FFV	5/08/96

LABORATORY REPORT
FOR SAMPLE NUMBER H9623181

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
00945	SO4 TOTAL		204.0000	MG/L	G	FFV	5/08/96
00951	FLUORIDE TOT		0.2700	MG/L	G	FFV	5/08/96
01002H	AS	<	4.0000	UG/L	G	BBM	5/09/96
01007H	BA		43.0000	UG/L	G	BBM	5/09/96
01012H	BE	<	1.0000	UG/L	G	BBM	5/09/96
01022A	B	<	250.0000	UG/L	G	MLB	5/10/96
01027H	CD	<	0.2000	UG/L	G	BBM	5/09/96
01032A	CR HEX	<	1.0000	UG/L	G	WVM	5/08/96
01034H	CR TOT	<	4.0000	UG/L	G	BBM	5/09/96
01037A	CO TOT	<	25.0000	UG/L	G	REW	5/09/96
01040H	CU DISS			UG/L	V	LBS	5/08/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01042H	CU	<	4.0000	UG/L	G	BBM	5/09/96
01045A	FE		45.0000	UG/L	G	REW	5/09/96
01046A	FE DISS			UG/L	V	LBS	5/08/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01049H	PB DISS			UG/L	V	LBS	5/08/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01051H	PB	<	1.0000	UG/L	G	BBM	5/09/96
01055H	MN		84.4000	UG/L	G	BBM	5/09/96
01056H	MN DISS			UG/L	V	LBS	5/08/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01059H	TL	<	2.0000	UG/L	G	BBM	5/09/96
01065H	NI DISS			UG/L	V	LBS	5/08/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01067H	NI		8.3000	UG/L	G	BBM	5/09/96
01077H	AG	<	0.4000	UG/L	G	BBM	5/09/96
01087H	V	<	13.0000	UG/L	G	DHN	5/09/96
01090H	ZN DISS			UG/L	V	LBS	5/08/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01092H	ZN	<	5.0000	UG/L	G	BBM	5/09/96
01097H	SB	<	2.0000	UG/L	G	BBM	5/09/96
01102A	SN	<	200.0000	UG/L	G	REW	5/09/96
01105H	AL		150.0000	UG/L	G	BBM	5/09/96
01106H	AL DISS			UG/L	V	LBS	5/08/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01132A	LI	<	25.0000	UG/L	G	REW	5/09/96
01147H	SE	<	7.0000	UG/L	G	BBM	5/09/96

FOR SAMPLE NUMBER H9623181

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
31616	FEC COLI			100	V	CJB	5/10/96
	COMMENT: NO SEP. SAMPLE RECEIVED						
32730A	PHENOLS			UG/L	V	EVC	5/08/96
	COMMENT: NO SEP. SAMPLE RECEIVED						
38260	MBAS	<	0.5000	MG/L	G	FFV	5/08/96
70508	T ACIDITY MT		0.0000	MG/L	G	B59	5/08/96
71900I	MERCURY TOT	<	0.2000	UG/L	G	SAH	5/09/96
82079	TURBIDITY	<	1.0000	NTU	G	DHN	5/08/96
82550	OSMOTIC PRES		15.0000	MOSM	G	TAB	5/09/96

TOTAL NUMBER OF TESTS FOR THIS SAMPLE 58

STATION 4 MTR 1 2501

COMMONWEALTH OF PENNSYLVANIA PAGE: 1
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT RECEIVED 4/19/96
FOR SAMPLE NUMBER H9619881 REPORTED 5/07/96

COLLECTOR	S. BOSTJANCIC BWQM5	SAMPLING DATE	4/18/96
COLLECTOR NO.	0527358	SAMPLING TIME	13:35
ESTABLISHMENT		STANDARD ANAL	012
CASE NAME		TYPE CODE	
FACILITY		WQN	
ID CODE		STREAM CODE	
		RIVER MILE IND	

TEST	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT	525.0000		G	SLH	4/23/96
00314	BOD5 DAY INH	2.8000	MG/L	G	WET	4/24/96
00403	PH LAB	7.3000		G	HWS	4/19/96
00410	T ALK CACO3	80.0000	MG/L	G	HWS	4/19/96
00515	RES DISS/105	429.0000	MG/L	G	MYM	4/23/96
00530	RES TOT NONF	7.0000	MG/L	G	MYM	4/23/96
00610A	NH3-N <	0.0200	MG/L	G	DJD	4/19/96
00615A	NO2-N	0.0120	MG/L	G	BLF	4/19/96
00620A	NO3-N	0.8900	MG/L	G	BLF	4/19/96
00623A	KJEL-N DISS		MG/L	V	LBS	4/19/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
00625A	KJELD-N TOT	0.3200	MG/L	G	DJD	5/01/96
00665A	PHOS-TOTAL	0.0280	MG/L	G	CHR	5/06/96
00666A	P-D WET METH		MG/L	V	LBS	4/19/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
00671A	P DISS ORTHO		MG/L	V	LBS	4/19/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
00719A	CN FREE HBG		UG/L	V	LBS	4/19/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
00720A	CYANIDE		MG/L	V	LBS	4/19/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
00900A	T HARD CACO3	204.1000	MG/L	G	DJO	4/25/96
00916A	CA TOTAL	69.8000	MG/L	G	REW	4/22/96
00927A	MG	14.2000	MG/L	G	REW	4/22/96
00940	CL	47.6000	MG/L	G	WVM	4/19/96
00945	SO4 TOTAL	113.0000	MG/L	G	WVM	4/19/96
00951	FLUORIDE TOT <	1.0000	MG/L	G	FFV	4/30/96
	COMMENT: INSUFFICENT SAMPLE FOR ANAL.					

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
01002H	AS	<	4.0000	UG/L	G	BHL	4/22/96
01007H	BA		44.7000	UG/L	G	BHL	4/22/96
01012H	BE	<	1.0000	UG/L	G	BHL	4/22/96
01022A	B	<	250.0000	UG/L	G	DJD	5/02/96
01027H	CD	<	0.2000	UG/L	G	BHL	4/22/96
01032A	CR HEX	<	1.0000	UG/L	G	WVM	4/19/96
01034H	CR TOT	<	4.0000	UG/L	G	BHL	4/22/96
01037A	CO TOT	<	25.0000	UG/L	G	REW	4/22/96
01040H	CU DISS			UG/L	V	LBS	4/19/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01042H	CU	<	4.0000	UG/L	G	BHL	4/22/96
01045A	FE		411.0000	UG/L	G	REW	4/22/96
01046A	FE DISS			UG/L	V	LBS	4/19/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01049H	PB DISS			UG/L	V	LBS	4/19/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01051H	PB	<	1.0000	UG/L	G	BHL	4/22/96
01055H	MN		48.6000	UG/L	G	BHL	4/22/96
01056H	MN DISS			UG/L	V	LBS	4/19/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01059H	TL	<	2.0000	UG/L	G	BHL	4/22/96
01065H	NI DISS			UG/L	V	LBS	4/19/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01067H	NI	<	4.0000	UG/L	G	BHL	4/22/96
01077H	AG	<	0.4000	UG/L	G	BHL	4/22/96
01087H	V	<	13.0000	UG/L	G	BHL	4/22/96
01090H	ZN DISS			UG/L	V	LBS	4/19/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01092H	ZN	<	30.0000	UG/L	G	BHL	4/22/96
01097H	SB	<	2.0000	UG/L	G	BHL	4/22/96
01102A	SN	<	200.0000	UG/L	G	REW	4/22/96
01105H	AL		601.9000	UG/L	G	BHL	4/22/96
01106H	AL DISS			UG/L	V	LBS	4/19/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01132A	LI	<	25.0000	UG/L	G	REW	4/22/96
01147H	SE	<	7.0000	UG/L	G	BHL	4/22/96
31616	FEC COLI			/100	V	CJB	4/26/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					

FOR SAMPLE NUMBER H9619881

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
32730A	PHENOLS			UG/L	V	LBS	4/24/96
	COMMENT: NO SEP. SAMPLE RECEIVED						
38260	MBAS	<	0.5000	MG/L	G	WVM	4/19/96
70508	T ACIDITY HT		0.0000	MG/L	G	B59	4/19/96
71900I	MERCURY TOT	<	0.2000	UG/L	G	SAH	4/22/96
82079	TURBIDITY		6.7000	NTU	G	DHN	4/25/96
82550	OSMOTIC PRES		9.0000	MOSM	G	TAB	4/22/96

TOTAL NUMBER OF TESTS FOR THIS SAMPLE 58

STATION 4 MTR 1 2601

COMMONWEALTH OF PENNSYLVANIA — PAGE: 1
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT — RECEIVED 4/12/96
FOR SAMPLE NUMBER H9618199 — REPORTED 5/08/96

COLLECTOR	S. BOSTJANCIC BWQM5	SAMPLING DATE	4/11/96
COLLECTOR NO.	0527353	SAMPLING TIME	14:45
ESTABLISHMENT		STANDARD ANAL	012
CASE NAME		TYPE CODE	
FACILITY		WQN	
ID CODE		STREAM CODE	
		RIVER MILE IND	

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY OATE
00095	SPEC CONDUCT				V	SLH	4/16/96
	COMMENT: INSUFFICENT SAMPLE FOR ANAL.						
00314	BOD5 DAY INH		116.0000	MG/L	G	WET	4/18/96
00403	PH LAB		7.8000		G	HWS	4/12/96
00410	T ALK CACO3		156.0000	MG/L	G	HWS	4/12/96
00515	RES DISS/105		708.0000	MG/L	G	OHN	4/16/96
00530	RES TOT NONF	<	2.0000	MG/L	G	DHN	4/16/96
00610A	NH3-N		3.1500	MG/L	G	OJO	4/15/96
00615A	NO2-N		0.1520	MG/L	G	BLF	4/12/96
00620A	NO3-N		2.0500	MG/L	G	BLF	4/12/96
00623A	KJEL-N DISS			MG/L	V	LBS	4/29/96
	COMMENT: NO SEP. SAMPLE RECEIVED						
00625A	KJELD-N TOT		7.1100	MG/L	G	DJD	5/02/96
00665A	PHOS-TOTAL		0.0280	MG/L	G	CHR	4/24/96
00900A	T HARD CACO3		336.0000	MG/L	G	EVC	4/17/96
00916A	CA TOTAL		98.6000	MG/L	G	CAG	4/18/96
00927A	MG		20.9000	MG/L	G	CAG	4/18/96
00940	CL		179.0000	MG/L	G	FFV	4/16/96
00945	SO4 TOTAL		154.0000	MG/L	G	FFV	4/16/96
00951	FLUORIDE TOT		0.2300	MG/L	G	FFV	4/15/96
01002H	AS	<	4.0000	UG/L	G	BBM	4/12/96
01007H	BA		65.0000	UG/L	G	BBM	4/12/96
01012H	BE	<	1.0000	UG/L	G	BBM	4/12/96
01022A	B	<	250.0000	UG/L	G	DJD	5/02/96
01027H	CD	<	0.2000	UG/L	G	BBM	4/12/96
01032A	CR HEX	<	1.0000	UG/L	G	FFV	4/12/96
01034H	CR TOT	<	4.0000	UG/L	G	BBM	4/12/96
01037A	CO TOT	<	20.0000	UG/L	G	CAG	4/17/96
01040H	CU DISS			UG/L	V	OHN	4/12/96
	COMMENT: NO SEP. SAMPLE RECEIVED						
01042H	CU	<	4.0000	UG/L	G	BBM	4/12/96

LABORATORY REPORT
FOR SAMPLE NUMBER H9618199

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
01045A	FE		512.0000	UG/L	G	CAG	4/17/96
01046A	FE DISS			UG/L	V	DHN	4/12/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01049H	PB DISS			UG/L	V	DHN	4/12/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01051H	PB	<	1.0000	UG/L	G	BBM	4/12/96
01055H	MN		914.0000	UG/L	G	DHN	4/15/96
01056H	MN DISS			UG/L	V	DHN	4/12/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01059H	TL	<	2.0000	UG/L	G	BBM	4/12/96
01065H	NI DISS			UG/L	V	DHN	4/12/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01067H	NI		5.2000	UG/L	G	BBM	4/12/96
01077H	AG	<	0.4000	UG/L	G	BBM	4/12/96
01087H	V	<	13.0000	UG/L	G	BBM	4/12/96
01090H	ZN DISS			UG/L	V	DHN	4/12/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01092H	ZN		9.5000	UG/L	G	BBM	4/12/96
01097H	SB	<	2.0000	UG/L	G	BBM	4/12/96
01102A	SN	<	200.0000	UG/L	G	CAG	4/26/96
01105H	AL		74.2000	UG/L	G	BBM	4/12/96
01106H	AL DISS			UG/L	V	DHN	4/12/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01132A	LI	<	30.0000	UG/L	G	CAG	4/17/96
01147H	SE	<	7.0000	UG/L	G	BBM	4/12/96
31616	FEC COLI			/100	V	CJB	4/16/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
38260	MBAS	<	0.5000	MG/L	G	FFV	4/12/96
70508	T ACIDITY HT		0.0000	MG/L	G	859	4/12/96
71900I	MERCURY TOT		0.2000	UG/L	G	SAH	4/15/96
82079	TURBIDITY		4.7000	NTU	G	DHN	4/25/96
82550	OSMOTIC PRES		18.0000	MOSM	G	TAB	4/22/96

TOTAL NUMBER OF TESTS FOR THIS SAMPLE 53

STATION 4 MTR 1 2602

COMMONW[illegible]TH OF PENNSYLVANIA PAGE: 1
DE[illegible]ARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT RECEIVED 5/07/96
FOR SAMPLE NUMBER H9622864 REPORTED 5/31/96

COLLECTOR [illegible] SAMPLING DATE [illegible]
COLLECTOR NO. [illegible] SAMPLING TIME 11:15
ESTABLISHMENT STANDARD ANAL 012
CASE NAME TYPE CODE
FACILITY WQN
IO CODE STREAM CODE
RIVER MILE IND

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT		800.0000		G	SLH	5/08/96
00314	BOD5 DAY INH		62.0000	MG/L	G	WET	5/13/96
00403	PH LAB		8.1000		G	HWS	5/07/96
00410	T ALK CACO3		142.0000	MG/L	G	HWS	5/07/96
00515	RES DISS/105		600.0000	MG/L	G	DHN	5/09/96
00530	RES TOT NONF	<	2.0000	MG/L	G	DHN	5/09/96
00610A	NH3-N		4.5100	MG/L	G	HEM	5/08/96
00615A	NO2-N		0.3100	MG/L	G	KLS	5/07/96
00620A	NO3-N		2.1100	MG/L	G	KLS	5/07/96
00623A	KJEL-N DISS			MG/L	V	LBS	5/08/96
	COMMENT: SAMP MUST BE FILT IN FIELD						
00625A	KJELD-N TOT		8.5300	MG/L	G	DJD	5/16/96
00665A	PHOS-TOTAL		0.0200	MG/L	G	CHR	5/23/96
00666A	P-D WET METH			MG/L	V	LBS	5/08/96
	COMMENT: SAMP MUST BE FILT IN FIELD						
00671A	P DISS ORTHO			MG/L	V	LBS	5/08/96
	COMMENT: SAMP MUST BE FILT IN FIELD						
00720A	CYANIDE			MG/L	V	EVC	5/07/96
	COMMENT: TEST DELETED						
00900A	T HARD CACO3		269.0000	MG/L	G	DJD	5/09/96
00916A	CA TOTAL		74.3000	MG/L	G	CAG	5/30/96
00927A	MG		17.9000	MG/L	G	CAG	5/30/96
00940	CL		89.0000	MG/L	G	FFV	5/08/96
00945	SO4 TOTAL		118.0000	MG/L	G	FFV	5/08/96
00951	FLUORIDE TOT		0.3100	MG/L	G	FFV	5/08/96
01002H	AS	<	4.0000	UG/L	G	B[illegible]	5/07/96
01007H	BA		50.8000	UG/L	G	BBM	5/07/96
01012H	BE	<	1.0000	UG/L	G	BBM	5/07/96
01022A	B	<	250.0000	UG/L	G	MLB	5/10/96
01027H	CD	<	0.2000	UG/L	G	BBM	5/07/96

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
01032A	CR HEX	<	1.0000	UG/L	G	WVM	5/07/96
01034H	CR TOT	<	4.0000	UG/L	G	BBM	5/07/96
01037A	CO TOT	<	20.0000	UG/L	G	CAG	5/08/96
01040H	CU DISS			UG/L	V	DHN	5/07/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01042H	CU	<	4.0000	UG/L	G	BBM	5/07/96
01045A	FE		353.0000	UG/L	G	CAG	5/08/96
01046A	FE DISS			UG/L	V	DHN	5/07/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01049H	PB DISS			UG/L	V	DHN	5/07/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01051H	PB	<	1.0000	UG/L	G	BBM	5/07/96
01055H	MN		509.0000	UG/L	G	BBM	5/07/96
01056H	MN DISS			UG/L	V	DHN	5/07/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01059H	TL	<	2.0000	UG/L	G	BBM	5/07/96
01065H	NI DISS			UG/L	V	DHN	5/07/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01067H	NI		4.3000	UG/L	G	BBM	5/07/96
01077H	AG	<	0.4000	UG/L	G	BBM	5/07/96
01087H	V	<	13.0000	UG/L	G	BBM	5/07/96
01090H	ZN DISS			UG/L	V	DHN	5/07/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01092H	ZN	<	5.0000	UG/L	G	BBM	5/07/96
01097H	SB	<	2.0000	UG/L	G	BBM	5/07/96
01102A	SN	<	200.0000	UG/L	G	DHN	5/09/96
01105H	AL		54.0000	UG/L	G	BBM	5/07/96
01106H	AL DISS			UG/L	V	DHN	5/07/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01132A	LI	<	30.0000	UG/L	G	CAG	5/08/96
01147H	SE	<	7.0000	UG/L	G	BBM	5/07/96
31616	FEC COLI			/100	V	CJB	5/08/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
32730A	PHENOLS			UG/L	V	EVC	5/08/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
38260	MBAS	<	0.5000	MG/L	G	FFV	5/07/96

FOR SAMPLE NUMBER H9622864

TEST	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
70508	T ACIDITY HT	0.0000	MG/L	G	859	5/07/96
71900I	MERCURY TOT <	0.2000	UG/L	G	SAH	5/08/96
82079	TURBIDITY	2.4000	NTU	G	DHN	5/08/96
82550	OSMOTIC PRES	14.0000	MOSM	G	TAB	5/09/96

TOTAL NUMBER OF TESTS FOR THIS SAMPLE 57

STATION 4 MTR 1 2615

COMMONWEALTH OF PENNSYLVANIA — PAGE: 1
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT — RECEIVED 5/10/96
FOR SAMPLE NUMBER H9623888 — REPORTED 6/01/96

COLLECTOR	S. BOSTJANCIC BWQM5	SAMPLING DATE	5/09/96
COLLECTOR NO.	0527371	SAMPLING TIME	12:30
ESTABLISHMENT		STANDARD ANAL	012
CASE NAME		TYPE CODE	
FACILITY		WQN	
ID CODE		STREAM CODE	
		RIVER MILE IND	

TEST	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT	1292.0000		G	SLH	5/14/96
00314	BOD5 DAY INH	229.0000	MG/L	G	WET	5/16/96
00403	PH LAB	7.6000		G	HWS	5/10/96
00410	T ALK CACO3	174.0000	MG/L	G	HWS	5/10/96
00515	RES DISS/105	780.0000	MG/L	G	DHN	5/20/96
00530	RES TOT NONF	< 2.0000	MG/L	G	RLS	5/16/96
00610A	NH3-N	5.3700	MG/L	G	HEM	5/10/96
00615A	NO2-N	0.4300	MG/L	G	KLS	5/10/96
00620A	NO3-N	4.7200	MG/L	G	KLS	5/10/96
00623A	KJEL-N DISS		MG/L	V	LBS	5/10/96
	COMMENT: SAMP MUST BE FILT IN FIELD					
00625A	KJELD-N TOT	8.7200	MG/L	G	DJD	5/16/96
00665A	PHOS-TOTAL	0.0340	MG/L	G	CHR	5/31/96
00666A	P-D WET METH		MG/L	V	LBS	5/10/96
	COMMENT: SAMP MUST BE FILT IN FIELD					
00671A	P DISS ORTHO		MG/L	V	LBS	5/10/96
	COMMENT: SAMP MUST BE FILT IN FIELD					
00719A	CN FREE HBG		UG/L	V	EVC	5/14/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
00720A	CYANIDE		MG/L	V	EVC	5/14/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
00900A	T HARD CACO3	373.4000	MG/L	G	DJD	5/13/96
00916A	CA TOTAL	128.0000	MG/L	G	REW	5/13/96
00927A	MG	27.4000	MG/L	G	REW	5/13/96
00940	CL	198.0000	MG/L	G	FFV	5/14/96
00945	SO4 TOTAL	155.0000	MG/L	G	FFV	5/14/96
00951	FLUORIDE TOT	0.3300	MG/L	G	FFV	5/14/96
01002H	AS	< 4.0000	UG/L	G	BHL	5/14/96
01007H	BA	67.7000	UG/L	G	BHL	5/14/96

FOR SAMPLE NUMBER H9623888

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
01012H	BE	<	1.0000	UG/L	G	BHL	5/14/96
01022A	B	<	250.0000	UG/L	G	MLB	5/17/96
01027H	CD		0.2700	UG/L	G	BHL	5/14/96
01032A	CR HEX	<	1.0000	UG/L	G	FFV	5/10/96
01034H	CR TOT	<	4.0000	UG/L	G	BHL	5/14/96
01037A	CO TOT	<	25.0000	UG/L	G	REW	5/13/96
01040H	CU DISS			UG/L	V	DHN	5/10/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01042H	CU		4.3000	UG/L	G	BHL	5/14/96
01045A	FE		1210.0000	UG/L	G	REW	5/13/96
01046A	FE DISS			UG/L	V	DHN	5/10/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01049H	PB DISS			UG/L	V	DHN	5/10/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01051H	PB		1.1000	UG/L	G	BHL	5/14/96
01055H	MN		1220.0000	UG/L	G	BHL	5/14/96
01056H	MN DISS			UG/L	V	DHN	5/10/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01059H	TL	<	2.0000	UG/L	G	BHL	5/14/96
01065H	NI DISS			UG/L	V	DHN	5/10/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01067H	NI		12.0000	UG/L	G	BHL	5/14/96
01077H	AG	<	0.4000	UG/L	G	BHL	5/14/96
01087H	V	<	13.0000	UG/L	G	BHL	5/14/96
01090H	ZN DISS			UG/L	V	DHN	5/10/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01092H	ZN		21.0000	UG/L	G	BHL	5/14/96
01097H	SB	<	2.0000	UG/L	G	BHL	5/14/96
01102A	SN	<	200.0000	UG/L	G	REW	5/13/96
01105H	AL		283.0000	UG/L	G	BHL	5/14/96
01106H	AL DISS			UG/L	V	DHN	5/10/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01132A	LI	<	25.0000	UG/L	G	REW	5/13/96
01147H	SE	<	7.0000	UG/L	G	BHL	5/14/96
31616	FEC COLI			/100	V	CJB	5/13/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
32730A	PHENOLS			UG/L	V	EVC	5/14/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					

LABORATORY REPORT
FOR SAMPLE NUMBER H9623888

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
38260	MBAS	<	0.5000	MG/L	G	FFV	5/10/96
70508	T ACIDITY HT		0.0000	MG/L	G	859	5/10/96
71900I	MERCURY TOT	<	0.2000	UG/L	G	SAH	5/13/96
82079	TURBIDITY		10.9000	NTU	G	DHN	5/20/96
82550	OSMOTIC PRES		21.0000	MOSM	G	TAB	5/14/96

TOTAL NUMBER OF TESTS FOR THIS SAMPLE 58

STATION 4 MTR 1 2603

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT
FOR SAMPLE NUMBER H9622865

RECEIVED 5/07/96
REPORTED 5/31/96

COLLECTOR [redacted]
COLLECTOR NO. [redacted]
ESTABLISHMENT
CASE NAME
FACILITY
ID CODE

SAMPLING DATE [redacted]
SAMPLING TIME 13:45
STANDARD ANAL 012
TYPE CODE
WQN
STREAM CODE
RIVER MILE IND

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT		987.0000		G	SLH	5/08/96
00310	BOD5 DAY INH		1.2000	MG/L	G	WET	5/13/96
00403	PH LAB		8.8000		G	HWS	5/07/96
00410	T ALK CACO3		78.0000	MG/L	G	HWS	5/07/96
00515	RES DISS/105		684.0000	MG/L	G	OHN	5/09/96
00530	RES TOT NONF	<	2.0000	MG/L	G	DHN	5/09/96
00610A	NH3-N		0.1600	MG/L	G	HEM	5/08/96
00615A	NO2-N		0.0920	MG/L	G	KLS	5/07/96
00620A	NO3-N		1.4500	MG/L	G	KLS	5/07/96
00623A	KJEL-N DISS			MG/L	V	LBS	5/08/96
	COMMENT: SAMP MUST BE FILT IN FIELD						
00625A	KJELD-N TOT		1.3400	MG/L	G	OJD	5/13/96
00665A	PHOS-TOTAL		0.0140	MG/L	G	CHR	5/23/96
00666A	P-D WET METH			MG/L	V	LBS	5/08/96
	COMMENT: SAMP MUST BE FILT IN FIELD						
00671A	P DISS ORTHO			MG/L	V	LBS	5/08/96
	COMMENT: SAMP MUST BE FILT IN FIELD						
00720A	CYANIDE			MG/L	V	LBS	5/28/96
	COMMENT: NO SEP. SAMPLE RECEIVED						
00900A	T HARD CACO3		255.7000	MG/L	G	OJO	5/09/96
00916A	CA TOTAL		70.0000	MG/L	G	CAG	5/30/96
00927A	MG		15.8000	MG/L	G	CAG	5/30/96
00940	CL		195.0000	MG/L	G	FFV	5/08/96
00945	SO4 TOTAL		116.0000	MG/L	G	FFV	5/08/96
00951	FLUORIDE TOT		0.2500	MG/L	G	FFV	5/08/96
01002A	AS	<	4.0000	UG/L	G	BBM	5/07/96
01007H	BA		45.3000	UG/L	G	BBM	5/07/96
01012H	BE	<	1.0000	UG/L	G	BBM	5/07/96
01022A	B	<	250.0000	UG/L	G	MLB	5/10/96
01027H	CO	<	0.2000	UG/L	G	BBM	5/07/96

LABORATORY REPORT
FOR SAMPLE NUMBER H9622865

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
01032A	CR HEX	<	1.0000	UG/L	G	WVM	5/07/96
01034H	CR TOT	<	4.0000	UG/L	G	BBM	5/07/96
01037A	CO TOT	<	20.0000	UG/L	G	CAG	5/08/96
01040H	CU DISS			UG/L	V	DHN	5/07/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01042H	CU	<	4.0000	UG/L	G	BBM	5/07/96
01045A	FE		63.0000	UG/L	G	CAG	5/08/96
01046A	FE DISS			UG/L	V	DHN	5/07/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01049H	PB DISS			UG/L	V	DHN	5/07/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01051H	PB	<	1.0000	UG/L	G	BBM	5/07/96
01055H	MN		23.3000	UG/L	G	BBM	5/07/96
01056H	MN DISS			UG/L	V	DHN	5/07/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01059H	TL	<	2.0000	UG/L	G	BBM	5/07/96
01065H	NI DISS			UG/L	V	DHN	5/07/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01067H	NI	<	4.0000	UG/L	G	BBM	5/07/96
01077H	AG	<	0.4000	UG/L	G	BBM	5/07/96
01087H	V	<	13.0000	UG/L	G	BBM	5/07/96
01090H	ZN DISS			UG/L	V	DHN	5/07/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01092H	ZN	<	5.0000	UG/L	G	BBM	5/07/96
01097H	SB	<	2.0000	UG/L	G	BBM	5/07/96
01102A	SN	<	200.0000	UG/L	G	DHN	5/09/96
01105H	AL		35.4000	UG/L	G	BBM	5/07/96
01106H	AL DISS			UG/L	V	DHN	5/07/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01132A	LI	<	30.0000	UG/L	G	CAG	5/08/96
01147H	SE	<	7.0000	UG/L	G	BBM	5/07/96
31616	FEC COLI			/100	V	CJB	5/08/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
32730A	PHENOLS			UG/L	V	EVC	5/08/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
38260	MBAS	<	0.5000	MG/L	G	FFV	5/07/96

TEST	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
70508	T ACIDITY HT	0.0000	MG/L	G	859	5/07/96
71900I	MERCURY TOT	< 0.2000	UG/L	G	SAH	5/08/96
82079	TURBIDITY	1.0000	NTU	G	DHN	5/08/96
82550	OSMOTIC PRES	15.0000	MOSM	G	TAB	5/09/96

TOTAL NUMBER OF TESTS FOR THIS SAMPLE 57

STATION 4 MTR 1 2701

COMMONWEALTH OF PENNSYLVANIA PAGE: 1
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT RECEIVED 5/08/96
FOR SAMPLE NUMBER H9623182 REPORTED 5/24/96

COLLECTOR [redacted] SAMPLING DATE [redacted]
COLLECTOR NO. 0527366 SAMPLING TIME 15:00
ESTABLISHMENT STANDARD ANAL 012
CASE NAME [redacted] TYPE CODE
FACILITY [redacted] WQN
ID CODE STREAM CODE
RIVER MILE IND

TEST	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT	1100.0000		G	SLH	5/09/96
00314	BOD5 DAY INH	0.5000	MG/L	G	WET	5/13/96
00403	PH LAB	6.7000		G	HWS	5/08/96
00410	T ALK CACO3	36.0000	MG/L	G	HWS	5/08/96
00515	RES DISS/105	0.0000	MG/L	G	DHN	5/20/96
	COMMENT: INSUFFICENT SAMPLE FOR ANAL.					
00530	RES TOT NONF	25.0000	MG/L	G	OHN	5/20/96
00610A	NH3-N	0.0200	MG/L	G	HEM	5/09/96
00615A	NO2-N	0.0040	MG/L	G	KLS	5/08/96
00620A	NO3-N	0.8100	MG/L	G	KLS	5/08/96
00623A	KJEL-N DISS		MG/L	V	LBS	5/08/96
	COMMENT: SAMP MUST BE FILT IN FIELD					
00625A	KJELD-N TOT	0.6200	MG/L	G	OJD	5/13/96
00665A	PHOS-TOTAL		MG/L	V	CHR	5/23/96
	COMMENT: INSUFFICENT SAMPLE FOR ANAL.					
00666A	P-D WET METH		MG/L	V	LBS	5/08/96
	COMMENT: SAMP MUST BE FILT IN FIELD					
00671A	P DISS ORTHO		MG/L	V	LBS	5/08/96
	COMMENT: SAMP MUST BE FILT IN FIELD					
00719A	CN FREE HBG		UG/L	V	EVC	5/08/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
00720A	CYANIDE		MG/L	V	EVC	5/08/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
00900A	T HARD CACO3	415.2000	MG/L	G	OJD	5/09/96
00916A	CA TOTAL	131.0000	MG/L	G	REW	5/09/96
00927A	MG	35.6000	MG/L	G	REW	5/09/96
00940	CL	129.0000	MG/L	G	FFV	5/08/96

