

**UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY**

**PRELIMINARY EVALUATION REPORT
WATER POLLUTION CONTROL FACILITY
NEW HOLLAND, PENNSYLVANIA**

CONTRACT NO. 68-03-2223

Gannett Fleming Corddry and Carpenter, Inc.
Engineers



Harrisburg, Pennsylvania

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ENGINEERS
HARRISBURG PENNSYLVANIA

U.S. EPA Region III
Regional Center for Environmental
Information
1650 Arch Street (3PM52)
Philadelphia, PA 19103

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SUMMARY

A preliminary evaluation was conducted at a 1.0 mgd trickling filter treatment plant owned by the New Holland Borough Authority. Administrative procedures at the plant were found to be satisfactory. The treatment plant currently employs two full-time operators. Employment of an additional operator for maintenance purposes is recommended.

Three areas of operation were identified as needing some improvement or modification. The recommendations include:

1. Initiate a primitive maintenance schedule to eliminate equipment breakdowns.
2. Institute proper housekeeping procedures to achieve a cleaner and better functioning plant.
3. Authorize the preparation of an operation and maintenance manual for the plant.

INTRODUCTION

This report sets forth the findings and recommendations from a preliminary evaluation of a biological wastewater treatment facility at New Holland, Pennsylvania. The evaluation was conducted under the U. S. Environmental Protection Agency (EPA) Contract No. 68-03-2223 by Gannett Fleming Corddry and Carpenter, Inc., Harrisburg, Pennsylvania. The New Holland plant is one of a number of biological wastewater treatment plants being studied under this contract. It is anticipated that this sampling of treatment facilities will help to identify operational and maintenance program improvements which will enable the performance of some treatment plants to be upgraded with minimal capital expenditures.

The evaluation program discussed in this report consisted of field inspection, discussions with supervisory and administrative personnel, process sampling and analysis, and collection of past operating and performance data. Operational procedures and problems encountered in the past were discussed with the treatment plant staff. Treatment efficiency during the study was evaluated from grab samples of influent, effluent, and intermediate flows collected daily. Past performance was assessed by analysis of one year's operating records supplied by the plant superintendent. Administrative, staffing, and budgetary information were also obtained during this preliminary evaluation.

DESCRIPTION OF FACILITY

New Holland is located approximately 15 miles northeast of Lancaster, Pennsylvania. The Borough's wastewater treatment plant presently provides sanitary sewage services for a population of 4000. In addition to domestic wastewater, approximately 10 percent of the total flow to the plant is industrial wastewater. Cheese processing and paint manufacturing represent the major industries served by the treatment facility.

Constructed in 1940, the original plant consisted of primary clarification, trickling filtration, secondary clarification, and chlorination. Additional primary and secondary clarifiers, and a sludge digester were added in 1959. The plant has been designed to accommodate an average flow of 1.0 mgd. Separate stormwater and sewage collection systems are provided at New Holland.

Infiltration/inflow problems with the sewage system have been experienced in the past; however, repairs to the system to correct the problems are gradually being made.

Treated effluent from the New Holland plant is discharged to Mill Creek. Mill Creek is a tributary of Conestoga Creek which, in turn, is a tributary of the Susquehanna River. The National Pollutant Discharge Elimination System (NPDES) permit program sets forth the various effluent

requirements for the New Holland plant for discharging to Mill Creek. These requirements are divided into interim and final limitations. Interim requirements are in effect until July 1, 1977, and final requirements are to be met after that date. The permit requirements are as follows:

Interim

<u>Parameter</u>	<u>30-day requirement</u>	<u>7-day requirement</u>
BOD ₅	30 mg/l	45 mg/l
suspended solids	30 mg/l	45 mg/l
Fecal coliform	200 colonies/100 ml	400 colonies/100 ml
pH	6.0 to 9.0	6.0 to 9.0

Final

BOD ₅	6 mg/l	6 mg/l
suspended solids	25 mg/l	25 mg/l
Fecal coliform	200 colonies/100 ml	400 colonies/100 ml
pH	6.0 to 9.0	6.0 to 9.0
Ammonia-Nitrogen	2.0 mg/l	2.0 mg/l
PO ₄ as P	2.0 mg/l	2.0 mg/l
Dissolved oxygen	5.0 mg/l	5.0 mg/l

Additional effluent requirements for the plant are provided under a permit issued by the Pennsylvania Department of Environmental Resources (DER). The requirements under this permit, however, either parallel or are less stringent than those set forth by the NPDES.

DER has established water quality criteria for the section of Mill Creek at the point of discharge. The principal uses of the stream include water supplies for domestic and industrial concerns, water-contact recreation, irrigation and propagation of wildlife, fish, and other aquatic

life including cold-water fishes. In addition, the region has been designated as a conservation area.

The New Holland facility utilizes the trickling filtration process to accomplish secondary treatment. Ferric chloride and polymer are initially added to the influent wastewater for increased primary solids removal. Two barminutors then each receive half of the flow. Following preliminary treatment, the wastewater enters the primary sedimentation stage, consisting of two rectangular settling tanks and one circular clarifier. The effluent from the primary stage is then biologically treated by two high-rate trickling filters. Following the biological step, final settling is provided by one circular clarifier. Disinfection occurs in the chlorine contact tanks, which comprise both the original rectangular settling tanks and the original chlorine contact tanks. The final effluent is discharged to Mill Creek. Settled sludge is anaerobically digested and hauled to nearby farms for disposal. Design characteristics for the individual unit processes within the facility are summarized in Appendix A. Figure I provides a process flow schematic of the facility.

WASTEWATER TREATMENT FACILITIES
NEW HOLLAND, PA.

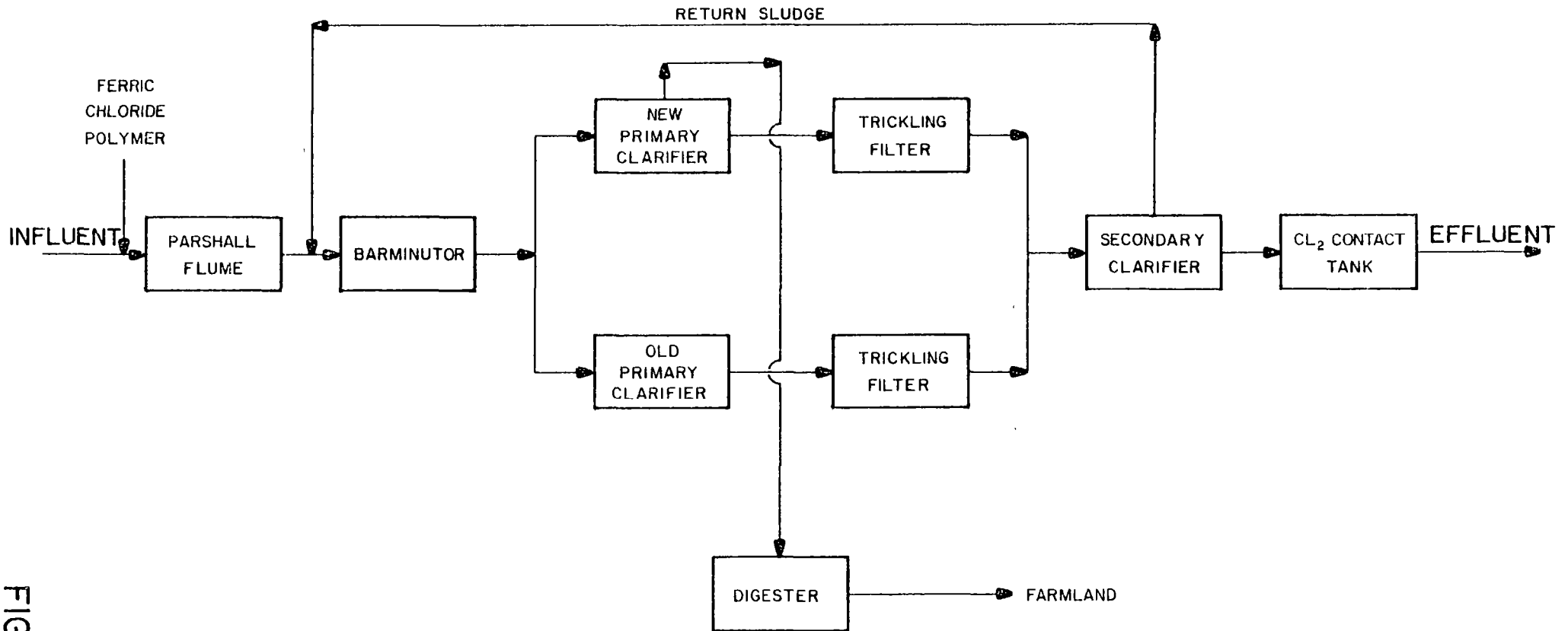


FIGURE 1

TREATMENT PLANT EVALUATION

General Performance

The New Holland treatment facility was evaluated to determine whether its performance conforms with the design intent and permit requirements. Data regarding performance were compiled from three sources. The first, EPA Form 7500-5, "Report on Operation and Maintenance of Wastewater Treatment Plant," was completed during the field investigations conducted by Gannett Fleming Corddry and Carpenter, Inc. personnel. This document is presented herein as Appendix B. The available operating records maintained by treatment plant personnel served as a second source. This information as well as important operational parameters, is set forth in Appendix C. The final source included a sampling and analysis program of the influent and effluent wastewater flows and characteristics for each major plant unit process. This program was the major activity during a three-day field study conducted at the plant as part of the preliminary evaluation. The results of the survey sampling and analysis program are shown in Table I. Table II presents a summary comparison of recent operating records, survey data, design parameters, and permit requirements.

As indicated in Table II, wastewater parameters such as flow, BOD₅, settleable solids, suspended solids, fecal coliform, chlorine residual, and pH are monitored regularly at the New Holland plant. From January 1976 through December 1976, the average daily wastewater flow was 0.645 million

TABLE I

Preliminary Evaluation Survey Analytical Results
Wastewater Treatment Facility
New Holland, Pennsylvania

	<u>2/8/77</u>	<u>2/9/77</u>
<u>Influent Wastewater</u>		
Flow (mgd)	0.799	0.728
BOD ₅ (mg/l)	1018	--
Suspended Solids (mg/l)	484	600
Volatile Suspended Solids (mg/l)	452	--
Settleable Solids (ml/l)	15	15
Dissolved Oxygen (mg/l)	4.9	5.7
pH	7.8	7.3
Temperature (°C)	11	10
<u>Original Primary Effluent</u>		
BOD ₅ (mg/l)	814	--
Suspended Solids (mg/l)	472	464
Settleable Solids (ml/l)	27	18
pH	6.7	7.2
<u>New Primary Effluent</u>		
BOD ₅ (mg/l)	641	--
Suspended Solids (mg/l)	264	204
Settleable Solids (ml/l)	Trace	0.1
pH	6.8	6.9
<u>Trickling Filter Effluent</u>		
Dissolved Oxygen (mg/l)	5.1	2.9
pH	7.3	7.3
<u>Final Clarifier Effluent</u>		
BOD ₅ (mg/l)	540	--
Suspended Solids (mg/l)	196	196
Volatile Suspended Solids (mg/l)	184	--
<u>Final Effluent</u>		
BOD ₅ (mg/l)	552	--
Suspended Solids (mg/l)	200	174
Volatile Suspended Solids (mg/l)	186	--
Settleable Solids (ml/l)	0.1	Trace
Dissolved Oxygen (mg/l)	5.5	5.1
pH	6.8	7.1
Chlorine Residual	0.2	0.1

TABLE I (Cont'd)

	<u>2/8/77</u>	<u>2/9/77</u>
<u>Primary Clarifier Sludge</u>		
Suspended Solids (mg/l)	40,000	--
Volatile Suspended Solids (mg/l)	35,800	--
<u>Secondary Clarifier Sludge</u>		
Suspended Solids (mg/l)	--	1,060
<u>Liquid Digested Sludge</u>		
Suspended Solids (mg/l)	42,900	--
Volatile Suspended Solids (mg/l)	34,000	--
<u>Digester Supernatant</u>		
Alkalinity (mg/l)	--	920
BOD ₅ (mg/l)	--	2,741
Suspended Solids (mg/l)	--	550
Volatile Suspended Solids (mg/l)	--	500
Settleable Solids (ml/l)	5	--
Volatile Acids	--	3,500
pH	5.9	--

TABLE 11
A COMPARISON OF OPERATING PERFORMANCE, DESIGN INTENT, AND EFFLUENT REQUIREMENTS
WASTEWATER TREATMENT FACILITY
NLW HOLLAND, PENNSYLVANIA

	Plant Operating Records		Preliminary Plant Evaluation Data		Design		NPDES Effluent Requirements	
	Average	Peak	Average	Peak	Average	Peak	30-day Average	7-day Average
FLOW (mgd)								
Domestic	0.580		0.688					
Industrial	0.065		0.076					
Total	0.645	1.720	0.764	0.799	1.00			
SETTLABLE SOLIDS (ml/l)								
Influent	10.9	50.0	15.0	15.0				
Effluent	0.2	0.6	0.1	0.1				
Percent Removal	97	99	99	99				
SUSPENDED SOLIDS (mg/l)								
Influent	228	856	542	600	220			
Effluent	23	102	186	192	33		25	25
Percent Removal	89	99	66	70	85			
5-DAY BOD (ml/l)								
Influent	263	619	1,018		220			
Effluent	38	66	548	578	33		6	6
Percent Removal	84	97	54		85			
COD								
Influent								
Effluent								
Percent Removal								
AMMONIA NITROGEN (as N)								
Influent								
Effluent							2.0	2.0
Percent Removal								
TOTAL PHOSPHORUS (as P)								
Influent								
Effluent							2.0	2.0
Percent Removal								
DISSOLVED OXYGEN (mg/l)								
Effluent	6.2	11.5	5.3	5.5			Minimum 5.0	Minimum 5.0
FECAL COLIFORM (No./100 ml)								
Effluent	6.4	2,400	0	0			200	400
CHLORINE RESIDUAL	0.6	1.0	0.1	0.15				

gallons. Influent BOD₅ and suspended solids concentrations for the same period were 263 mg/l and 228 mg/l, respectively. The final effluent BOD₅ concentration was reported to average 38 mg/l, and the suspended solids concentration, 23 mg/l. BOD₅ and suspended solids removals of 84 percent and 89 percent respectively, were obtained. Throughout the 12-month period, the chlorine residual was maintained at an average 0.6 mg/l, while effluent fecal coliform counts averaged 6.4 colonies/100 ml. It should be noted that plant personnel indicated that problems were experienced with the chlorination equipment during the past severe winter. This resulted in deviations from the reported average coliform count.

A comprehensive sampling program was performed during the preliminary evaluation. However, the data obtained were the result of a three-day study and may not be representative of average conditions on a long-term basis. Columns 3 and 4 of Table I summarize the major operating parameters investigated. Presented together with the influent and effluent data are sampling data for the individual unit processes and the intermediate stream. Sampling points included the primary clarifier effluent, trickling filter effluent, and final clarifier effluent. Analyses conducted on samples from the major process streams included temperature, BOD₅, suspended solids, volatile solids, settleable solids, pH, and dissolved oxygen. The various sludge handling process streams were also evaluated. Specifically, primary sludge, secondary sludge and digester contents were examined for volatile and suspended solids. Digester supernatant was analyzed for BOD₅ and volatile suspended and suspended solids.

The results of the three-day sampling program indicated that during that period the plant was not in conformance with the NPDES effluent limitations. However, it was noted that at the time of the study the plant was experiencing problems resulting from what were believed to be wastes from a local cheese processing industry. This industrial waste caused extremely high influent BOD₅ and suspended solids concentrations. The BOD₅ concentration was 2.8 times the normal level, while the suspended solids concentration was 1.4 times the previous year's average. BOD₅ and suspended solids removal for the preliminary study period differed substantially from the year's operating data, probably as a result of the sudden overload condition. Removal for the study period averaged 54 percent and 66 percent respectively. For the previous year's operating data, similar averages were 84% and 89%. Effluent dissolved oxygen concentrations during the evaluation averaged 5.3 mg/l. In order to compare the plant effluent quality with NPDES requirements, 7-day and 30-day average concentrations were computed using actual plant operating data. This information, presented in Table III, indicates that the maximum 7-day average BOD₅ and suspended solids concentrations were 66 mg/l and 102 mg/l, respectively, exceeding the respective interim permit limitations 30 percent and 14 percent of the time. Similarly, the maximum 30-day average BOD₅ and suspended solids concentrations were found to be 66 mg/l and 49 mg/l, respectively, while the limitations as defined by secondary treatment were exceeded 92 percent and 50% of the time. The 7-day and 30-day average performance parameters are summarized in Table IV.

NEW HOLLAND, PA WASTEWATER TREATMENT PLANT
 OPERATING REPORT 01/01/76 - 12/31/76
 7 DAY AND 30 DAY AVERAGES

7 DAY AVERAGES						30 DAY AVERAGES					
DATE OF LAST DAY	WASTEWATER FLOW (MGD)	FINAL EFF D.O. (MG/L)	FINAL EFF BOD(5 DAY) (MG/L)	FINAL EFF SUS SOLIDS (MG/L)	FECAL COLIFORM (ORG./100)	DATE OF LAST DAY	WASTEWATER FLOW (MGD)	FINAL EFF D.O. (MG/L)	FINAL EFF BOD(5 DAY) (MG/L)	FINAL EFF SUS SOLIDS (MG/L)	FECAL COLIFORM (ORG./100)
1- 7-76	0.6729	9.800	C.C	0.0	0.0						
1-14-76	0.6657	9.100	24.50	C.C	0.0						
1-21-76	0.9414	11.50	C.C	28.00	3.162						
1-28-76	0.6986	0.0	0.0	42.00	0.0	1-30-76	0.7363	10.13	38.00	35.00	6.694
2- 4-76	0.5486	9.300	47.00	25.00	5.477						
2-11-76	0.4571	9.200	43.00	23.00	0.0						
2-18-76	0.4571	0.0	0.0	50.00	33.23						
2-25-76	0.4486	0.0	56.00	22.00	1.000	2-29-76	0.4613	9.250	43.33	30.00	5.764
3- 3-76	0.4929	0.0	60.00	48.00	42.00						
3-10-76	0.6514	0.0	C.C	27.00	0.0						
3-17-76	0.6400	0.0	C.C	33.00	1.000						
3-24-76	0.6229	0.0	0.0	38.00	0.0	3-30-76	0.6300	0.0	60.00	36.50	6.769
3-31-76	0.6629	0.0	0.0	0.0	50.00						
4- 7-76	0.6400	0.0	35.00	30.50	1.000						
4-14-76	0.6529	0.0	46.50	0.0	22.00						
4-21-76	0.6314	0.0	0.0	36.00	0.0						
4-28-76	0.6214	0.0	28.00	31.00	1.000	4-29-76	0.6467	0.0	35.60	27.20	5.977
5- 5-76	0.6443	0.0	22.00	22.50	10.77						
5-12-76	0.6400	0.0	36.00	0.0	13.00						
5-19-76	0.6371	0.0	27.00	28.00	7.000						
5-26-76	0.6414	0.0	C.C	37.00	8.000	5-29-76	0.6320	0.0	34.00	32.75	6.177
6- 2-76	0.5743	0.0	36.50	29.00	1.000						
6- 9-76	0.6029	0.0	0.0	47.00	23.00						
6-16-76	0.6657	0.0	28.50	47.50	1.000						
6-23-76	0.6671	0.0	C.C	0.0	0.0	6-28-76	0.6300	0.0	25.50	41.50	6.817
6-30-76	0.6343	0.0	21.00	29.00	25.30						
7- 7-76	0.6329	0.0	0.0	0.0	28.00						
7-14-76	0.6800	5.100	37.00	30.50	1.000						
7-21-76	0.6714	5.400	47.00	0.0	0.0						
7-28-76	0.6557	5.080	33.00	102.0	0.0	7-28-76	0.6627	5.189	37.00	49.25	5.292
8- 4-76	0.6214	5.740	50.00	37.00	69.00						
8-11-76	0.7257	6.260	64.00	8.667	1.000						
8-18-76	0.6714	5.233	25.00	18.33	1.000						
8-25-76	0.6643	5.725	28.00	14.75	1.000	8-27-76	0.6737	5.742	37.00	19.07	2.332
9- 1-76	0.6571	6.020	18.00	10.75	198.0						
9- 8-76	0.6086	6.000	0.0	11.50	1.000						
9-15-76	0.6229	5.760	12.00	8.800	190.0						
9-22-76	0.7829	4.600	36.00	12.00	0.0	9-26-76	0.6543	5.923	33.33	9.923	33.51
9-29-76	0.6143	6.000	52.00	15.00	28.00						
10- 6-76	0.7460	5.650	26.00	15.75	0.0						
10-13-76	0.7043	6.050	28.00	12.40	1.000						
10-20-76	0.6686	7.150	53.00	15.00	0.0	10-26-76	0.6954	6.136	34.25	13.94	4.982
10-27-76	0.7014	5.825	30.00	14.00	22.00						
11- 3-76	0.6529	6.267	54.00	16.33	1.000						
11-10-76	0.6500	5.967	39.00	20.25	5.000						
11-17-76	0.5986	7.500	C.C	20.00	1.000						
11-24-76	0.6686	7.750	43.00	26.00	15.00	11-25-76	0.6425	6.410	45.33	20.67	2.371
12- 1-76	0.6071	0.0	C.C	0.0	0.0						
12- 8-76	0.7300	0.0	0.0	0.0	0.0						
12-15-76	0.6771	6.400	C.C	46.00	10.82						
12-22-76	0.6543	6.867	66.00	31.00	1.000	12-25-76	0.6737	6.680	66.00	37.00	4.891
12-29-76	0.6357	6.733	C.C	32.67	63.00						
12-31-76	0.7700	7.100	47.00	24.00	0.0	12-31-76	0.6920	6.825	47.00	30.50	63.00

TABLE IV

7- AND 30-CONSECUTIVE-DAY
AVERAGE PERFORMANCE SUMMARY
WASTEWATER TREATMENT FACILITY
NEW HOLLAND, PENNSYLVANIA

7-CONSECUTIVE-DAY AVERAGE CONCENTRATION

	<u>Suspended Solids</u>	<u>BOD₅</u>	<u>Fecal Coliform</u>
Maximum Value	102 mg/l	66 mg/l	198/100 ml
Number of Times Permit Limitation Exceeded	6	10	0
Percent of Time Permit Limitation Exceeded	14	30	0

30-CONSECUTIVE-DAY AVERAGE CONCENTRATION

	<u>Suspended Solids</u>	<u>BOD₅</u>	<u>Fecal Coliform</u>
Maximum Value	49 mg/l	66 mg/l	33/100 ml
Number of Times Permit Limitation Exceeded	6	11	0
Percent of Time Permit Limitation Exceeded	50	92	0

Process Performance

For a thorough evaluation of the treatment performance, the operational efficiency of key unit processes within the plant must be examined. In this section, therefore, the analytical data and design parameters compiled for these processes are compared with corresponding data for properly designed and operated facilities. For comparison, sources of reference include the EPA process design manual for "Upgrading Existing Wastewater Treatment Plant," and various wastewater treatment texts.

The original primary settling tanks at the New Holland plant were designed to accommodate an overflow rate of 1,100 gallons per day per square foot (gpd/ft^2) at an average influent flow of 1.0 mgd. The new primary clarifier was designed for an overflow rate of 700 gpd/ft^2 at the same 1.0-mgd flow. These figures assume an equal distribution of flow between the old and new clarifiers. At these surface loading rates, detention times are approximately 2.5 hours for the original settling tanks and 2 hours for the new clarifier. As indicated, the average flow to the facility is currently 0.65 mgd. Therefore, the present actual overflow rates are 460 gpd/ft^2 for the new, and 720 gpd/ft^2 for the old clarifiers. Actual detention times are 3.1 hours for the new, and 4.0 hours for the old clarifiers. The EPA process design literature recommends that overflow rates range from 800 to 1200 gpd/ft^2 .