FOR SAMPLE NUMBER H9623182

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
00945	SO4 TOTAL		338.0000	MG/L	G	FFV	5/08/96
00951	FLUORIDE TOT		0.4200	MG/L	G	FFV	5/08/96
01002H	AS	<	4.0000	UG/L	G	BBM	5/09/96
01007H	BA		33.2000	UG/L	G	BBM	5/09/96
01012H	BE		1.1000	UG/L	G	BBM	5/09/96
01022A	B	<	250.0000	UG/L	G	ML8	5/10/96
01027H	CD		0.6000	UG/L	G	BBM	5/09/96
01032A	CR HEX	<	1.0000	UG/L	G	WVM	5/08/96
01034H	CR TOT	<	4.0000	UG/L	G	BBM	5/09/96
01037A	CO TOT		41.0000	UG/L	G	REW	5/09/96
01040H	CU DISS			UG/L	V	LBS	5/08/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01042H	CU		10.8000	UG/L	G	BBM	5/09/96
01045A	FE		613.0000	UG/L	G	REW	5/09/96
01046A	FE DISS			UG/L	V	LBS	5/08/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01049H	PB DISS			UG/L	V	LBS	5/08/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01051H	PB		1.2000	UG/L	G	BBM	5/09/96
01055H	MN		769.0000	UG/L	G	BBM	5/09/96
01056H	MN DISS			UG/L	V	LBS	5/08/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01059H	TL	<	2.0000	UG/L	G	BBM	5/09/96
01065H	NI DISS			UG/L	V	LBS	5/08/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01067H	NI		61.1000	UG/L	G	BBM	5/09/96
01077H	AG	<	0.4000	UG/L	G	BBM	5/09/96
01087H	V	<	13.0000	UG/L	G	DHN	5/09/96
01090H	ZN DISS			UG/L	V	LBS	5/08/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01092H	ZN		84.2000	UG/L	G	BBM	5/09/96
01097H	SB	<	2.0000	UG/L	G	BBM	5/09/96
01102A	SN	<	200.0000	UG/L	G	REW	5/09/96
01105H	AL		7620.0000	UG/L	G	DHN	5/09/96
01106H	AL DISS			UG/L	V	LBS	5/08/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01132A	LI		77.0000	UG/L	G	REW	5/09/96
01147H	SE	<	7.0000	UG/L	G	BBM	5/09/96

FOR SAMPLE NUMBER H9623182

TEST	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
31616	FEC COLI		/100	V	CJB	5/10/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
32730A	PHENOLS		UG/L	V	EVC	5/08/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
38260	MBAS	< 0.5000	MG/L	G	FFV	5/08/96
70508	T ACIDITY HT	0.0000	MG/L	G	859	5/08/96
71900I	MERCURY TOT	< 0.2000	UG/L	G	SAH	5/09/96
82079	TURBIDITY	22.0000	NTU	G	DHN	5/08/96
82550	OSMOTIC PRES	15.0000	MOSM	G	TAB	5/09/96

TOTAL NUMBER OF TESTS FOR THIS SAMPLE 58

STATION 4 MTR 1 2801

COMMONWEALTH OF PENNSYLVANIA — PAGE: 1
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT — RECEIVED 4/19/96
FOR SAMPLE NUMBER H9619880 — REPORTED 5/07/96

COLLECTOR: S. BOSTJANCIC BWQM5
COLLECTOR NO. 0527357
ESTABLISHMENT
CASE NAME
FACILITY ENLOW RUN
ID CODE

SAMPLING DATE 4/18/96
SAMPLING TIME 11:00
STANDARD ANAL 012
TYPE CODE
WQN
STREAM CODE
RIVER MILE IND

TEST	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT	1039.0000		G	SLH	4/23/96
00314	8005 DAY INH	17.9000	MG/L	G	WET	4/24/96
00403	PH LAB	7.2000		G	HWS	4/19/96
00410	T ALK CACO3	84.0000	MG/L	G	HWS	4/19/96
00515	RES DISS/105	816.0000	MG/L	G	MYM	4/23/96
00530	RES TOT NONF <	2.0000	MG/L	G	MYM	4/23/96
00610A	NH3-N	2.9800	MG/L	G	DJD	4/19/96
00615A	NO2-N	0.0820	MG/L	G	BLF	4/19/96
00620A	NO3-N	0.8600	MG/L	G	BLF	4/19/96
00623A	KJEL-N DISS		MG/L	V	LBS	4/19/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
00625A	KJELD-N TOT	5.2500	MG/L	G	DJD	5/02/96
00665A	PHOS-TOTAL	0.0160	MG/L	G	CHR	5/06/96
00666A	P-O WET METH		MG/L	V	LBS	4/19/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
00671A	P DISS ORTHO		MG/L	V	LBS	4/19/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
00719A	CN FREE HBG		UG/L	V	LBS	4/19/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
00720A	CYANIDE		MG/L	V	LBS	4/19/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
00900A	T HARD CACO3	370.1000	MG/L	G	DJD	4/25/96
00916A	CA TOTAL	106.0000	MG/L	G	REW	4/22/96
00927A	MG	28.8000	MG/L	G	REW	4/22/96
00940	CL	128.0000	MG/L	G	WVM	4/19/96
00945	SO4 TOTAL	284.0000	MG/L	G	WVM	4/19/96
00951	FLUORIDE TOT	0.2600	MG/L	G	FFV	4/30/96
01002H	AS <	4.0000	UG/L	G	BHL	4/22/96
01007H	BA	38.1000	UG/L	G	BHL	4/22/96

LABORATORY REPORT
FOR SAMPLE NUMBER H9619880

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
01012H	BE	<	1.0000	UG/L	G	BHL	4/22/96
01022A	B	<	250.0000	UG/L	G	DJD	5/02/96
01027H	CD		0.2600	UG/L	G	BHL	4/22/96
01032A	CR HEX	<	1.0000	UG/L	G	WVM	4/19/96
01034H	CR TOT	<	4.0000	UG/L	G	BHL	4/22/96
01037A	CO TOT	<	25.0000	UG/L	G	REW	4/22/96
01040H	CU DISS			UG/L	V	LBS	4/19/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01042H	CU	<	4.0000	UG/L	G	BHL	4/22/96
01045A	FE		304.0000	UG/L	G	REW	4/22/96
01046A	FE DISS			UG/L	V	LBS	4/19/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01049H	PB DISS			UG/L	V	LBS	4/19/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01051H	PB	<	1.0000	UG/L	G	BHL	4/22/96
01055H	MN		1020.0000	UG/L	G	BHL	4/22/96
01056H	MN DISS			UG/L	V	LBS	4/19/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01059H	TL	<	2.0000	UG/L	G	BHL	4/22/96
01065H	NI DISS			UG/L	V	LBS	4/19/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01067H	NI	<	40.0000	UG/L	G	BHL	4/22/96
01077H	AG	<	0.4000	UG/L	G	BHL	4/22/96
01087H	V	<	13.0000	UG/L	G	BHL	4/22/96
01090H	ZN DISS			UG/L	V	LBS	4/19/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01092H	ZN		64.4000	UG/L	G	BHL	4/22/96
01097H	SB	<	2.0000	UG/L	G	BHL	4/22/96
01102A	SN	<	200.0000	UG/L	G	REW	4/22/96
01105H	AL		367.9000	UG/L	G	BHL	4/22/96
01106H	AL DISS			UG/L	V	LBS	4/19/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01132A	LI		36.0000	UG/L	G	REW	4/22/96
01147H	SE	<	7.0000	UG/L	G	BHL	4/22/96
31616	FEC COLI			/100	V	CJB	4/26/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
32730A	PHENOLS			UG/L	V	LBS	4/24/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					

LABORATORY REPORT
FOR SAMPLE NUMBER H9619880

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
38260	MBAS	<	0.5000	MG/L	G	WVM	4/19/96
70508	T ACIDITY HT		0.0000	MG/L	G	B59	4/19/96
71900I	MERCURY TOT	<	0.2000	UG/L	G	SAH	4/22/96
82079	TURBIDITY		2.8000	NTU	G	DHN	4/25/96
82550	OSMOTIC PRES		15.0000	MOSM	G	TAB	4/22/96

TOTAL NUMBER OF TESTS FOR THIS SAMPLE 58

STATION 4 MTR 1 2818

COMMONWEALTH OF PENNSYLVANIA PAGE: 1
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT RECEIVED 5/10/96
FOR SAMPLE NUMBER H9623887 REPORTED 6/01/96

COLLECTOR	S. BOSTJANCIC BWQMS	SAMPLING DATE	5/09/96
COLLECTOR NO.	0527370	SAMPLING TIME	10:35
ESTABLISHMENT		STANDARD ANAL	012
CASE NAME		TYPE CODE	
FACILITY		WQN	
ID CODE		STREAM CODE	
		RIVER MILE IND	

TEST	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT			V	SLH	5/14/96
	COMMENT: INSUFFICENT SAMPLE FOR ANAL.					
00314	BOD5 DAY INH	16.4000	MG/L	G	WET	5/16/96
00403	PH LAB	8.3000		G	HWS	5/10/96
00410	T ALK CACO3	188.0000	MG/L	G	HWS	5/10/96
00515	RES DISS/105	730.0000	MG/L	G	DHN	5/20/96
00530	RES TOT NONF	14.0000	MG/L	G	RLS	5/16/96
00610A	NH3-N	5.6200	MG/L	G	HEM	5/10/96
00615A	NO2-N	0.2600	MG/L	G	KLS	5/10/96
00620A	NO3-N	1.7600	MG/L	G	KLS	5/10/96
00623A	KJEL-N DISS		MG/L	V	LBS	5/10/96
	COMMENT: SAMP MUST BE FILT IN FIELD					
00625A	KJELD-N TOT	9.8300	MG/L	G	DJD	5/16/96
00665A	PHOS-TOTAL	0.0330	MG/L	G	CHR	5/31/96
00666A	P-O WET METH		MG/L	V	LBS	5/10/96
	COMMENT: SAMP MUST BE FILT IN FIELD					
00671A	P DISS ORTHO		MG/L	V	LBS	5/10/96
	COMMENT: SAMP MUST BE FILT IN FIELD					
00719A	CN FREE HBG		UG/L	V	EVC	5/14/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
00720A	CYANIDE		MG/L	V	EVC	5/14/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
00900A	T HARD CACO3	360.5000	MG/L	G	DJD	5/13/96
00916A	CA TOTAL	113.0000	MG/L	G	REW	5/13/96
00927A	MG	26.7000	MG/L	G	REW	5/13/96
00940	CL	141.0000	MG/L	G	FFV	5/14/96
00945	SO4 TOTAL	174.0000	MG/L	G	FFV	5/14/96
00951	FLUORIDE TOT	0.2500	MG/L	G	FFV	5/14/96

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
01002H	AS	<	4.0000	UG/L	G	BHL	5/14/96
01007H	BA		52.1000	UG/L	G	BHL	5/14/96
01012H	BE	<	1.0000	UG/L	G	BHL	5/14/96
01022A	B	<	250.0000	UG/L	G	MLB	5/17/96
01027H	CD	<	0.2000	UG/L	G	BHL	5/14/96
01032A	CR HEX	<	1.0000	UG/L	G	FFV	5/10/96
01034H	CR TOT	<	4.0000	UG/L	G	BHL	5/14/96
01037A	CO TOT	<	25.0000	UG/L	G	REW	5/13/96
01040H	CU DISS			UG/L	V	DHN	5/10/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01042H	CU		5.0000	UG/L	G	BHL	5/14/96
01045A	FE		768.0000	UG/L	G	REW	5/13/96
01046A	FE DISS			UG/L	V	DHN	5/10/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01049H	PB DISS			UG/L	V	DHN	5/10/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01051H	PB		1.6000	UG/L	G	BHL	5/14/96
01055H	MN		685.0000	UG/L	G	BHL	5/14/96
01056H	MN DISS			UG/L	V	DHN	5/10/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01059H	TL	<	2.0000	UG/L	G	BHL	5/14/96
01065H	NI DISS			UG/L	V	DHN	5/10/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01067H	NI		10.7000	UG/L	G	BHL	5/14/96
01077H	AG	<	0.4000	UG/L	G	BHL	5/14/96
01087H	V	<	13.0000	UG/L	G	BHL	5/14/96
01090H	ZN DISS			UG/L	V	DHN	5/10/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01092H	ZN		21.9000	UG/L	G	BHL	5/14/96
01097H	SB	<	2.0000	UG/L	G	BHL	5/14/96
01102A	SN	<	200.0000	UG/L	G	REW	5/13/96
01105H	AL		653.0000	UG/L	G	BHL	5/14/96
01106H	AL DISS			UG/L	V	DHN	5/10/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01132A	LI	<	25.0000	UG/L	G	REW	5/13/96
01147H	SE	<	7.0000	UG/L	G	BHL	5/14/96
31616	FEC COLI			/100	V	CJB	5/13/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					

FOR SAMPLE NUMBER H9623887

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
32730A	PHENOLS		C	UG/L	V	EVC	5/14/96
	COMMENT: NO SEP. SAMPLE RECEIVED						
38260	MBAS	<	0.5000	MG/L	G	FFV	5/10/96
70508	T ACIDITY HT		0.0000	MG/L	G	B59	5/10/96
71900I	MERCURY TOT	<	0.2000	UG/L	G	SAH	5/13/96
82079	TURBIDITY		6.6000	NTU	G	DHW	5/20/96
82550	OSMOTIC PRES		17.0000	MOSM	G	TAB	5/14/96

TOTAL NUMBER OF TESTS FOR THIS SAMPLE 58

STATION 4 MTR 1 2820

COMMONWEALTH OF PENNSYLVANIA — PAGE: 1
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT — RECEIVED 5/10/96
FOR SAMPLE NUMBER H9623885 — REPORTED 6/01/96

5/02/96

COLLECTOR S. BOSTJANCIC BWQM5 — SAMPLING DATE 0/00/00
COLLECTOR NO. 0527368 — SAMPLING TIME 1010
ESTABLISHMENT — STANDARD ANAL 012
CASE NAME — TYPE CODE
FACILITY EAST FORK OF EAST FORK OF YELLOW CR @ R. MILE FORTAL — WQN
ID CODE — STREAM CODE
RIVER MILE IND

TEST	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT			V	SLH	5/14/96
	COMMENT: INSUFFICENT SAMPLE FOR ANAL.					
00314	BOD5 DAY INH	942.0000	MG/L	G	WET	5/16/96
00403	PH LAB	8.0000		G	HWS	5/10/96
00410	T ALK CACO3	442.0000	MG/L	G	HWS	5/10/96
00515	RES DISS/105	900.0000	MG/L	G	DHW	5/20/96
00530	RES TOT NONF	6.0000	MG/L	G	RLS	5/16/96
00610A	NH3-N	53.3000	MG/L	G	HEM	5/10/96
00615A	NO2-N	2.5200	MG/L	G	KLS	5/10/96
00620A	NO3-N	6.7200	MG/L	G	KLS	5/10/96
00623A	KJEL-N DISS		MG/L	V	LBS	5/10/96
	COMMENT: SAMP MUST BE FILT IN FIELD					
00625A	KJELD-N TOT	59.9000	MG/L	G	DJD	5/16/96
00665A	PHOS-TOTAL	0.0430	MG/L	G	CHR	5/31/96
00666A	P-D WET METH		MG/L	V	LBS	5/10/96
	COMMENT: SAMP MUST BE FILT IN FIELD					
00671A	P DISS ORTHO		MG/L	V	LBS	5/10/96
	COMMENT: SAMP MUST BE FILT IN FIELD					
00719A	CN FREE HBG		UG/L	V	EVC	5/14/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
00720A	CYANIDE		MG/L	V	EVC	5/14/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
00900A	T HARD CACO3	353.7000	MG/L	G	DJD	5/13/96
00916A	CA TOTAL	132.0000	MG/L	G	MRO	5/13/96
00927A	MG	28.8000	MG/L	G	MRO	5/13/96
00940	CL	125.0000	MG/L	G	FFV	5/10/96
00945	SO4 TOTAL	111.0000	MG/L	G	FFV	5/10/96
00951	FLUORIDE TOT	0.2000	MG/L	G	FFV	5/14/96

FOR SAMPLE NUMBER H9523985

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
01002H	AS	<	4.0000	UG/L	G	BHL	5/13/96
01007H	BA		119.0000	UG/L	G	BHL	5/13/96
01012H	BE	<	1.0000	UG/L	G	BHL	5/13/96
01022A	B	<	250.0000	UG/L	G	MLB	5/17/96
01027H	CD	<	0.2000	UG/L	G	BHL	5/13/96
01032A	CR HEX	<	1.0000	UG/L	G	FFV	5/10/96
01034H	CR TOT	<	4.0000	UG/L	G	BHL	5/13/96
01037A	CO TOT	<	25.0000	UG/L	G	MRO	5/13/96
01040H	CU DISS			UG/L	V	DHN	5/10/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01042H	CU		4.9000	UG/L	G	BHL	5/13/96
01045A	FE		2030.0000	UG/L	G	MRO	5/13/96
01046A	FE DISS			UG/L	V	DHN	5/10/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01049H	PB DISS			UG/L	V	DHN	5/10/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01051H	PB	<	1.0000	UG/L	G	BHL	5/13/96
01055H	MN		1080.0000	UG/L	G	BHL	5/14/96
01056H	MN DISS			UG/L	V	DHN	5/10/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01059H	TL	<	2.0000	UG/L	G	BHL	5/13/96
01065H	NI DISS			UG/L	V	DHN	5/10/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01067H	NI	<	4.0000	UG/L	G	BHL	5/13/96
01077H	AG	<	0.4000	UG/L	G	BHL	5/13/96
01087H	V	<	13.0000	UG/L	G	BHL	5/13/96
01090H	ZN DISS			UG/L	V	DHN	5/10/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01092H	ZN		18.8000	UG/L	G	BHL	5/13/96
01097H	SB	<	2.0000	UG/L	G	BHL	5/13/96
01102A	SN	<	200.0000	UG/L	G	MRO	5/13/96
01105H	AL		47.6000	UG/L	G	BHL	5/13/96
01106H	AL DISS			UG/L	V	OHN	5/10/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01132A	LI	<	25.0000	UG/L	G	MRO	5/13/96
01147H	SE	<	7.0000	UG/L	G	BHL	5/13/96
31516	FEC COLI			/100	V	CJB	5/13/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					

FOR SAMPLE NUMBER H9623885

TEST	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
32730A	PHENOLS	[illegible]	UG/L	V	EVC	5/14/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
38260	MBAS	0.5000	MG/L	G	FFV	5/10/96
70508	T ACIDITY HT	0.0000	MG/L	G	BS9	5/10/96
71900I	MERCURY TOT	0.2280	UG/L	G	SAH	5/13/96
82079	TURBIDITY	8.7000	NTU	G	OHN	5/20/96
82550	OSMOTIC PRES	30.0000	MOSM	G	TAB	5/14/96

TOTAL NUMBER OF TESTS FOR THIS SAMPLE 58

STATION 4 MTR 1 2822

COMMONWEALTH OF PENNSYLVANIA — PAGE: 1
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT — RECEIVED 5/10/96
FOR SAMPLE NUMBER H9623886 — REPORTED 6/01/96

COLLECTOR	S. BOSTJANCIC BWQM5	SAMPLING DATE	5/09/96
COLLECTOR NO.	0527369	SAMPLING TIME	10:15
ESTABLISHMENT		STANDARD ANAL	012
CASE NAME		TYPE CODE	
FACILITY		WQN	
ID CODE	R13--	STREAM CODE	
		RIVER MILE IND	

TEST	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT	—		V	SLH	5/14/96
	COMMENT: INSUFFICENT SAMPLE FOR ANAL.					
00314	BOD5 DAY INH	9.9000	MG/L	G	WET	5/16/96
00403	PH LAB	12.0000		G	HWS	5/10/96
00410	T ALK CACO3	576.0000	MG/L	G	HWS	5/10/96
00515	RES DISS/105	580.0000	MG/L	G	DHN	5/20/96
00530	RES TOT NONF	80.0000	MG/L	G	RLS	5/16/96
00610A	NH3-N	4.2500	MG/L	G	HEM	5/10/96
00615A	NO2-N	0.7000	MG/L	G	KLS	5/10/96
00620A	NO3-N	1.6300	MG/L	G	KLS	5/10/96
	COMMENT: POSSIBLE MATRIX INTERF.					
00623A	KJEL-N DISS	( )	MG/L	V	LBS	5/10/96
	COMMENT: SAMP MUST BE FILT IN FIELD					
00625A	KJELD-N TOT	47.8000	MG/L	G	DJD	5/22/96
00665A	PHOS-TOTAL	0.0110	MG/L	G	CHR	5/31/96
00666A	P-D WET METH	( )	MG/L	V	LBS	5/10/96
	COMMENT: SAMP MUST BE FILT IN FIELD					
00671A	P DISS ORTHO	( )	MG/L	V	LBS	5/10/96
	COMMENT: SAMP MUST BE FILT IN FIELD					
00719A	CN FREE HBG	( )	UG/L	V	EVC	5/14/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
00720A	CYANIDE	( )	MG/L	V	EVC	5/14/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
00900A	T HARD CACO3	122.8000	MG/L	G	DJD	5/13/96
00916A	CA TOTAL	244.0000	MG/L	G	MRO	5/13/96
00927A	MG	2.6900	MG/L	G	MRO	5/13/96
00940	CL	3.0000	MG/L	G	HEM	5/13/96

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
00945	SO4 TOTAL		29.9000	MG/L	G	FFV	5/10/96
00951	FLUORIDE TOT		0.6500	MG/L	G	FFV	5/14/96
01002H	AS	<	4.0000	UG/L	G	BHL	5/13/96
01007H	BA		131.0000	UG/L	G	BHL	5/13/96
01012H	BE	<	1.0000	UG/L	G	BHL	5/13/96
01022A	B	<	250.0000	UG/L	G	MLB	5/17/96
01027H	CD	<	0.2000	UG/L	G	BHL	5/13/96
01032A	CR HEX		3.1000	UG/L	G	FFV	5/10/96
01034H	CR TOT		7.2000	UG/L	G	BHL	5/13/96
01037A	CO TOT	<	25.0000	UG/L	G	MRO	5/13/96
01040H	CU DISS			UG/L	V	DHN	5/10/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01042H	CU		4.7000	UG/L	G	BHL	5/13/96
01045A	FE		35.0000	UG/L	G	MRO	5/13/96
01046A	FE DISS			UG/L	V	DHN	5/10/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01049H	PB DISS			UG/L	V	DHN	5/10/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01051H	PB		1.9000	UG/L	G	BHL	5/13/96
01055H	MN		11.1000	UG/L	G	BHL	5/13/96
01056H	MN DISS			UG/L	V	DHN	5/10/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01059H	TL	<	2.0000	UG/L	G	BHL	5/13/96
01065H	NI DISS			UG/L	V	DHN	5/10/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01067H	NI	<	4.0000	UG/L	G	BHL	5/13/96
01077H	AG	<	0.4000	UG/L	G	BHL	5/13/96
01087H	V	<	13.0000	UG/L	G	BHL	5/13/96
01090H	ZN DISS			UG/L	V	DHN	5/10/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01092H	ZN	<	5.0000	UG/L	G	BHL	5/13/96
01097H	SB	<	2.0000	UG/L	G	BHL	5/13/96
01102A	SN	<	200.0000	UG/L	G	MRO	5/13/96
01105H	AL		49.7000	UG/L	G	BHL	5/13/96
01106H	AL DISS			UG/L	V	DHN	5/10/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01132A	LI		29.0000	UG/L	G	MRO	5/13/96
01147H	SE	<	7.0000	UG/L	G	BHL	5/13/96

LABORATORY REPORT
FOR SAMPLE NUMBER H9623886

TEST	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
31616	FEC COLI		100	V	CJB	5/13/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
32730A	PHENOLS		UG/L	V	EVC	5/14/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
38260	MBAS	0.5000	MG/L	G	FFV	5/10/96
70508	T ACIDITY HT	0.0000	MG/L	G	B59	5/10/96
71900I	MERCURY TOT	0.2190	UG/L	G	SAH	5/13/96
82079	TURBIDITY	38.6000	NTU	G	DHN	5/20/96
82550	OSMOTIC PRES	17.0000	MOSM	G	TAB	5/14/96

TOTAL NUMBER OF TESTS FOR THIS SAMPLE 58

STATION 4 MTR 1 2823

COMMONWEALTH OF PENNSYLVANIA — PAGE: 1
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT — RECEIVED 5/10/96
FOR SAMPLE NUMBER H9623884 — REPORTED 6/01/96

COLLECTOR S. BOSTJANCIC BWQMS
COLLECTOR NO. 0527367
ESTABLISHMENT
CASE NAME
FACILITY LEFT BANK SEEP
ID CODE ADJ. TO PORTAL

SAMPLING DATE 5/09/96
SAMPLING TIME 10:00
STANDARD ANAL 012
TYPE CODE
WQN
STREAM CODE
RIVER MILE IND

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT		1020.0000		G	SLH	5/14/96
00314	BOD5 DAY INH		12.7000	MG/L	G	WET	5/16/96
00403	PH LAB		7.0000		G	HWS	5/10/96
00410	T ALK CACO3		308.0000	MG/L	G	HWS	5/10/96
00515	RES DISS/105		688.0000	MG/L	G	DHN	5/20/96
00530	RES TOT NONF	<	2.0000	MG/L	G	RLS	5/16/96
00610A	NH3-N	<	0.0200	MG/L	G	HEM	5/10/96
00615A	NO2-N	<	0.0040	MG/L	G	KLS	5/10/96
00620A	NO3-N		1.1400	MG/L	G	KLS	5/10/96
00623A	KJEL-N DISS		-	MG/L	V	LBS	5/10/96
	COMMENT: SAMP MUST BE FILT IN FIELD						
00625A	KJELD-N TOT	<	0.2000	MG/L	G	DJD	5/17/96
00665A	~~PHOS-TOTAL~~		~~0.0050~~	~~MG/L~~	G	CHR	5/31/96
00666A	P-D WET METH			MG/L	V	LBS	5/10/96
	COMMENT: SAMP MUST BE FILT IN FIELD						
00671A	P DISS ORTHO			MG/L	V	LBS	5/10/96
	COMMENT: SAMP MUST BE FILT IN FIELD						
00719A	CN FREE HBG			UG/L	V	EVC	5/14/96
	COMMENT: NO SEP. SAMPLE RECEIVED						
00720A	CYANIDE			MG/L	V	EVC	5/14/96
	COMMENT: NO SEP. SAMPLE RECEIVED						
00900A	T HARD CACO3		432.6000	MG/L	G	DJD	5/13/96
00916A	CA TOTAL		136.0000	MG/L	G	MRO	5/13/96
00927A	MG		38.1000	MG/L	G	MRO	5/13/96
00940	CL		3.1600	MG/L	G	FFV	5/10/96
00945	SO4 TOTAL		269.0000	MG/L	G	FFV	5/10/96
00951	FLUORIDE TOT	<	0.2000	MG/L	G	FFV	5/14/96
01002H	AS	<	4.0000	UG/L	G	BHL	5/13/96
01007H	BA		73.6000	UG/L	G	BHL	5/13/96

LABORATORY REPORT
FOR SAMPLE NUMBER H9623884

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
01012H	BE	<	1.0000	UG/L	G	BHL	5/13/96
01022A	B	<	250.0000	UG/L	G	MLB	5/17/96
01027H	CD	<	0.2000	UG/L	G	BHL	5/13/96
01032A	CR HEX	<	1.0000	UG/L	G	FFV	5/10/96
01034H	CR TOT	<	4.0000	UG/L	G	BHL	5/15/96
01037A	CO TOT	<	25.0000	UG/L	G	MRO	5/14/96
01040H	CU DISS			UG/L	V	DHN	5/10/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01042H	CU	<	4.0000	UG/L	G	BHL	5/13/96
01045A	FE		250.0000	UG/L	G	MRO	5/13/96
01046A	FE DISS			UG/L	V	DHN	5/10/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01049H	PB DISS			UG/L	V	DHN	5/10/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01051H	PB	<	1.0000	UG/L	G	BHL	5/13/96
01055H	MN		579.0000	UG/L	G	BHL	5/15/96
01056H	MN DISS			UG/L	V	DHN	5/10/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01059H	TL	<	2.0000	UG/L	G	BHL	5/13/96
01065H	NI DISS			UG/L	V	DHN	5/10/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01067H	NI	<	4.0000	UG/L	G	BHL	5/13/96
01077H	AG	<	0.2000	UG/L	G	BHL	5/13/96
01087H	V	<	13.0000	UG/L	G	BHL	5/13/96
01090H	ZN DISS			UG/L	V	DHN	5/10/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01092H	ZN		27.1000	UG/L	G	BHL	5/13/96
01097H	SB	<	2.0000	UG/L	G	BHL	5/13/96
01102A	SN	<	200.0000	UG/L	G	MRO	5/13/96
01105H	AL	<	10.0000	UG/L	G	BHL	5/13/96
01106H	AL DISS			UG/L	V	DHN	5/10/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01132A	LI	<	25.0000	UG/L	G	MRO	5/13/96
01147H	SE	<	7.0000	UG/L	G	BHL	5/13/96
31616	FEC COLI			/100	V	CJB	5/13/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
32730A	PHENOLS			UG/L	V	EVC	5/14/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					

FOR SAMPLE NUMBER H9623884

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
38260	MBAS	<	0.5000	MG/L	G	FFV	5/10/96
70508	T ACIDITY HT		0.0000	MG/L	G	B59	5/10/96
71900I	MERCURY TOT	<	0.2000	UG/L	G	SAH	5/13/96
82079	TURBIDITY		1.4000	NTU	G	DHN	5/20/96
82550	OSMOTIC PRES		16.0000	MOSM	G	TAB	5/14/96