During the three-day study, raw waste BOD_5 and suspended solids concentration averaged 1,018 mg/l and 542 mg/l, respectively. BOD_5 and

suspended solids concentration in the new primary clarifier effluent were approximately 641 mg/l and 234 mg/l. Similarly, BOD₅ and suspended solids concentrations for the original primary clarifier effluent were 814 mg/l and 468 mg/l, respectively. Therefore, the respective BOD₅ and suspended solids primary removal efficiencies were 37 percent and 57 percent for the new clarifier, while the old primary clarifier removal efficiencies were 20 percent and 14 percent for the same pollutants. The effluent settleable solids removal efficiency for the new primary clarifier averaged 99 percent. Effluent settleable solids concentrations for the original primary clarifier were higher than those of the raw waste. Plant operating records do not indicate the unbalanced primary clarifier performance shown during the survey. According to operating records, the new primary clarifier averaged an 82 percent removal of settleable solids, and the original primary settling tanks, an 89 percent removal.

The secondary treatment stage of the New Holland plant consists of biofiltration and final clarification. The trickling filters were designed to accommodate hydraulic and organic loads of 5.0 mgd/acre and 19.5 lb BOD₅/1000 ft³/day, respectively. An examination of the operating data shows that hydraulic and organic loads averaged 3.07 mgd/acre, excluding recirculation, and 17.4 lb BOD₅/1000 ft³/day, respectively. Because primary effluent BOD₅ data were not available, a reduction of 25 percent in the raw waste BOD₅ load through the primary clarifiers was assumed for calculating the organic load on the biological system. In

addition, the recirculation ratio for the same period was determined to be 0.7. The EPA process design manual recommends that high-rate trickling filters provide for hydraulic loads of 10 to 30 mgd/acre and organic loads of 30 to 60 lb BOD₅/1000 ft³/day. Including recirculation, hydraulic loads of 5.2 mgd/acre are experienced at New Holland. Therefore, the design of the trickling filters would be classified as conservative.

The final clarifier at New Holland was designed to provide approximately 1.9 hours of detention time at 1.4 mgd (0.7 recirculation ratio). Final clarifier overflow rates currently average 330 gpd/ft². The design overflow rate is 560 gpd/ft², including recirculation. The EPA process design manual suggests that overflow rates for secondary clarifiers following trickling filters range from 400 to 600 gpd/ft². A review of the three-day evaluation data indicates that the final clarifier effluent suspended solids concentrations averaged 196 mg/l, an obviously excessive concentration. However, this was under the previously described condition of extremely high load due to industrial wastes. Under normal operating conditions, secondary clarifier effluent is not monitored, so unit performance is unknown. However, the process load and design figures would indicate that any performance problems in secondary clarification during normal loading would be a result of poor sludge characteristics, rather than clarifier design.

The chlorination facilities at the New Holland plant were examined with regard to design and performance. At an average flow of

1.0 mgd, the chlorine contact tanks provide approximately 20 minutes, detention. The chlorine residual is usually maintained at about 0.6 mg/l, although during the three-day study a 0.1-mg/l residual was reported. At present flows, secondary effluent undergoes a 23-minute contact time prior to final discharge. The "Recommended Standards for Sewage Works-Great Lakes-Upper Mississippi River Board of Sanitary Engineer," commonly referred to as the Ten-State Standards, suggests a contact time of at least 15 minutes during peak flow periods. Chlorine residuals commonly range from 0.2 to 0.5 mg/l in properly operated facilities. Inasmuch as the fecal coliform analyses indicated that no colonies were present in the evaluation study samples, and the average fecal coliform count during the 12-month period prior to the evaluation was 6.4 cells per 100 ml, it appears that disinfection facilities at the New Holland plant are adequate and are performing satisfactorily.

According to plant operating records, the primary clarifiers, both old and new, are not performing adequately. Although settleable solids analysis is the only one regularly performed on primary effluent, indications are that the percent removals are not sufficient. Settleable solids should be almost completely removed, allowing only suspended matter to pass into the primary effluent. The additional settleable solids place an increased burden on the trickling filters and final clarifier.

During the three-day study, settleable and suspended solids analyses were performed on both primary effluents. As indicated, the new primary clarifier far exceeded the performance of the old primary

clarifiers, a condition which was apparently related to the unusually high influent pollutant concentrations observed. The inordinately high suspended solids loads were due, according to the plant personnel, to effluent from a cheese processing plant. Although the cheese processing plant has pretreatment facilities, New Holland personnel believed that those facilities were not operating properly at the time of the high BOD_5 and suspended solids loads in the plant. This had been documented by the plant's consulting engineer. Unequal loads on the primary clarifiers caused by blockages of their respective bar screens may have caused the unbalanced performance of the new primary clarifier in relation to the old.

At the time of the study, both barminutors were observed to be inoperative and awaiting parts for repairs. During such times the bypass bar screens must be manually cleaned several times per day. Failure to do so results in clogging of the bar screens and an extremely unbalanced flow distribution to the clarifiers. Such an unbalance can overload one clarifier, causing high solids carry-over for that unit. Poor primary clarification will naturally interfere with the efficiency of the trickling filters.

The sludge treatment facilities at the New Holland plant were also evaluated. Sludge from the primary clarifiers is pumped directly to the anaerobic digester. Sludge from the secondary clarifier is returned to the head of the plant and settled in the primary clarifier. After digestion in the unheated digester, sludge is trucked as a liquid to nearby farms.

A mass balance study was performed to compare the pounds of solids removed from the wastewater with that removed from the digester. For the recorded 12-month period, an average 2,720 gallons per day were hauled from the digester, at an average concentration of 39,900 mg/l. Thus, for the year, the average rate of removal of solids from the digester was 910 lbs/day. The average influent suspended solids concentration was 228 mg/l, which is equivalent to a daily influent suspended solids load of 1,230 pounds. Effluent suspended solids concentrations averaged 23 mg/l for the same period. Thus, solids leaving the plant in the effluent amounted to approximately 120 lbs/day. Net solids removal through treatment averaged 1,010 lbs/day. This value is reasonably close to the above solids removal rate from the digester of 910 lbs/day.

The above analysis also compares well with published data. For example, according to EPA figures, approximately 1,500 pounds of solids are typically generated per million gallons of wastewater treated in a plant such as New Holland. Therefore, under average flow conditions, (approximately (0.645) at New Holland, one would expect about 1,000 lbs/day of solids to be produced for disposal.

OPERATION AND MAINTENANCE

During the three-day study, various characteristics of the facility operation and maintenance were evaluated. Table V presents a summary evaluation of plant performance indicators at New Holland. As shown, the overall operation of the plant is adequate, though some areas of maintenance are marginally adequate or inadequate. In general, many items of equipment are worn excessively, are old, or are obsolete. This is due, in part, to the original plant being almost 40 years old.

There is no preventive maintenance program at the plant. Maintenance intervals for the equipment are excessively long, and treatment reliability due to equipment downtime is inadequate. Various pieces of equipment including both barminutors, were inoperative at the time of the survey. This necessitates the frequent manual cleaning of the bar screens. If left unattended, as during weekend operation, the blocked screens cause improper flow proportioning to the primary clarifiers. Another equipment malfunction noted was the inoperative distributor arm on one of the trickling filters. According to plant personnel, this arm periodically ceases operation and causes poor bacterial growth on the rock media. Under such a condition, the performance of the trickling filter is inadequate.

Plant housekeeping was also less than adequate. The control room, office, and work room appeared excessively cluttered. It appears

TABLE V
EVALUATION OF VARIOUS OPERATION AND MAINTENANCE PERFORMANCE INDICATORS
WASTEWATER TREATMENT FACILITY
NEW HOLLAND, PENNSYLVANIA

	<u>Adequate</u>	<u>Marginally Adequate</u>	<u>Inadequate</u>	<u>Nonexistent</u>
PLANT LABORATORY				
Equipment	x			
Condition	x			
Analytical Capabilities	x			
Organization	x			
Records	x			
Sampling Procedures	x			
OPERATION MANUAL				x
Quality and Completeness				
Operating Procedures				
Equipment Information				
Use and Understanding by Operators				
CONTROL PROCEDURES AND RECORDS OF UNIT PROCESSES				
Understanding of Process Fundamentals	x			
Degree of Process Control Exercised	x			
Interpretation and Understanding of Process				
Response to Control Adjustments	x			
Records	x			
MAINTENANCE PROVISIONS AND PROCEDURES				
Routine				
Maintenance Intervals for all Equipment		x		
Spare Parts Inventory	x			
Treatment Reliability (absence of downtime)			x	
"Housekeeping" Procedures		x		
Emergency				
Availability of Backup Units	x			
Parts Accessibility and Procurement		x		
Records of Repairs and Corrective Maintenance	x			
Alarm Systems for Power or Equipment Failure		x		
ADEQUACY OF STAFFING AND SHIFT COVERAGE				
Operation	x			
Maintenance		x		
Laboratory	x			

that there is no system for the storage of equipment, and as a result, equipment is left lying around haphazardly.

No emergency maintenance program has been established at New Holland. Although backup equipment, such as portable pumps, generators and spare chlorinators, are not available for use throughout the plant, emergency units and most parts are readily accessible. Also, major units and equipment, except secondary clarifiers, have been provided in parallel configuration, allowing one unit to handle the entire hydraulic load temporarily, if necessary, during maintenance or repair. In general, emergencies are handled satisfactorily at New Holland. Records of repairs and corrective maintenance are filed at the plant and appear satisfactory.

The laboratory at the New Holland plant contains the necessary equipment for performing the analysis required under the NPDES permit and the process control testing. Analyses of primary clarifier effluent settleable solids and pH are normally conducted twice weekly. Also analyzed twice weekly is the trickling filter effluent dissolved oxygen. Percent total and volatile solids and pH tests are analyzed from samples of wet sludge when it is pumped from the digester. Effluent BOD₅ determinations are performed on final clarifier samples, and all other effluent parameters, on the chlorine contact tank effluent samples. Records of laboratory analyses appear complete and copies are filed and maintained systematically.

The personnel operated and maintain the facility without the aid of an operations manual. The lack of a complete reference manual has apparently

not had deleterious effect on the management of the facility.

Although process control is an important factor in the operation of any biological plant, a biofiltration plant is less amenable to such control than are the suspended growth systems. Nevertheless, the plant personnel are familiar with biological process fundamentals, and they apply these principles where applicable at New Holland. The staff is capable of identifying and developing solutions to process upsets as they occur within the system. In addition, the staff has demonstrated the ability to determine the system's response to various control measures.

ADMINISTRATION

Operations at the New Holland facility are conducted during one shift, 8 hours daily, 5 days weekly. One- to two-hour inspections are made on weekends for pumping operations and routine maintenance. A superintendent, plant operator, and laborer make up the three man staff. Section E of Appendix B presents the estimated labor efforts devoted to the various work areas within the operation of the facility. These estimates represent the actual manpower expenditures as determined through interviews with the plant superintendent.

For comparison, a study of staffing requirements was performed in accordance with the EPA publication "Estimating Staffing for Municipal Wastewater Treatment Facilities." Appendix F sets forth the results of this investigation. As shown, approximately 3.6 persons should be employed to operate and maintain the treatment facility properly. This estimate indicates that the staff size at the facility is deficient by approximately one person. The areas where a need for more manpower is indicated include operation and maintenance. In both of these categories, the present manpower is approximately one-half the amount recommended. All other categories compare favorably with the recommended level of effort. As previously discussed, certain areas of operation and maintenance were found to be in need of improvement. It would appear that an additional person should be employed at the treatment facility. Because the areas of concern require qualified personnel, it would be recommended that any new employee be certified by

the State of Pennsylvania to insure proper operation of the New Holland plant.

The operating budget for the New Holland treatment facility is summarized in Table VI. Total expenses for the year 1976, were approximately \$48,000. Based on the average annual influent flow of 0.645 mgd, the total cost of treatment is approximately 20.4¢ per 1000 gallons treated. This unit cost appears representative of the cost associated with operating and maintaining a facility of the size and type of New Holland. Using the EPA technical report "A Guide to the Selection of Cost-Effective Wastewater Treatment Systems," an estimate of operation and maintenance costs was made for purposes of rough comparison. According to the publication, approximately 18.6¢ per thousand gallons should cover the costs of operation and maintenance at the New Holland plant. However, these estimates do not include the cost of hauling digested liquid sludge to farmlands for ultimate disposal. This cost would increase the estimate so that it would very closely coincide with the actual cost of treatment at New Holland.

An analysis of the budget indicates that approximately 60 percent of the annual expenditures are allocated to operation, while about 40 percent are set aside for maintenance. Although nearly equal, the distribution of funds should be more carefully scrutinized because of the age of the facility. With increasing age, the cost of maintaining the present facility will almost certainly increase, thus requiring more stringent management of expenditures to insure proper maintenance.

TABLE VI

ANNUAL BUDGET
WASTEWATER TREATMENT FACILITIES
NEW HOLLAND, PENNSYLVANIA

Salaries and Wages	\$ 10,700
Maintenance and Repairs	
Machinery and Equipment	\$ 6,800
Contracted Supplies	800
Subtotal	<u>\$ 7,600</u>
Supplies	
Materials	\$ 6,900
Gas, Grease and Oil	1,700
Major and Minor	
Equipment Replacement	<u>1,800</u>
Subtotal	<u>\$ 10,400</u>
Fuel and Electric	\$ 4,100
Chemicals	\$ 10,600
Contracted Services	\$ 1,500
Sludge Hauling	\$ 3,100
Total	\$ 48,000

CONCLUSIONS AND RECOMMENDATIONS

The results of the preliminary evaluation presented in this report indicate that the New Holland wastewater treatment facility is not producing an acceptable effluent and is not consistently meeting regulatory agency permit requirements. Generally, the treatment problems observed at the plant are a result of inadequate maintenance, excessive age of certain items of equipment, and process upset due to equipment failure.

While operational procedures at the plant are adequate, maintenance procedures for many equipment items must be improved. For example, at the time of the survey, the barminutors, trickling filter bearings, and chlorinators were operating improperly and were in need of repair. Poor performance of the plant is attributed by plant personnel, to food processing wastes from local industries, resulting in fluctuating and unreasonable loads. However, analysis of operating data and design parameters indicate that the facility has the capacity to assimilate the wastes it normally receives. If all equipment were properly maintained, and full use of the plant thereby allowed, the occasional shock loads could be better controlled. To allow for improved maintenance programs, an increase in the operating staff size appears necessary. As stated, the EPA staffing estimate indicates that at least one more person should be employed at the treatment plant. According to that estimate, this person is most critically needed in operation and maintenance.

Analysis of budgetary information indicates that funds currently allotted for operation and maintenance of the facility are adequate. In addition to the recommendations discussed, several specific improvements are needed in the operation of the treatment facility. The New Holland plant is currently operated and maintained without the aid of an operations manual. Although the plant performance currently appears to be unaffected by this deficiency, a complete manual should be kept at the facility. Such a reference may prove useful in readily solving future problems at the plant as well as in training future personnel. It should be prepared by a consulting engineering or a similarly qualified firm retained by the Borough of New Holland. As a further improvement, ferric chloride and polymer should be added to the influent waste stream only when necessary, rather than continuously. This would decrease operating costs and reduce the amount of operator attention needed to attend to this system.

APPENDICES

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APPENDIX A

APPENDIX A

GENERAL DESCRIPTION OF SEWAGE TREATMENT PLANT UNIT PROCESSES
WASTEWATER TREATMENT FACILITY
NEW HOLLAND, PENNSYLVANIA

Process Component	Type of Unit	Number of Units	Dimensions (ft)				Remarks
			Diameter	Length	Width	SWD Depth	
Preliminary Treatment							
Flow Measurement	Parshall flume	1	9" throat				
Screening							
Comminution	In-line comminutor	1					1. Unit bypasses for primary clarifiers, trickling filters, and secondary clarifier
Grease or Oil Flotation							
Overflow or Bypass Facility							
Grit Removal							
Primary Treatment							
Primary Sedimentation	New primary clarifier	1	30			7'6"	2. Total volume = 39,650 gal; detention time = 1.9 hrs @ 1.0 mgd; overflow rate = 707 gpd/ft ² @ 1.0 mgd; weir loading = 5,330 gpd/ft
	Old settling tanks	2		30	7.5	7'9"	3. Total volume = 13,000 gal ea; detention time = 2.5 hrs @ 1.0 mgd; overflow rate = 1,110 gpd/ft ² ; weir loading = 33,300 gpd/ft
Other							
Secondary Treatment							
Biological Unit Process	Trickling filter	2	76'4"			7.0	4. Surface area = 4,570 ft ² ; hydraulic loading = 4.76 mgd/acre @ 1 mgd; BOD loading = 19.5 lb/1,000 ft ³ @ 1 mgd, 150 mg/l
Aeration Equipment							
Sedimentation Basins	Final clarifier	1	50			7.9	5. Total volume = 116,000 gal; detention time = 2.7 hrs @ 1 mgd; overflow rate = 509 gpd/ft ² ; weir loading = 6,370 gpd/ft
Disinfection							
Chlorinators	Gas	1					6. 400 lb/day capacity Cl ₂ feed
Chlorine Contact Tank		2		20	8	7.0	7. Old final settling tanks converted into chlorine contact tanks
Sludge Digestion	Anaerobic	1	35			21.0	

APPENDIX B

ENVIRONMENTAL PROTECTION AGENCY REPORT ON OPERATION AND MAINTENANCE OF WASTEWATER TREATMENT PLANT		DATE OF INSPECTION	<i>Form Approved</i> OMB No. 178-R0035
A. GENERAL INFORMATION			
1. PLANT			
(a.) NAME New Holland S. T. D.		(b.) OWNER New Holland Borough Authority	(c.) LOCATION New Holland, Pennsylvania
2. TYPE OF PLANT High-rate trickling filter	3. PROJECT NO.	4. AVG. DESIGN FLOW (mgd) 1.0 mgd	5. DESIGN POPULATION EQUIVALENT 4500
6. COLLECTION SYSTEM		7. DATE PRESENT PLANT BEGAN OPERATING	8. STATE PERMIT NO.
☐ COMBINED ☒ SEPARATE ☐ BOTH		1959	0021890
9. IN THE SPACE PROVIDED BELOW, FURNISH A SIMPLIFIED FLOW DIAGRAM OR A WRITTEN DESCRIPTION OF THE PLANT UNITS IN FLOW SEQUENCE.			
10. IDENTIFY RECEIVING WATERS Mill Creek			
11. IDENTIFY PERTINENT STREAM STANDARDS AND OR USES OF THE RECEIVING WATERS Propagation of warm water fish, water supplies, fishing, water contact recreation, power, and treated waste assimilation			
12. GIVE THE EFFLUENT STANDARDS AND/OR REQUIREMENTS FOR STATE OPERATING PERMIT See page 2			
B. CURRENT PLANT LOADING			
1. ANNUAL AVG DAILY FLOW RATE (mgd) 0.645	2. PEAK FLOW RATE (mgd)		3. POPULATION SERVED
	DRY WEATHER	WET WEATHER	4500
4. ANNUAL AVG BOD ₅ OF RAW SEWAGE (mg/l) 265	5. ANNUAL AVG SUSPENDED SOLID OF RAW SEWAGE (mg/l) 228		
6. PRINCIPAL TYPES OF INDUSTRIAL WASTE DISCHARGED TO MUNICIPAL SYSTEM Cheese processing and paint manufacturing (infrequent)	7. POPULATION EQUIVALENT (BOD) OF INDUSTRIAL WASTES N/A		
8. POPULATION EQUIVALENT (SS) OF INDUSTRIAL WASTES N/A	9. VOLUME OF INDUSTRIAL WASTES (mgd) 0.10		
10. INFILTRATION PROBLEMS Infiltration/inflow problems immediately following heavy precipitation			

C PLANT PERFORMANCE

1. LABORATORY ANALYSIS (Total Plant)

(a) REPORTING PERIOD

FROM (Month, year)

TO (Month, year)

MONTHLY ITEMS (b)		ACTUAL PLANT PERFORMANCE DATA (c)	PLANT DESIGN DATA (d)	NPDES PERMIT REQUIREMENTS (e)	PLANT ACHIEVES DESIGN EFFICIENCY (f)		PLANT COMPLIES WITH PERMIT REQUIREMENTS (g)	
					YES	NO	YES	NO
(1)	FLOW (mgd) (monthly average)	0.645	1.0		x			
(2)	PEAK FLOW (mgd) (maximum day)	1.72	2.5					
(3)	SETTLABLE SOLIDS (monthly average) INFLUENT (ml/l)	10.9						
	EFFLUENT (ml/l)	0.2						
	% REMOVAL	97%						
(4)	SUSPENDED SOLIDS (monthly average) INFLUENT (mg/l)	228	200					
	EFFLUENT (mg/l)	25	30	30	x		x	
	% REMOVAL	89	85	--				
(5)	BOD ₅ (monthly average) INFLUENT (mg/l)	263	200	--				
	EFFLUENT (mg/l)	38	30	30		x		x
	% REMOVAL	84	85					
(5)	DISSOLVED OXYGEN (monthly average) EFFLUENT (mg/l)	6.2						
(7)	CHLORINE RESIDUAL (monthly average) EFFLUENT (mg/l)	0.6						
(8)	COLIFORM (per 100 ml) (monthly average) TOTAL							
	FECAL	6		200			x	
(9)	pH RANGE EFFLUENT MINIMUM	3.5		6.0				x
	MAXIMUM	8.1		9.0			x	
(10)	TOTAL PHOSPHORUS (as P) (monthly average) INFLUENT (mg/l)							
	EFFLUENT (mg/l)							
	% REMOVAL							
(11)	TOTAL NITROGEN (as N) (monthly average) INFLUENT (mg/l)							
	EFFLUENT (mg/l)							
	% REMOVAL							