TOTAL NUMBER OF TESTS FOR THIS SAMPLE 58

STATION 4 MTR 1 2803

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

PAGE: 1

LABORATORY REPORT
FOR SAMPLE NUMBER H9622863

RECEIVED 5/07/96
REPORTED 5/24/96

COLLECTOR [redacted]
COLLECTOR NO. 0527360
ESTABLISHMENT
CASE NAME
FACILITY
ID CODE

SAMPLING DATE [redacted]
SAMPLING TIME 9:15
STANDARD ANAL 012
TYPE CODE
WQN
STREAM CODE
RIVER MILE IND

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT		884.0000		G	SLH	5/08/96
00310	BOD5 DAY INH		15.9000	MG/L	G	WET	5/13/96
00403	PH LAB		8.2000		G	HWS	5/07/96
00410	T ALK CACO3		152.0000	MG/L	G	HWS	5/07/96
00515	RES DISS/105		0.0000	MG/L	G	DHN	5/09/96
	COMMENT: INSUFFICENT SAMPLE FOR ANAL.						
00530	RES TOT NONF	<	2.0000	MG/L	G	DHN	5/09/96
00610A	NH3-N		5.5700	MG/L	G	HEM	5/08/96
00615A	NO2-N		0.2400	MG/L	G	KLS	5/07/96
00620A	NO3-N		1.2600	MG/L	G	KLS	5/07/96
00623A	KJEL-N DISS		[illegible]	MG/L	V	LBS	5/08/96
	COMMENT: SAMP MUST BE FILT IN FIELD						
00625A	KJELD-N TOT		8.7700	MG/L	G	DJD	5/16/96
00665A	PHOS-TOTAL		0.0200	MG/L	G	CHR	5/23/96
00666A	P-D WET METH		[illegible]	MG/L	V	LBS	5/08/96
	COMMENT: SAMP MUST BE FILT IN FIELD						
00671A	P DISS ORTHO		[illegible]	MG/L	V	LBS	5/08/96
	COMMENT: SAMP MUST BE FILT IN FIELD						
00900A	T HARD CACO3		282.2000	MG/L	G	DJD	5/09/96
00916A	CA TOTAL		83.1000	MG/L	G	CAG	5/10/96
00927A	MG		20.0000	MG/L	G	CAG	5/10/96
00940	CL		95.5000	MG/L	G	FFV	5/08/96
00945	SO4 TOTAL		146.0000	MG/L	G	FFV	5/08/96
00951	FLUORIDE TOT		0.2400	MG/L	G	FFV	5/08/96
01002H	AS	<	4.0000	UG/L	G	BBM	5/07/96
01007H	BA		43.9000	UG/L	G	BBM	5/07/96
01012H	BE	<	1.0000	UG/L	G	BBM	5/07/96
01022A	B	<	250.0000	UG/L	G	ML8	5/10/96
01027H	CD	<	0.2000	UG/L	G	BBM	5/07/96
01032A	CR HEX	<	1.0000	UG/L	G	WVM	5/07/96

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
01034H	CR TOT	<	4.0000	UG/L	G	BBM	5/07/96
01037A	CO TOT	<	20.0000	UG/L	G	CAG	5/08/96
01040H	CU DISS			UG/L	V	DHN	5/07/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01042H	CU	<	4.0000	UG/L	G	BBM	5/07/96
01045A	FE		385.0000	UG/L	G	CAG	5/08/96
01046A	FE DISS			UG/L	V	DHN	5/07/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01049H	PB DISS			UG/L	V	DHN	5/07/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01051H	PB	<	1.0000	UG/L	G	BBM	5/07/96
01055H	MN		471.0000	UG/L	G	BBM	5/07/96
01056H	MN DISS			UG/L	V	DHN	5/07/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01059H	TL	<	2.0000	UG/L	G	BBM	5/07/96
01065H	NI DISS			UG/L	V	DHN	5/07/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01067H	NI		6.5000	UG/L	G	BBM	5/07/96
01077H	AG	<	0.4000	UG/L	G	BBM	5/07/96
01087H	V	<	13.0000	UG/L	G	BBM	5/07/96
01090H	ZN DISS			UG/L	V	DHN	5/07/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01092H	ZN	<	5.0000	UG/L	G	BBM	5/07/96
01097H	SB	<	2.0000	UG/L	G	BBM	5/07/96
01102A	SN	<	200.0000	UG/L	G	DHN	5/09/96
01105H	AL		209.0000	UG/L	G	BBM	5/07/96
01106H	AL DISS			UG/L	V	DHN	5/07/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01132A	LI	<	30.0000	UG/L	G	CAG	5/08/96
01147H	SE	<	7.0000	UG/L	G	BBM	5/07/96
31616	FEC COLI			/100	V	CJB	5/08/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
32730A	PHENOLS			UG/L	V	EVC	5/08/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
38260	MBAS	<	0.5000	MG/L	G	FFV	5/07/96
70508	T ACIDITY HT		0.0000	MG/L	G	859	5/07/96

FOR SAMPLE NUMBER H9622863

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
71900I	MERCURY TOT	<	0.2000	UG/L	G	SAH	5/08/96
82079	TURBIDITY		3.0000	NTU	G	DHN	5/08/96
82550	OSMOTIC PRES		12.0000	MOSM	G	TAB	5/09/96

TOTAL NUMBER OF TESTS FOR THIS SAMPLE 56

STATION 4 MTR 1 2901

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT RECEIVED 4/19/96
FOR SAMPLE NUMBER H9619877 REPORTED 5/07/96

COLLECTOR	S. BOSTJANCIC BWQM5	SAMPLING DATE	4/18/96
COLLECTOR NO.	0527354	SAMPLING TIME	8:15
ESTABLISHMENT		STANDARD ANAL	012
CASE NAME		TYPE CODE	
FACILITY		WQN	
ID CODE		STREAM CODE	
		RIVER MILE IND	

TEST	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT			V	SLH	4/23/96
	COMMENT: INSUFFICENT SAMPLE FOR ANAL.					
00314	BOD5 DAY INH	1.9000	MG/L	G	WET	4/24/96
00403	PH LAB	6.5000		G	HWS	4/19/96
00410	T ALK CACO3	56.0000	MG/L	G	HWS	4/19/96
00515	RES DISS/105	1142.0000	MG/L	G	MYM	4/23/96
00530	RES TOT NONF	6.0000	MG/L	G	MYM	4/23/96
00610A	NH3-N	0.1700	MG/L	G	DJD	4/19/96
00615A	NO2-N	0.0120	MG/L	G	BLF	4/19/96
00620A	NO3-N	0.5600	MG/L	G	BLF	4/19/96
00623A	KJEL-N DISS		MG/L	V	LBS	4/19/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
00625A	KJELD-N TOT	0.4200	MG/L	G	DJD	5/01/96
00665A	PHOS-TOTAL	0.0180	MG/L	G	CHR	5/06/96
00666A	P-D WET METH		MG/L	V	LBS	4/19/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
00671A	P DISS ORTHO		MG/L	V	LBS	4/19/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
00719A	CN FREE HBG		UG/L	V	LBS	4/19/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
00720A	CYANIDE		MG/L	V	LBS	4/19/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
00900A	T HARD CACO3	626.5000	MG/L	G	DJD	4/25/96
00916A	CA TOTAL	161.0000	MG/L	G	REW	4/22/96
00927A	MG	49.7000	MG/L	G	REW	4/22/96
00940	CL	44.1000	MG/L	G	WVM	4/19/96
00945	SO4 TOTAL	577.0000	MG/L	G	WVM	4/19/96
00951	FLUORIDE TOT	0.3500	MG/L	G	FFV	4/30/96

LABORATORY REPORT
FOR SAMPLE NUMBER H9619877

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
01002H	AS	<	40.0000	UG/L	G	DES	4/23/96
01007H	BA		21.2000	UG/L	G	DES	4/19/96
01012H	BE	<	1.0000	UG/L	G	DES	4/19/96
01022A	B	<	250.0000	UG/L	G	DJD	5/02/96
01027H	CD		0.4700	UG/L	G	DES	4/19/96
01032A	CR HEX	<	1.0000	UG/L	G	WVM	4/19/96
01034H	CR TOT	<	4.0000	UG/L	G	DES	4/19/96
01037A	CO TOT		28.0000	UG/L	G	REW	4/22/96
01040H	CU DISS			UG/L	V	LBS	4/19/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01042H	CU		4.1000	UG/L	G	DES	4/19/96
01045A	FE		1280.0000	UG/L	G	REW	4/22/96
01046A	FE DISS			UG/L	V	LBS	4/19/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01049H	PB DISS			UG/L	V	LBS	4/19/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01051H	PB	<	1.0000	UG/L	G	DES	4/19/96
01055H	MN		2235.0000	UG/L	G	DES	4/25/96
01056H	MN DISS			UG/L	V	LBS	4/19/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01059H	TL	<	2.0000	UG/L	G	DES	4/19/96
01065H	NI DISS			UG/L	V	LBS	4/19/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01067H	NI		67.6000	UG/L	G	DES	4/19/96
01077H	AG	<	0.4000	UG/L	G	DES	4/19/96
01087H	V	<	13.0000	UG/L	G	DES	4/19/96
01090H	ZN DISS			UG/L	V	LBS	4/19/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01092H	ZN		178.0000	UG/L	G	DES	4/23/96
01097H	SB	<	2.0000	UG/L	G	DES	4/19/96
01102A	SN	<	200.0000	UG/L	G	REW	4/22/96
01105H	AL		3550.0000	UG/L	G	DES	4/23/96
01106H	AL DISS			UG/L	V	LBS	4/19/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					
01132A	LI		111.0000	UG/L	G	REW	4/22/96
01147H	SE		175.0000	UG/L	G	DES	4/23/96
31616	FEC COLI			/100	V	CJB	4/25/96
	COMMENT:	NO SEP. SAMPLE RECEIVED					

LABORATORY REPORT
FOR SAMPLE NUMBER H9619877

TEST	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
32730A	PHENOLS		UG/L	V	LBS	4/24/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
38260	MBAS	0.5000	MG/L	G	WVM	4/19/96
70508	T ACIDITY HT	0.0000	MG/L	G	859	4/19/96
71900I	MERCURY TOT	0.2000	UG/L	G	SAH	4/22/96
82079	TURBIDITY	16.2000	NTU	G	DHN	4/25/96
82550	OSMOTIC PRES	14.0000	MOSM	G	TAB	4/22/96

TOTAL NUMBER OF TESTS FOR THIS SAMPLE 58

FOR SAMPLE NUMBER H9619878

TEST	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
01002H	AS	4.0000	UG/L	G	BHL	4/22/96
01007H	BA	26.8000	UG/L	G	BHL	4/22/96
01012H	BE	1.0000	UG/L	G	BHL	4/22/96
01022A	B	250.0000	UG/L	G	DJD	5/02/96
01027H	CD	0.2900	UG/L	G	BHL	4/22/96
01032A	CR HEX	1.0000	UG/L	G	WVM	4/19/96
01034H	CR TOT	4.0000	UG/L	G	BHL	4/22/96
01037A	CO TOT	25.0000	UG/L	G	REW	4/22/96
01040H	CU DISS		UG/L	V	LBS	4/19/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
01042H	CU	4.1000	UG/L	G	BHL	4/22/96
01045A	FE	1660.0000	UG/L	G	REW	4/22/96
01046A	FE DISS		UG/L	V	LBS	4/19/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
01049H	PB DISS		UG/L	V	LBS	4/19/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
01051H	PB	1.0000	UG/L	G	BHL	4/22/96
01055H	MN	1700.0000	UG/L	G	BHL	4/22/96
01056H	MN DISS		UG/L	V	LBS	4/19/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
01059H	TL	2.0000	UG/L	G	BHL	4/22/96
01065H	NI DISS		UG/L	V	LBS	4/19/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
01067H	NI	36.9000	UG/L	G	BHL	4/22/96
01077H	AG	0.4000	UG/L	G	BHL	4/22/96
01087H	V	13.0000	UG/L	G	BHL	4/22/96
01090H	ZN DISS		UG/L	V	LBS	4/19/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
01092H	ZN	71.2000	UG/L	G	BHL	4/22/96
01097H	SB	2.0000	UG/L	G	BHL	4/22/96
01102A	SN	200.0000	UG/L	G	REW	4/22/96
01105H	AL	1610.0000	UG/L	G	BHL	4/22/96
01106H	AL DISS		UG/L	V	LBS	4/19/96
	COMMENT: NO SEP. SAMPLE RECEIVED					
01132A	LI	64.0000	UG/L	G	REW	4/22/96
01147H	SE	7.0000	UG/L	G	BHL	4/22/96
31616	FEC COLI		/100	V	CJB	4/26/96
	COMMENT: NO SEP. SAMPLE RECEIVED					

STATION 4 MTR 1 3001

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT
FOR SAMPLE NUMBER H9647995

RECEIVED 9/04/96
REPORTED 9/13/96

COLLECTOR S. BOSTJANCIC BWQM5
COLLECTOR NO. 0527379
ESTABLISHMENT
CASE NAME
FACILITY
ID CODE

SAMPLING DATE 9/03/96
SAMPLING TIME 12:45
STANDARD ANAL 021
TYPE CODE
WQN
STREAM CODE
RIVER MILE IND

TEST	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT	1080.0000		G	SLH	9/06/96
00314	BOD5 DAY INH	1.1000	MG/L	G	WET	9/09/96
00403	PH LAB	7.7000		G	HWS	9/04/96
00410	T ALK CACO3	102.0000	MG/L	G	HWS	9/04/96
00436	PH4	0.0000	MG/L	G	MRD	9/18/96
00500	RESIDUE TOT	916.0000	MG/L	G	DHN	9/10/96
00515	RES DISS/105	916.0000	MG/L	G	DHN	9/11/96
00530	RES TOT NONF <	2.0000	MG/L	G	DHN	9/05/96
00610A	NH3-N	0.0200	MG/L	G	HEM	9/05/96
00615A	NO2-N	0.0060	MG/L	G	BLF	9/05/96
00620A	NO3-N	0.1300	MG/L	G	BLF	9/05/96
00665A	PHOS-TOTAL	0.0200	MG/L	G	CHR	9/17/96
00680	C TOT ORGANC	2.9000	MG/L	G	WVM	9/06/96
00900A	T HARD CACO3	414.0000	MG/L	G	EVC	9/12/96
00916A	CA TOTAL	134.0000	MG/L	G	CAG	9/09/96
00927A	MG	34.9000	MG/L	G	CAG	9/09/96
00929A	NA	53.8000	MG/L	G	CAG	9/09/96
00937A	K	5.2900	MG/L	G	MYM	9/10/96
00940A	CL	118.0000	MG/L	G	HEM	9/05/96
00945A	SO4 TOTAL	279.0000	MG/L	G	EVC	9/18/96
00951	FLUORIDE TOT	0.3200	MG/L	G	FFV	9/12/96
01002H	AS	4.0000	UG/L	G	WPK	9/05/96
01027H	CD	0.2000	UG/L	G	WPK	9/05/96
01034H	CR TOT	4.0000	UG/L	G	WPK	9/05/96
01042H	CU	4.0000	UG/L	G	WPK	9/05/96
01045A	FE	236.0000	UG/L	G	CAG	9/09/96
01051H	PB	1.0000	UG/L	G	WPK	9/05/96
01055H	MN	305.0000	UG/L	G	WPK	9/05/96
01067H	NI	4.0000	UG/L	G	WPK	9/05/96
01092H	ZN	5.0000	UG/L	G	WPK	9/05/96
01105H	AL	37.1000	UG/L	G	WPK	9/05/96
70508	T ACIDITY HT	0.0000	MG/L	G	BSG	9/04/96
82079	TURBIDITY	2.5000	NTU	G	DHN	9/11/96

STATION 4 MTR 1 3066

COMMONWEALTH OF PENNSYLVANIA PAGE:
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT RECEIVED 9/04/96
FOR SAMPLE NUMBER H9647988 REPORTED 9/19/96

COLLECTOR S. BOSTJANCIC BVQM5
COLLECTOR NO. 0527372
ESTABLISHMENT
CASE NAME
FACILITY
ID CODE

SAMPLING DATE 9/03/96
SAMPLING TIME 8:50
STANDARD ANAL 021
TYPE CODE
WQN
STREAM CODE
RIVER MILE IND

TEST	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT	1227.0000		G	SLH	9/06/96
00314	5005 DAY INH	0.3000	MG/L	G	WET	9/09/96
00403	PH LAB	7.7000		G	HWS	9/04/96
00410	T ALK CACO3	112.0000	MG/L	G	HWS	9/04/96
00436	PH4	0.0000	MG/L	G	MRD	9/18/96
00500	RESIDUE TOT	1096.0000	MG/L	G	DHN	9/10/96
00515	RES DISS/105	1088.0000	MG/L	G	DHN	9/11/96
00530	RES TOT NONF	8.0000	MG/L	G	DHN	9/05/96
00610A	NH3-N	0.0400	MG/L	G	HEM	9/05/96
00615A	NO2-N	0.0100	MG/L	G	BLF	9/05/96
00620A	NO3-N	0.2100	MG/L	G	BLF	9/05/96
00665A	PHOS-TOTAL	0.0200	MG/L	G	CHR	9/17/96
00680	C TOT ORGANC	2.7000	MG/L	G	WVM	9/06/96
00900A	T HARD CACO3	525.0000	MG/L	G	EVC	9/12/96
00916A	CA TOTAL	154.0000	MG/L	G	CAG	9/09/96
00927A	MG	44.4000	MG/L	G	CAG	9/09/96
00929A	NA	54.4000	MG/L	G	CAG	9/09/96
00937A	K	5.5900	MG/L	G	MYM	9/10/96
00940A	CL	113.0000	MG/L	G	HEM	9/05/96
00945A	SO4 TOTAL	371.0000	MG/L	G	EVC	9/18/96
00951	FLUORIDE TOT	0.3400	MG/L	G	FFV	9/12/96
01002H	AS	4.0000	UG/L	G	BHL	9/05/96
01027H	CD	0.2000	UG/L	G	BHL	9/05/96
01034H	CR TOT	4.0000	UG/L	G	BHL	9/05/96
01042H	CU	4.0000	UG/L	G	BHL	9/05/96
01045A	FE	307.0000	UG/L	G	CAG	9/09/96
01051H	PB	1.0000	UG/L	G	BHL	9/05/96
01055H	MN	192.0000	UG/L	G	BHL	9/05/96
01067H	NI	4.0000	UG/L	G	BHL	9/05/96
01092H	ZN	5.2000	UG/L	G	BHL	9/05/96
01105H	AL	122.0000	UG/L	G	BHL	9/05/96
70509	T ACIDITY HT	0.0000	MG/L	G	859	9/04/96
82079	TURBIDITY	3.4000	NTU	G	DHN	9/11/96

STATION 4 MTR 1 3115

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT
FOR SAMPLE NUMBER H9648292

RECEIVED 9/05/96
REPORTED 9/19/96

COLLECTOR	S. BOSTJANCIC BWQM5	SAMPLING DATE	9/04/96
COLLECTOR NO.	0527388	SAMPLING TIME	11:05
ESTABLISHMENT	ALLEGHENY COUNTY	STANDARD ANAL	021
CASE NAME	FINDLAY/N.FAYETTE TWP	TYPE CODE	
FACILITY		WQN	
ID CODE		STREAM CODE	
		RIVER MILE IND	

TEST	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT	1496.0000		G	SLH	9/09/96
00310	BOD5 DAY INH	0.6000	MG/L	G	WET	9/10/96
00403	PH LAB	7.2000		G	HWS	9/05/96
00410	T ALK CACO3	76.0000	MG/L	G	HWS	9/05/96
00436	PH4	0.0000	MG/L	G	MRD	9/17/96
00500	RESIDUE TOT	1620.0000	MG/L	G	DHN	9/10/96
00515	RES DISS/105	1620.0000	MG/L	G	DHN	9/11/96
00530	RES TOT NONF	2.0000	MG/L	G	DHN	9/13/96
00610A	NH3-N	0.0200	MG/L	G	HEM	9/06/96
00615A	NO2-N	0.0080	MG/L	G	BLF	9/05/96
00620A	NO3-N	0.2300	MG/L	G	BLF	9/06/96
00665A	PHOS-TOTAL	0.0200	MG/L	G	CHR	9/17/96
00680	C TOT ORGANC	2.3000	MG/L	G	WVM	9/06/96
00900A	T HARD CACO3	880.0000	MG/L	G	EVC	9/12/96
00916A	CA TOTAL	249.0000	MG/L	G	CAG	9/09/96
00927A	MG	83.8000	MG/L	G	CAG	9/09/96
00929A	NA	45.3000	MG/L	G	CAG	9/09/96
00937A	K	6.3900	MG/L	G	MYM	9/10/96
00940A	CL	61.0000	MG/L	G	HEM	9/06/96
00945A	SO4 TOTAL	692.0000	MG/L	G	EVC	9/13/96
00951	FLUORIDE TOT	0.4700	MG/L	G	FFV	9/13/96
01002H	AS	4.0000	UG/L	G	WPK	9/06/96
01027H	CD	0.3000	UG/L	G	WPK	9/06/96
01034H	CR TOT	4.0000	UG/L	G	WPK	9/06/96
01042H	CU	4.0000	UG/L	G	WPK	9/06/96
01045A	FE	69.0000	UG/L	G	CAG	9/09/96
01051H	PB	1.0000	UG/L	G	WPK	9/06/96
01055H	MN	440.0000	UG/L	G	WPK	9/06/96
01067H	NI	13.9000	UG/L	G	WPK	9/06/96
01092H	ZN	6.0000	UG/L	G	WPK	9/06/96
01105H	AL	70.0000	UG/L	G		9/06/96
70508	T ACIDITY 4T	0.0000	MG/L	G	BSB	9/05/96
82079	TURBIDITY	1.0000	NTU	G	DHN	9/11/96

STATION 4 MTR 1 2101

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT
FOR SAMPLE NUMBER H9647995

RECEIVED 9/04/96
REPORTED 9/19/96

COLLECTOR S. BOSTJANCIC BWQM5
COLLECTOR NO. 0527377
ESTABLISHMENT
CASE NAME
FACILITY
ID CODE

SAMPLING DATE 9/03/96
SAMPLING TIME 11:45
STANDARD ANAL 021
TYPE CODE
WQN
STREAM CODE
RIVER MILE IND

TEST	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT	560.0000		G	SLH	9/06/96
00314	BOD5 DAY INH	0.9600	MG/L	G	WET	9/09/96
00403	PH LAB	7.5000		G	HWS	9/04/96
00410	T ALK CACO3	130.0000	MG/L	G	HWS	9/04/96
00436	PH4	0.0000	MG/L	G	MRD	9/18/96
00500	RESIDUE TOT	424.0000	MG/L	G	DHN	9/10/96
00515	RES DISS/105	416.0000	MG/L	G	DHN	9/11/96
00530	RES TOT NONF	8.0000	MG/L	G	DHN	9/05/96
00610A	NH3-N	0.0200	MG/L	G	HEM	9/05/96
00615A	NO2-N	0.0080	MG/L	G	BLF	9/05/96
00620A	NO3-N	0.1700	MG/L	G	BLF	9/05/96
00665A	PHOS-TOTAL	0.0200	MG/L	G	CHR	9/17/96
00680	C TOT ORGANC	1.8000	MG/L	G	WVM	9/06/96
00900A	T HARD CACO3	194.0000	MG/L	G	EVC	9/12/96
00916A	CA TOTAL	74.0000	MG/L	G	CAG	9/09/96
00927A	MG	14.9000	MG/L	G	CAG	9/09/96
00929A	NA	25.5000	MG/L	G	CAG	9/09/96
00937A	K	3.6400	MG/L	G	MYM	9/10/96
00940A	CL	56.0000	MG/L	G	HEM	9/05/96
00945A	SO4 TOTAL	70.0000	MG/L	G	EVC	9/13/96
00951	FLUORIDE TOT	0.2000	MG/L	G	FFV	9/12/96
01002H	AS	4.0000	UG/L	G	WPK	9/05/96
01027H	CD	0.2000	UG/L	G	WPK	9/05/96
01034H	CR TOT	4.0000	UG/L	G	WPK	9/05/96
01042H	CU	4.0000	UG/L	G	WPK	9/05/96
01045A		46.0000	UG/L	G	CAG	9/09/96
01051H	PB	1.0000	UG/L	G	WPK	9/05/96
01055H	MN	2.4000	UG/L	G	WPK	9/05/96
01067H	NI	4.0000	UG/L	G	WPK	9/05/96
01092H	ZN	5.0000	UG/L	G	WPK	9/05/96
01105H	AL	20.5000	UG/L	G	WPK	9/05/96
70508	T ACIDITY HT	0.0000	MG/L	G	859	9/04/96
82079	TURBIDITY	1.0000	NTU	G	DHN	9/11/96

STATION 4 MTR 1 2201

COMMONWEALTH OF PENNSYLVANIA PAGE:
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT RECEIVED 9/04/96
FOR SAMPLE NUMBER H9647992 REPORTED 9/19/96

COLLECTOR S. BOSTJANCIC BWQMS
COLLECTOR NO. 0527376
ESTABLISHMENT
CASE NAME
FACILITY
ID CODE

SAMPLING DATE 9/03/96
SAMPLING TIME 11:30
STANDARD ANAL 021
TYPE CODE
WQN
STREAM CODE
RIVER MILE IND

TEST	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT	474.0000		G	SLH	9/06/96
00314	BOD5 DAY INH	0.3000	MG/L	G	WET	9/09/96
00403	PH LAB	7.1000		G	HWS	9/04/96
00410	T ALK CACO3	96.0000	MG/L	G	HWS	9/04/96
00436	PH4	0.0000	MG/L	G	MRD	9/18/96
00500	RESIDUE TOT	324.0000	MG/L	G	DHN	9/10/96
00515	RES DISS/105	324.0000	MG/L	G	DHN	9/11/96
00530	RES TOT NONF	2.0000	MG/L	G	DHN	9/05/96
00610A	NH3-N	0.0200	MG/L	G	HEM	9/05/96
00615A	NO2-N	0.0080	MG/L	G	BLF	9/05/96
00620A	NO3-N	0.3200	MG/L	G	BLF	9/05/96
00665A	PHOS-TOTAL	0.0400	MG/L	G	CHR	9/17/96
00680	C TOT ORGANC	1.5000	MG/L	G	WVM	9/06/96
00900A	T HARD CACO3	174.0000	MG/L	G	EVC	9/12/96
00916A	CA TOTAL	64.4000	MG/L	G	CAG	9/09/96
00927A	MG	9.6600	MG/L	G	CAG	9/09/96
00929A	NA	18.2000	MG/L	G	CAG	9/09/96
00937A	K	2.6200	MG/L	G	MYM	9/10/96
00940A	CL	52.0000	MG/L	G	HEM	9/05/96
00945A	SO4 TOTAL	60.0000	MG/L	G	EVC	9/18/96
00951	FLUORIDE TOT	0.2000	MG/L	G	FFV	9/12/96
01002H	AS	4.0000	UG/L	G	WPK	9/05/96
01027H	CD	0.2000	UG/L	G	WPK	9/05/96
01034H	CR TOT	4.0000	UG/L	G	WPK	9/05/96
01042H	CU	4.0000	UG/L	G	WPK	9/05/96
01045A	FE	135.0000	UG/L	G	CAG	9/09/96
01051H	PB	1.0000	UG/L	G	WPK	9/05/96
01055H	MN	6.3000	UG/L	G	WPK	9/05/96
01067H	NI	4.0000	UG/L	G	WPK	9/05/96
01092H	ZN	5.0000	UG/L	G	WPK	9/05/96
01105H	AL	50.3000	UG/L	G	WPK	9/05/96
70508	T ACIDITY HT	0.0000	MG/L	G	859	9/04/96
82079	TURBIDITY	1.4000	NTU	G	DHN	9/11/96

STATION 4 ITR 1 2301

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT — RECEIVED 9/04/96
FOR SAMPLE NUMBER H9647991 — REPORTED 9/19/96

COLLECTOR S. BOSTJANCIC BWQM5
COLLECTOR NO. 0527375
ESTABLISHMENT
CASE NAME
FACILITY
IO CODE

SAMPLING DATE 9/03/96
SAMPLING TIME 11:00
STANDARD ANAL 021
TYPE CODE
WQN
STREAM CODE
RIVER MILE IND

TEST	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT	1500.0000		G	SLH	9/06/96
00314	BOD5 DAY INH	9.3000	MG/L	G	WET	9/09/96
00403	PH LAB	6.9000		G	HWS	9/04/96
00410	T ALK CACO3	92.0000	MG/L	G	HWS	9/04/96
00436	PH4	0.0000	MG/L	G	MRD	9/18/96
00500	RESIDUE TOT	1328.0000	MG/L	G	DHN	9/10/96
00515	RES DISS/105	1296.0000	MG/L	G	DHN	9/11/96
00530	RES TOT NONF	32.0000	MG/L	G	DHN	9/05/96
00610A	NH3-N	0.0900	MG/L	G	HEM	9/05/96
00615A	NO2-N	0.0100	MG/L	G	BLF	9/05/96
00620A	NO3-N	0.1400	MG/L	G	BLF	9/05/96
00665A	PHOS-TOTAL	0.0300	MG/L	G	CHR	9/17/96
00680	C TOT ORGANC	2.4000	MG/L	G	WVM	9/06/96
00900A	T HARD CACO3	480.0000	MG/L	G	EVC	9/12/96
00916A	CA TOTAL	138.0000	MG/L	G	CAG	9/09/96
00927A	MG	34.8000	MG/L	G	CAG	9/09/96
00929A	NA	112.0000	MG/L	G	CAG	9/09/96
00937A	K	4.7500	MG/L	G	MYM	9/10/96
00940A	CL	320.0000	MG/L	G	HEM	9/05/96
00945A	SO4 TOTAL	194.0000	MG/L	G	EVC	9/18/96
00951	FLUORIDE TOT	0.3300	MG/L	G	FFV	9/12/96
01002H	AS	4.0000	UG/L	G	BHL	9/05/96
01027H	CD	0.2000	UG/L	G	BHL	9/05/96
01034H	CR TOT	4.0000	UG/L	G	BHL	9/05/96
01042H	CU	4.0000	UG/L	G	BHL	9/05/96
01045A	FE	1090.0000	UG/L	G	CAG	9/09/96
01051H	PB	1.0000	UG/L	G	BHL	9/05/96
01055H	MN	2357.0000	UG/L	G	BHL	9/05/96
01067H	NI	4.0000	UG/L	G	BHL	9/05/96
01092H	ZN	5.3000	UG/L	G	BHL	9/05/96
01105H	AL	76.3000	UG/L	G	BHL	9/05/96
70508	T ACIDITY HT	0.0000	MG/L	G	859	9/04/96
82079	TURBIDITY	10.2000	NTU	G	DHN	9/11/96

STATION 4 MTR 1 2401

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

PAGE:

LABORATORY REPORT
FOR SAMPLE NUMBER H9647990

RECEIVED 9/04/96
REPORTED 9/19/96

COLLECTOR S. BOSTJANCIC BWQM5
COLLECTOR NO. 0527374
ESTABLISHMENT
CASE NAME
FACILITY
ID CODE

SAMPLING DATE 9/03/96
SAMPLING TIME 9:45
STANDARD ANAL 021
TYPE CODE
WQN
STREAM CODE
RIVER MILE IND

TEST	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT	1172.0000		G	SLH	9/06/96
00310	BOD5 DAY INH	< 0.3000	MG/L	G	WET	9/09/96
00403	PH LAB	8.1000		G	HWS	9/04/96
00410	T ALK CACO3	138.0000	MG/L	G	HWS	9/04/96
00436	PH4	0.0000	MG/L	G	MRD	9/18/96
00500	RESIDUE TOT	872.0000	MG/L	G	DHN	9/10/96
00515	RES DISS/105	868.0000	MG/L	G	DHN	9/11/96
00530	RES TOT NONF	4.0000	MG/L	G	DHN	9/05/96
00610A	NH3-N	0.0200	MG/L	G	HEM	9/05/96
00615A	NO2-N	0.0040	MG/L	G	BLF	9/05/96
00620A	NO3-N	0.1100	MG/L	G	BLF	9/05/96
00665A	PHOS-TOTAL	0.0300	MG/L	G	CHR	9/17/96
00680	C TOT ORGANC	2.1000	MG/L	G	WVM	9/06/96
00900A	T HARD CACO3	424.0000	MG/L	G	EVC	9/12/96
00916A	CA TOTAL	133.0000	MG/L	G	CAG	9/09/96
00927A	MG	35.2000	MG/L	G	CAG	9/09/96
00929A	NA	67.7000	MG/L	G	CAG	9/09/96
00937A	K	3.7100	MG/L	G	MYM	9/10/96
00940A	CL	176.0000	MG/L	G	HEM	9/05/96
00945A	SO4 TOTAL	203.0000	MG/L	G	EVC	9/18/96
00951	FLUORIDE TOT	0.3000	MG/L	G	FFV	9/12/96
01002H	AS	4.0000	UG/L	G	BHL	9/05/96
01027H	CD	0.2000	UG/L	G	BHL	9/05/96
01034H	CR TOT	4.0000	UG/L	G	BHL	9/05/96
01042H	CU	4.0000	UG/L	G	BHL	9/05/96
01045A	FE	19.0000	UG/L	G	CAG	9/09/96
01051H	PB	1.0000	UG/L	G	BHL	9/05/96
01055H		9.0000	UG/L	G	BHL	9/05/96
01067H	NI	4.0000	UG/L	G	BHL	9/05/96
01092H	ZN	5.0000	UG/L		BHL	9/05/96
01105H	AL	22.5000	UG/L	G	BHL	9/05/96
70508	T ACIDITY HT	0.0000	MG/L	G	859	9/04/96
82079	TURBIDITY	1.1000	NTU	G	DHN	9/11/96

STATION 4 MTR 1 2501

COMMONWEALTH OF PENNSYLVANIA PAGE:
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT RECEIVED 9/04/96
FOR SAMPLE NUMBER H9647989 REPORTED 9/19/96

COLLECTOR S. BOSTJANCIC BWQM5
COLLECTOR NO. 0527373
ESTABLISHMENT
CASE NAME
FACILITY
ID CODE

SAMPLING DATE 9/03/96
SAMPLING TIME 9:20
STANDARD ANAL 021
TYPE CODE
WQN
STREAM CODE
RIVER MILE IND

TEST	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT	590.0000		G	SLH	9/06/96
00514	BOD5 DAY INH	1.0000	MG/L	G	WET	9/09/96
00403	PH LAB	7.8000		G	HWS	9/04/96
00410	T ALK CACO3	122.0000	MG/L	G	HWS	9/04/96
00436	PH4	0.0000	MG/L	G	MRD	9/18/96
00500	RESIDUE TOT	456.0000	MG/L	G	DHN	9/10/96
00515	RES DISS/105	388.0000	MG/L	G	DH	9/11/96
00530	RES TOT NONF	68.0000	MG/L	G	DHN	9/05/96
00610A	NH3-N	0.0200	MG/L	G	HEM	9/05/96
00615A	NO2-N	0.0100	MG/L	G	BLF	9/05/96
00620A	NO3-N	0.3200	MG/L	G	BLF	9/05/96
00665A	PHOS-TOTAL	0.0300	MG/L	G	CHR	9/17/96
00680	C TOT ORGANC	2.3000	MG/L	G	WVM	9/06/96
00900A	T HARD CACO3	247.0000	MG/L	G	EVC	9/12/96
00916A	CA TOTAL	82.7000	MG/L	G	CAG	9/09/96
00927A	MG	16.2000	MG/L	G	CAG	9/09/96
00929A	NA	20.8000	MG/L	G	CAG	9/09/96
00937A	K	3.2100	MG/L	G	MYM	9/10/96
00940A	CL	45.0000	MG/L	G	HEM	9/05/96
00945A	SO4 TOTAL	106.0000	MG/L	G	EVC	9/18/96
00951	FLUORIDE TOT	0.2400	MG/L	G	FFV	9/12/96
01002H	AS	4.0000	UG/L	G	BHL	9/05/96
01027H	CD	0.2000	UG/L	G	BHL	9/05/96
01034H	CR TOT	4.0000	UG/L	G	BHL	9/05/96
01042H	CU	4.0000	UG/L	G	BHL	9/05/96
01045A	FE	891.0000	UG/L	G	CAG	9/09/96
01051H	PB	1.0000	UG/L	G	BHL	9/05/96
01055H	MN	51.0000	UG/L	G	BHL	9/05/96
01067H		4.0000	UG/L	G	BHL	9/05/96
01092H	ZN	5.0000	UG/L	G	BHL	9/05/96
01105H	AL	244.0000	UG/L	G	BHL	9/05/96
70508	T ACIDITY NT	0.0000	MG/L	G	859	9/04/96
82079	TURBIDITY	13.4000	NTU	G	DHN	9/11/96

STATION 4 MTR 1 2601

COMMONWEALTH OF PENNSYLVANIA PAGE:
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT RECEIVED 9/04/96
FOR SAMPLE NUMBER H9647987 REPORTED 9/19/96

COLLECTOR S. BOSTJANCIC BWQM5
COLLECTOR NO. 0527371
ESTABLISHMENT
CASE NAME
FACILITY
ID CODE

SAMPLING DATE 9/03/96
SAMPLING TIME 8:10
STANDARD ANAL 021
TYPE CODE
WQN
STREAM CODE
RIVER MILE IND

TEST	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT	991.0000		G	SLH	9/06/96
00314	BOD5 DAY INH	0.3000	MG/L	G	WET	9/09/96
00403	PH LAB	7.8000		G	HWS	9/04/96
00410	T ALK CACO3	218.0000	MG/L	G	HWS	9/04/96
00436	PH4	0.0000	MG/L	G	MRD	9/18/96
00500	RESIDUE TOT	738.0000	MG/L	G	DHN	9/10/96
00515	RES DISS/105	726.0000	MG/L	G	DHN	9/11/96
00530	RES TOT NONF	12.0000	MG/L	G	DHN	9/05/96
00610A	NH3-N	0.0200	MG/L	G	HEM	9/05/96
00615A	NO2-N	0.0060	MG/L	G	BLF	9/05/96
00620A	NO3-N	0.1000	MG/L	G	BLF	9/05/96
00665A	PHOS-TOTAL	0.0200	MG/L	G	CHR	9/17/96
00680	C TOT ORGANC	2.6000	MG/L	G	WVM	9/06/96
00900A	T HARD CACO3	384.0000	MG/L	G	EVC	9/12/96
00916A	CA TOTAL	115.0000	MG/L	G	CAG	9/09/96
00927A	MG	25.7000	MG/L	G	CAG	9/09/96
00929A	NA	61.9000	MG/L	G	CAG	9/09/96
00937A	K	5.6200	MG/L	G	MYM	9/10/96
00940A	CL	131.0000	MG/L	G	HEM	9/05/96
00945A	SO4 TOTAL	103.0000	MG/L	G	EVC	9/18/96
00951	FLUORIDE TOT	0.3000	MG/L	G	FFV	9/12/96
01002H	AS	4.0000	UG/L	G	BHL	9/05/96
01027H	CD	0.2000	UG/L	G	BHL	9/05/96
01034H	CR TOT	4.0000	UG/L	G	BHL	9/05/96
01042H	CU	4.0000	UG/L	G	BHL	9/05/96
01045A	FE	185.0000	UG/L	G	CAG	9/09/96
01051H	PB	1.0000	UG/L	G	BHL	9/05/96
01055H	MN	55.8000	UG/L	G	BHL	9/05/96
01067H	NI	4.0000	UG/L	G	BHL	9/05/96
01092H	ZN	5.0000	UG/L	G	BHL	9/05/96
01105H	AL	12.2000	UG/L	G	BHL	9/05/96
70508	T ACIDITY HT	0.0000	MG/L	G	859	9/04/96
82079	TURBIDITY	1.0000	NTU	G	DHN	9/11/96

STATION 4 MTR 1 2602

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

PAGE:

LABORATORY REPORT
FOR SAMPLE NUMBER H9647997

RECEIVED 9/04/96
REPORTED 9/19/96

COLLECTOR S. BOSTJANCIC BWQM5
COLLECTOR NO. 0527381
ESTABLISHMENT
CASE NAME
FACILITY
ID CODE

SAMPLING DATE 9/03/96
SAMPLING TIME 14:10
STANDARD ANAL 021
TYPE CODE
WQN
STREAM CODE
RIVER MILE IND

TEST	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT	907.0000		G	SLH	9/06/96
00314	BOD5 DAY INH	0.4000	MG/L	G	WET	9/09/96
00403	PH LAB	8.1000		G	HWS	9/04/96
00410	T ALK CACO3	269.0000	MG/L	G	HWS	9/04/96
00436	PH4	0.0000	MG/L	G	MRD	9/18/96
00500	RESIDUE TOT	740.0000	MG/L	G	DHN	9/10/96
00515	RES DISS/105	740.0000	MG/L	G	DHN	9/11/96
00530	RES TOT NONF	2.0000	MG/L	G	DHN	9/05/96
00610A	NH3-N	0.0500	MG/L	G	HEM	9/05/96
00615A	NO2-N	0.0180	MG/L	G	BLF	9/05/96
00620A	NO3-N	0.2200	MG/L	G	BLF	9/05/96
00665A	PHOS-TOTAL	0.0400	MG/L	G	CHR	9/17/96
00680	C TOT ORGANC	3.4000	MG/L	G	WVM	9/06/96
00900A	T HARD CACO3	351.0000	MG/L	G	EVC	9/12/96
00916A	CA TOTAL	118.0000	MG/L	G	MRO	9/05/96
00927A	MG	27.5000	MG/L	G	MRO	9/05/96
00929A	NA	45.6000	MG/L	G	MRO	9/05/96
00937A	K	6.4500	MG/L	G	MYM	9/10/96
00940A	CL	96.0000	MG/L	G	HEM	9/05/96
00945A	SO4 TOTAL	96.0000	MG/L	G	EVC	9/18/96
00951	FLUORIDE TOT	0.3600	MG/L	G	FFV	9/12/96
01002H	AS	4.0000	UG/L	G	WPK	9/05/96
01027H	CD	0.2000	UG/L	G	WPK	9/05/96
01034H	CR TOT	4.0000	UG/L	G	WPK	9/05/96
01042H	CU	4.0000	UG/L	G	WPK	9/05/96
01045A	FE	270.0000	UG/L	G	MRO	9/05/96
01051H	PB	1.0000	UG/L	G	WPK	9/05/96
01055H	MN	80.2000	UG/L	G	WPK	9/05/96
01067H	NI	4.0000	UG/L	G	WPK	9/05/96
01092H	ZN	5.0000	UG/L	G	WPK	9/05/96
01105H	AL	16.0000	UG/L	G	WPK	9/05/96
70508	T ACIDITY HT	0.0000	MG/L	G	959	9/04/96
82079	TURBIDITY	1.6000	NTU	G	DHN	9/11/96

STATION 4 MTR 1 2603

COMMONWEALTH OF PENNSYLVANIA PAGE:
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT RECEIVED 9/04/96
FOR SAMPLE NUMBER H9647998 REPORTED 9/19/96

COLLECTOR S. BOSTJANCIC BWQM5
COLLECTOR NO. 0527382
ESTABLISHMENT
CASE NAME
FACILITY
ID CODE

SAMPLING DATE 9/03/96
SAMPLING TIME 14:35
STA ARD ANAL 021
TYPE CODE
WQN
STREAM CODE
RIVER MILE IND

TEST	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT	1106.0000		G	SLH	9/06/96
00314	BOD5 DAY INH	0.3000	MG/L	G	WET	9/09/96
00403	PH LAB	8.0000		G	HWS	9/04/96
00410	T ALK CACO3	108.0000	MG/L	G	HWS	9/04/96
00436	PH4	0.0000	MG/L	G	MRD	9/18/96
00500	RESIDUE TOT	818.0000	MG/L	G	DHN	9/10/96
00515	RES DISS/105	814.0000	MG/L	G	DHN	9/11/96
00530	RES TOT NONF	4.0000	MG/L	G	DHN	9/05/96
00610A	NH3-N	0.0200	MG/L	G	HEM	9/05/96
00615A	NO2-N	0.0040	MG/L	G	BLF	9/05/96
00620A	NO3-N	0.0400	MG/L	G	BLF	9/05/96
00665A	PHOS-TOTAL	0.0200	MG/L	G	CHR	9/17/96
00680	C TOT ORGANC	2.0000	MG/L	G	WVM	9/06/96
00900A	T HARD CACO3	269.0000	MG/L	G	EVC	9/12/96
00916A	CA TOTAL	105.0000	MG/L	G	MRO	9/05/96
00927A	MG	19.9000	MG/L	G	MRO	9/05/96
00929A	NA	79.3000	MG/L	G	MRO	9/05/96
00937A	K	5.4000	MG/L	G	MYM	9/10/96
00940A	CL	204.0000	MG/L	G	HEM	9/05/96
00945A	SO4 TOTAL	115.0000	MG/L	G	EVC	9/18/96
00951	FLUORIDE TOT	0.3300	MG/L	G	FFV	9/13/96
01002H	AS	4.0000	UG/L	G	WPK	9/05/96
01027H	CD	0.2000	UG/L	G	WPK	9/05/96
01034H	CR TOT	4.0000	UG/L	G	WPK	9/05/96
01042H	CU	4.0000	UG/L	G	WPK	9/05/96
01045A	FE	82.0000	UG/L	G	MRO	9/05/96
01051H	PB	1.0000	UG/L	G	WPK	9/05/96
01055H	MN	23.8000	UG/L	G	WPK	9/05/96
01067H	NI	4.0000	UG/L	G	WPK	9/05/96
01092H	ZN	6.1000	UG/L	G	WPK	9/05/96
01105H	AL	37.4000	UG/L	G	WPK	9/05/96
70506	T ACIDITY HT	0.0000	MG/L	G	959	9/04/96
82079	TURBIDITY	1.0000	NTU	G	DHN	9/11/96

STATION 4 MTR 1 2604

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

PAGE:

LABORATORY REPORT
FOR SAMPLE NUMBER H9647996

RECEIVED 9/04/96
REPORTED 9/19/96

COLLECTOR S. BOSTJANCIC BWQM5
COLLECTOR NO. 0527380
ESTABLISHMENT
CASE NAME
FACILITY
ID CODE

SAMPLING DATE 9/03/96
SAMPLING TIME 13:45
STANDARD ANAL 021
TYPE CODE
WQN
STREAM CODE
RIVER MILE IND

TEST	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT	863.0000		G	SLH	9/06/96
00310	BOD5 DAY INH	3.3000	MG/L	G	WET	9/09/96
00403	PH LAB	6.9000		G	HWS	9/04/96
00410	T ALK CACO3	54.0000	MG/L	G	HWS	9/04/96
00436	PH4	0.0000	MG/L	G	MRO	9/18/96
00500	RESIDUE TOT	640.0000	MG/L	G	OHN	9/10/96
00515	RES DISS/105	634.0000	MG/L	G	OHN	9/11/96
00530	RES TOT NONF	6.0000	MG/L	G	OHN	9/05/96
00610A	NH3-N	16.6000	MG/L	G	HEM	9/05/96
00615A	NO2-N	0.1200	MG/L	G	BLF	9/05/96
00620A	NO3-N	0.2100	MG/L	G	BLF	9/05/96
00665A	PHOS-TOTAL	0.0400	MG/L	G	CHR	9/17/96
00680	C TOT ORGANC	7.4000	MG/L	G	WVM	9/06/96
00900A	T HARD CACO3	325.0000	MG/L	G	EVC	9/12/96
00916A	CA TOTAL	127.0000	MG/L	G	MRO	9/05/96
00927A	MG	5.0100	MG/L	G	MRO	9/05/96
00929A	NA	9.6400	MG/L	G	MRO	9/05/96
00937A	K	33.5000	MG/L	G	MYM	9/10/96
00940A	CL	6.0000	MG/L	G	HEM	9/05/96
00945A	SO4 TOTAL	352.0000	MG/L	G	EVC	9/18/96
00951	FLUORIDE TOT	0.5700	MG/L	G	FFV	9/12/96
01002H	AS	4.0000	UG/L	G	WPK	9/05/96
01027H	CD	0.2000	UG/L	G	WPK	9/05/96
01034H	CR TOT	4.0000	UG/L	G	WPK	9/05/96
01042H	CU	4.0000	UG/L	G	WPK	9/05/96
01045A	FE	129.0000	UG/L	G	MRO	9/05/96
01051H	PB	1.0000	UG/L	G	WPK	9/05/96
01055H	MN	97.7000	UG/L	G	WPK	9/05/96
01067H	NI	4.0000	UG/L	G	WPK	9/05/96
01092H	ZN	5.0000	UG/L	G	WPK	9/05/96
01105H	AL	64.7000	UG/L	G	WPK	9/05/96
70508	T ACIDITY HT	0.0000	MG/L	G	BSB	9/04/96
82079	TURBIDITY	11.8000	NTU	G	OHN	9/11/96

STATION 4 MTR 1 2615

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT — RECEIVED 9/06/96
FOR SAMPLE NUMBER H9643503 — REPORTED 9/20/96

COLLECTOR	S. BOSTJANCIC BWQM5	SAMPLING DATE	9/05/96
COLLECTOR NO.	0527406	SAMPLING TIME	13:00
ESTABLISHMENT		STANDARD ANAL	021
CASE NAME	ALLEGHENY/MOON TWP	TYPE CODE	
FACILITY		WQN	
ID CODE		STREAM CODE	
		RIVER MILE IND	

TEST	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
	SPEC CONDUCT	1296.0000		G	SLH	9/10/96
	BOD5 DAY INH	355.0000	MG/L		WET	9/12/96
00403	PH LAB	7.0000		G	HWS	9/09/96
00410	T ALK CACO3	316.0000	MG/L	G	HWS	9/09/96
00456	PH4	0.0000	MG/L	G	MRD	9/17/96
00500	RESIDUE TOT	950.0000	MG/L	G	DHN	9/10/96
00515	RES DISS/105	1130.0000	MG/L	G	DHN	9/11/96
00530	RES TOT NONF	16.0000	MG/L	G	DHN	9/13/96
00610A	NH3-N	0.7500	MG/L	G	HEM	9/09/96
00615A	NO2-N	0.1300	MG/L	G	BLF	9/09/96
00620A	NO3-N	0.6400	MG/L	G	BLF	9/09/96
00665A	PHOS-TOTAL	0.1400	MG/L	G	CHR	9/20/96
00680	C TOT ORGANC	22.1000	MG/L	G	WVM	9/09/96
00900A	T HARD CACO3	573.0000	MG/L	G	EVC	9/12/96
00916A	CA TOTAL	155.0000	MG/L	G	REM	9/09/96
00927A	MG	32.2000	MG/L	G	REM	9/09/96
00929A	NA	59.0000	MG/L	G	REM	9/09/96
00937A		8.9300	MG/L	G	MYM	9/10/96
00940A	CL	152.0000	MG/L	G	HEM	9/09/96
00945A	SO4 TOTAL	118.0000	MG/L	G	EVC	9/19/96
00951	FLUORIDE TOT <	5.0000	MG/L	G	FFV	9/18/96
	COMMENT: INTERFERENCE					
01002H	AS	4.0000	UG/L	G	WPK	9/09/96
01027H	CD	0.2000	UG/L	G	WPK	9/09/96
01034H	CR TOT	4.0000	UG/L	G	WPK	9/09/96
01042H	CU	4.0000	UG/L	G	WPK	9/09/96
01045A	FE	2350.0000	UG/L	G	REM	9/09/96
01051H	PB	1.0000	UG/L	G	WPK	9/09/96
01055H	MN	1060.0000	UG/L	G	WPK	9/09/96
01067H	NI	4.0000	UG/L	G	WPK	9/09/96
01092H	ZN	6.1000	UG/L	G	WPK	9/09/96
01105H	AL	61.9000	UG/L	G	WPK	9/09/96
70508	T ACIDITY MT	0.0000	MG/L	G	BSB	9/06/96

STATION 4 MTR 1 2701

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

PAGE:

LABORATORY REPORT
FOR SAMPLE NUMBER HS648239

RECEIVED 9/05/96
REPORTED 9/19/96

COLLECTOR	S. BOSTJANCIC BWQMS	SAMPLING DATE	9/04/96
COLLECTOR NO.	0527385	SAMPLING TIME	9:30
ESTABLISHMENT	ALLEGHENY COUNTY	STANDARD ANAL	021
CASE NAME	NORTH FAYETTE TWP	TYPE CODE	
FACILITY		WQN	
IO CODE		STREAM CODE	
		RIVER MILE IND	

TEST	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT	1195.0000		G	SLH	9/09/96
00314	BOD5 DAY INH	0.6000	MG/L	G	WET	9/10/96
00403	PH LAB	6.7000		G	HWS	9/05/96
00410	T ALK CACO3	54.0000	MG/L	G	HWS	9/05/96
00436	PH4	0.0000	MG/L	G	MRO	9/17/96
00500	RESIDUE TOT	1076.0000	MG/L	G	DHN	9/10/96
00515	RES DISS/105	1071.0000	MG/L	G	DHN	9/11/96
00530	RES TOT NONF	5.0000	MG/L	G	DHN	9/13/96
00610A	NH3-N	0.0200	MG/L	G	HEM	9/06/96
00615A	NO2-N	0.0030	MG/L	G	BLF	9/06/96
00620A	NO3-N	0.4700	MG/L	G	BLF	9/06/96
00665A	PHOS-TOTAL	0.0200	MG/L	G	CHR	9/17/96
00680	C TOT ORGANC	1.6000	MG/L	G	WVM	9/06/96
00900A	T HARD CACO3	575.0000	MG/L	G	EVC	9/12/96
00916A	CA TOTAL	141.0000	MG/L	G	CAE	9/09/96
00927A	MG	40.9000	MG/L	G	CAG	9/09/96
00929A	NA	54.8000	MG/L	G	CAG	9/09/96
00937A	K	2.8500	MG/L	G	MYM	9/10/96
00940A	CL	136.0000	MG/L	G	HEM	9/06/96
00945A	SO4 TOTAL	360.0000	MG/L	G	EVC	9/18/96
00951	FLUORIDE TOT	0.5000	MG/L	G	FFV	9/13/96
01002H	AS	4.0000	UG/L	G	BHL	9/06/96
01027H	CD	0.3800	UG/L	G	BHL	9/06/96
01034H	CR TOT	4.0000	UG/L	G	BHL	9/06/96
01042H	CU	4.4000	UG/L	G	BHL	9/06/96
01045A	FE	223.0000	UG/L	G	CAG	9/09/96
01051H	PB	1.0000	UG/L	G	BHL	9/06/96
01055H	MN	481.0000	UG/L	G	BHL	9/06/96
01067H	NI	36.7000	UG/L	G	BHL	9/06/96
01092H	ZN	36.6000	UG/L	G	BHL	9/06/96
01105H	AL	870.0000	UG/L	G	BHL	9/06/96
70508	T ACIDITY HT	0.0000	MG/L	G	959	9/05/96
82079	TURBIDITY	6.4000	NTU	G	DHN	9/11/96

STATION 4 MTR 1 2801

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

PAGE:

LABORATORY REPORT
FOR SAMPLE NUMBER H9648293

RECEIVED 9/05/96
REPORTED 9/19/96

COLLECTOR S. BOSTJANCIC BWQM5
COLLECTOR NO. 0527389
ESTABLISHMENT ALLEGHENY COUNTY
CASE NAME FINDLAY TWP
FACILITY
ID CODE

SAMPLING DATE 9/04/96
SAMPLING TIME 11:15
STANDARD ANAL 021
TYPE CODE
WQN
STREAM CODE
RIVER MILE IND

TEST	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT	1445.0000		G	SLH	9/09/96
00314	BOD5 DAY INH	0.3000	MG/L	G		9/10/96
00403	PH LAB	7.8000		G	HWS	9/05/96
00410	T ALK CACO3	172.0000	MG/L	G	HWS	9/05/96
00436	PH4	0.0000	MG/L	G	MRD	9/17/96
00500	RESIDUE TOT	1360.0000	MG/L	G	DHN	9/10/96
00515	RES DISS/105	1359.0000	MG/L	G	DHN	9/11/96
00530	RES TOT NONF	2.0000	MG/L	G	DHN	9/13/96
00610A	NH3-N	0.0200	MG/L	G	HEM	9/06/96
00615A	NO2-N	0.0080	MG/L	G	BLF	9/06/96
00620A	NO3-N	0.3000	MG/L	G	BLF	9/06/96
00665A	PHOS-TOTAL	0.0200	MG/L	G	CHR	9/17/96
00680	C TOT ORGANC	3.1000	MG/L	G	WVM	9/06/96
00900A	T HARD CACO3	659.0000	MG/L	G	EVC	9/12/96
00916A	CA TOTAL	168.0000	MG/L	G	CAG	9/09/96
00927A	MG	46.6000	MG/L	G	CAG	9/09/96
00929A	NA	74.0000	MG/L	G	CAG	9/09/96
00937A	K	7.3900	MG/L	G	MVM	9/10/96
00940A	CL	176.0000	MG/L	G	HEM	9/06/96
00945A	SO4 TOTAL	342.0000	MG/L	G	EVC	9/19/96
00951	FLUORIDE TOT	0.3100	MG/L	G	FFV	9/13/96
01002H	AS	4.0000	UG/L	G	WPK	9/06/96
01027H	CD	0.2000	UG/L	G	WPK	9/06/96
01034H	CR TOT	4.0000	UG/L	G	WPK	9/06/96
01042H	CU	4.0000	UG/L	G	WPK	9/06/96
01045A	FE	215.0000	UG/L	G	CAG	9/09/96
01051H	PB	1.0000	UG/L	G	WPK	9/06/96
01055H	MN	79.3000	UG/L	G	WPK	9/06/96
01067H	NI	4.0000	UG/L	G	WPK	9/06/96
01092H	ZN	5.0000	UG/L	G	WPK	9/06/96
01105H	AL	24.7000	UG/L	G		9/06/96
70508	T ACIDITY MT	0.0000	MG/L	G	859	9/05/96
82079	TURBIDITY	1.9000	NTU	G	DHN	9/11/96

STATION 4 MTR 1 2802

COMMONWEALTH OF PENNSYLVANIA PAGE:
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT RECEIVED 9/05/96
FOR SAMPLE NUMBER H9648291 REPORTED 9/19/96

COLLECTOR	S. BOSTJANCIC BWQM5	SAMPLING DATE	9/04/96
COLLECTOR NO.	0527386	SAMPLING TIME	10:00
ESTABLISHMENT	ALLEGHENY COUNTY	STANDARD ANAL	021
CASE NAME	FINDLAY TWP	TYPE CODE	
FACILITY		WQN	
ID CODE		STREAM CODE	
		RIVER MILE IND	

TEST	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT	1430.0000		G	SLH	9/09/96
00314	BOD5 DAY INH	0.6000	MG/L	G	WET	9/10/96
00403	PH LAB	6.2000		G	HWS	9/05/96
00410	T ALK CACO3	28.0000	MG/L	G	HWS	9/05/96
00436	PH4	0.0000	MG/L	G	MRD	9/17/96
00500	RESIDUE TOT	1510.0000	MG/L	G	DHN	9/10/96
00515	RES DISS/105	1506.0000	MG/L	G	DHN	9/11/96
00530	RES TOT NONF	4.0000	MG/L	G	DHN	9/13/96
00610A	NH3-N	0.0200	MG/L	G	HEM	9/06/96
00615A	NO2-N	0.0620	MG/L	G	BLF	9/06/96
00620A	NO3-N	0.1400	MG/L	G	BLF	9/06/96
00665A	PHOS-TOTAL	0.0200	MG/L	G	CHR	9/17/96
00680	C TOT ORGANC	3.3000	MG/L	G	WVM	9/06/96
00909A	T HARD CACO3	799.0000	MG/L	G	EVC	9/12/96
00916A	CA TOTAL	215.0000	MG/L	G	CAG	9/09/96
00927A	MG	71.1000	MG/L	G	CAG	9/09/96
00929A	NA	53.2000	MG/L	G	CAG	9/09/96
00937A	K	4.9100	MG/L	G	MYM	9/10/96
00940A	CL	85.0000	MG/L	G	HEM	9/06/96
00945A	SO4 TOTAL	603.0000	MG/L	G	EVC	9/18/96
00951	FLUORIDE TOT	0.3300	MG/L	G	FFV	9/13/96
01002H	AS	4.0000	UG/L	G	WPK	9/06/96
01027H	CD	0.2000	UG/L	G	WPK	9/06/96
01034H	CR TOT	4.0000	UG/L	G	WPK	9/06/96
01042H	CU	4.0000	UG/L	G	WPK	9/06/96
01045A	FE	354.0000	UG/L	G	CAG	9/09/96
01051H	PB	1.0000	UG/L	G	WPK	9/06/96
01055H	MN	4920.0000	UG/L	G	WPK	9/06/96
01067H	NI	21.0000	UG/L	G	WPK	9/06/96
01092H	ZN	14.1000	UG/L	G	WPK	9/05/96
01105H	AL	109.0000	UG/L	G	WPK	9/06/96
70508	T ACIDITY HT	4.8000	MG/L	G	MRD	9/09/96
82079	TURBIDITY	2.2000	NTU	G	DHN	9/11/96

STATION 4 MTR 1 2803

COMMONWEALTH OF PENNSYLVANIA PAGE:
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT RECEIVED 9/05/96
FOR SAMPLE NUMBER H9543290 REPORTED 9/19/96

COLLECTOR S. BOSTJANCIC BWQM5
COLLECTOR NO. 0527387
ESTABLISHMENT ALLEGHENY COUNTY
CASE NAME FINDLAY TWP
FACILITY
ID CODE

SAMPLING DATE 9/04/96
SAMPLING TIME 10:15
STANDARD ANAL 021
TYPE CODE
WQN
STREAM CODE
RIVER MILE IND

TEST	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT	1525.0000		G	SLH	9/09/96
00314	BOD5 DAY INH	0.6000	MG/L	G	WET	9/10/96
00403	PH LAB	7.7000		G	HWS	9/05/96
00410	T ALK CACO3	266.0000	MG/L	G	HWS	9/05/96
00436	PH4	0.0000	MG/L	G	MRD	9/17/96
00500	RESIDUE TOT	1404.0000	MG/L	G	DHN	9/10/96
00515	RES DISS/105	1404.0000	MG/L	G	DHN	9/11/96
00530	RES TOT NONF	2.0000	MG/L	G	DHN	9/13/96
00610A	NH3-N	0.1100	MG/L	G	HEM	9/06/96
00615A	NO2-N	0.0060	MG/L	G	BLF	9/05/96
00620A	NO3-N	0.3000	MG/L	G	BLF	9/06/96
00665A	PHOS-TOTAL	0.0200	MG/L	G	CHR	9/17/96
00680	C TOT ORGANC	3.6000	MG/L	G	WVM	9/06/96
00900A	T HARD CACO3	620.0000	MG/L	G	EVC	9/12/96
00916A	CA TOTAL	186.0000	MG/L	G	CAG	9/09/96
00927A	MG	47.7000	MG/L	G	CAG	9/09/96
00929A	NA	95.7000	MG/L	G	CAG	9/09/96
00937A	K	8.7500	MG/L	G	MVM	9/10/96
00940A	CL	223.0000	MG/L	G	HEM	9/06/96
00945A	SO4 TOTAL	235.0000	MG/L	G	EVC	9/18/96
00951	FLUORIDE TOT	0.2300	MG/L	G	FFV	9/13/96
01002H	AS	4.3000	UG/L	G	WPK	9/05/96
01027H	CD	0.2000	UG/L	G	WPK	9/06/96
01034H	CR TOT	4.0000	UG/L	G	WPK	9/06/96
01042H	CU	4.0000	UG/L	G	WPK	9/06/96
01045A	FE	480.0000	UG/L	G	CAG	9/09/96
01051H	PB	1.0000	UG/L	G	WPK	9/06/96
01055H	MN	93.5000	UG/L	G	WPK	9/06/96
01067H	NI	4.0000	UG/L	G	WPK	9/06/96
01092H	ZN	5.0000	UG/L	G	WPK	9/06/96
01105H	AL	25.0000	UG/L	G	WPK	9/06/96
70508	T ACIDITY HT	0.0000	MG/L	G	359	9/05/96
82079	TURBIDITY	4.0000	NTU	G	DHN	9/11/96

STATION 4 MTR 1 2806

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT — RECEIVED 9/05/96
FOR SAMPLE NUMBER H9648294 — REPORTED 9/19/96

COLLECTOR S. BOSTJANCIC BWQM5
COLLECTOR NO. 0527390
ESTABLISHMENT ALLEGHENY COUNTY
CASE NAME FINDLAY TWP
FACILITY

SAMPLING DATE 9/04/96
SAMPLING TIME 12:00
STANDARD ANAL 021
TYPE CODE
WQN
STREAM CODE
RIVER MILE IND

	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT	1782.0000		G	SLH	9/09/96
00310	BOD5 DAY INH	0.6000	MG/L	G		9/13/96
00403	PH LAB	4.7000		G	HWS	9/05/96
00410	T ALK CACO3	2.4000	MG/L	G	HWS	9/05/96
00436	PH4	0.3000	MG/L	G	MSD	9/17/96
00500	RESIDUE TOT	2258.0000	MG/L			9/10/96
00515	RES DISS/105	2258.0000	MG/L	G	DHN	9/11/96
00530	RES TOT NONF	2.0000	MG/L	G	DHN	9/13/96
00610A	NH3-N	0.1300	MG/L	G	HEM	9/06/96
00615A	NO2-N	0.0040	MG/L	G	BLF	9/06/96
00620A	NO3-N	0.2200	MG/L	G	BLF	9/06/96
00665A	PHOS-TOTAL	0.0200	MG/L	G	CHR	9/17/96
00680	C TOT ORGANC	3.8000	MG/L	G	WVM	9/06/96
00900A	T HARD CACO3	1108.0000	MG/L	G	EVC	9/12/96
00916A	CA TOTAL	238.0000	MG/L	G	MRO	9/09/96
00927A	MG	95.7000	MG/L	G	MRO	9/09/96
00929A	NA	51.0000	MG/L	G	MRO	9/09/96
00937A	K	5.6700	MG/L	G	MYM	9/10/96
00940A	CL	90.0000	MG/L	G	HEM	9/06/96
00945A	SO4 TOTAL	875.0000	MG/L	G	EVC	9/13/96
00951	FLUORIDE TOT	0.8800	MG/L	G	FFV	9/13/96
01002H	AS	4.0000	UG/L	G	WPK	9/09/96
01027H	CD	1.0000	UG/L	G	WPK	9/09/96
01034H	CR TOT	4.0000	UG/L		WPK	9/09/96
01042H	CU	4.8000	UG/L	G	WPK	9/09/96
01045A	FE	2720.0000	UG/L	G	MRO	9/09/96
01051H	PB	1.0000	UG/L		WPK	9/09/96
01055H	MN	10800.0000	UG/L	G	WPK	9/09/96
01067H	NI	157.0000	UG/L	G	WPK	9/09/96
01092H	ZN	237.0000	UG/L	G	WPK	9/09/96
01105H	AL	7060.0000	UG/L		WPK	9/09/96
70508	T ACIDITY MT	68.0000	MG/L	G	MRO	9/09/96
82079	TURBIDITY	17.6000	NTU	G	DHN	9/11/96

STATION 4 MTR 1 2809

COMMONWEALTH OF PENNSYLVANIA PAGE:
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT RECEIVED 9/05/96
FOR SAMPLE NUMBER H9648296 REPORTED 9/19/96

COLLECTOR	S. BOSTJANCIC BWQM5	SAMPLING DATE	9/04/96
COLLECTOR NO.	0527391	SAMPLING TIME	12:15
ESTABLISHMENT	ALLEGHENY COUNTY	STANDARD ANAL	021
CASE NAME	FINDLAY TWP	TYPE CODE	
FACILITY		WQN	
ID CODE		STREAM CODE	
		RIVER MILE IND	

TEST	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT	1618.0000		G	SLH	9/09/96
00314	BOD5 DAY INH	0.3000	MG/L	G	WET	9/10/96
00403	PH LAB	5.7000		G	HWS	9/05/96
00410	T ALK CACO3	11.0000	MG/L	G	HWS	9/05/96
00436	PH4	0.0000	MG/L	G	MRD	9/17/96
00500	RESIDUE TOT	1588.0000	MG/L	G	OHN	9/10/96
00515	RES DISS/105	1574.0000	MG/L	G	OHN	9/11/96
00530	RES TOT NONF	13.0000	MG/L	G	OHN	9/13/96
00610A	NH3-N	0.3800	MG/L	G	HEM	9/06/96
00615A	NO2-N	0.0080	MG/L	G	BLF	9/06/96
00620A	NO3-N	0.1200	MG/L	G	BLF	9/06/96
00665A	PHOS-TOTAL	0.0200	MG/L	G	CHR	9/17/96
00680	C TOT ORGANC	1.9000	MG/L	G	WVM	9/06/96
00900A	T HARD CACO3	753.0000	MG/L	G	EVC	9/12/96
00916A	CA TOTAL	171.0000	MG/L	G	MRO	9/09/96
00927A	MG	50.5000	MG/L	G	MRO	9/09/96
00929A	NA	96.8000	MG/L	G	MRO	9/09/96
00937A	K	4.4900	MG/L	G	MYM	9/10/96
00940A	CL	171.0000	MG/L	G	HEM	9/06/96
00945A	SO4 TOTAL	568.0000	MG/L	G	EVC	9/18/96
00951	FLUORIDE TOT	0.4800	MG/L	G	FFV	9/17/96
01002H	AS	4.0000	UG/L	G	WPK	9/09/96
01027H	CD	1.1000	UG/L	G	WPK	9/09/96
01034H	CR TOT	4.0000	UG/L	G	WPK	9/09/96
01042H	CU	9.3000	UG/L	G	WPK	9/09/96
01045A	FE	2560.0000	UG/L	G	MRO	9/09/96
01051H	PB	1.0000	UG/L	G	WPK	9/09/96
01055H	MN	6770.0000	UG/L	G	WPK	9/09/96
01067H	NI	133.0000	UG/L	G	WPK	9/09/96
01092H	ZN	200.0000	UG/L	G	WPK	9/09/96
01105H	AL	6000.0000	UG/L	G	WPK	9/09/96
70508	T ACIDITY HT	30.0000	MG/L	G	MRD	9/09/96
82079	TURBIDITY	23.0000	NTU	G	OHN	9/11/96

STATION 4 MTR 1 2815

COMMONWEALTH OF PENNSYLVANIA PAGE:
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT RECEIVED 9/05/96
FOR SAMPLE NUMBER H9648297 REPORTED 9/19/96

COLLECTOR	S. BOSTJANCIC BWQM5	SAMPLING DATE	9/04/96
COLLECTOR NO.	0527392	SAMPLING TIME	12:40
ESTABLISHMENT	ALLEGHENY COUNTY	STANDARD ANAL	021
CASE NAME	CLINTON, PA/FINDLAY TWP	TYPE CODE	
FACILITY		WQN	
ID CODE		STREAM CODE	
		RIVER MILE IND	

TEST	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT	1360.0000		G	SLH	9/09/96
00314	BOD5 DAY INH	0.3000	MG/L	G	WET	9/10/96
00403	PH LAB	3.3000		G	HWS	9/05/96
00410	T ALK CACO3	0.0000	MG/L		HWS	9/05/96
00436	PH4	36.0000	MG/L		MRD	9/17/96
00500	RESIDUE TOT	1570.0000	MG/L	G	DHN	9/10/96
00515	RES DISS/105	1570.0000	MG/L	G	DHN	9/11/96
00530	RES TOT NONF	2.0000	MG/L	G	DHN	9/13/96
00610A	NH3-N	0.0400	MG/L	G	HEM	9/06/96
00615A	NO2-N	0.0040	MG/L	G	BLF	9/06/96
00620A	NO3-N	0.0400	MG/L	G	BLF	9/06/96
00665A	PHOS-TOTAL	0.0200	MG/L	G	CHR	9/17/96
00680	C TOT ORGANC	1.0000	MG/L	G	WVM	9/06/96
00900A	T HARD CACO3	734.0000	MG/L	G	EVC	9/12/96
00916A	CA TOTAL	129.0000	MG/L	G	MRO	9/09/96
00927A	MG	52.4000	MG/L	G	MRO	9/09/96
00929A	NA	13.1000	MG/L	G	MRO	9/09/96
00937A	K	2.6800	MG/L	G	MYM	9/10/96
00940A	CL	26.0000	MG/L	G	HEM	9/06/96
00945A	SO4 TOTAL	550.0000	MG/L	G	EVC	9/18/96
00951	FLUORIDE TOT	0.7700	MG/L	G	FFV	9/17/96
01002H	AS	4.0000	UG/L	G	WPK	9/09/96
01027H	CD	2.8000	UG/L	G	WPK	9/09/96
01034H	CR TOT	6.9000	UG/L	G	WPK	9/09/96
01042H	CU	25.9000	UG/L	G	WPK	9/09/96
01045A	FE	6720.0000	UG/L	G	MRO	9/09/96
01051H	PB	1.0000	UG/L	G	WPK	9/09/96
01055H	MN	7120.0000	UG/L	G	WPK	9/09/96
01067H	NI	294.0000	UG/L	G	WPK	9/09/96
01092H	ZN	449.0000	UG/L	G	WPK	9/09/96
01105H	AL	25400.0000	UG/L	G	WPK	9/09/96
70508	T ACIDITY HT	254.0000	MG/L	G	MRD	9/09/96
82079	TURBIDITY	1.0000	NTU	G	DHN	9/11/96

STATION 4 MTR 1 2818

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT — RECEIVED 9/06/96
FOR SAMPLE NUMBER H9648511 — REPORTED 9/23/96

COLLECTOR S. BOSTJANCIC BWQM5
COLLECTOR NO. 0527402
ESTABLISHMENT
CASE NAME ALLEGHENY/FINDLAY TWP
FACILITY
ID CODE

SAMPLING DATE 9/05/96
SAMPLING TIME 14:45
STANDARD ANAL 021
TYPE CODE
WQN
STREAM CODE
RIVER MILE IND

	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT	1807.0000		G	SLH	9/10/96
00310	BOD5 DAY INH	1.7000	MG/L	G	WET	9/12/96
00403	PH LAB	7.8000		G	HWS	9/09/96
00410	T ALK CACO3	268.0000	MG/L	G	HWS	9/09/96
00436	PH4	0.0000	MG/L	G	MRD	9/17/96
00500	RESIDUE TOT	1458.0000	MG/L	G	DHN	9/10/96
00515	RES DISS/105	1458.0000	MG/L	G	DHN	9/11/96
00530	RES TOT NONF	2.0000	MG/L	G	DHN	9/13/96
00610A	NH3-N	0.2500	MG/L	G	HEM	9/09/96
00615A	NO2-N	0.1400	MG/L	G	BLF	9/09/96
00620A	NO3-N	2.0200	MG/L	G	BLF	9/09/96
00665A	PHOS-TOTAL	0.0200	MG/L	G	CHR	9/20/96
00680	C TOT ORGANC	2.3000	MG/L	G	WVM	9/06/96
00900A	T HARD CACO3	787.0000	MG/L	G	EVC	9/12/96
00916A	CA TOTAL	217.0000	MG/L	G	REW	9/09/96
00927A	MG	50.4000	MG/L	G	REW	9/09/96
00929A	NA	94.1000	MG/L	G	REW	9/09/96
00937A		8.0800	MG/L	G	MYM	9/10/96
00940A	CL	296.0000	MG/L	G	HEM	9/09/96
00945A	SO4 TOTAL	314.0000	MG/L	G	EVC	9/18/96
00951	FLUORIDE TOT	0.2000	MG/L	G	FFV	9/17/96
01002H	AS	4.0000	UG/L	G	WPK	9/09/96
01027H	CD	0.2000	UG/L	G	WPK	9/09/96
01034H	CR TOT	4.0000	UG/L	G	WPK	9/09/96
01042H	CU	4.0000	UG/L	G	WPK	9/09/96
01045A	FE	550.0000	UG/L	G	REW	9/09/96
01051H	PB	1.0000	UG/L	G	WPK	9/09/96
01055H	MN	321.0000	UG/L	G	WPK	9/09/96
01067H	NI	4.0000	UG/L	G		9/09/96
01092H	ZN	12.8000	UG/L	G	WPK	9/09/96
01105H	AL	74.7000	UG/L	G	WPK	9/09/96
70508	T ACIDITY MT	0.0000	MG/L	G	859	9/06/96
82079	TURBIDITY	5.1000	NTU	G	DHN	9/11/96

STATION 4 MTR 1 2820

COMMONWEALTH OF PENNSYLVANIA — PAGE: 1
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT — RECEIVED 9/06/96
FOR SAMPLE NUMBER A9543512 — REPORTED 9/25/96

COLLECTOR S. BOSTJANCIC BWQM5
COLLECTOR NO. 0527403
ESTABLISHMENT
CASE NAME ALLEGHENY/FINDLAY TWP
FACILITY
ID CODE

SAMPLING DATE 9/05/96
SAMPLING TIME 14:00
STANDARD ANAL 021
TYPE CODE
WQN
STREAM CODE
RIVER MILE IND

TEST	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT	1716.0000		G	SLH	9/10/96
00314	BOD5 DAY INH	813.0000	MG/L	G	WET	9/12/96
00403	PH LAB	7.9000		G	HWS	9/09/96
00410	T ALK CACO3	530.0000	MG/L	G	HWS	9/09/96
00436	PH4	0.0000	MG/L	G	MRD	9/17/96
00500	RESIDUE TOT	1604.0000	MG/L	G	DHN	9/10/96
00515	RES DISS/105	1598.0000	MG/L	G	DHN	9/11/96
00530	RES TOT NONF	6.0000	MG/L	G	DHN	9/13/96
00610A	NH3-N	0.6300	MG/L	G	HEM	9/09/96
00615A	NO2-N	0.0480	MG/L	G	BLF	9/09/96
00620A	NO3-N	0.8100	MG/L	G	BLF	9/09/96
00665A	PHOS-TOTAL	0.0200	MG/L	G	CHR	9/20/96
00680	C TOT ORGANC	6.5000	MG/L	G	WYM	9/06/96
00900A	T HARD CACO3	848.0000	MG/L	G	EVC	9/12/96
00916A	CA TOTAL	263.0000	MG/L	G	JMM	9/11/96
00927A	MG	55.4000	MG/L	G	JMM	9/11/96
00929A	NA	80.8000	MG/L	G	JMM	9/11/96
00937A	K	12.0000	MG/L	G	MYM	9/10/96
00940A	CL	141.0000	MG/L	G	HEM	9/09/96
00945A	SO4 TOTAL	180.0000	MG/L	G	EVC	9/18/96
00951	FLUORIDE TOT	< 5.0000	MG/L	G	FFV	9/18/96
	COMMENT: INTERFERENCE					
01002H	AS	< 4.0000	UG/L	G	WPK	9/09/96
01027H	CD	< 0.2000	UG/L	G	WPK	9/09/96
01034H	CR TOT	< 4.0000	UG/L	G	WPK	9/09/96
01042H	CU	< 4.0000	UG/L	G	WPK	9/09/96
01045A	FE	1550.0000	UG/L	G	JMM	9/11/96
01051H	PB	< 1.0000	UG/L	G	WPK	9/09/96
01055H	MN	1270.0000	UG/L	G	WPK	9/09/96
01067H	NI	< 4.0000	UG/L	G	WPK	9/09/96
01092H	ZN	25.3000	UG/L	G	WPK	9/09/96
01105H	AL	< 10.0000	UG/L	G	WPK	9/09/96
70508	T ACIDITY HT	0.0000	MG/L	G	BSG	9/06/96

STATION 4 MTR 1 2822

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT
FOR SAMPLE NUMBER H9643513

RECEIVED 9/06/96
REPORTED 9/25/96

COLLECTOR	S. BOSTJANCIC . BWQMS	SAMPLING DATE	9/05/96
COLLECTOR NO.	0527404	SAMPLING TIME	15:50
ESTABLISHMENT		STANDARD ANAL	021
CASE NAME	ALLEGHENY/FINDLAY TWP	TYPE CODE	
FACILITY		WQN	
ID CODE		STREAM CODE	
		RIVER MILE IND	

TEST	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT	756.0000		G	SLH	9/10/96
00310	BOD5 DAY INH	1.2000	MG/L	G	WET	9/12/96
00403	PH LAB	8.0000		G	HWS	9/09/96
00410	T ALK CACO3	110.0000	MG/L	G	HWS	9/09/96
00436	PH4	0.0000	MG/L	G	MRD	9/17/96
00500	RESIDUE TOT	1676.0000	MG/L	G	DHN	9/10/96
00515	RES DISS/105	1672.0000	MG/L	G	DHN	9/11/96
00530	RES TOT NONF	4.0000	MG/L	G	DHN	9/13/96
00610A	NH3-N	1.9500	MG/L	G	HEM	9/09/96
00615A	NO2-N	1.7600	MG/L	G	BLF	9/09/96
00620A	NO3-N	7.1900	MG/L	G	BLF	9/09/96
00665A	PHOS-TOTAL	< 0.0200	MG/L	G	CHR	9/20/96
00680	C TOT ORGANC	8.3000	MG/L	G	WVM	9/06/96
00900A	T HARD CACO3	367.0000	MG/L	G	EVC	9/12/96
00916A	CA TOTAL	101.0000	MG/L	G	JMM	9/11/96
00927A	MG	20.5000	MG/L	G	JMM	9/11/96
00929A	NA	16.7000	MG/L	G	JMM	9/11/96
00937A	K	29.1000	MG/L	G	MYM	9/10/96
00940A	CL	2.0000	MG/L	G	HEM	9/09/96
00945A	SO4 TOTAL	216.0000	MG/L	G	EVC	9/18/96
00951	FLUORIDE TOT	0.5400	MG/L	G	FFV	9/17/96
01002H	AS	< 4.0000	UG/L	G	WPK	9/09/96
01027H	CD	< 0.2000	UG/L	G	WPK	9/09/96
01034H	CR TOT	< 4.0000	UG/L	G	WPK	9/09/96
01042H	CU	< 4.0000	UG/L	G	WPK	9/09/96
01045A	FE	< 10.0000	UG/L	G	JMM	9/11/96
01051H	PB	< 1.0000	UG/L	G	WPK	9/09/96
01055H	MN	46.4000	UG/L	G	WPK	9/09/96
01067H	NI	< 4.0000	UG/L	G	WPK	9/09/96
01092H	ZN	< 5.0000	UG/L	G	WPK	9/09/96
01105H	AL	< 10.0000	UG/L	G	WPK	9/09/96
70508	T ACIDITY HT	0.0000	MG/L	G	B59	9/06/96
82079	TURBIDITY	< 1.0000	NTU	G	DHN	9/11/96

STATION 4 MTR 1 2825

COMMONWEALTH OF PENNSYLVANIA — PAGE: 1
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT — RECEIVED 9/06/96
FOR SAMPLE NUMBER H9648514 — REPORTED 9/23/96

COLLECTOR	S. BOSTJANCIC BWQM5	SAMPLING DATE	9/05/96
COLLECTOR NO.	0527405	SAMPLING TIME	14:30
ESTABLISHMENT		STANDARD ANAL	021
CASE NAME	ALLEGHENY/FINDLAY TWP	TYPE CODE	
FACILITY		WQN	
ID CODE		STREAM CODE	
		RIVER MILE IND	

TEST	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT	1204.0000		G	SLH	9/10/96
00314	BOD5 DAY INH	340.0000	MG/L	G	WET	9/12/96
00403	PH LAB	7.6000		G	HWS	9/09/96
00410	T ALK CACO3	384.0000	MG/L	G	HWS	9/09/96
00436	PH4	0.0000	MG/L	G	MRD	9/17/96
00500	RESIDUE TOT	950.0000	MG/L	G	DHN	9/10/96
00515	RES DISS/105	946.0000	MG/L	G	DHN	9/11/96
00530	RES TOT NONF	4.0000	MG/L	G	DHN	9/13/96
00610A	NH3-N	0.2800	MG/L	G	HEM	9/09/96
00615A	NO2-N	0.4400	MG/L	G	BLF	9/09/96
00620A	NO3-N	2.2000	MG/L	G	BLF	9/09/96
00665A	PHOS-TOTAL	0.0200	MG/L	G	CHR	9/20/96
00680	C TOT ORGANC	10.4000	MG/L	G	WVM	9/06/96
00900A	T HARD CACO3	518.0000	MG/L	G	EVC	9/12/96
00916A	CA TOTAL	175.0000	MG/L	G	JMM	9/11/96
00927A	MG	45.6000	MG/L	G	JMM	9/11/96
00929A	NA	75.7000	MG/L	G	JMM	9/11/96
00937A	K	11.0000	MG/L	G	MYM	9/10/96
00940A	CL	76.0000	MG/L	G	HEM	9/09/96
00945A	SO4 TOTAL	195.0000	MG/L	G	EVC	9/18/96
00951	FLUORIDE TOT	5.0000	MG/L	G	FFV	9/18/96
	COMMENT: INTERFERENCE					
01002H	AS	4.0000	UG/L	G	WPK	9/09/96
01027H	CD	0.2000	UG/L	G	WPK	9/09/96
01034H	CR TOT	4.0000	UG/L	G	WPK	9/09/96
01042H	CU	4.0000	UG/L	G	WPK	9/09/96
01045A	FE	322.0000	UG/L	G	JMM	9/11/96
01051H	PB	1.0000	UG/L	G	WPK	9/09/96
01055H	MN	381.0000	UG/L	G	WPK	9/09/96
01067H	NI	4.0000	UG/L	G	WPK	9/09/96
01092H	ZN	5.0000	UG/L	G	WPK	9/09/96
01105H	AL	11.1000	UG/L	G	WPK	9/09/96
70508	T ACIDITY HT	0.0000	MG/L	G	BSS	9/06/96

STATION 4 MTR 1 2901

COMMONWEALTH OF PENNSYLVANIA — PAGE: 1
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT — RECEIVED 9/05/96
FOR SAMPLE NUMBER H9648288 — REPORTED 9/19/96

COLLECTOR	S. BOSTJANCIC BWQM5	SAMPLING DATE	9/04/96
COLLECTOR NO.	0527384	SAMPLING TIME	8:30
ESTABLISHMENT	ALLEGHENY COUNTY	STANDARD ANAL	021
CASE NAME	IMPERIAL, PA	TYPE CODE	
FACILITY		WQN	
ID CODE		STREAM CODE	
		RIVER MILE IND	

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT		1580.0000		G	SLH	9/09/96
00314	BOD5 DAY INH		0.6000	MG/L	G	WET	9/10/96
00403	PH LAB		6.5000		G	HWS	9/05/96
00410	T ALK CACO3		52.0000	MG/L	G	HWS	9/05/96
00436	PH4		0.0000	MG/L	G	MRD	9/17/96
00500	RESIDUE TOT		1674.0000	MG/L	G	DHN	9/10/96
00515	RES DISS/105		1670.0000	MG/L	G	DHN	9/11/96
00530	RES TOT NONF		3.0000	MG/L	G	DHN	9/13/96
00610A	NH3-N		0.1100	MG/L	G	HEM	9/06/96
00615A	NO2-N	<	0.0040	MG/L	G	BLF	9/06/96
00620A	NO3-N		0.2900	MG/L	G	BLF	9/06/96
00665A	PHOS-TOTAL	<	0.0200	MG/L	G	CHR	9/17/96
00680	C TOT ORGANC		2.1000	MG/L	G	WVM	9/06/96
00900A	T HARD CACO3		923.0000	MG/L	G	EVC	9/12/96
00916A	CA TOTAL		245.0000	MG/L	G	CAG	9/09/96
00927A	MG		90.3000	MG/L	G	CAG	9/09/96
00929A	NA		45.9000	MG/L	G	CAG	9/09/96
00937A	K		7.4600	MG/L	G	MYM	9/10/96
00940A	CL		64.0000	MG/L	G	HEM	9/06/96
00945A	SO4 TOTAL		731.0000	MG/L	G	EVC	9/18/96
00951	FLUORIDE TOT		0.4400	MG/L	G	FFV	9/13/96
01002H	AS	<	4.0000	UG/L	G	BHL	9/06/96
01027H	CD	<	0.2000	UG/L	G	BHL	9/06/96
01034H	CR TOT	<	4.0000	UG/L	G	BHL	9/06/96
01042H	CU	<	4.0000	UG/L	G	BHL	9/06/96
01045A	FE		21[illegible].3000	UG/L	G	CAG	9/09/96
01051H	PB	<	1.0000	UG/L	G	BHL	9/06/96
01055H	MN		3030.0000	UG/L	G	BHL	9/06/96
01067H	NI		60.4000	UG/L	G	BHL	9/06/96
01092H	ZN		52.7000	UG/L	G	BHL	9/06/96
01105H	AL		455.0000	UG/L	G	BHL	9/06/96
70508	T ACIDITY HT		0.0000	MG/L	G	BSS	9/05/96
82079	TURBIDITY		2.3000	NTU	G	DHN	9/11/96

STATION 4 MTR 1 2904

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT
FOR SAMPLE NUMBER H9648517

RECEIVED 9/06/96
REPORTED 9/23/96

COLLECTOR S. BOSTJANCIC BWQMS
COLLECTOR NO. 0527396
ESTABLISHMENT
CASE NAME ALLEGHENY/FINDLAY TWP
FACILITY
ID CODE

SAMPLING DATE 9/05/96
SAMPLING TIME 7:50
STANDARD ANAL 021
TYPE CODE
WQN
STREAM CODE
RIVER MILE IND

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT		2210.0000		G	SLH	9/10/96
00314	BOD5 DAY INH		0.4000	MG/L	G	WET	9/12/96
00403	PH LAB		7.5000		G	HWS	9/09/96
00410	T ALK CACO3		206.0000	MG/L	G	HWS	9/09/96
00436	PH4		0.0000	MG/L	G	MRD	9/17/96
00500	RESIDUE TOT		444.0000	MG/L	G	DHN	9/10/96
00515	RES DISS/105		2388.0000	MG/L	G	DHN	9/11/96
00530	RES TOT NONF		4.0000	MG/L	G	DHN	9/13/96
00610A	NH3-N		0.0300	MG/L	G	HEM	9/09/96
00615A	NO2-N		0.0060	MG/L	G	BLF	9/09/96
00620A	NO3-N		0.1900	MG/L	G	BLF	9/09/96
00665A	PHOS-TOTAL	<	0.0200	MG/L	G	CHR	9/20/96
00680	C TOT ORGANC		3.2000	MG/L	G	WVM	9/06/96
00900A	T HARD CACO3		1312.0000	MG/L	G	EVC	9/12/96
00916A	CA TOTAL		320.0000	MG/L	G	CAG	9/12/96
00927A	MG		159.0000	MG/L	G	CAG	9/12/96
00929A	NA		67.9000	MG/L	G	CAG	9/12/96
00937A	K		12.1000	MG/L	G	MYM	9/10/96
00940A	CL		98.0000	MG/L	G	HEM	9/09/96
00945A	SO4 TOTAL		1026.0000	MG/L	G	EVC	9/18/96
00951	FLUORIDE TOT		0.2600	MG/L	G	FFV	9/17/96
01002H	AS	<	4.0000	UG/L	G	WPK	9/09/96
01027H	CD	<	0.2000	UG/L	G	WPK	9/09/96
01034H	CR TOT	<	4.0000	UG/L	G	WPK	9/09/96
01042H	CU	<	4.0000	UG/L	G	WPK	9/09/96
01045A	FE		63.0000	UG/L	G	CAG	9/12/96
01051H	PB	<	1.0000	UG/L	G	WPK	9/09/96
01055H	MN		48.8000	UG/L	G	WPK	9/09/96
01067H	NI		6.1000	UG/L	G	WPK	9/09/96
01092H	ZN		6.2000	UG/L	G	WPK	9/09/96
01105H	AL		58.9000	UG/L	G	WPK	9/09/96
70508	T ACIDITY HT		0.0000	MG/L	G	859	9/06/96
82079	TURBIDITY		1.4000	NTU	G	OHN	9/11/96