2. PLANT RECORDS

ARE MONTHLY OPERATING RECORDS FILED WITH STATE AGENCY? ☒ YES ☐ NO

3. DOES PLANT HAVE ALTERNATE ELECTRIC POWER SOURCE? ☐ DUAL FEED ☐ GENERATOR ☒ NONE			4. ADEQUATE ALARM SYSTEM FOR POWER OR EQUIPMENT FAILURES? ☒ YES ☐ NO			
5. EQUIPMENT PROGRAM		ADEQUATE	INADEQUATE	5. IS PLANT EFFLUENT BEING CHLORINATED? ☒ YES ☐ NO		
(a.) ROUTINE MAINTENANCE SCHEDULES		☒		7. DOES SEWAGE BY-PASS PLANT IN WET WEATHER? ☐ YES ☒ NO		
(b.) RECORDS OF MAINTENANCE, REPAIRS & REPLCMT		☒				
(c.) SPARE PARTS INVENTORY		☒				
8. DOES SEWAGE BY-PASS PLANT IN DRY WEATHER? ☐ YES ☒ NO		9. AGENCIES NOTIFIED OF EACH BYPASS N/A				
10. BYPASS FREQUENCY (Monthly) No		11. AVG DURATION OF BYPASS (Hrs)		12. REASON FOR BYPASSING		
				13. CAN BYPASS SEWAGE BE CHLORINATED? ☐ YES ☐ NO		
14. DO SEWER OVERFLOWS OCCUR UPSTREAM OF PLANT? ☐ YES ☒ NO		15. ANY ODOR COMPLAINTS BEYOND PLANT PROPERTY? (If yes, explain) No				
16. OBSERVED APPEARANCE OF EFFLUENT, RECEIVING STREAM OR DRAINAGE WAY Turbid with light brown solids						
17. IS A CONSULTING ENGINEER RETAINED OR AVAILABLE FOR CONSULTATION ON OPERATING AND MAINTENANCE PROBLEMS? ☒ YES ☐ NO (If yes, check one of the following) ☐ CONTINUING BASES ☐ REQUEST BASES						
18. DO OPERATORS AND OTHER PERSONNEL ROUTINELY ATTEND SHORT COURSES, SCHOOL OR OTHER TRAINING? ☒ YES ☐ NO (a.) If yes, cite course sponsor, and date of last course. Course offered by Public Service Inst. and the Pennsylvania State University (b.) If no, are there any courses available in this area? (c.) Is there an established procedure for training new operators?			19. IS LAB TESTING ADEQUATE FOR THE CONTROL REQUIRED FOR THIS SIZE AND TYPE OF PLANT AND USES OF RECEIVING WATERS? ☒ YES ☐ NO (If No, explain)			
20. EXPLAIN MAIN DIFFICULTY EXPERIENCED WITH INDUSTRIAL WASTES Very high suspended solids and BOD ₅ . Whey waste doesn't settle well and as a result, much of it passes through the plant. The waste reportedly retards growth of the biological film on the trickling filters and also overloads the digester.						
21. PERMANENT RECORD FILE (a.) PLANT OPERATION AND MAINTENANCE MANUAL? ☐ YES ☒ NO (b.) AS BUILT PLANS AND SPECIFICATIONS? ☒ YES ☐ NO (c.) MANUFACTURERS OPERATION & MAINTENANCE SPECIFICATIONS? ☒ YES ☐ NO (d.) FLOW CHARTS? ☒ YES ☐ NO						
22. ESTIMATED WEEKLY MAN-HOURS FOR LAB WORK INCLUDING MAINTENANCE OF RECORDS AND PREPARATION OF REPORTS 10 hours/week						
23. ANNUAL BUDGET FOR MAINTAINING AND OPERATING PLANT						
SALARIES & WAGES	ELECTRICITY	CHEMICALS	MAINTENANCE	STAFFING & TRAINING	OTHER	TOTAL
10,700	4,100	10,600	7,600	--	15,000	48,000
24. STABILIZATION PONDS						
(a.) WEEDS CUT AND VEGETATION GROWTH IN PONDS REMOVED? ☐ YES ☐ NO			(b.) BANKS AND DIKES MAINTAINED? (Erosion, etc.) ☐ YES ☐ NO			
(c.) ANY REPORTS OF GROUND WATER CONTAMINATION FROM POND? (If yes, give details) ☐ YES ☐ NO						
(d.) SEEPAGE REPORTED? ☐ YES ☐ NO		(e.) ADEQUATE DEPTH CONTROL? ☐ YES ☐ NO		(f.) EFFLUENT RELEASE IS ☐ CONTINUOUS ☐ INTERMITTENT ☐ SEASONAL		

D. LABORATORY CONTROL

CODING INSTRUCTION

Enter test codes opposite appropriate items. If any of the below tests are used to monitor industrial wastes, place an "X" in addition to the test code.

1 - 7 or more per week
2 - 4, 5 or 6 per week

3 - 1, 2 or 3 per week
4 - as required

5 - 2 or 3 per month
6 - 1 per month

7 - Quarterly
8 - Semi-Annually

9 - Annually

ITEM (a.)	RAW (b.)	PRIMARY EFFLUENT (c.)	MIXED LIQUOR (d.)	FINAL (e.)	(f.) SLUDGE		DIGESTER (g.)	RECEIVING STREAM (h.)
					RAW	SUPER- NATANT		
1. BOD	3			3				
2. SUSPENDED SOLIDS	3			3				
3. SETTLEABLE SOLIDS	2	2		2				
4. SUSPENDED VOLATILE								
5. DISSOLVED OXYGEN				3				
6. TOTAL SOLIDS							3	
7. VOLATILE SOLIDS							3	
8. pH	2			2		3		
9. TEMPERATURE				2				
10. COLIFORM DENSITY				3				
11. RESIDUAL CHLORINE				2				
12. VOLATILE ACIDS								
13. MB STABILITY								
14. ALKALINITY								
15.								
16.								
17.								
18.								
19.								

COMMENTS

E. PLANT PERSONNEL INVENTORY

PERSONNEL CLASSIFICATION (a.)	EMPLOYMENT (b.)				(c.) CERTIFICATION		TRAINING REQUIRED NEXT 12 MONTHS (d.)	
					VOLUNTARY			
					MANDATORY			
	ACTUAL		NUMBER BUDGETED	NO. RE- COMMENDED	NO. RECOM- MENDED OR REQUIRED BY STATE	ACTUAL NO. CERTIFIED	NEW HIRES	UPGRADE (Promotion or skill im- provement)
MAN-HOURS PER WEEK	NUMBER							
1. MANAGEMENT/SUPERVISOR	10	0.25	0.25	0.3		1		
2. OPERATOR	35	0.875	0.875	1.6		1		
3. LABORATORY	10	0.25	0.25	0.2				
4. MAINTENANCE	25	0.625	0.625	1.2				
5. OTHER PLANT WORKERS	20	0.5	0.5	0.3				
6. OTHER OFFICE/CLERICAL								
7. TOTAL	100	2.5	2.5	3.6		2		

F. GUIDE - VISUAL OBSERVATION - UNIT PROCESS

RATING CODES: S = Satisfactory; U = Unsatisfactory; M = Marginal, IN = In Operation, OUT = Out of Operation

	CONDITION OR APPEARANCE	RATING	COMMENTS
GENERAL	GROUNDS	S	
	BUILDINGS	U	Poor condition
	POTABLE WATER SUPPLY PROT	S	
	SAFETY FEATURES	M	Minimal equipment
	BYPASSES	S	
	STORM WATER OVERFLOWS	S	
PRELIMINARY	MAINTENANCE OF COLLECTION SYSTEMS		
	PUMP STATION		
	VENTILATION		
	BAR SCREEN	IN	At times not cleaned often enough
	DISPOSAL OF SCREENINGS	S	
	COMMINUTOR	OUT	Out of order
	GRIT CHAMBER		
	DISPOSAL OF GRIT		
PRIMARY	SETTLING TANKS	IN	Insufficient solids removal
	SCUM REMOVAL	S	
	SLUDGE REMOVAL	S	
	EFFLUENT	M	High solids carry over
SLUDGE DISPOSAL	DIGESTERS	IN	
	TEMPERATURE AND pH	M	Digester not heated, poor digestion in winter
	GAS PRODUCTION	M	
	HEATING EQUIPMENT		
	SLUDGE PUMPS	IN	
	DRYING BEDS		
	VACUUM FILTER		
	INCINERATION		
	DISPOSAL OF SLUDGE	S	
OTHER	FLOW METER AND RECORDER	IN	
	RECORDS	S	
	LAB CONTROLS	S	
SECONDARY-TERTIARY (List items as required)			
CHLORINE	EFFLUENT	M	Effluent turbid
	CHLORINATORS	IN	One chlorinator out of service
	EFFECTIVE DOSAGE	S	
	CONTACT TIME	S	
	CONTACT TANK	IN	

G NOTATIONS BY EVALUATOR

1. OPERATION AND MAINTENANCE PROBLEMS/DEFICIENCIES

CHECK EACH OF THE FOLLOWING ITEMS IN TERMS OF THEIR ESTIMATED ADVERSE AFFECT ON THE PERFORMANCE OF THE PLANT.

ITEM	MAJOR	MINOR	NONE	ITEM	MAJOR	MINOR	NONE
STAFF COMPLEMENT	X			OVERLOADS (type)			
PERSONNEL TRAINING			X	HYDRAULIC			
OPERATING BUDGET			X	PERIODIC			X
LABORATORY CONTROL			X	CONTINUOUS			X
INSTRUMENTATION			X	ORGANIC			
INDUSTRIAL WASTE		X		PERIODIC		X	
PLANT OBSOLESCENCE	X			CONTINUOUS			X
EQUIPMENT FAILURE				OVERLOAD CAUSE(S)			
TREATMENT PROCESSES	X			INFILTRATION			X
SLUDGE HANDLING AND PROCESSING			X	COMBINED SEWERS			X
EQUIPMENT MAINTENANCE	X			INDUSTRIAL GROWTH	X		
SPARE PARTS INVENTORY			X	RAPID POPULATION GROWTH			X
POWER FAILURE			X	INCREASED SERVICE AREA			X
				OTHER			X
				OTHER			

2. DESCRIBE BRIEFLY THE MAJOR PROBLEMS INDICATED ABOVE (include follow-up actions needed see instructions)

Equipment failure due to obsolescence and lack of maintenance causes most problems. Inadequate maintenance most likely caused by insufficient staffing. Plant organic overloads caused by food processing wastes contributing to poor performance.

3. PURPOSE OF INSPECTION		4. GENERAL RATING	
☐ GRANT COMPLIANCE ☐ FOLLOW-UP ☐ PERMIT COMPLIANCE ☐ OTHER		ACCEPTABLE	
		CONDITIONAL ACCEPTANCE	X
		UNACCEPTABLE	
EVALUATION PERFORMED BY	TITLE	ORGANIZATION	DATE
John Latsha	Engineering Technician	Gannett Fleming Corddry and Carpenter, Inc.	Feb. 1977
INFORMATION FURNISHED BY	TITLE	ORGANIZATION	DATE
Edward Schaeffer	Plant Supervisor	New Holland, Pa.	Feb. 1977

APPENDIX C

APPENDIX C

NEW HOLLAND, PA WASTEWATER TREATMENT PLANT
 OPERATING REPORT 01/01/76 - 12/31/76
 DATA TABLE

PAGE 1 OF 9
 PART 1 OF 6

04/06/77

DATE	1 WASTEWATER FLOW (MGD)	2 RAW WASTE BOD(5 DAY) (MG/L)	3 RAW WASTE SUS SOLIDS (MG/L)	4 RAW WASTE SET SOLIDS (ML/L)	5 RAW WASTE PH (UNITS)	6 NEW PRI EF SET SOLIDS (ML/L)	7 P.C. REM. SET SOLIDS NEW P CLAR	8 NEW PRIM. EFF. PH (UNITS)
1- 1-76	0.6800	-	-	-	-	-	-	-
1- 2-76	0.6900	-	-	-	-	-	-	-
1- 3-76	0.7200	-	-	-	-	-	-	-
1- 4-76	0.5700	-	-	-	-	-	-	-
1- 5-76	0.6900	-	-	6.000	7.800	0.9000	85.00	7.700
1- 6-76	0.7000	-	-	-	-	-	-	-
1- 7-76	0.6600	-	-	-	-	-	-	-
1- 8-76	0.7100	116.0	128.0	10.00	7.500	0.3000	97.00	7.400
1- 9-76	0.6700	-	-	-	-	-	-	-
1-10-76	0.5000	-	-	-	-	-	-	-
1-11-76	0.5600	-	-	-	-	-	-	-
1-12-76	0.7200	-	-	4.000	7.300	0.0	-	7.300
1-13-76	0.8200	-	211.0	12.00	7.500	0.2000	98.33	7.600
1-14-76	0.6800	218.0	-	-	-	-	-	-
1-15-76	0.6800	-	-	-	-	-	-	-
1-16-76	0.7100	-	-	9.500	7.700	0.2000	97.89	7.600
1-17-76	0.5400	-	-	-	-	-	-	-
1-18-76	0.5600	-	-	-	-	-	-	-
1-19-76	1.710	-	-	-	-	-	-	-
1-20-76	1.720	-	-	10.00	7.500	1.200	88.00	7.300
1-21-76	0.6700	-	198.0	-	-	-	-	-
1-22-76	0.7200	242.0	-	12.00	7.600	0.5000	95.83	7.400
1-23-76	0.6800	-	-	-	-	-	-	-
1-24-76	0.5700	-	-	-	-	-	-	-
1-25-76	0.5700	-	-	-	-	-	-	-
1-26-76	0.6500	-	-	7.500	7.600	0.7000	90.67	7.500
1-27-76	1.080	-	238.0	-	-	-	-	-
1-28-76	0.6200	-	-	-	-	-	-	-
1-29-76	0.5600	-	-	10.00	7.500	0.3000	97.00	7.400
1-30-76	0.6800	258.0	-	4.000	7.600	0.2000	95.00	7.500
1-31-76	0.3300	-	-	-	-	-	-	-
2- 1-76	0.5700	-	-	-	-	-	-	-
2- 2-76	0.5600	-	-	-	-	-	-	-
2- 3-76	0.5400	-	-	9.000	7.300	0.2000	97.78	7.200
2- 4-76	0.6000	-	-	-	-	-	-	-
2- 5-76	0.3700	-	-	5.000	7.500	0.3000	94.00	7.400
2- 6-76	0.6100	-	-	-	-	-	-	-
2- 7-76	0.3900	235.0	202.0	-	-	-	-	-
2- 8-76	0.3300	-	-	-	-	-	-	-
2- 9-76	0.5000	-	197.0	7.000	7.100	0.3000	95.71	7.300
2-10-76	0.5200	-	-	-	-	-	-	-
2-11-76	0.4800	241.0	-	12.00	7.600	0.2000	98.33	7.400
2-12-76	0.5100	-	-	-	-	-	-	-
2-13-76	0.5200	-	-	-	-	-	-	-
2-14-76	0.3500	-	-	-	-	-	-	-

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DATE	1 WASTEWATER FLOW (MGD)	2 RAW WASTE BOD(5 DAY) (MG/L)	3 RAW WASTE SUS SOLIDS (MG/L)	4 RAW WASTE SET SOLIDS (ML/L)	5 RAW WASTE PH (UNITS)	6 NEW PRI EF SET SOLIDS (ML/L)	7 P.C. REM. SET SOLIDS NEW P CLAR	8 NEW PRIM. EFF. PH (UNITS)
2-15-76	0.3200	-	-	-	-	-	-	-
2-16-76	0.4800	-	-	9.000	7.100	0.2000	97.78	7.200
2-17-76	0.5300	-	247.0	-	-	-	-	-
2-18-76	0.4900	-	-	12.00	7.500	0.0	T	7.100
2-19-76	0.4800	-	-	10.00	7.300	0.1000	99.00	7.300
2-20-76	0.4700	-	-	-	-	-	-	-
2-21-76	0.3900	-	-	-	-	-	-	-
2-22-76	0.3400	-	-	-	-	-	-	-
2-23-76	0.4900	240.0	-	7.000	7.100	0.1000	98.57	7.200
2-24-76	0.5000	-	-	19.00	7.800	0.3000	98.42	7.400
2-25-76	0.4700	-	-	-	-	-	-	-
2-26-76	0.4200	-	-	-	-	-	-	-
2-27-76	0.4400	-	-	12.00	7.600	0.2000	98.33	7.400
2-28-76	0.4100	-	-	-	-	-	-	-
2-29-76	0.4300	-	-	-	-	-	-	-
3- 1-76	0.5600	-	-	2.000	7.500	-	-	7.300
3- 2-76	0.5900	-	-	12.00	7.200	0.9000	92.50	7.400
3- 3-76	0.6000	-	-	-	-	-	-	-
3- 4-76	0.7800	-	-	5.000	7.000	0.7000	86.00	7.000
3- 5-76	0.7800	-	-	-	-	-	-	-
3- 6-76	0.5400	-	-	-	-	-	-	-
3- 7-76	0.5000	-	-	-	-	-	-	-
3- 8-76	0.6800	-	-	-	-	-	-	-
3- 9-76	0.6800	-	-	7.000	7.500	-	-	-
3-10-76	0.6000	-	-	10.00	7.400	-	-	-
3-11-76	0.7300	-	-	-	-	-	-	-
3-12-76	0.6900	-	-	-	-	-	-	-
3-13-76	0.6300	-	-	19.00	7.100	0.2000	98.95	7.200
3-14-76	0.4300	-	-	-	-	-	-	-
3-15-76	0.6800	-	-	-	-	-	-	-
3-16-76	0.6800	-	-	-	-	-	-	-
3-17-76	0.6400	-	-	-	-	-	-	-
3-18-76	0.6700	-	-	5.000	7.300	0.2000	96.00	7.500
3-19-76	0.6300	-	-	-	-	-	-	-
3-20-76	0.5500	-	-	-	-	-	-	-
3-21-76	0.5000	-	-	-	-	-	-	-
3-22-76	0.7400	-	-	-	-	-	-	-
3-23-76	0.6100	-	184.0	7.000	8.800	0.3000	95.71	8.700
3-24-76	0.6600	-	-	8.000	7.800	0.2000	97.50	7.500
3-25-76	0.6100	-	-	-	-	-	-	-
3-26-76	0.6500	258.0	-	-	-	-	-	-
3-27-76	0.5800	-	-	-	-	-	-	-
3-28-76	0.5100	-	-	-	-	-	-	-
3-29-76	0.7400	-	-	12.00	7.300	0.3000	97.50	7.400
3-30-76	0.6600	-	-	-	-	-	-	-

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DATE	1 WASTEWATER FLOW (MGD)	2 RAW WASTE BOD(5 DAY) (MG/L)	3 RAW WASTE SUS SOLIDS (MG/L)	4 RAW WASTE SET SOLIDS (ML/L)	5 RAW WASTE PH (UNITS)	6 NEW PRI EF SET SOLIDS (ML/L)	7 P.C. REM. SET SOLIDS NEW P CLAR	8 NEW PRIM. EFF. PH (UNITS)
3-31-76	0.8900	-	-	15.00	7.000	0.3000	98.00	7.300
4- 1-76	0.5900	197.0	-	-	-	-	-	-
4- 2-76	0.6700	-	204.0	-	-	-	-	-
4- 3-76	0.5600	-	-	-	-	-	-	-
4- 4-76	0.5500	-	-	-	-	-	-	-
4- 5-76	0.7200	-	-	20.00	7.500	0.9000	95.50	7.500
4- 6-76	0.7100	-	178.0	-	-	-	-	-
4- 7-76	0.6800	-	-	10.00	7.800	1.000	90.00	7.900
4- 8-76	0.7000	247.0	-	-	-	-	-	-
4- 9-76	0.7000	-	-	7.000	7.400	0.8000	88.57	7.300
4-10-76	0.6000	-	-	-	-	-	-	-
4-11-76	0.5300	-	-	-	-	-	-	-
4-12-76	0.6900	-	-	13.00	7.600	3.500	73.08	7.800
4-13-76	0.6900	-	-	-	-	-	-	-
4-14-76	0.6600	232.0	-	-	-	-	-	-
4-15-76	0.6900	-	168.0	8.000	7.500	4.000	50.00	7.600
4-16-76	0.5800	-	-	21.00	7.300	7.000	66.67	7.400
4-17-76	0.5900	-	-	-	-	-	-	-
4-18-76	0.4900	-	-	-	-	-	-	-
4-19-76	0.7200	-	-	-	-	-	-	-
4-20-76	0.7100	-	-	28.00	7.500	1.600	94.29	-
4-21-76	0.6400	-	-	-	-	-	-	-
4-22-76	0.6900	159.0	209.0	16.00	7.300	0.9000	94.38	7.500
4-23-76	0.6300	-	-	-	-	-	-	-
4-24-76	0.5300	-	-	-	-	-	-	-
4-25-76	0.5200	-	-	-	-	-	-	-
4-26-76	0.6800	-	-	7.000	7.900	0.9000	87.14	7.500
4-27-76	0.6700	-	-	-	-	-	-	-
4-28-76	0.6300	-	176.0	11.00	7.100	0.3000	97.27	7.200
4-29-76	0.6900	101.0	-	9.000	7.300	0.2000	97.78	7.400
4-30-76	0.6700	-	-	-	-	-	-	-
5- 1-76	0.6200	-	-	-	-	-	-	-
5- 2-76	0.5000	-	-	-	-	-	-	-
5- 3-76	0.7000	-	-	-	-	-	-	-
5- 4-76	0.6700	-	188.0	10.00	7.000	0.3000	97.00	7.200
5- 5-76	0.6600	-	-	-	-	-	-	-
5- 6-76	0.6700	310.0	-	15.00	7.300	0.3000	98.00	7.600
5- 7-76	0.6200	-	-	-	-	-	-	-
5- 8-76	0.5100	-	-	-	-	-	-	-
5- 9-76	0.5300	-	-	-	-	-	-	-
5-10-76	0.7100	-	-	-	-	-	-	-
5-11-76	0.7200	-	-	-	7.100	-	-	7.200
5-12-76	0.7200	230.0	-	-	7.300	-	-	7.400
5-13-76	0.6200	-	-	-	-	-	-	-
5-14-76	0.6500	-	159.0	-	7.300	-	-	-

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DATE	1 WASTEWATER FLOW (MGD)	2 RAW WASTE BOD(5 DAY) (MG/L)	3 RAW WASTE SUS SOLIDS (MG/L)	4 RAW WASTE SET SOLIDS (ML/L)	5 RAW WASTE PH (UNITS)	6 NEW PRI EF SET SOLIDS (ML/L)	7 P.C. REM. SET SOLIDS NEW P CLAK	8 NEW PRIM. EFF. PH (UNITS)
5-15-76	0.5500	-	-	-	-	-	-	-
5-16-76	0.5500	-	-	-	-	-	-	-
5-17-76	0.7300	-	-	-	7.200	-	-	-
5-18-76	0.6900	-	-	-	7.400	-	-	7.400
5-19-76	0.6700	475.0	-	-	-	-	-	-
5-20-76	0.7000	-	256.0	-	-	-	-	-
5-21-76	0.6300	-	-	-	7.600	-	-	-
5-22-76	0.5300	-	-	-	-	-	-	-
5-23-76	0.5000	-	-	-	-	-	-	-
5-24-76	0.6900	-	-	21.00	7.400	0.6000	97.14	7.200
5-25-76	0.7600	-	-	-	-	-	-	-
5-26-76	0.6800	-	-	10.00	7.500	0.5000	95.00	7.200
5-27-76	0.6100	147.0	103.0	-	-	-	-	-
5-28-76	0.5900	-	-	-	7.100	-	-	7.200
5-29-76	0.5100	-	-	-	-	-	-	-
5-30-76	0.4400	-	-	-	-	-	-	-
5-31-76	0.4600	-	-	-	-	-	-	-
6- 1-76	0.7400	-	-	-	-	-	-	-
6- 2-76	0.6700	175.0	-	-	-	-	-	-
6- 3-76	0.6900	-	250.0	-	7.300	-	-	7.100
6- 4-76	0.6200	-	-	-	7.800	-	-	7.300
6- 5-76	0.5600	-	-	-	-	-	-	-
6- 6-76	0.4600	-	-	-	-	-	-	-
6- 7-76	0.6200	-	-	13.00	7.000	0.8000	93.85	7.100
6- 8-76	0.6500	-	-	9.000	7.300	0.6000	93.33	7.200
6- 9-76	0.6200	-	-	-	-	-	-	-
6-10-76	0.6200	143.0	241.0	-	7.500	-	-	7.400
6-11-76	0.7300	-	-	-	-	-	-	-
6-12-76	0.5800	-	-	-	-	-	-	-
6-13-76	0.5200	-	-	-	-	-	-	-
6-14-76	0.7100	-	-	-	7.300	-	-	7.300
6-15-76	0.7400	-	-	-	7.200	-	-	7.300
6-16-76	0.7600	486.0	186.0	-	-	-	-	-
6-17-76	0.7600	-	-	7.000	7.400	0.6000	91.43	7.300
6-18-76	0.7000	-	-	-	-	-	-	-
6-19-76	0.5200	-	-	-	-	-	-	-
6-20-76	0.5500	-	-	-	-	-	-	-
6-21-76	0.7700	-	-	-	-	-	-	-
6-22-76	0.7200	-	-	-	7.700	-	-	7.400
6-23-76	0.6500	-	-	-	7.100	-	-	7.000
6-24-76	0.7100	-	171.0	-	-	-	-	-
6-25-76	0.5800	121.0	-	-	7.400	-	-	7.300
6-26-76	0.5100	-	-	-	-	-	-	-
6-27-76	0.4800	-	-	-	-	-	-	-
6-28-76	0.7600	-	-	-	7.100	-	-	7.200