STATION 4 MTR 1 2908

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT
FOR SAMPLE NUMBER H9648515

RECEIVED 9/06/96
REPORTED 9/23/96

COLLECTOR S. BOSTJANCIC BWQM5
COLLECTOR NO. 0527394
ESTABLISHMENT
CASE NAME ALLEGHENY/FINDLAY TWP
FACILITY
ID CODE

SAMPLING DATE 9/05/96
SAMPLING TIME 7:20
STANDARD ANAL 021
TYPE CODE
WQN
STREAM CODE
RIVER MILE IND

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT		1426.0000		G	SLH	9/10/96
00310	BOD5 DAY INH		0.5000	MG/L	G	WET	9/12/96
00403	PH LAB		5.4000		G	HWS	9/09/96
00410	T ALK CACO3		9.2000	MG/L	G	HWS	9/09/96
00436	PH4		0.0000	MG/L	G	MRD	9/17/96
00500	RESIDUE TOT		1492.0000	MG/L	G	DHN	9/10/96
00515	RES DISS/105		1492.0000	MG/L	G	DHN	9/11/96
00530	RES TOT NONF	<	2.0000	MG/L	G	DHN	9/13/96
00610A	NH3-N		1.3000	MG/L	G	HEM	9/09/96
00615A	NO2-N		0.0100	MG/L	G	BLF	9/09/96
00620A	NO3-N		0.1200	MG/L	G	BLF	9/09/96
00665A	PHOS-TOTAL	<	0.0200	MG/L	G	CHR	9/20/96
00680	C TOT ORGANC		4.7000	MG/L	G	WVM	9/06/96
00900A	T HARD CACO3		761.0000	MG/L	G	EVC	9/12/96
00916A	CA TOTAL		185.0000	MG/L	G	CAG	9/12/96
00927A	MG		68.1000	MG/L	G	CAG	9/12/96
00929A	NA		54.8000	MG/L	G	CAG	9/12/96
00937A	K		10.9000	MG/L	G	MYM	9/10/96
00940A	CL		81.0000	MG/L	G	HEM	9/09/96
00945A	SO4 TOTAL		594.0000	MG/L	G	EVC	9/18/96
00951	FLUORIDE TOT		0.4400	MG/L	G	FFV	9/17/96
01002H	AS	<	4.0000	UG/L	G	WPK	9/09/96
01027H	CD		0.2000	UG/L	G	WPK	9/09/96
01034H	CR TOT	<	4.0000	UG/L	G	WPK	9/09/96
01042H	CU	<	4.0000	UG/L	G	WPK	9/09/96
01045A	FE		14900.0000	UG/L	G	CAG	9/12/96
01051H	PB		3.0000	UG/L	G	WPK	9/09/96
01055H	MN		6800.0000	UG/L	G	WPK	9/09/96
01067H	NI		61.8000	UG/L	G	WPK	9/09/96
01092H	ZN		115.0000	UG/L	G	WPK	9/09/96
01105H	AL		4620.0000	UG/L	G	WPK	9/09/96
70508	T ACIDITY HT		48.0000	MG/L	G	MRD	9/11/96
82079	TURBIDITY		43.5000	NTU	G	DHN	9/11/96

STATION 4 MTR 1 2910

COMMONWEALTH OF PENNSYLVANIA — PAGE: 1
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT — RECEIVED 9/05/96
FOR SAMPLE NUMBER H9648516 — REPORTED 9/25/96

COLLECTOR S. BOSTJANCIC BWQM5
COLLECTOR NO. 0527395
ESTABLISHMENT
CASE NAME ALLEGHENY/FINDLAY TWP
FACILITY
ID CODE

SAMPLING DATE 9/05/96
SAMPLING TIME 7:40
STANDARD ANAL 021
TYPE CODE
WQN
STREAM CODE
RIVER MILE IND

TEST	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT	1464.0000		G	SLH	9/10/96
00314	BOD5 DAY INH	1.5000	MG/L	G	WET	9/12/96
00403	PH LAB	6.4000		G	HWS	9/09/96
00410	T ALK CACO3	150.0000	MG/L	G	HWS	9/09/96
00436	PH4	0.0000	MG/L	G	MRD	9/17/96
00500	RESIDUE TOT	492.0000	MG/L	G	DHN	9/10/96
00515	RES DISS/105	1398.0000	MG/L	G	DHN	9/11/96
00530	RES TOT NONF	22.0000	MG/L	G	DHN	9/13/96
00610A	NH3-N	2.6000	MG/L	G	HEM	9/09/96
00615A	NO2-N	0.0100	MG/L	G	BLF	9/09/96
00620A	NO3-N	0.0800	MG/L	G	BLF	9/09/96
00665A	PHOS-TOTAL	0.0200	MG/L	G	CHR	9/20/96
00680	C TOT ORGANC	7.0000	MG/L	G	WVM	9/06/96
00900A	T HARD CACO3	702.0000	MG/L	G	EVC	9/12/96
00916A	CA TOTAL	162.0000	MG/L	G	CAG	9/12/96
00927A	MG	68.8000	MG/L	G	CAG	9/12/96
00929A	NA	63.6000	MG/L	G	CAG	9/12/96
00937A	K	16.0000	MG/L	G	MYM	9/10/96
00940A	CL	113.0000	MG/L	G	HEM	9/09/96
00945A	SO4 TOTAL	455.0000	MG/L	G	EVC	9/18/96
00951	FLUORIDE TOT	0.3200	MG/L	G	FFV	9/17/96
01002H	AS	< 4.0000	UG/L	G	WPK	9/09/96
01027H	CD	< 0.2000	UG/L	G	WPK	9/09/96
01034H	CR TOT	< 4.0000	UG/L	G	WPK	9/09/96
01042H	CU	< 4.0000	UG/L	G	WPK	9/09/96
01045A	FE	17900.0000	UG/L	G	CAG	9/12/96
01051H	PB	< 1.0000	UG/L	G	WPK	9/09/96
01055H	MN	4730.0000	UG/L	G	WPK	9/09/96
01067H	NI	16.1000	UG/L	G	WPK	9/09/96
01092H	ZN	14.1000	UG/L	G	WPK	9/09/96
01105H	AL	102.0000	UG/L	G	WPK	9/09/96
70508	T ACIDITY HT	0.0000	MG/L	G	MRD	9/11/96
82079	TURBIDITY	184.8000	NTU	G	DHN	9/11/96

STATION 4 MTR 1 2912

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

PAGE: 1

LABORATORY REPORT
FOR SAMPLE NUMBER H9648298

RECEIVED 9/05/96
REPORTED 9/30/96

COLLECTOR [redacted]
COLLECTOR NO. 0527393
ESTABLISHMENT [redacted]
CASE NAME [redacted]
FACILITY
ID CODE

SAMPLING DATE [redacted]
SAMPLING TIME 15:00
STANDARD ANAL 021
TYPE CODE
WQN
STREAM CODE
RIVER MILE IND

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT		1780.0000		G	SLH	9/09/96
00314	BOD5 DAY INH		0.3000	MG/L	G	WET	9/10/96
00403	PH LAB		2.9000		G	HWS	9/05/96
00410	T ALK CACO3		0.0000	MG/L	G	HWS	9/05/96
00436	PH4		92.0000	MG/L	G	MRD	9/17/96
00500	RESIDUE TOT		1692.0000	MG/L	G	DHN	9/10/96
00515	RES DISS/105		1685.0000	MG/L	G	DHN	9/11/96
00530	RES TOT NONF		7.0000	MG/L	G	DHN	9/13/96
00610A	NH3-N		1.2500	MG/L	G	HEM	9/06/96
00615A	NO2-N	<	0.0040	MG/L	G	BLF	9/06/96
00620A	NO3-N	<	0.0400	MG/L	G	BLF	9/06/96
00665A	PHOS-TOTAL	<	0.0200	MG/L	G	CHR	9/17/96
00680	C TOT ORGANC		2.0000	MG/L	G	WVM	9/06/96
00900A	T HARD CACO3		707.0000	MG/L	G	EVC	9/27/96
00916A	CA TOTAL		139.0000	MG/L	G	MRO	9/09/96
00927A	MG		54.0000	MG/L	G	MRO	9/09/96
00929A	NA		31.3000	MG/L	G	MRO	9/09/96
00937A	K		9.6700	MG/L	G	MYM	9/10/96
00940A	CL		50.0000	MG/L	G	HEM	9/06/96
00945A	SO4 TOTAL		575.0000	MG/L	G	EVC	9/18/96
00951	FLUORIDE TOT		0.6400	MG/L	G	FFV	9/17/96
01002H	AS	<	4.0000	UG/L	G	WPK	9/09/96
01027H	CD	<	0.2000	UG/L	G	WPK	9/09/96
01034H	CR TOT	<	4.0000	UG/L	G	WPK	9/09/96
01042H	CU	<	4.0000	UG/L	G	WPK	9/09/96
01045A	FE		9170.0000	UG/L	G	MRO	9/09/96
01051H	PB		1.9000	UG/L	G	WPK	9/09/96
01055H	MN		9620.0000	UG/L	G	WPK	9/09/96
01067H	NI		137.0000	UG/L	G	WPK	9/09/96
01092H	ZN		284.0000	UG/L	G	WPK	9/09/96
01105H	AL		10500.0000	UG/L	G	WPK	9/09/96
70508	T ACIDITY HT		212.0000	MG/L	G	MRD	9/09/96
82079	TURBIDITY	<	1.0000	NTU	G	DHN	9/11/96

STATION 4 MTR 1 2001

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT
FOR SAMPLE NUMBER H9648287

RECEIVED 9/05/96
REPORTED 9/19/96

COLLECTOR S. BOSTJANCIC BWQMS
COLLECTOR NO. 0527383
ESTABLISHMENT ALLEGHENY COUNTY
CASE NAME IMPERIAL, PA
FACILITY
ID CODE

SAMPLING DATE 9/04/96
SAMPLING TIME 8:20
STANDARD ANAL 021
TYPE CODE
WQN
STREAM CODE
RIVER MILE IND

TEST	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT	1645.0000		G	SLH	9/09/96
00314	BOD5 DAY INH	0.6000	MG/L	G	WET	9/10/96
00403	PH LAB	6.7000		G	HWS	9/05/96
00410	T ALK CACO3	80.0000	MG/L	G	HWS	9/05/96
00436	PH4	0.0000	MG/L	G	MRD	9/17/96
00500	RESIDUE TOT	1866.0000	MG/L	G	DHN	9/10/96
00515	RES DISS/105	1866.0000	MG/L	G	DHN	9/11/96
00530	RES TOT NONF <	2.0000	MG/L	G	DHN	9/13/96
00610A	NH3-N	0.0200	MG/L	G	HEM	9/06/96
00615A	NO2-N	0.0040	MG/L	G	BLF	9/06/96
00620A	NO3-N	0.4800	MG/L	G	BLF	9/06/96
00665A	PHOS-TOTAL	0.0200	MG/L	G	CHR	9/17/96
00680	C TOT ORGANC	2.1000	MG/L	G	WVM	9/06/96
00900A	T HARD CACO3	959.0000	MG/L	G	EVC	9/12/96
00916A	CA TOTAL	282.0000	MG/L	G	CAG	9/09/96
00927A	MG	91.1000	MG/L	G	CAG	9/09/96
00929A	NA	41.5000	MG/L	G	CAG	9/09/96
00937A	K	5.5500	MG/L	G	MYM	9/10/96
00940A	CL	51.0000	MG/L	G	HEM	9/06/96
00945A	SO4 TOTAL	765.0000	MG/L	G	EVC	9/18/96
00951	FLUORIDE TOT	0.3500	MG/L	G	FFV	9/13/96
01002H	AS	4.0000	UG/L	G	BHL	9/05/96
01027H	CD	0.2000	UG/L	G	BHL	9/05/96
01034H	CR TOT	4.0000	UG/L	G	BHL	9/05/96
01042H	CU	4.0000	UG/L	G	BHL	9/05/96
01045A	FE	124.0000	UG/L	G	CAG	9/09/96
01051H	PB	1.0000	UG/L	G	BHL	9/05/96
01055H	MN	196.0000	UG/L	G	BHL	9/05/96
01067H	NI	3.3000	UG/L	G	BHL	9/05/96
01092H	ZN	.7000	UG/L	G	BHL	9/05/96
01105H	AL	70.8000	UG/L	G	BHL	9/05/96
70508	T ACIDITY HT	0.0000	MG/L	G	BHL	9/05/96
82079	TURBIDITY	1.0000	NTU	G	DHN	9/11/96

STATION 4 MTR 1 2004

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

PAGE: 1

LABORATORY REPORT
FOR SAMPLE NUMBER M9648518

RECEIVED 9/06/96
REPORTED 9/23/96

COLLECTOR S. BOSTJANCIC BWQMS
COLLECTOR NO. 0527397
ESTABLISHMENT
CASE NAME ALLEGHENY/FINDLAY TWP/
FACILITY N. FAYETTE
ID CODE

SAMPLING DATE 9/05/96
SAMPLING TIME 8:25
STANDARD ANAL 021
TYPE CODE
WQN
STREAM CODE
RIVER MILE IND

TEST	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT	1368.0000		G	SLH	9/10/96
00314	BOD5 DAY INH	0.8000	MG/L	G	WET	9/12/96
00403	PH LAB	6.0000		G	HWS	9/09/96
00410	T ALK CACO3	18.0000	MG/L	G	HWS	9/09/96
00436	PH4	0.0000	MG/L	G	MRD	9/17/96
00500	RESIDUE TOT	460.0000	MG/L	G	DHN	9/10/96
00515	RES DISS/105	1398.0000	MG/L	G	DHN	9/11/96
00530	RES TOT NONF	14.0000	MG/L	G	DHN	9/13/96
00610A	NH3-N	0.1800	MG/L	G	HEM	9/09/96
00615A	NO2-N	0.0100	MG/L	G	BLF	9/09/96
00620A	NO3-N	0.3900	MG/L	G	BLF	9/09/96
00665A	PHOS-TOTAL	0.0200	MG/L	G	CHR	9/20/96
00680	C TOT ORGANC	1.8000	MG/L	G	WVM	9/06/96
00900A	T HARD CACO3	746.0000	MG/L	G	EVC	9/12/96
00916A	CA TOTAL	174.0000	MG/L	G	JMM	9/11/96
00927A	MG	54.6000	MG/L	G	JMM	9/11/96
00929A	NA	57.3000	MG/L	G	JMM	9/11/96
00937A	K	3.1600	MG/L	G	MYM	9/10/96
00940A	CL	95.0000	MG/L	G	HEM	9/09/96
00945A	SO4 TOTAL	489.0000	MG/L	G	EVC	9/18/96
00951	FLUORIDE TOT	0.4300	MG/L	G	FFV	9/17/96
01002H	AS	4.0000	UG/L	G	WPK	9/09/96
01027H	CD	0.8000	UG/L	G	WPK	9/09/96
01034H	CR TOT	4.0000	UG/L	G	WPK	9/09/96
01042H	CU	4.0000	UG/L	G	WPK	9/09/96
01045A	FE	1350.0000	UG/L	G	JMM	9/11/96
01051H	PB	1.0000	UG/L	G	WPK	9/09/96
01055H	MN	1740.0000	UG/L	G	WPK	9/09/96
01067H	NI	91.6000	UG/L	G	WPK	9/09/96
01092H	ZN	140.0000	UG/L	G	WPK	9/09/96
01105H	AL	1740.0000	UG/L	G	WPK	9/09/96
70508	T ACIDITY HT	0.4000	MG/L	G	MRD	9/11/96
82079	TURBIDITY	13.8000	NTU	G	DHN	9/11/96

STATION 4 MTR 1 2006

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT — RECEIVED 9/06/96
FOR SAMPLE NUMBER 49648519 — REPORTED 9/20/96

COLLECTOR S. BOSTJANCIC BWQM5
COLLECTOR NO. 0527398
ESTABLISHMENT
CASE NAME ALLEGHENY/FINDLAY TWP/
FACILITY N. FAYETTE
ID CODE

SAMPLING DATE 9/05/96
SAMPLING TIME 8:50
STANDARD ANAL 021
TYPE CODE
WQN
STREAM CODE
RIVER MILE IND

TEST	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT	1890.0000		G	SLH	9/10/96
00314	BOD5 DAY INH	0.4000	MG/L	G	WET	9/12/96
00403	PH LAB	6.7000		G	HWS	9/09/96
00410	T ALK CACO3	100.0000	MG/L	G	HWS	9/09/96
00436	PH4	0.0000	MG/L	G	MRD	9/17/96
00500	RESIDUE TOT	470.0000	MG/L	G	DHN	9/10/96
00515	RES DISS/105	2066.0000	MG/L	G	DHN	9/11/96
00530	RES TOT NONF	8.0000	MG/L	G	DHN	9/13/96
00610A	NH3-N	0.1600	MG/L	G	HEM	9/09/96
00615A	NO2-N	0.0420	MG/L	G	BLF	9/09/96
00620A	NO3-N	0.7900	MG/L	G	BLF	9/09/96
00665A	PHOS-TOTAL	0.0200	MG/L		CHR	9/20/96
00680	C TOT ORGANC	2.0000	MG/L	G	WVM	9/06/96
00900A	T HARD CACO3	1218.0000	MG/L	G	EVC	9/12/96
00916A	CA TOTAL	315.0000	MG/L	G	JMM	9/11/96
00927A	MG	89.0000	MG/L	G	JMM	9/11/96
00929A	NA	37.1000	MG/L	G	JMM	9/11/96
00937A	K	7.1900	MG/L	G	MYM	9/10/96
00940A	CL	45.0000	MG/L	G	HEM	9/09/96
00945A	SO4 TOTAL	1008.0000	MG/L	G	EVC	9/18/96
00951	FLUORIDE TOT	0.2500	MG/L	G	FFV	9/17/96
01002H	AS	4.0000	UG/L	G	WPK	9/09/96
01027H	CD	0.2000	UG/L	G	WPK	9/09/96
01034H	CR TOT	4.0000	UG/L	G	WPK	9/09/96
01042H	CU	4.0000	UG/L	G	WPK	9/09/96
01045A	FE	407.0000	UG/L	G	JMM	9/11/96
01051H	PB	1.0000	UG/L	G	WPK	9/09/96
01055H	MN	2350.0000	UG/L	G	WPK	9/09/96
01067H	NI	13.7000	UG/L	G	WPK	9/09/96
01092H	ZN	7.1000	UG/L	G	WPK	9/09/96
01105H	AL	64.2000	UG/L	G	WPK	9/09/96
70509	T ACIDITY MT	0.0000	MG/L	G	359	9/06/96
	TURBIDITY	3.1000	NTU	G	DHN	9/11/96

STATION 4 MTR 1 2010

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT — RECEIVED 9/06/96
FOR SAMPLE NUMBER H9648510 — REPORTED 9/20/96

COLLECTOR S. BOSIJANCIC BWQM5
COLLECTOR NO. 0527399
ESTABLISHMENT
CASE NAME ALLEGHENY/FINDLAY TWP/
FACILITY N. FAYETTE
ID CODE

SAMPLING DATE 9/05/96
SAMPLING TIME 9:10
STANDARD ANAL 071
TYPE CODE
WQN
STREAM CODE
RIVER MILE IND

TEST	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT	1542.0000		G	SLH	9/10/96
00310	BOD5 DAY INH	0.8000	MG/L	G	WET	9/12/96
00403	PH LAB	6.6000		G	HWS	9/09/96
00410	T ALK CACO3	112.0000	MG/L	G	HWS	9/09/96
00436	PH4	0.0000	MG/L	G	MRO	9/17/96
00500	RESIDUE TOT	1458.0000	MG/L	G	DHN	9/10/96
00515	RES DISS/105	1562.0000	MG/L	G	DHN	9/11/96
00530	RES TOT NONF	12.0000	MG/L	G	DHN	9/13/96
00610A	NH3-N	0.0300	MG/L	G	HEM	9/09/96
00615A	NO2-N	0.0080	MG/L	G	BLF	9/09/96
00620A	NO3-N	0.2800	MG/L	G	BLF	9/09/96
00665A	PHOS-TOTAL	0.0400	MG/L	G	CHR	9/20/96
00680	C TOT ORGANC	3.2000	MG/L	G	WVM	9/09/96
00900A	T HARD CACO3	988.0000	MG/L	G	EVC	9/12/96
00916A	CA TOTAL	222.0000	MG/L	G	MRO	9/09/96
00927A	MG	105.0000	MG/L	G		9/09/96
00929A	NA	32.7000	MG/L	G	MRO	9/09/96
00937A	K	8.4400	MG/L	G	MYM	9/10/96
00940A	CL	24.0000	MG/L	G	HEM	9/09/96
00945A	SO4 TOTAL	793.0000	MG/L	G	EVC	9/18/96
00951	FLUORIDE TOT	0.6200	MG/L	G	FFV	9/17/96
01002H	AS	4.0000	UG/L	G	WPK	9/09/96
01027H	CD	0.2000	UG/L	G	WPK	9/09/96
01034H	CR TOT	4.0000	UG/L	G	WPK	9/09/96
01042H	CU	4.0000	UG/L	G	WPK	9/09/96
01045A	FE	681.0000	UG/L	G	MRO	9/09/96
01051H	PB	1.0000	UG/L	G	WPK	9/09/96
01055H	MN	528.0000	UG/L	G	WPK	9/09/96
01067H	NI	4.0000	UG/L	G	WPK	9/09/96
01092H	ZN	10.2000	UG/L	G	WPK	9/09/96
01105H	AL	256.0000	UG/L	G		9/09/96
70505	T ACIDITY HT	0.0000	MG/L	G	BSG	9/06/96
82079	TURBIDITY	7.3000	NTU	G	DHN	9/11/96

STATION 4 MTR 1 2012

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT — RECEIVED 9/06/96
FOR SAMPLE NUMBER H9648512 — REPORTED 9/23/96

COLLECTOR S. BOSTJANCIC BWQM5
COLLECTOR NO. 0527401
ESTABLISHMENT
CASE NAME ALLEGHENY/FINDLAY
FACILITY N. FAYETTE TWPS.
ID CODE

SAMPLING DATE 9/05/96
SAMPLING TIME 9:40
STANDARD ANAL 021
TYPE CODE
WQN
STREAM CODE
RIVER MILE IND

	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT	1913.0000		G	SLH	
00310	BOD5 DAY INH	1.2000	MG/L	G	WET	
00403	PH LAB	5.7000		G	HWS	9/09/96
00410	T ALK CACO3	7.5000	MG/L	G	HWS	9/09/96
00436	PH4	0.0000	MG/L	G	MRD	9/17/96
00500	RESIDUE TOT	1676.0000	MG/L	G	DHN	9/10/96
00515	RES DISS/105	2152.0000	MG/L	G	DHN	9/11/96
00530	RES TOT NONF	18.0000	MG/L	G	DHN	9/13/96
00610A	NH3-N	3.3300	MG/L	G	HEM	9/09/96
00615A	NO2-N	0.0060	MG/L	G	BLF	9/09/96
00620A	NO3-N	0.1500	MG/L	G	BLF	9/09/96
00665A	PHOS-TOTAL	0.0200	MG/L	G	CHR	9/20/96
00680	C TOT ORGANC	2.3000	MG/L	G	WVM	9/09/96
00900A	T HARD CACO3	1303.0000	MG/L	G	EVC	9/12/96
00916A	CA TOTAL	276.0000	MG/L	G	REW	9/09/96
00927A	MG	97.5000	MG/L	G	REW	9/09/96
00929A	NA	25.2000	MG/L	G	REW	9/09/96
00937A	K	11.4000	MG/L	G	MYM	9/10/96
00940A	CL	58.0000	MG/L	G	HEM	9/09/96
00945A	SO4 TOTAL	90.0000	MG/L		EVC	9/13/96
00951	FLUORIDE TOT	0.2200	MG/L		FFV	9/17/96
01002H	AS	4.0000	UG/L	G	WPK	9/09/96
01027H	CD	0.2000	UG/L	G	WPK	9/09/96
01034H	CR TOT	4.0000	UG/L	G	WPK	9/09/96
	CU	4.0000	UG/L	G	WPK	9/09/96
01045A	FE	15300.0000	UG/L	G	REW	9/09/96
01051H	PB	1.0000	UG/L	G	WPK	9/09/96
01055H		8710.0000	UG/L	G	WPK	9/09/96
01067H	NI	46.3000	UG/L	G	WPK	9/09/96
01092H		47.8000	UG/L	G	WPK	9/09/96
01105H	AL	593.0000	UG/L	G	WPK	9/09/96
70508	T ACIDITY HT	44.0000	MG/L	G	MRD	9/11/96
82079	TURBIDITY	19.6000	NTU	G	DHN	9/11/96

STATION 4 MTR 1 2014

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT — RECEIVED 9/06/96
FOR SAMPLE NUMBER H9643521 — REPORTED 9/13/96

COLLECTOR S. BOSTJANCIC BWQM5
COLLECTOR NO. 0527400
ESTABLISHMENT
CASE NAME ALLEGHENY/FINDLAY TWP
FACILITY
ID CODE

SAMPLING DATE 9/05/96
SAMPLING TIME 9:30
STANDARD ANAL 021
TYPE CODE

STREAM CODE
RIVER MILE IND

	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT	2610.0000		G	SLH	9/10/96
00310	BOD5 DAY INH	0.5000	MG/L	G	WET	9/12/96
00403	PH LAB	7.6000		G	HWS	9/09/96
00410	T ALK CACO3	256.0000	MG/L	G	HWS	9/09/96
00436	PH4	0.0000	MG/L	G	MRO	9/17/96
00500	RESIDUE TOT	1504.0000	MG/L	G	DHN	9/10/96
00515	RES DISS/105	3096.0000	MG/L	G	DHN	9/11/96
00530	RES TOT NONF	8.0000	MG/L	G	DHN	9/13/96
00610A	NH3-N	0.0200	MG/L	G	HEM	9/09/96
00615A	NO2-N	0.0060	MG/L	G	BLF	9/09/96
00620A	NO3-N	0.0600	MG/L	G	BLF	9/09/96
00665A	PHOS-TOTAL	0.0200	MG/L	G	CHR	9/20/96
00680	C TOT ORGANC	3.0000	MG/L	G	WVM	9/09/96
00900A	T HARD CACO3	1847.0000	MG/L	G	EVC	9/12/96
00916A	CA TOTAL	485.0000	MG/L	G	MRO	9/09/96
00927A	MG	202.0000	MG/L	G	MRO	9/09/96
00929A	NA	44.0000	MG/L	G	MRO	9/09/96
00937A	K	7.4000	MG/L	G	MYM	9/10/96
00940A	CL	35.0000	MG/L	G	HEM	9/09/96
00945A	SO4 TOTAL	339.0000	MG/L	G	EVC	9/13/96
00951	FLUORIDE TOT	0.3100	MG/L	G	FFV	9/17/96
	AS	4.0000	UG/L	G	WPK	9/09/96
01027H	CD	0.2000	UG/L	G	WPK	9/09/96
01034H	CR TOT	4.0000	UG/L	G	WPK	9/09/96
01042H	CU	4.0000	UG/L	G	WPK	9/09/96
01045A	FE	303.0000	UG/L	G	MRO	9/09/96
01051H	PB	1.0000	UG/L	G	WPK	9/09/96
01055H	MN	1070.0000	UG/L	G	WPK	9/09/96
01067H	NI	5.5000	UG/L	G	WPK	9/09/96
01092H	ZN	5.0000	UG/L	G	WPK	9/09/96
01105H	AL	91.5000	UG/L	G	WPK	9/09/96
70538	T ACIDITY HT	0.0000	MG/L	G	B59	9/06/96
82079	TURBIDITY	2.4000	NTU	G	DHN	9/11/96

APPENDIX C

MONTOUR RUN WATERSHED
RESULTS OF APRIL AND MAY 1996
RAPID INVERTEBRATE BIOLOGICAL ASSESSMENT
(20 MINUTES SAMPLING/STATION)

APPENDIX C
MONTOUR RUN WATERSHED
RESULTS OF APRIL AND MAY 1996 RAPID INVERTEBRATE BIOLOGICAL ASSESSMENTS
(20 MINUTE SAMPLING STATION)

	Montour Run				Meeks Run	Holt Run	Salamander Run	Grimm Run
	Mile 0.1	Mile 2.8	Mile 6. 6	Mile 11.7				
Phylumn								
Class								
Order								
Suborder								
Family								
Genius								
Arthropoda	-	-	-	-	-	-	-	-
Insecta	-	-	-	-	-	-	-	-
Ephemeroptera	-	-	-	-	-	-	-	-
Baetidae	-	-	-	-	-	-	-	-
Baetis sp.	-	-	-	-	1	3	-	-
Ephemerllidae	-	-	-	-	-	-	-	-
Ephemerella sp.	-	-	-	-	7	17	-	-
Heptagenlidae	-	-	-	-	-	-	-	-
Epeorus sp.	-	-	-	-	13	273	-	-
Stenonema sp.	-	-	-	-	-	-	-	-
Leptophlebiidae	-	-	-	-	-	-	-	-
Paraleptophlebia sp.	-	-	-	-	-	-	-	-
Caenidae	-	-	-	-	-	-	-	-
Caenis sp.	-	1	-	-	3	-	-	-
Odonata	-	-	-	-	-	-	-	-
Anisoptera	-	-	-	2	-	-	-	1
Aeshnidae	-	-	-	-	-	-	1	-
Zygoptera	-	-	-	-	-	-	-	-
Calopterygidae	-	-	-	-	-	-	1	-
Coenagrionidae	-	-	-	-	-	-	-	-
Plecoptera	-	-	-	-	-	-	-	-
Chloroperlidae	-	-	-	-	-	7	-	-
Suwallia sp.	-	-	-	-	-	-	-	-
Nemouridae	-	-	-	-	-	-	-	-
Amphinemura sp.	-	-	-	-	-	20	-	-
Perlodidae	-	-	-	-	-	-	-	-
Isoperla sp.	-	-	-	-	8	19	-	14
Hemiptera	-	-	-	-	-	-	-	-
Gerridae	-	-	-	-	-	5	5	-
Trichoptera	-	-	-	-	-	-	-	-
Hydropsychidae	-	-	-	-	-	-	-	-
Cheumatopsyche sp.	-	-	-	12	8	-	28	16
Diplectrona sp.	-	-	-	-	4	46	-	-
Hydropsyche sp.	-	-	-	4	-	-	7	4
Hydropsyche morosa	-	1	-	-	3	-	1	-
Hydropsyche betteni	-	-	-	-	-	-	-	-
Philopotamidae	-	-	-	-	-	-	-	-
Chimarra sp.	-	-	-	-	2	-	-	2
Limnephilidae	-	-	-	-	-	-	-	-
Goera sp.	-	-	-	-	-	1	-	-
Uenoidae	-	-	-	-	-	-	-	-
Neophylax sp.	-	-	-	-	23	1	-	-
Rhyacophilidae	-	-	-	-	-	-	-	-
Rhyacophila sp.	-	-	-	-	-	17	-	-
Coleoptera	-	-	-	-	-	-	-	-
Elmidae	-	1	-	4	-	1	-	6