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DATE	1 WASTEWATER FLOW (MGD)	2 RAW WASTE BOD(5 DAY) (MG/L)	3 RAW WASTE SUS SOLIDS (MG/L)	4 RAW WASTE SET SOLIDS (ML/L)	5 RAW WASTE PH (UNITS)	6 NEW PRI EF SET SOLIDS (ML/L)	7 P.C. REM. SET SOLIDS NEW P CLAR	8 NEW PRIM. EFF. PH (UNITS)
6-29-76	0.7300	-	-	-	7.400	-	-	7.400
6-30-76	0.6700	222.0	187.0	-	-	-	-	-
7- 1-76	0.7100	-	-	-	7.700	-	-	7.300
7- 2-76	0.6400	-	-	-	-	-	-	-
7- 3-76	0.5300	-	-	-	-	-	-	-
7- 4-76	0.4200	-	-	-	-	-	-	-
7- 5-76	0.5600	-	-	-	-	-	-	-
7- 6-76	0.7800	-	-	-	-	-	-	-
7- 7-76	0.7900	-	-	-	-	-	-	-
7- 8-76	0.7200	-	178.0	7.000	6.300	20.00	-185.7	6.200
7- 9-76	0.7100	212.0	-	10.00	6.500	15.00	-50.00	6.600
7-10-76	0.6600	-	-	-	-	-	-	-
7-11-76	0.5000	-	-	-	-	-	-	-
7-12-76	0.7700	-	152.0	12.00	6.900	0.9000	92.50	6.800
7-13-76	0.7000	-	-	-	-	-	-	-
7-14-76	0.7000	-	-	-	-	-	-	-
7-15-76	0.7000	-	-	18.00	6.800	10.00	44.44	6.700
7-16-76	0.7100	-	-	10.00	6.800	10.00	0.0	6.500
7-17-76	0.5800	-	-	-	-	-	-	-
7-18-76	0.5100	-	-	-	-	-	-	-
7-19-76	0.7100	-	-	-	-	-	-	-
7-20-76	0.7500	-	-	-	-	-	-	-
7-21-76	0.7400	-	-	6.000	7.000	1.500	75.00	6.700
7-22-76	0.6200	-	-	9.000	6.900	0.9000	90.00	6.900
7-23-76	0.7300	491.0	-	3.000	6.700	0.7000	76.67	6.500
7-24-76	0.5800	-	-	-	-	-	-	-
7-25-76	0.5400	-	-	-	-	-	-	-
7-26-76	0.7200	-	-	13.00	6.200	8.000	38.46	6.300
7-27-76	0.7000	-	-	17.00	6.900	6.000	64.71	6.500
7-28-76	0.7000	-	100.0	15.00	6.800	5.000	66.67	6.700
7-29-76	0.8100	-	856.0	50.00	6.700	3.500	93.00	6.600
7-30-76	0.6100	178.0	-	10.00	7.200	3.000	70.00	6.800
7-31-76	0.4500	-	-	-	-	-	-	-
8- 1-76	0.4100	-	-	-	-	-	-	-
8- 2-76	0.7100	-	406.0	8.000	6.400	5.000	37.50	6.800
8- 3-76	0.7700	-	100.0	7.500	7.200	1.500	80.00	7.000
8- 4-76	0.5900	-	-	10.00	7.400	3.500	65.00	7.200
8- 5-76	0.7200	-	-	10.00	7.500	2.500	75.00	6.900
8- 6-76	0.7900	150.0	-	8.000	7.300	3.500	56.25	7.200
8- 7-76	0.6900	-	-	-	-	-	-	-
8- 8-76	0.6200	-	-	-	-	-	-	-
8- 9-76	0.7700	-	96.00	6.000	7.000	4.000	33.33	6.900
8-10-76	0.7800	-	103.0	8.000	7.600	7.000	12.50	7.200
8-11-76	0.7100	-	105.0	8.000	7.400	5.500	31.25	6.900
8-12-76	0.7500	-	143.0	10.00	7.500	5.500	45.00	6.400

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DATE	1 WASTEWATER FLOW (MGD)	2 RAW WASTE BOD(5 DAY) (MG/L)	3 RAW WASTE SUS SOLIDS (MG/L)	4 RAW WASTE SET SOLIDS (ML/L)	5 RAW WASTE PH (UNITS)	6 NEW PRI EF SET SOLIDS (ML/L)	7 P.C. REM. SET SOLIDS NEW P CLAR	8 NEW PRIM. EFF. PH (UNITS)
8-13-76	0.7100	159.0	88.00	6.000	7.000	3.500	41.67	6.500
8-14-76	0.5500	-	-	-	-	-	-	-
8-15-76	0.5400	-	-	-	-	-	-	-
8-16-76	0.7400	-	-	-	-	-	-	-
8-17-76	0.6300	-	-	13.00	5.500	2.500	80.77	6.400
8-18-76	0.7800	-	-	-	-	-	-	-
8-19-76	0.6900	-	186.0	12.00	7.400	2.000	83.33	5.900
8-20-76	0.7400	279.0	186.0	14.00	7.200	5.000	64.29	6.700
8-21-76	0.5300	-	-	-	-	-	-	-
8-22-76	0.5100	-	-	-	-	-	-	-
8-23-76	0.8200	-	260.0	7.000	7.300	2.500	64.29	6.800
8-24-76	0.6500	-	-	-	-	-	-	-
8-25-76	0.7100	-	122.0	9.000	7.700	2.500	72.22	7.000
8-26-76	0.7300	-	162.0	8.000	7.500	3.500	56.25	6.800
8-27-76	0.7000	91.00	-	-	7.200	2.000	-	6.900
8-28-76	0.5100	-	-	-	-	-	-	-
8-29-76	0.5100	-	-	-	-	-	-	-
8-30-76	0.7600	-	124.0	10.00	7.400	1.400	86.00	6.500
8-31-76	0.7100	-	205.0	9.000	7.500	1.000	88.89	6.800
9- 1-76	0.6800	-	182.0	12.00	7.200	0.9000	92.50	6.400
9- 2-76	0.6800	-	140.0	6.000	7.400	1.500	75.00	6.900
9- 3-76	0.7000	394.0	296.0	10.50	7.300	0.5000	95.24	6.600
9- 4-76	0.4800	-	-	-	-	-	-	-
9- 5-76	0.4600	-	-	-	-	-	-	-
9- 6-76	0.5300	-	-	-	-	-	-	-
9- 7-76	0.7300	-	167.0	9.000	7.300	1.000	88.89	6.500
9- 8-76	0.6800	-	132.0	7.500	7.300	1.000	86.67	7.000
9- 9-76	0.7000	-	102.0	8.000	7.300	1.100	86.25	6.800
9-10-76	0.6900	161.0	180.0	8.500	7.100	0.5000	94.12	6.700
9-11-76	0.5000	-	-	-	-	-	-	-
9-12-76	0.5400	-	-	-	-	-	-	-
9-13-76	0.7300	-	102.0	9.500	7.200	1.000	89.47	7.000
9-14-76	0.5200	-	106.0	7.500	7.200	0.4000	94.67	7.000
9-15-76	0.6800	-	178.0	8.000	7.700	0.7000	91.25	7.100
9-16-76	1.280	-	-	-	-	-	-	-
9-17-76	0.7600	280.0	162.0	8.000	7.000	0.4000	95.00	6.900
9-18-76	0.5500	-	-	-	-	-	-	-
9-19-76	0.4700	-	-	-	-	-	-	-
9-20-76	0.8200	-	-	-	-	-	-	-
9-21-76	0.7700	-	-	-	-	-	-	-
9-22-76	0.8300	-	-	-	-	-	-	-
9-23-76	0.7200	-	-	-	-	-	-	-
9-24-76	0.6800	332.0	-	-	-	-	-	-
9-25-76	0.4900	-	-	-	-	-	-	-
9-26-76	0.4700	-	-	-	-	-	-	-

NEW HOLLAND, PA WASTEWATER TREATMENT PLANT
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DATE	1 WASTEWATER FLOW (MGD)	2 RAW WASTE BOD(5 DAY) (MG/L)	3 RAW WASTE SUS SOLIDS (MG/L)	4 RAW WASTE SET SOLIDS (ML/L)	5 RAW WASTE PH (UNITS)	6 NEW PRI EF SET SOLIDS (ML/L)	7 P.C. REM. SET SOLIDS NEW P CLAR	8 NEW PRIM. EFF. PH (UNITS)
9-27-76	0.7100	-	-	9.500	7.700	1.500	84.21	7.100
9-28-76	0.6200	-	-	16.00	7.700	1.300	91.88	7.000
9-29-76	0.6100	-	-	15.00	7.600	1.300	91.33	7.100
9-30-76	0.7800	-	-	-	-	-	-	-
10- 1-76	-	-	-	11.00	7.700	1.000	90.91	8.300
10- 2-76	-	-	-	-	-	-	-	-
10- 3-76	0.7800	-	-	-	-	-	-	-
10- 4-76	0.7600	-	293.0	10.00	7.500	1.900	81.00	7.300
10- 5-76	0.7300	-	186.0	17.00	7.900	1.200	92.94	7.700
10- 6-76	0.6800	-	224.0	11.00	-	0.8000	92.73	-
10- 7-76	0.7300	-	228.0	12.00	-	1.200	90.00	-
10- 8-76	0.7700	209.0	262.0	8.500	-	0.5000	94.12	-
10- 9-76	0.7400	-	-	-	-	-	-	-
10-10-76	0.5900	-	-	-	-	-	-	-
10-11-76	0.7500	-	262.0	9.000	-	1.500	83.33	-
10-12-76	0.7200	-	278.0	9.000	-	2.000	77.78	-
10-13-76	0.6300	-	194.0	8.500	-	0.4000	95.29	-
10-14-76	0.6700	-	274.0	15.00	-	1.400	90.67	-
10-15-76	0.6800	-	-	-	-	-	-	-
10-16-76	0.5100	-	-	-	-	-	-	-
10-17-76	0.4500	-	-	-	-	-	-	-
10-18-76	0.6900	-	248.0	10.00	-	1.600	84.00	-
10-19-76	0.7100	-	-	-	-	-	-	-
10-20-76	0.9700	-	352.0	20.00	7.500	0.6000	97.00	6.800
10-21-76	0.7700	-	190.0	8.000	7.600	0.5000	93.75	7.000
10-22-76	0.6700	381.0	236.0	10.00	7.600	1.300	87.00	7.300
10-23-76	0.5500	-	-	-	-	-	-	-
10-24-76	0.6000	-	-	-	-	-	-	-
10-25-76	0.7600	-	-	-	-	-	-	-
10-26-76	0.8400	-	258.0	6.000	7.200	0.7000	88.33	7.400
10-27-76	0.7200	-	380.0	10.00	7.300	2.000	80.00	7.000
10-28-76	0.6800	-	228.0	10.00	7.600	0.9000	91.00	7.500
10-29-76	0.7000	357.0	278.0	9.500	7.500	0.7000	92.63	7.300
10-30-76	0.5700	-	-	-	-	-	-	-
10-31-76	0.5700	-	-	-	-	-	-	-
11- 1-76	0.7400	-	308.0	7.500	7.800	0.4000	94.67	7.600
11- 2-76	0.6700	-	-	-	-	-	-	-
11- 3-76	0.6400	-	-	-	-	-	-	-
11- 4-76	0.6900	-	-	-	-	-	-	-
11- 5-76	0.6700	496.0	518.0	11.00	7.600	0.4000	96.36	6.900
11- 6-76	-	-	-	-	-	-	-	-
11- 7-76	-	-	-	-	-	-	-	-
11- 8-76	0.6800	-	350.0	11.00	7.400	1.000	90.91	7.200
11- 9-76	0.6100	-	206.0	9.000	7.900	1.500	83.33	7.400
11-10-76	0.6000	-	222.0	13.00	7.400	1.600	87.69	7.500