APPENDIX C (con't)
MONTOUR RUN WATERSHED
RESULTS OF APRIL AND MAY 1996 RAPID INVERTEBRATE
BIOLOGICAL ASSESSMENTS
(20 MINUTE SAMPLING STATION)

	Montour Run				Meeks Run	Holt Run	Salamander Run	Grimm Run
	Mile 0.1	Mile 2.8	Mile 6.6	Mile 11.7				
Phylumn								
Class								
Order								
Suborder								
Family								
Genius								
Megaloptera	-	-	-	-	-	-	-	-
Corydalidae	-	-	-	-	-	-	-	-
Nigronia sp.	-	-	-	-	-	-	3	-
Sialidae	-	-	-	-	-	-	-	-
Sialis sp.	1	-	-	-	1	-	1	-
Diptera	-	-	-	-	-	-	-	-
Chironomidae	1	1	8	5	5	37	75	166
Chironomus	16	2	-	-	-	1	5	10
Empididae	-	-	-	-	-	-	-	-
Hemerodromia sp.	-	-	-	-	-	-	-	-
Chelifera sp.	-	-	-	-	-	1	-	-
Ceratopogonidae	-	-	-	-	-	-	1	-
Tipulidae	-	-	-	-	-	-	-	-
Tipula sp.	-	-	-	2	6	5	12	6
Hexatoma sp.	-	-	-	-	-	-	-	-
Tabanidae	-	-	-	-	-	-	-	-
Crustacea	-	-	-	-	-	-	-	-
Amphipoda	-	-	-	-	-	-	-	-
Gammaridae	-	-	-	-	-	-	-	-
Gammarus sp.	1	10	-	2	80	71	17	4
Isopoda	-	-	-	-	-	-	-	-
Asellidae	-	-	-	-	-	-	-	-
Caecidotea sp.	-	-	-	8	19	9	17	16
Decapoda	-	-	-	-	-	-	-	-
Cambaridae	-	1	-	1 dead	3	1	2	-
Mollusca	-	-	-	-	-	-	-	-
Gastropoda	-	-	-	-	-	-	-	-
Physidae	-	2	-	empty shell	-	-	-	2
Annelida	-	-	-	-	-	-	-	-
Oligochaeta	2	24	34	13	1	2	1	1
Hirudinea	-	-	-	-	-	-	-	-
Turbellaria	-	-	-	-	3	-	-	4
Acariformes	-	-	-	-	-	-	-	-
Hydrachnidae	-	-	-	4	-	-	-	-
Total Number Taxa	5	9	2	10	18	20	16	14
Total Number of Organisms	21	43	42	58	190	538	177	252
Total Number of ETP Taxa*	0	2	0	2	10	10	3	4
Total Number of EPT Organisms	0	2	0	16	72	404	36	36
Percent ETP Organisms	0	4.7	0	27.6	38	75.1	20.3	14.3
Percent A & C Organisms**	90.5	63	100	31	3.2	7.6	45.8	70.2

*ETP = Ephemeroptera, Trichoptera and Plecoptera

**A & C = Annelida and Chironomidae

APPENDIX C (con't)
MONTOUR RUN WATERSHED
RESULTS OF APRIL AND MAY 1996 RAPID INVERTEBRATE
BIOLOGICAL ASSESSMENTS
(20 MINUTE SAMPLING STATION)

	Trout Run	McClaren Run at Mouth	West Fork McClaren Run	East Fork McClaren Run	Milk Run	Enlow Run
Phylumn						
Class						
Order						
Suborder						
Family						
Genius						
Arthropoda	-	-	-	-	-	-
Insecta	-	-	-	-	-	-
Ephemeroptera	-	-	-	-	-	-
Baetidae	-	-	-	-	-	-
Baetis sp.	5	-	-	-	-	-
Ephemerllidae	-	-	-	-	-	-
Ephemerella sp.	23	-	-	-	-	-
Heptageniidae	-	-	-	-	-	-
Epeorus sp.	18	-	-	-	-	-
Stenonema sp.	3	-	-	-	-	-
Leptophlebiidae	-	-	-	-	-	-
Paraleptophlebia sp.	3	-	-	-	-	-
Caenidae	-	-	-	-	-	-
Caenis sp.	-	-	-	-	-	-
Odonata	-	-	-	-	-	-
Anisoptera	-	-	-	-	-	-
Aeshnidae	-	-	-	-	-	-
Zygoptera	-	-	-	-	-	-
Calopterygidae	-	-	-	-	-	-
Coenagrionidae	-	-	-	1	-	-
Plecoptera	-	-	-	-	-	-
Chloroperlidae	14	-	-	-	-	-
Suwallia sp.	-	-	-	-	-	-
Nemouridae	-	-	-	-	-	-
Amphinemura sp.	-	-	-	-	-	-
Perlodidae	-	-	-	-	-	-
Isoperla sp.	18	-	-	-	-	-
Hemiptera	-	-	-	-	-	-
Gerridae	1	-	-	-	2	-
Trichoptera	-	-	-	-	-	-
Hydropsychidae	-	-	-	-	-	-
Cheumatopsyche sp.	8	-	-	181	-	2
Diplectrona sp.	-	-	-	-	-	-
Hydropsyche sp.	-	-	-	-	2	-
Hydropsyche morosa	-	-	-	7	-	-
Hydropsyche betteni	-	-	-	57	-	-
Philopotamidae	-	-	-	-	-	-
Chimarra sp.	-	-	-	-	-	-
Limnephilidae	-	-	-	-	-	-
Goera sp.	-	-	-	-	-	-
Uenoidae	-	-	-	-	-	-
Neophylax sp.	5	-	-	-	-	-
Rhyacophilidae	-	-	-	-	-	-
Rhyacophila sp.	4	-	-	-	-	-
Coleoptera	-	-	-	-	-	-
Elmidae	1	-	-	-	6	-

APPENDIX C (con't)
MONTOUR RUN WATERSHED
RESULTS OF APRIL AND MAY 1996 RAPID INVERTEBRATE
BIOLOGICAL ASSESSMENTS
(20 MINUTE SAMPLING STATION)

	Trout Run	McClaren Run at Mouth	West Fork McClaren Run	East Fork McClaren Run	Milk Run	Enlow Run
Phylumn						
Class						
Order						
Suborder						
Family						
Genius						
Megaloptera	-	-	-	-	-	-
Corydalidae	-	-	-	-	-	-
Nigronia sp.	2	-	-	-	1	-
Sialidae	-	-	-	-	-	-
Sialis sp.	-	1	-	-	-	6
Diptera	-	-	-	-	-	-
Chironomidae	5	13	23	351	3	58
Chironominae	1	79	20	-	1	10
Empididae	-	-	-	-	-	-
Hemerodromia sp.	-	-	-	4	-	-
Chelifera sp.	-	-	-	-	-	-
Ceratopogonidae	-	-	-	-	-	-
Tipulidae	-	-	-	-	-	-
Tipula sp.	5	-	-	1	1	-
Hexatoma sp.	-	-	-	-	-	-
Tabanidae	-	-	-	-	-	-
Crustacea	-	-	-	-	-	-
Amphipoda	-	-	-	-	-	-
Gammaridae	-	-	-	-	-	-
Gammarus sp.	13	-	-	2	-	-
Isopoda	-	-	-	-	-	-
Asellidae	-	-	-	-	-	-
Caecidotea sp.	1	-	-	769	11	2
Decapoda	-	-	-	-	-	-
Cambaridae	1	-	-	-	2	-
Mollusca	-	-	-	-	-	-
Gastropoda	-	-	-	-	-	-
Physidae	-	-	-	5	-	-
Annelida	-	-	-	-	-	-
Oligochaeta	5	4	982	4	-	14
Hirudinea	-	2	-	2	-	-
Turbellaria	-	-	-	-	-	-
Acariformes	-	-	-	-	-	-
Hydrachnidae	-	-	-	-	-	-
Total Number Taxa	20	5	3	12	9	6
Total Number of Organisms	136	98	1022	1424	29	92
Total Number of ETP Taxa*	10	0	0	3	1	1
Total Number of EPT Organisms	101	0	0	245	2	2
Percent ETP Organisms	74.3	0	0	17.2	6.9	2.2
Percent A & C Organisms**	8.1	98.9	100	27.9	13.8	89.1

*ETP = Ephemeroptera, Trichoptera and Plecoptera
**A & C = Annelida and chironomidae

APPENDIX C (con't)
MONTOUR RUN WATERSHED
RESULTS OF APRIL AND MAY 1996 RAPID INVERTEBRATE
BIOLOGICAL ASSESSMENTS
(20 MINUTE SAMPLING STATION)

	West Fork Enlow Run	East Fork Enlow Run	North Fork Montour Run	South Fork Montour Run
Phylumn Class Order Suborder Family Genius				
Arthropoda	-	-	-	-
Insecta	-	-	-	-
Ephemeroptera	-	-	-	-
Baetidae	-	-	-	-
Baetis sp.	-	-	-	-
Ephemerllidae	-	-	-	-
Ephemerella sp.	-	-	-	-
Heptageniidae	-	-	-	-
Epeorus sp.	-	-	-	-
Stenonema sp.	-	-	-	-
Leptophlebiidae	-	-	-	-
Paraleptophlebia sp.	-	-	-	-
Caenidae	-	-	-	-
Caenis sp.	-	-	-	-
Odonata	-	-	-	-
Anisoptera	-	-	-	-
Aeshnidae	-	-	-	-
Zygoptera	-	-	-	-
Calopterygidae	-	-	1	2
Coenagrionidae	-	-	-	1
Plecoptera	-	-	-	-
Chloroperlidae	-	-	-	-
Suwallia sp.	-	-	-	-
Nemouridae	-	-	-	-
Amphinemura sp.	-	-	-	-
Perlodidae	-	-	-	-
Isoperla sp.	7	-	-	-
Hemiptera	-	-	-	-
Gerridae	-	-	-	-
Trichoptera	-	-	-	-
Hydropsychidae	-	-	-	-
Cheumatopsyche sp.	9	-	3	6
Diplectrona sp.	-	-	-	-
Hydropsyche sp.	-	-	-	-
Hydropsyche morosa	-	-	-	9
Hydropsyche betteni	1	-	1	-
Philopotamidae	-	-	-	-
Chimarra sp.	-	-	-	-
Limnephilidae	-	-	-	-
Goera sp.	-	-	-	-
Uenoidae	-	-	-	-
Neophylax sp.	-	-	-	-
Rhyacophiilidae	-	-	-	-
Rhyacophila sp.	-	-	-	-
Coleoptera	-	-	-	-
Elmidae	-	-	2	1

APPENDIX C (con't)
MONTOUR RUN WATERSHED
RESULTS OF APRIL AND MAY 1996 RAPID INVERTEBRATE
BIOLOGICAL ASSESSMENTS
(20 MINUTE SAMPLING STATION)

	West Fork Enlow Run	East Fork Enlow Run	North Fork Montour Run	South Fork Montour Run
Phylumn				
Class				
Order				
Suborder				
Family				
Genius				
Megaloptera	-	-	-	-
Corydalidae	-	-	-	-
Nigronia sp.	1	-	-	-
Silidae	-	-	-	-
Sialis sp.	1	-	5	1
Diptera	-	-	-	-
Chironomidae	1	2	2	6
Chironomus	1	6	-	1
Empididae	-	-	-	-
Hemerodromia sp.	-	-	-	-
Chelifera sp.	-	-	-	-
Ceratopogonidae	-	-	-	-
Tipulidae	-	-	-	-
Tipula sp.	3	-	2	2
Hexatoma sp.	1	-	-	-
Tabanidae	-	-	-	1
Crustacea	-	-	-	-
Amphipoda	-	-	-	-
Gammaridae	-	-	-	-
Gammarus sp.	-	-	-	-
Isopoda	-	-	-	-
Asellidae	-	-	-	-
Caecidotea sp.	1	2	-	2
Decapoda	-	-	-	-
Cambaridae	1	-	4	3
Mollusca	-	-	-	-
Gastropoda	-	-	-	-
Physidae	-	-	-	-
Annelida	*	*	*	*
Oligochaeta	1	4	2	3
Hirudinea	*	*	*	*
Turbellaria	-	-	-	-
Acariformes	-	-	-	-
Hydrachnidae	-	-	-	-
Total Number Taxa	12	4	9	13
Total Number of Organisms	28	14	22	38
Total Number of ETP Taxa*	3	0	2	2
Total Number of EPT Organisms	17	0	4	15
Percent ETP Organisms	60.7	0	18.2	39.5
Percent A & C Organisms**	10.7	85.7	18.2	26.3

*ETP = Ephemeroptera, Trichoptera and Plecoptera

**A & C = Annelida and chironomidae

APPENDIX D

MONTOUR RUN WATERSHED
RESULTS OF JUNE 1996
INVERTEBRATE SURBER SAMPLING

MACROINVERTEBRATE ANALYSIS
STATION - 4MTR13001
DATE AND TIME - 7 JUN 96 AT 1145
DEPTH - 1 FT.

SUBSAMPLE - NO. 1 OF 3
SAMPLER TYPE - SURBER AREA = 144 SQ. IN.

*** TAXA ***

SCIENTIFIC NAME	COMMON NAME	STAGE OF DEVELOPMENT	TOTAL COUNT	WET WEIGHT GRAMS	DRY WEIGHT GRAMS
ARTHROPODA					
CRUSTACEA					
ISOPODA	SOWBUGS,ASELLUS				
CAECIDOTEA SP.			2	0.00122	0.00037
INSECTA	INSECTS				
DIPTERA	TRUE FLIES				
CHIRONOMIDAE	MIDGES	PUPAL	1	0.00040	0.00023
CHIRONOMIDAE	MIDGES	LARVAL	4	*	*
PLECOPTERA	STONEFLIES				
ACRONEURIA SP.		LARVAL	1	0.00016	0.00010
ANNELIDA					
OLIGOCHAETA	AQUATIC WORMS		4	0.00075	0.00047

TOTAL NUMBER OF ORGANISMS = 12
TOTAL WET WEIGHT = 0.00253
TOTAL DRY WEIGHT = 0.00117

DIVERSITY INDEX
BASED ON SPECIE
NUMBER OF TAXA FOR ANALYSIS = 4
DIVERSITY PER INDIVIDUAL = 1.784

CODES - ND=NON-DECTECTABLE AND INCLUDED IN THE MISCELLANEOUS GROUP
*=WEIGHT INCLUDED IN A HIGHER TAXONOMIC GROUP

MACROINVERTEBRATE ANALYSIS
STATION - 4MTR13001
DATE AND TIME - 7 JUN 96 AT 1145
DEPTH - 1 FT.

SUBSAMPLE - NO. 2 OF 3
SAMPLER TYPE - SURBER AREA = 144 SQ. IN.

*** TAXA ***

SCIENTIFIC NAME	COMMON NAME	STAGE OF DEVELOPMENT	TOTAL COUNT	WET WEIGHT GRAMS	DRY WEIGHT GRAMS
ARTHROPODA					
INSECTA	INSECTS				
DIPTERA	TRUE FLIES				
CHIRONOMIDAE	MIDGES	LARVAL		0.00008	0.00002
ANNELIDA					
OLIGOCHAETA	AQUATIC WORMS		2	0.00098	0.00027

TOTAL NUMBER OF ORGANISMS = 3
TOTAL WET WEIGHT = 0.00106
TOTAL DRY WEIGHT = 0.00029

DIVERSITY INDEX
BASED ON SPECIE
NUMBER OF TAXA FOR ANALYSIS = 2
DIVERSITY PER INDIVIDUAL = 0.918

CODES - ND=NON-DECTECTABLE AND INCLUDED IN THE MISCELLANEOUS GROUP
*=WEIGHT INCLUDED IN A HIGHER TAXONOMIC GROUP

MACROINVERTEBRATE ANALYSIS
STATION - 4MTR13001
DATE AND TIME - 7 JUN 96 AT 1145
DEPTH - 1 FT.

SUBSAMPLE - NO. 3 OF 3
SAMPLER TYPE - SURBER AREA = 144 SQ. IN.

*** TAXA ***

SCIENTIFIC NAME	COMMON NAME	STAGE OF DEVELOPMENT	TOTAL COUNT	WET WEIGHT GRAMS	DRY WEIGHT GRAMS
ARTHROPODA					
INSECTA	INSECTS				
DIPTERA	TRUE FLIES				
CHIRONOMIDAE	MIDGES	PUPAL	1	0.00019	0.00005
CHIRONOMIDAE	MIDGES	LARVAL	1	*	*
COLEOPTERA	BEETLES				
STENELMIS SP.		LARVAL	1	0.00163	0.00065
EPHEMEROPTERA	MAYFLIES				
BAETIS SP.		LARVAL	1	0.00039	0.00015
ANNELIDA					
OLIGOCHAETA	AQUATIC WORMS		1	0.00002	0.00001

TOTAL NUMBER OF ORGANISMS = 5
TOTAL WET WEIGHT = 0.00223
TOTAL DRY WEIGHT = 0.00086

DIVERSITY INDEX
BASED ON SPECIE
NUMBER OF TAXA FOR ANALYSIS = 4
DIVERSITY PER INDIVIDUAL = 1.922

CODES - ND=NON-DECTECTABLE AND INCLUDED IN THE MISCELLANEOUS GROUP
*=WEIGHT INCLUDED IN A HIGHER TAXONOMIC GROUP

MACROINVERTEBRATE ANALYSIS
STATION - 4MTR13001
DATE AND TIME - 7 JUN 96 AT 1145
DEPTH - 1 FT.

"+" TOTAL SAMPLE "+"

SAMPLER TYPE - SURBER AREA = 144 SQ. IN.

NUMBER OF SUBSAMPLES = 3

TOTAL AREA = 3.00 SQ. FT.

*** TAXA ***

SCIENTIFIC NAME	COMMON NAME	STAGE OF DEVELOPMENT	TOTAL COUNT	WET WEIGHT GRAMS	DRY WEIGHT GRAMS
ARTHROPODA					
CRUSTACEA					
ISOPODA	SOWBUGS,ASELLUS				
CAECIDOTEA SP.			2		
INSECTA	INSECTS				
DIPTERA	TRUE FLIES				
CHIRONOMIDAE	MIDGES		8		
COLEOPTERA	BEETLES				
STENELMIS SP.			1		
EPHEMEROPTERA	MAYFLIES				
BAETIS SP.			1		
PLECOPTERA	STONEFLIES				
ACRONEURIA SP.			1		
ANNELIDA					
OLIGOCHAETA	AQUATIC WORMS		7		

MACROINVERTEBRATE ANALYSIS
STATION - 4MTR13001
DATE AND TIME - 7 JUN 96 AT 1145
DEPTH - 1 FT.

*+ *TOTAL SAMPLE *+ *

*- * SUMMARY *- *

SAMPLER TYPE - SURBER AREA = 144 SQ. IN.

NUMBER OF SUBSAMPLES = 3

TOTAL AREA = 3.00 SQ. FT.

TOTAL NUMBER OF TAXA = 6

AVERAGE NUMBER OF TAXA = 3.3

AVERAGE NUMBER OF ORGANISMS PER SQ. FT. = 6.7

AVERAGE DIVERSITY INDEX PER SAMPLE = 1.54

AVERAGE WET WEIGHT IN MG/SQ. FT. = 1.9

AVERAGE DRY WEIGHT IN MG/SQ. FT. = 0.8

MACROINVERTEBRATE ANALYSIS
STATION - 4MTR1302B
DATE AND TIME - 7 JUN 96 AT 950
DEPTH - 1 FT.

SUBSAMPLE - NO. 1 OF 3
SAMPLER TYPE - SURBER AREA = 144 SQ. IN.

*** TAXA ***

SCIENTIFIC NAME	COMMON NAME	STAGE OF DEVELOPMENT	TOTAL COUNT	WET WEIGHT GRAMS	DRY WEIGHT GRAMS
ARTHROPODA					
CRUSTACEA					
AMPHIPODA	SCUDS,GAMMARUS				
GAMMARUS SP.			2	0.00167	0.00035
INSECTA	INSECTS				
DIPTERA	TRUE FLIES				
CHIRONOMIDAE	MIDGES	PUPAL	33	0.04545	0.01032
CHIRONOMIDAE	MIDGES	LARVAL	151	*	*
LIMNOPHILA SP.		LARVAL	1	0.00002	0.00001
PSYCHODA,THRETICUS		LARVAL	1	0.00002	0.00001
TRICHOPTERA	CADDIS FLIES				
HYDROPTILA SP.		LARVAL	2	0.00014	0.00006
ANNELIDA					
OLIGOCHAETA	AQUATIC WORMS		134	0.05370	0.00776

TOTAL NUMBER OF ORGANISMS = 324
TOTAL WET WEIGHT = 0.10100
TOTAL DRY WEIGHT = 0.01851

DIVERSITY INDEX
BASED ON SPECIE
NUMBER OF TAXA FOR ANALYSIS = 6
DIVERSITY PER INDIVIDUAL = 1.132

CODES - ND=NON-DECTECTABLE AND INCLUDED IN THE MISCELLANEOUS GROUP
*=WEIGHT INCLUDED IN A HIGHER TAXONOMIC GROUP

MACROINVERTEBRATE ANALYSIS
STATION - 4MTR13028
DATE AND TIME - 7 JUN 96 AT 950
DEPTH - 1 FT.

SUBSAMPLE - NO. 2 OF 3
SAMPLER TYPE - SURBER AREA = 144 SQ. IN.

*** TAXA ***

SCIENTIFIC NAME	COMMON NAME	STAGE OF DEVELOPMENT	TOTAL COUNT	WET WEIGHT GRAMS	DRY WEIGHT GRAMS
ARTHROPODA					
CRUSTACEA					
AMPHIPODA	SCUDS,GAMMARUS				
GAMMARUS SP.			2	0.00395	0.00079
INSECTA	INSECTS				
DIPTERA	TRUE FLIES				
CHIRONOMIDAE	MIDGES	PUPAL	14	0.02319	0.00384
CHIRONOMIDAE	MIDGES	LARVAL	97	*	*
SIMULIUM.SP.		LARVAL	1	0.00140	0.00034
PSYCHODA,THRETICUS		LARVAL	1	0.00002	0.00001
EPHEMEROPTERA	MAYFLIES				
BAETIS SP.		LARVAL	4	0.00373	0.00107
ANNELIDA					
OLIGOCHAETA	AQUATIC WORMS		47	0.01388	0.00389

TOTAL NUMBER OF ORGANISMS = 166
TOTAL WET WEIGHT = 0.04617
TOTAL DRY WEIGHT = 0.00994

DIVERSITY INDEX
BASED ON SPECIE
NUMBER OF TAXA FOR ANALYSIS = 6
DIVERSITY PER INDIVIDUAL = 1.199

CODES - ND=NON-DECTECTABLE AND INCLUDED IN THE MISCELLANEOUS GROUP
*=WEIGHT INCLUDED IN A HIGHER TAXONOMIC GROUP

MACROINVERTEBRATE ANALYSIS
STATION - 4MTR13028
DATE AND TIME - 7 JUN 96 AT 950
DEPTH - 1 FT.

SUBSAMPLE - NO. 3 OF 3
SAMPLER TYPE - SURBER AREA = 144 SQ. IN.

*** TAXA ***

SCIENTIFIC NAME	COMMON NAME	STAGE OF DEVELOPMENT	TOTAL COUNT	WET WEIGHT GRAMS	DRY WEIGHT GRAMS
ARTHROPODA					
CRUSTACEA					
AMPHIPODA	SCUDS,GAMMARUS				
GAMMARUS SP.			3	0.00261	0.00069
INSECTA	INSECTS				
DIPTERA	TRUE FLIES				
CHIRONOMIDAE	MIDGES	PUPAL	14	0.03256	0.00578
CHIRONOMIDAE	MIDGES	LARVAL	136	*	*
SIMULIUM.SP.			1	0.00040	0.00016
EPHEMEROPTERA	MAYFLIES				
BAETIS SP.		LARVAL	3	0.00878	0.00165
PLECOPTERA	STONEFLIES				
AMPHINEMURA SP.		LARVAL		0.00038	0.00012
ANNELIDA					
OLIGOCHAETA	AQUATIC WORMS		69	0.02278	0.00576

TOTAL NUMBER OF ORGANISMS = 227
TOTAL WET WEIGHT = 0.06551
TOTAL DRY WEIGHT = 0.01416

DIVERSITY INDEX
BASED ON SPECIE
NUMBER OF TAXA FOR ANALYSIS = 6
DIVERSITY PER INDIVIDUAL = 1.151

CODES - ND=NON-DECTECTABLE AND INCLUDED IN THE MISCELLANEOUS GROUP
*=WEIGHT INCLUDED IN A HIGHER TAXONOMIC GROUP

MACROINVERTEBRATE ANALYSIS
STATION - 4MTR1302B
DATE AND TIME - 7 JUN 96 AT 950
DEPTH - 1 FT.

"+" TOTAL SAMPLE "+"

SAMPLER TYPE - SURBER AREA = 144 SQ. IN.

NUMBER OF SUBSAMPLES = 3

TOTAL AREA = 3.00 SQ. FT.

*** TAXA ***

SCIENTIFIC NAME	COMMON NAME	STAGE OF DEVELOPMENT	TOTAL COUNT	WET WEIGHT GRAMS	DRY WEIGHT GRAMS
ARTHROPODA					
CRUSTACEA					
AMPHIPODA	SCUDS,GAMMARUS				
GAMMARUS SP.			7		
INSECTA	INSECTS				
DIPTERA	TRUE FLIES				
CHIRONOMIDAE	MIDGES		445		
SIMULIUM.SP.			2		
LIMNOPHILA SP.			1		
PSYCHODA,THRETICUS			2		
EPHEMEROPTERA	MAYFLIES				
BAETIS SP.			7		
PLECOPTERA	STONEFLIES				
AMPHINEMURA SP.			1		
TRICHOPTERA	CADDIS FLIES				
HYDROPTILA SP.			2		
ANNELIDA					
OLIGOCHAETA	AQUATIC WORMS		250		

MACROINVERTEBRATE ANALYSIS
STATION - 4MTR13028
DATE AND TIME - 7 JUN 96 AT 950
DEPTH - 1 FT.

"+" TOTAL SAMPLE "+"

"-" SUMMARY "-"

SAMPLER TYPE - SURBER AREA = 144 SQ. IN.

NUMBER OF SUBSAMPLES = 3

TOTAL AREA = 3.00 SQ. FT.

TOTAL NUMBER OF TAXA = 9

AVERAGE NUMBER OF TAXA = 6.0

AVERAGE NUMBER OF ORGANISMS PER SQ. FT. = 239.0

AVERAGE DIVERSITY INDEX PER SAMPLE = 1.16

AVERAGE WET WEIGHT IN MG/SQ. FT. = 70.9

AVERAGE DRY WEIGHT IN MG/SQ. FT. = 14.2

MACROINVERTEBRATE ANALYSIS
STATION - 4MTR13066
DATE AND TIME - 7 JUN 96 AT 845
DEPTH - 0 FT.

SUBSAMPLE - NO. 1 OF 3
SAMPLER TYPE - SURBER AREA = 144 SQ. IN.

*** TAXA ***

SCIENTIFIC NAME	COMMON NAME	STAGE OF DEVELOPMENT	TOTAL COUNT	WET WEIGHT GRAMS	DRY WEIGHT GRAMS
ARTHROPODA					
INSECTA	INSECTS				
DIPTERA	TRUE FLIES				
CHIRONOMIDAE	MIDGES	PUPAL	30	0.07575	0.01054
CHIRONOMIDAE	MIDGES	LARVAL	179	*	*
SIMULIUM.SP.		LARVAL	6	0.00623	0.00093
TIPULA SP.		LARVAL	1	1.67330	0.11411
PSYCHODA,THRETICUS		LARVAL	1	0.00013	0.00001
ANNELIDA					
OLIGOCHAETA	AQUATIC WORMS		13	0.03613	0.00590

TOTAL NUMBER OF ORGANISMS = 230
TOTAL WET WEIGHT = 1.79154
TOTAL DRY WEIGHT = 0.13149

DIVERSITY INDEX
BASED ON SPECIE
NUMBER OF TAXA FOR ANALYSIS = 5
DIVERSITY PER INDIVIDUAL = 0.565

CODES - ND=NON-DECTECTABLE AND INCLUDED IN THE MISCELLANEOUS GROUP
*=WEIGHT INCLUDED IN A HIGHER TAXONOMIC GROUP

MACROINVERTEBRATE ANALYSIS
STATION - 4MTR13066
DATE AND TIME - 7 JUN 96 AT 845
DEPTH - 0 FT.

SUBSAMPLE - NO. 2 OF 3
SAMPLER TYPE - SURBER AREA = 144 SQ. IN.

*** TAXA ***

SCIENTIFIC NAME	COMMON NAME	STAGE OF DEVELOPMENT	TOTAL COUNT	WET WEIGHT GRAMS	DRY WEIGHT GRAMS
ARTHROPODA					
INSECTA	INSECTS				
DIPTERA	TRUE FLIES				
CHIRONOMIDAE	MIDGES	PUPAL	21	0.00015	0.00004
CHIRONOMIDAE	MIDGES	LARVAL	168	*	*
SIMULIUM.SP.		LARVAL	5	0.00431	0.00093
PSYCHODA,THRETICUS		LARVAL	1	0.00002	0.00001
TRICHOPTERA	CADDIS FLIES				
HYDROPTILA SP.		LARVAL	1	0.00002	0.00001
ANNELIDA					
OLIGOCHAETA	AQUATIC WORMS		77	0.01262	0.00279

TOTAL NUMBER OF ORGANISMS = 273
TOTAL WET WEIGHT = 0.01712
TOTAL DRY WEIGHT = 0.00378

DIVERSITY INDEX
BASED ON SPECIE
NUMBER OF TAXA FOR ANALYSIS = 5
DIVERSITY PER INDIVIDUAL = 1.047

CODES - ND=NON-DECTECTABLE AND INCLUDED IN THE MISCELLANEOUS GROUP
*=WEIGHT INCLUDED IN A HIGHER TAXONOMIC GROUP

MACROINVERTEBRATE ANALYSIS
STATION - 4MTR13066
DATE AND TIME - 7 JUN 96 AT 845
DEPTH - 0 FT.

SUBSAMPLE - NO. 3 OF 3
SAMPLER TYPE - SURBER AREA = 144 SQ. IN.

*** TAXA ***

SCIENTIFIC NAME	COMMON NAME	STAGE OF DEVELOPMENT	TOTAL COUNT	WET WEIGHT GRAMS	DRY WEIGHT GRAMS
ARTHROPODA					
CRUSTACEA					
AMPHIPODA	SCUDS,GAMMARUS				
GAMMARUS SP.			1	0.00014	0.00008
INSECTA	INSECTS				
DIPTERA	TRUE FLIES				
CHIRONOMIDAE	MIDGES	PUPAL	33	0.02835	0.00413
CHIRONOMIDAE	MIDGES	LARVAL	117	*	*
SIMULIUM.SP.		LARVAL	3	0.00153	0.00051
PSYCHODA,THRETICUS		LARVAL	2	0.00004	0.00002
ANNELIDA					
OLIGOCHAETA	AQUATIC WORMS		7	0.00103	0.00057

TOTAL NUMBER OF ORGANISMS = 163
TOTAL WET WEIGHT = 0.03109
TOTAL DRY WEIGHT = 0.00531

DIVERSITY INDEX
BASED ON SPECIE
NUMBER OF TAXA FOR ANALYSIS = 5
DIVERSITY PER INDIVIDUAL = 0.534

CODES - ND=NON-DECTECTABLE AND INCLUDED IN THE MISCELLANEOUS GROUP
*=WEIGHT INCLUDED IN A HIGHER TAXONOMIC GROUP

MACROINVERTEBRATE ANALYSIS
STATION - 4MTR13066
DATE AND TIME - 7 JUN 96 AT 845
DEPTH - 0 FT.

"+" TOTAL SAMPLE "+"

SAMPLER TYPE - SURBER AREA = 144 SQ. IN.

NUMBER OF SUBSAMPLES = 3

TOTAL AREA = 3.00 SQ. FT.

*** TAXA ***

SCIENTIFIC NAME	COMMON NAME	STAGE OF DEVELOPMENT	TOTAL COUNT	WET WEIGHT GRAMS	DRY WEIGHT GRAMS
ARTHROPODA					
CRUSTACEA					
AMPHIPODA	SCUDS,GAMMARUS				
GAMMARUS SP.			1		
INSECTA	INSECTS				
DIPTERA	TRUE FLIES				
CHIRONOMIDAE	MIDGES		548		
SIMULIUM.SP.			14		
TIPULA SP.			1		
PSYCHODA,THRETICUS			4		
TRICHOPTERA	CADDIS FLIES				
HYDROPTILA SP.			1		
ANNELIDA					
OLIGOCHAETA	AQUATIC WORMS		97		

MACROINVERTEBRATE ANALYSIS
STATION - 4MTR13066
DATE AND TIME - 7 JUN 96 AT 845
DEPTH - 0 FT.

+ TOTAL SAMPLE *+*

- SUMMARY *-*

SAMPLER TYPE - SURBER AREA = 144 SQ. IN.

NUMBER OF SUBSAMPLES = 3

TOTAL AREA = 3.00 SQ. FT.

TOTAL NUMBER OF TAXA = 7

AVERAGE NUMBER OF TAXA = 5.0

AVERAGE NUMBER OF ORGANISMS PER SQ. FT. = 222.0

AVERAGE DIVERSITY INDEX PER SAMPLE = 0.72

AVERAGE WET WEIGHT IN MG/SQ. FT. = 613.2

AVERAGE DRY WEIGHT IN MG/SQ. FT. = 46.9

MACROINVERTEBRATE ANALYSIS
STATION - 4MTR13115
DATE AND TIME - 7 JUN 96 AT 1300
DEPTH - 1 FT.

SUBSAMPLE - NO. 1 OF 3
SAMPLER TYPE - SURBER AREA = 144 SQ. IN.

*** TAXA ***

SCIENTIFIC NAME	COMMON NAME	STAGE OF DEVELOPMENT	TOTAL COUNT	WET WEIGHT GRAMS	DRY WEIGHT GRAMS
ARTHROPODA					
CRUSTACEA					
ISOPODA	SOWBUGS,ASELLUS				
CAECIDOTEA SP.			4	0.00618	0.00119
AMPHIPODA	SCUDS,GAMMARUS				
GAMMARUS SP.			1	0.00096	0.00056
INSECTA	INSECTS				
DIPTERA	TRUE FLIES				
CHIRONOMIDAE	MIDGES	PUPAL	4	0.00682	0.00190
CHIRONOMIDAE	MIDGES	LARVAL	29	*	*
TIPULA SP.		LARVAL	1	0.22076	0.02335
CERATOPOGONIDAE	BITING MIDGES	LARVAL	1	0.00016	0.00010
COLEOPTERA	BEETLES				
STENELMIS SP.		LARVAL	1	0.00154	0.00081
TRICHOPTERA	CADDIS FLIES			0.00207	0.00095
CHEUMATOPSYCHE SP.		PUPAL	1	*	*
HYDROPTILA SP.		LARVAL	2	*	*
ANNELIDA					
OLIGOCHAETA	AQUATIC WORMS		4	0.00120	0.00029

TOTAL NUMBER OF ORGANISMS = 48
TOTAL WET WEIGHT = 0.23969
TOTAL DRY WEIGHT = 0.02915

DIVERSITY INDEX
BASED ON SPECIE
NUMBER OF TAXA FOR ANALYSIS = 9
DIVERSITY PER INDIVIDUAL = 1.742

CODES - ND=NON-DECTECTABLE AND INCLUDED IN THE MISCELLANEOUS GROUP
*=WEIGHT INCLUDED IN A HIGHER TAXONOMIC GROUP

MACROINVERTEBRATE ANALYSIS
STATION - 4MTR13115
DATE AND TIME - 7 JUN 96 AT 1300
DEPTH - 1 FT.

SUBSAMPLE - NO. 2 OF 3
SAMPLER TYPE - SURBER AREA = 144 SQ. IN.

*** TAXA ***

SCIENTIFIC NAME	COMMON NAME	STAGE OF DEVELOPMENT	TOTAL COUNT	WET WEIGHT GRAMS	DRY WEIGHT GRAMS
ARTHROPODA					
INSECTA	INSECTS				
DIPTERA	TRUE FLIES				
CHIRONOMIDAE	MIDGES	PUPAL	13	0.01839	0.00322
CHIRONOMIDAE	MIDGES	LARVAL	73	*	*
HEMERODROMIA		PUPAL	1	0.00039	0.00016
HEMERODROMIA		LARVAL	3	*	*
ANTOCHA SP.		LARVAL	1	0.00030	0.00010
TRICHOPTERA	CADDIS FLIES			0.00381	0.00171
HYDROPSYCHE BETTENI		PUPAL	1	*	*
HYDROPSYCHE BETTENI		LARVAL	1	*	*
HYDROPTILA SP.		LARVAL	13	*	*
ANNELIDA					
OLIGOCHAETA	AQUATIC WORMS			0.00029	0.00018

TOTAL NUMBER OF ORGANISMS = 107
TOTAL WET WEIGHT = 0.02318
TOTAL DRY WEIGHT = 0.00537

DIVERSITY INDEX
BASED ON SPECIE
NUMBER OF TAXA FOR ANALYSIS = 6
DIVERSITY PER INDIVIDUAL = 1.033

CODES - ND=NON-DECTECTABLE AND INCLUDED IN THE MISCELLANEOUS GROUP
*=WEIGHT INCLUDED IN A HIGHER TAXONOMIC GROUP

MACROINVERTEBRATE ANALYSIS
STATION - 4MTR13115
DATE AND TIME - 7 JUN 96 AT 1300
DEPTH - 1 FT.

SUBSAMPLE - NO. 3 OF 3
SAMPLER TYPE - SURBER AREA = 144 SQ. IN.

*** TAXA ***

SCIENTIFIC NAME	COMMON NAME	STAGE OF DEVELOPMENT	TOTAL COUNT	WET WEIGHT GRAMS	DRY WEIGHT GRAMS
ARTHROPODA					
CRUSTACEA					
ISOPODA	SOWBUGS,ASELLUS				
CAECIDOTEA SP.				0.00154	0.00074
INSECTA	INSECTS				
DIPTERA	TRUE FLIES				
CHIRONOMIDAE	MIDGES	PUPAL	3	0.00146	0.00045
CHIRONOMIDAE	MIDGES	LARVAL	4	*	*
TRICHOPTERA	CADDIS FLIES				
HYDROPTILA SP.		LARVAL		0.00002	0.00001
ANNELIDA					
OLIGOCHAETA	AQUATIC WORMS			0.00002	0.00001

TOTAL NUMBER OF ORGANISMS = 10
TOTAL WET WEIGHT = 0.00304
TOTAL DRY WEIGHT = 0.00121

DIVERSITY INDEX
BASED ON SPECIE
NUMBER OF TAXA FOR ANALYSIS = 4
DIVERSITY PER INDIVIDUAL = 1.357

CODES - ND=NON-DECTECTABLE AND INCLUDED IN THE MISCELLANEOUS GROUP
*=WEIGHT INCLUDED IN A HIGHER TAXONOMIC GROUP

MACROINVERTEBRATE ANALYSIS
STATION - 4MTR13115
DATE AND TIME - 7 JUN 96 AT 1300
DEPTH - 1 FT.

"+" TOTAL SAMPLE "+"

SAMPLER TYPE - SURBER AREA = 144 SQ. IN.

NUMBER OF SUBSAMPLES = 3

TOTAL AREA = 3.00 SQ. FT.

*** TAXA ***

SCIENTIFIC NAME	COMMON NAME	STAGE OF DEVELOPMENT	TOTAL COUNT	WET WEIGHT GRAMS	DRY WEIGHT GRAMS
ARTHROPODA					
CRUSTACEA					
ISOPODA	SOWBUGS,ASELLUS				
CAECIDOTEA SP.			5		
AMPHIPODA	SCUDS,GAMMARUS				
GAMMARUS SP.					
INSECTA	INSECTS				
DIPTERA	TRUE FLIES				
CHIRONOMIDAE	MIDGES		126		
HEMERODROMIA			4		
TIPULA SP.			1		
ANTOCHA SP.			1		
CERATOPOGONIDAE	BITING MIDGES		1		
COLEOPTERA	BEETLES				
STENELMIS SP.					
TRICHOPTERA	CADDIS FLIES				
HYDROPSYCHE BETTENI			2		
CHEUMATOPSYCHE SP.			1		
HYDROPTILA SP.			16		
ANNELIDA					
OLIGOCHAETA	AQUATIC WORMS		6		

MACROINVERTEBRATE ANALYSIS
STATION - 4MTR13115
DATE AND TIME - 7 JUN 96 AT 1300
DEPTH - 1 FT.

+ TOTAL SAMPLE *+*

- SUMMARY *-*

SAMPLER TYPE - SURBER AREA = 144 SQ. IN.

NUMBER OF SUBSAMPLES = 3

TOTAL AREA = 3.00 SQ. FT.

TOTAL NUMBER OF TAXA = 12

AVERAGE NUMBER OF TAXA = 6.3

AVERAGE NUMBER OF ORGANISMS PER SQ. FT. = 55.0

AVERAGE DIVERSITY INDEX PER SAMPLE = 1.38

AVERAGE WET WEIGHT IN MG/SQ. FT. = 88.6

AVERAGE DRY WEIGHT IN MG/SQ. FT. = 11.9

MACROINVERTEBRATE ANALYSIS
STATION - 4MTR12101
DATE AND TIME - 7 JUN 96 AT 1040
DEPTH - 1 FT.

SUBSAMPLE - NO. 1 OF 3
SAMPLER TYPE - SURBER AREA = 144 SQ. IN.

*** TAXA ***

SCIENTIFIC NAME	COMMON NAME	STAGE OF DEVELOPMENT	TOTAL COUNT	WET WEIGHT GRAMS	DRY WEIGHT GRAMS
ARTHROPODA					
CRUSTACEA					
ISOPODA	SOWBUGS,ASELLUS				
CAECIDOTEA SP.			35	0.07808	0.01186
AMPHIPODA	SCUDS,GAMMARUS				
GAMMARUS SP.			28	0.09811	0.01337
DECAPODA	CRAYFISH				
CAMBARUS BARTONI				3.00132	0.55880
INSECTA	INSECTS				
DIPTERA	TRUE FLIES				
CHIRONOMIDAE	MIDGES	PUPAL	15	0.01865	0.00292
CHIRONOMIDAE	MIDGES	LARVAL	51	*	*
LIMNOPHILA SP.		LARVAL	3	0.00382	0.00114
EPHYDRIDAE		LARVAL	2	0.00003	0.00001
COLEOPTERA	BEETLES			0.00632	0.00230
STENELMIS SP.		ADULT	3	*	*
OPTIOSERVUS SP.		LARVAL	1	*	*
EPHEMEROPTERA	MAYFLIES			0.02963	0.00684
STENONEMA ITHACA		LARVAL	1	*	*
PARALEPTOPHLEBIA SP.		LARVAL	5	*	*
EURYLOPHELLA SP.		LARVAL	2	*	*
TRICHOPTERA	CADDIS FLIES			0.02175	0.00504
DIPLECTRONA SP.		LARVAL	1	*	*
HYDROPTILA SP.		PUPAL	1	*	*
HYDROPTILA SP.		LARVAL	4	*	*
NEOPHYLAX SP.		LARVAL	1	*	*
MEGALOPTERA					
NIGRONIA SP.		LARVAL	1	0.01530	0.00084
ANNELIDA					
OLIGOCHAETA	AQUATIC WORMS		3	0.00094	0.00035

TOTAL NUMBER OF ORGANISMS = 158
TOTAL WET WEIGHT = 3.27395
TOTAL DRY WEIGHT = 0.60347

DIVERSITY INDEX
BASED ON SPECIE
NUMBER OF TAXA FOR ANALYSIS = 16
DIVERSITY PER INDIVIDUAL = 2.528

CODES - ND=NON-DECTECTABLE AND INCLUDED IN THE MISCELLANEOUS GROUP
*=WEIGHT INCLUDED IN A HIGHER TAXONOMIC GROUP

MACROINVERTEBRATE ANALYSIS
STATION - 4MTR12101
DATE AND TIME - 7 JUN 96 AT 1040
DEPTH - 1 FT.

SUBSAMPLE - NO. 2 OF 3
SAMPLER TYPE - SURBER AREA = 144 SQ. IN.

*** TAXA ***

SCIENTIFIC NAME	COMMON NAME	STAGE OF DEVELOPMENT	TOTAL COUNT	WET WEIGHT GRAMS	DRY WEIGHT GRAMS
ARTHROPODA					
CRUSTACEA					
ISOPODA	SOWBUGS,ASELLUS				
CAECIDOTEA SP.			37	0.08665	0.01279
AMPHIPODA	SCUDS,GAMMARUS				
GAMMARUS SP.			192	0.43344	0.09683
INSECTA	INSECTS				
DIPTERA	TRUE FLIES				
CHIRONOMIDAE	MIDGES	PUPAL	6	0.05211	0.00908
CHIRONOMIDAE	MIDGES	LARVAL	125	*	*
TIPULA SP.		LARVAL	3	5.15125	0.33113
COLEOPTERA	BEETLES			0.03475	0.00714
STENELMIS SP.		LARVAL	7	*	*
OPTIOSERVUS SP.		LARVAL	23	*	*
EPHEMEROPTERA	MAYFLIES			0.00235	0.00079
BAETIS SP.		LARVAL	2	*	*
PARALEPTOPHLEBIA SP.		LARVAL	1	*	*
PLECOPTERA	STONEFLIES				
PERLESTA SP.		LARVAL	4	0.00432	0.00071
TRICHOPTERA	CADDIS FLIES			0.39715	0.07198
CHIMARRA SP.		LARVAL	2	*	*
HYDROPSYCHE SLOSSONAE		LARVAL	2	*	*
DIPLECTRONA SP.		PUPAL	4	*	*
DIPLECTRONA SP.		LARVAL	19	*	*
MEGALOPTERA					
NIGRONIA SP.		LARVAL	1	0.00421	0.00092
ANNELIDA					
OLIGOCHAETA	AQUATIC WORMS		20	0.03168	0.00798

TOTAL NUMBER OF ORGANISMS = 448
TOTAL WET WEIGHT = 6.19791
TOTAL DRY WEIGHT = 0.53935

DIVERSITY INDEX
BASED ON SPECIE
NUMBER OF TAXA FOR ANALYSIS = 14
DIVERSITY PER INDIVIDUAL = 2.327

CODES - ND=NON-DECTECTABLE AND INCLUDED IN THE MISCELLANEOUS GROUP
*=WEIGHT INCLUDED IN A HIGHER TAXONOMIC GROUP

MACROINVERTEBRATE ANALYSIS
STATION - 4MTR12101
DATE AND TIME - 7 JUN 96 AT 1040
DEPTH - 1 FT.

SUBSAMPLE - NO. 3 OF 3
SAMPLER TYPE - SURBER AREA = 144 SQ. IN.

*** TAXA ***

SCIENTIFIC NAME	COMMON NAME	STAGE OF DEVELOPMENT	TOTAL COUNT	WET WEIGHT GRAMS	DRY WEIGHT GRAMS
ARTHROPODA					
CRUSTACEA					
ISOPODA	SOWBUGS,ASELLUS				
CAECIDOTEA SP.			4	0.00786	0.00130
AMPHIPODA	SCUDS,GAMMARUS				
GAMMARUS SP.			22	0.06125	0.01175
INSECTA	INSECTS				
DIPTERA	TRUE FLIES				
CHIRONOMIDAE	MIDGES	PUPAL	15	0.02917	0.00572
CHIRONOMIDAE	MIDGES	LARVAL	72	*	*
SIMULIUM.SP.		LARVAL	1	0.00065	0.00031
COLEOPTERA	BEETLES				
OPTIOSERVUS SP.		LARVAL	1	0.00035	0.00018
EPHEMEROPTERA	MAYFLIES				
HEPTAGENIA SP.		LARVAL	1	0.00226	0.00064
ANNELIDA					
OLIGOCHAETA	AQUATIC WORMS		3	0.00038	0.00014

TOTAL NUMBER OF ORGANISMS = 119
TOTAL WET WEIGHT = 0.10192
TOTAL DRY WEIGHT = 0.02004

DIVERSITY INDEX
BASED ON SPECIE
NUMBER OF TAXA FOR ANALYSIS = 7
DIVERSITY PER INDIVIDUAL = 1.253

CODES - ND=NON-DECTECTABLE AND INCLUDED IN THE MISCELLANEOUS GROUP
*=WEIGHT INCLUDED IN A HIGHER TAXONOMIC GROUP

MACROINVERTEBRATE ANALYSIS
STATION - 4MTR12101
DATE AND TIME - 7 JUN 96 AT 1040
DEPTH - 1 FT.

"+" TOTAL SAMPLE "+"

SAMPLER TYPE - SURBER AREA = 144 SQ. IN.

NUMBER OF SUBSAMPLES = 3

TOTAL AREA = 3.00 SQ. FT.

*** TAXA ***

SCIENTIFIC NAME	COMMON NAME	STAGE OF DEVELOPMENT	TOTAL COUNT	WET WEIGHT GRAMS	DRY WEIGHT GRAMS
ARTHROPODA					
CRUSTACEA					
ISOPODA	SOWBUGS,ASELLUS				
CAECIDOTEA SP.			76		
AMPHIPODA	SCUDS,GAMMARUS				
GAMMARUS SP.			242		
DECAPODA	CRAYFISH				
CAMBARUS BARTONI			1		
INSECTA	INSECTS				
DIPTERA	TRUE FLIES				
CHIRONOMIDAE	MIDGES		284		
SIMULIUM.SP.			1		
TIPULA SP.			3		
LIMNOPHILA SP.			3		
EPHYDRIDAE			2		
COLEOPTERA	BEETLES				
STENELMIS SP.			10		
OPTIOSERVUS SP.			25		
EPHEMEROPTERA	MAYFLIES				
BAETIS SP.			2		
STENONEMA ITHACA			1		
HEPTAGENIA SP.			1		
PARALEPTOPHLEBIA SP.			6		
EURYLOPHELLA SP.			2		
PLECOPTERA	STONEFLIES				
PERLESTA SP.			4		
TRICHOPTERA	CADDIS FLIES				
CHIMARRA SP.			2		
HYDROPSYCHE SLOSSONAE			2		
DIPLECTRONA SP.			24		

MACROINVERTEBRATE ANALYSIS
STATION - 4MTR12101
DATE AND TIME - 7 JUN 95 AT 1040
DEPTH - 1 FT.

+ TOTAL SAMPLE *+*

SAMPLER TYPE - SURBER AREA = 144 SQ. IN.

NUMBER OF SUBSAMPLES = 3

TOTAL AREA = 3.00 SQ. FT.

*** TAXA ***

SCIENTIFIC NAME	COMMON NAME	STAGE OF DEVELOPMENT	TOTAL COUNT	WET WEIGHT GRAMS	DRY WEIGHT GRAMS
HYDROPTILA SP.			5		
NEOPHYLAX SP.			1		
MEGALOPTERA					
NIGRONIA SP.			2		
ANNELIDA					
OLIGOCHAETA	AQUATIC WORMS		26		

MACROINVERTEBRATE ANALYSIS
STATION - 4MTR12101
DATE AND TIME - 7 JUN 96 AT 1040
DEPTH - 1 FT.

+ TOTAL SAMPLE *+*

- SUMMARY *-*

SAMPLER TYPE - SURBER AREA = 144 SQ. IN.

NUMBER OF SUBSAMPLES = 3

TOTAL AREA = 3.00 SQ. FT.

TOTAL NUMBER OF TAXA = 23

AVERAGE NUMBER OF TAXA = 12.3

AVERAGE NUMBER OF ORGANISMS PER SQ. FT. = 241.7

AVERAGE DIVERSITY INDEX PER SAMPLE = 2.04

AVERAGE WET WEIGHT IN MG/SQ. FT. = 3191.3

AVERAGE DRY WEIGHT IN MG/SQ. FT. = 387.6

APPENDIX E

MONTOUR RUN WATERSHED
RESULTS OF MAY AND JUNE 1996
ELECTROFISHING SURVEYS

APPENDIX E
MONTOUR RUN WATERSHED
RESULTS OF MAY AND JUNE 1996
ELECTROFISHING SURVEYS

E.1. Montour Run @ Mile 11.5, 8 May 1996.
STATION 4 MTR 1 3115

	Number	Range (mm)	Total Weght (grams)	Number /Hour (CPUE)	Kilograms /Hour	Number /Hectare (PPUE)	Kilograms /Hectare
Blacknose dace	20	32-59	22	118	0.13	1,379	1.52
Creek chub	71	46-139	228	418	1.34	4,897	15.72
White sucker	3	71-95	16	18	0.09	207	1.10
TOTAL	94		266	553	1.56	6,483	18.34

SURVEY PARAMETERS						
Field Water Quality	10.67 °C	D.O. 10.77 mg/L	pH 7.82	Conductivity 1147 umhos/cm	Time 0930	Date 8 May 96
Participants	HOSKIN, KORYAK, STAFFORD, PAGE					
Effort	0.17 hr		Time: 0900-0915			
AC Output	125 volts		225 Watts			

E.2.a. Montour Run @ Mile 6.6, 8 May 1996.
STATION 4 MTR 1 3066

	Number	Range (mm)	Total Weight (grams)	Number /Hour (CPUE)	Kilograms /Hour	Number /Hectare (BPUE)	Kilograms /Hectare
Golden shiner	1	-100	10	3	0.03	21	0.21
Blacknose dace	2	48-52	4	6	0.01	42	0.08
Creek chub	13	80-145	215	39	0.65	270	4.47
Golden redhorse	2	382-413	1,407	6	4.26	42	29.25
White sucker	11	192-265	1,304	33	3.95	229	27.11
TOTAL	**29**		**2,940**	**88**	**8.91**	**603**	**61.12**

SURVEY PARAMETERS

Field Water Quality	17.37 °C	D.O. 7.80 mg/L	pH 7.52	Conductivity 818 umhos/cm	Time 0845	Date 7 Jun 96
Participants	HOSKIN, KORYAK, STAFFORD, PAGE					
Effort	0.33 hr		Time: 1312-1332			
AC Output	125 volts		250 Watts			

E.2.b. Montour Run @ Mile 6.6, 7 June 1996.
STATION 4 MTR 1 3066

	Number	Range (mm)	Total Weight (grams)	Number /Hour (CPUE)	Kilograms /Hour	Number /Hectare	Kilograms /Hectare
Rainbow trout	2	290-322	775	5	1.80	42	16.15
Brook trout	1	-295	265	2	0.62	21	5.52
Carp	3	403-519	4,600	7	10.70	63	95.83
Creek chub	3	67-140	41	7	0.10	63	0.85
Shorthead redhorse	1	-389	525	2	1.22	21	10.94
White sucker	2	221-272	345	5	0.80	42	7.19
Freshwater drum	1	-337	490	2	1.14	21	10.21
TOTAL	**13**		**7,041**	**30**	**16.37**	**271**	**146.69**

SURVEY PARAMETERS

Field Water Quality	17.37 °C	D.O. 7.80 mg/L	pH 7.52	Conductivity 818 umhos/cm	Time 0845	Date 7 Jun 96
Participants	HOSKIN, KORYAK, BALDIZAR					
Effort	0.43 hr		Time: 0845-0911			
AC Output	100 volts		1.5 Amps			

E.3. Montour Run @ Mile 2.8, 8 May 1996.
STATION 4 MTR 1 3028

	Number	Range (mm)	Total Weight (grams)	Number /Hour (CPUE)	Kilograms /Hour	Number /Hectare (BPUE)	Kilograms /Hectare
Rainbow trout	1	-256	144	3	0.36	17	2.48
Brook trout	2	230-249	273	5	0.68	34	4.71
Carp	2	321-531	2,225	5	5.56	34	38.36
White sucker	2	267-304	506	5	1.27	34	8.72
Quillback	4	319-421	2,384	10	5.96	69	41.10
Bluegill	2	61-62	10	5	0.03	34	0.17
Freshwater drum	3	352-366	1,276	8	3.19	52	22.00
TOTAL	**16**		**6,818**	**40**	**17.05**	**276**	**117.55**

SURVEY PARAMETERS

Field Water Quality	18.24 °C	D.O. 8.51 mg/L	pH 7.64	Conductivity 851 umhos/cm	Time 0950	Date 7 Jun 96
Participants	HOSKIN, KORYAK, BALDIZAR					
Effort	0.40 hr		Time: 1020-1044			
AC Output	100 volts		1.5 amps			

E.4. Montour Run @ Mile 0.1, 7 June 1996.
STATION 4 MTR 1 3001

	Number	Range (mm)	Total Weight (grams)	Number /Hour (CPUE)	Kilograms /Hour	Number /Hectare	Kilograms /Hectare
Carp	14	125-530	16,560	40	47.31	144	170.72
Golden shiner	1	-77	9	3	0.03	10	0.09
Golden redhorse	2	385-454	1,656	6	4.73	21	17.07
Shorthead redhorse	1	-266	180	3	0.51	10	1.86
Black redhorse	1	-203	84	3	0.24	10	0.87
Smallmouth bass	1	-322	410	3	1.17	10	4.23
Bluegill	2	65-95	15	6	0.04	21	0.15
TOTAL	**22**		**18,914**	**63**	**54.04**	**227**	**194.99**

SURVEY PARAMETERS

Field Water Quality	18.7 °C	D.O. 8.17 mg/L	pH 7.63	Conductivity 988 umhos/cm	Time 1145	Date 7 Jun 96
Participants	HOSKIN, KORYAK, BALDIZAR					
Effort	0.35 hr		Time: 1215-1236			
AC Output	150 volts		1.5 Amps			

E.5. Meek's Run, 8 May 1996.
STATION 4 MTR 1 2101

	Number	Range (mm)	Total Weight (grams)	Number /Hour (CPUE)	Kilograms /Hour	Number /Hectare (8PUE)	Kilograms /Hectare
Brook trout	3	213-227	318	18	1.87	130	13.83
Blacknose dace	11	42-68	15	65	0.09	478	0.65
Creek chub	23	58-104	128	135	0.75	1000	5.57
Sand shiner	1	-53	2	6	0.01	43	0.09
White sucker	8	71-298	680	47	4.00	348	29.57
Spotted bass	3	222-238	413	18	2.43	130	17.96
TOTAL	**49**		**1,556**	**288**	**9.15**	**2,130**	**67.65**

SURVEY PARAMETERS

Field Water Quality	16.89 °C	D.O. 10.72 mg/L	pH 8.09	Conductivity 574 umhos/cm	Time 1040	Date 7 Jun 96
Participants	HOSKIN, KORYAK, BALDIZAR					
Effort	0.17 hr		Time: 1158-1208			
AC Output	200 volts		240 watts			

E.6. Trout Run, 7 June 1996.
STATION 4 MTR 1 2501

	Number	Range (mm)	Total Weight (grams)	Number /Hour (CPUE)	Kilograms /Hour	Number /Hectare	Kilograms /Hectare
Blacknose dace	26	41-55	30	313	0.36	2,955	3.41
Creek chub	34	42-126	139	410	1.67	3,864	15.80
White sucker	12	105-190	407	145	4.90	1,364	46.25
TOTAL	**72**		**576**	**867**	**6.94**	**8,182**	**65.45**

SURVEY PARAMETERS

Field Water Quality	13.71 °C	D.O. 10.57 mg/L	pH 7.88	Conductivity 544 umhos/cm	Time 1335	Date 18 Apr 96
Participants	HOSKIN, KORYAK, STAFFORD, PAGE					
Effort	0.083 hr		Time: 1401-1406			
AC Output	200 volts		260 watts			

E.7. East Fork McClarens Run, 8 May 1996.
STATION 4 MTR 1 2615

	Number	Range (mm)	Total Weight (grams)	Number /Hour (CPUE)	Kilograms /Hour	Number /Hectare (BPUE)	Kilograms /Hectare
Blacknose dace	91	45-85	165	607	1.10	7,982	14.47
Creek chub	176	42-183	1,487	1,173	9.91	15,439	130.44
White sucker	11	91-253	849	73	5.66	965	74.47
TOTAL	**278**		**2,501**	**1,853**	**16.67**	**24,386**	**219.39**

SURVEY PARAMETERS

Field Water Quality	12.03 °C	D.O. 11.29 mg/L	pH 8.43	Conductivity 994 umhos/cm	Time 1045	Date 8 May 96
Participants	HOSKIN, KORYAK, STAFFORD, PAGE					
Effort	0.15 hr		Time: 1014-1023			
AC Output	125 volts		200 watts			