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DATE	1 WASTEWATER FLOW (MGD)	2 RAW WASTE BOD(5 DAY) (MG/L)	3 RAW WASTE SUS SOLIDS (MG/L)	4 RAW WASTE SET SOLIDS (ML/L)	5 RAW WASTE PH (UNITS)	6 NEW PRI EF SET SOLIDS (ML/L)	7 P.C. REM. SET SOLIDS NEW P CLAR	8 NEW PRIM. EFF. PH (UNITS)
11-11-76	0.6400	-	-	13.00	7.800	0.4000	96.92	7.500
11-12-76	0.5900	-	-	-	-	-	-	-
11-13-76	0.4900	-	-	-	-	-	-	-
11-14-76	0.5000	-	-	-	-	-	-	-
11-15-76	0.6300	-	-	-	-	-	-	-
11-16-76	0.6900	-	360.0	13.00	7.500	0.5000	96.15	7.400
11-17-76	0.6500	-	-	-	-	-	-	-
11-18-76	0.6800	-	-	-	-	-	-	-
11-19-76	0.7100	-	-	-	-	-	-	-
11-20-76	0.6000	-	-	-	-	-	-	-
11-21-76	0.5300	-	-	-	-	-	-	-
11-22-76	0.7200	-	370.0	16.00	8.000	0.3000	98.13	7.500
11-23-76	0.6800	-	374.0	11.00	7.600	0.4000	96.36	7.500
11-24-76	0.7600	-	454.0	13.00	8.500	0.3000	97.69	7.400
11-25-76	0.5800	-	-	-	-	-	-	-
11-26-76	0.5800	-	-	-	-	-	-	-
11-27-76	0.5900	-	-	-	-	-	-	-
11-28-76	0.5300	-	-	-	-	-	-	-
11-29-76	0.7000	-	-	-	-	-	-	-
11-30-76	0.6200	-	-	-	-	-	-	-
12- 1-76	0.6500	-	-	-	-	-	-	-
12- 2-76	0.6900	-	-	-	-	-	-	-
12- 3-76	0.6700	-	-	-	-	-	-	-
12- 4-76	0.9900	-	-	-	-	-	-	-
12- 5-76	0.7600	-	-	-	-	-	-	-
12- 6-76	0.7900	-	296.0	11.00	7.600	1.000	90.91	7.300
12- 7-76	0.8600	-	-	-	-	-	-	-
12- 8-76	0.7000	-	207.0	18.00	8.200	0.4000	97.78	7.400
12- 9-76	0.7200	-	366.0	8.000	7.800	0.7000	91.25	7.600
12-10-76	0.7300	-	-	-	-	-	-	-
12-11-76	0.5800	-	-	-	-	-	-	-
12-12-76	0.6100	-	-	-	-	-	-	-
12-13-76	0.7100	-	-	-	-	-	-	-
12-14-76	0.7100	-	-	14.00	7.700	0.7000	95.00	7.400
12-15-76	0.6800	-	-	15.00	7.800	0.7000	95.33	7.300
12-16-76	0.6700	-	-	-	-	-	-	-
12-17-76	0.7700	-	-	9.000	7.300	1.000	88.89	7.400
12-18-76	0.5300	-	-	-	-	-	-	-
12-19-76	0.5200	-	-	-	-	-	-	-
12-20-76	0.7100	-	380.0	8.000	7.600	0.3000	96.25	7.100
12-21-76	0.7100	-	270.0	8.500	7.400	0.0	T	7.200
12-22-76	0.6700	428.0	-	-	-	-	-	-
12-23-76	0.6500	-	-	-	-	-	-	-
12-24-76	0.6500	-	-	-	-	-	-	-
12-25-76	0.4600	-	-	-	-	-	-	-

NEW HOLLAND, PA WASTEWATER TREATMENT PLANT
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DATE	1 WASTEWATER FLOW (MGD)	2 RAW WASTE BOD(5 DAY) (MG/L)	3 RAW WASTE SUS SOLIDS (MG/L)	4 RAW WASTE SET SOLIDS (ML/L)	5 RAW WASTE PH (UNITS)	6 NEW PRI EF SET SOLIDS (ML/L)	7 P.C. REM. SET SOLIDS NEW P CLAR	8 NEW PRIM. EFF. PH (UNITS)
12-26-76	0.6600	-	-	-	-	-	-	-
12-27-76	0.7000	-	324.0	15.00	8.000	1.100	92.67	7.000
12-28-76	0.6800	-	186.0	12.00	7.500	1.000	91.67	7.000
12-29-76	0.6500	-	246.0	13.00	7.700	0.1000	99.23	7.100
12-30-76	0.7700	619.0	216.0	15.00	7.900	0.5000	96.67	7.000
12-31-76	-	-	-	-	-	-	-	-
MINIMUM	0.3200	91.00	88.00	2.000	5.500	0.0	T -185.7	5.900
MAXIMUM	1.720	619.0	856.0	50.00	8.800	20.00	99.23	8.700
AVERAGE	0.6453	263.4	228.4	10.90	7.380	1.745	81.78	7.158
STD.DEV.	0.1397	126.3	111.0	5.248	0.3943	2.739	32.27	0.3901
VLD.PTS.	361	39	86	134	145	132	128	139

NOTE - () SEE FOOTNOTE TABLE.

* SEE COMMENT TABLE.

T,G,L, OR Q = TRACE, GREATER THAN, LESS THAN, OR QUESTIONABLE DATA.

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DATE	9 OLD PRIM. EFF SET SOLIDS (ML/L)	10 P.C. REM. SET SOLIDS OLD P. CLAR	11 OLD PRIM. EFF. PH (UNITS)	12 FILTER EFF PH (UNITS)	13 FINAL EFF SET SOLIDS (ML/L)	14 PC OVERALL SET SOLIDS REMOVED	15 FINAL EFFLUENT PH (UNITS)	16 TRICK FILT EFF. D.O. (MG/L)
1- 1-76	-	-	-	-	-	-	-	-
1- 2-76	-	-	-	-	-	-	-	-
1- 3-76	-	-	-	-	-	-	-	-
1- 4-76	-	-	-	-	-	-	-	-
1- 5-76	0.2000	96.67	7.600	7.700	0.4000	93.33	7.600	9.200
1- 6-76	-	-	-	-	-	-	-	-
1- 7-76	-	-	-	-	-	-	-	-
1- 8-76	0.7000	93.00	7.500	7.600	0.2000	98.00	7.500	8.500
1- 9-76	-	-	-	-	-	-	-	-
1-10-76	-	-	-	-	-	-	-	-
1-11-76	-	-	-	-	-	-	-	-
1-12-76	0.5000	87.50	7.400	7.500	0.0	-	7.400	-
1-13-76	0.6000	95.00	7.500	7.700	0.1000	99.17	7.300	-
1-14-76	-	-	-	-	-	-	-	-
1-15-76	-	-	-	-	-	-	-	-
1-16-76	0.9000	90.53	7.700	8.000	0.1000	98.95	7.800	7.800
1-17-76	-	-	-	-	-	-	-	-
1-18-76	-	-	-	-	-	-	-	-
1-19-76	-	-	-	-	-	-	-	-
1-20-76	-	-	-	-	0.1000	99.00	7.300	-
1-21-76	-	-	-	-	-	-	-	-
1-22-76	0.9000	92.50	7.400	7.700	0.3000	97.50	7.500	-
1-23-76	-	-	-	-	-	-	-	-
1-24-76	-	-	-	-	-	-	-	-
1-25-76	-	-	-	-	-	-	-	-
1-26-76	0.7000	90.67	7.500	7.700	0.1000	98.67	7.400	-
1-27-76	-	-	-	-	-	-	-	-
1-28-76	-	-	-	-	-	-	-	-
1-29-76	0.4000	96.00	7.400	7.000	0.2000	98.00	7.400	-
1-30-76	0.7000	82.50	7.300	7.500	0.2000	95.00	7.400	-
1-31-76	-	-	-	-	-	-	-	-
2- 1-76	-	-	-	-	-	-	-	-
2- 2-76	-	-	-	-	-	-	-	-
2- 3-76	0.5000	94.44	7.200	7.400	0.1000	98.89	7.300	8.500
2- 4-76	-	-	-	-	-	-	-	-
2- 5-76	0.6000	88.00	7.300	7.500	0.2000	96.00	7.500	8.300
2- 6-76	-	-	-	-	-	-	-	-
2- 7-76	-	-	-	-	-	-	-	-
2- 8-76	-	-	-	-	-	-	-	-
2- 9-76	0.7000	90.00	7.300	7.500	0.2000	97.14	7.200	-
2-10-76	-	-	-	-	-	-	-	-
2-11-76	0.6000	95.00	7.500	7.600	0.2000	98.33	7.300	-
2-12-76	-	-	-	-	0.2000	-	7.400	-
2-13-76	-	-	-	-	-	-	-	-
2-14-76	-	-	-	-	-	-	-	-

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DATE	9 OLD PRIM. EFF SET SOLIDS (ML/L)	10 P.C. REM. SET SOLIDS OLD P. CLAR	11 OLD PRIM. EFF. PH (UNITS)	12 FILTER EFF PH (UNITS)	13 FINAL EFF SET SOLIDS (ML/L)	14 PC OVERALL SET SOLIDS REMOVED	15 FINAL EFFLUENT PH (UNITS)	16 TRICK FILL EFF D.O. (MG/L)
2-15-76	-	-	-	-	-	-	-	-
2-16-76	0.7000	92.22	7.200	7.400	0.2000	97.78	7.100	-
2-17-76	-	-	-	-	-	-	-	-
2-18-76	1.500	87.50	7.200	7.500	0.0	-	7.300	-
2-19-76	0.7000	93.00	7.500	7.500	0.2000	98.00	7.400	-
2-20-76	-	-	-	-	-	-	-	-
2-21-76	-	-	-	-	-	-	-	-
2-22-76	-	-	-	-	-	-	-	-
2-23-76	0.5000	92.86	7.200	7.400	0.2000	97.14	7.200	-
2-24-76	0.9000	95.26	7.300	7.600	0.2000	98.95	7.500	-
2-25-76	-	-	-	-	-	-	-	-
2-26-76	-	-	-	-	-	-	-	-
2-27-76	0.7000	94.17	7.400	7.500	0.3000	97.50	7.300	-
2-28-76	-	-	-	-	-	-	-	-
2-29-76	-	-	-	-	-	-	-	-
3- 1-76	-	-	-	7.600	0.5000	75.00	7.500	-
3- 2-76	-	-	-	7.500	0.6000	95.00	7.300	-
3- 3-76	-	-	-	-	-	-	-	-
3- 4-76	-	-	-	7.300	0.5000	90.00	7.100	-
3- 5-76	-	-	-	-	-	-	-	-
3- 6-76	-	-	-	-	-	-	-	-
3- 7-76	-	-	-	-	-	-	-	-
3- 8-76	-	-	-	-	-	-	-	-
3- 9-76	0.9000	87.14	7.300	7.500	0.3000	95.71	7.400	-
3-10-76	0.9000	91.00	7.500	-	0.5000	95.00	7.300	-
3-11-76	-	-	-	-	-	-	-	-
3-12-76	-	-	-	-	-	-	-	-
3-13-76	0.7000	96.32	7.200	7.400	-	-	-	-
3-14-76	-	-	-	-	-	-	-	-
3-15-76	-	-	-	-	-	-	-	-
3-16-76	-	-	-	-	0.2000	-	7.300	-
3-17-76	-	-	-	-	-	-	-	-
3-18-76	0.5000	90.00	7.400	7.600	0.2000	96.00	7.400	-
3-19-76	-	-	-	-	-	-	-	-
3-20-76	-	-	-	-	-	-	-	-
3-21-76	-	-	-	-	-	-	-	-
3-22-76	-	-	-	-	-	-	-	-
3-23-76	0.7000	90.00	8.700	8.300	0.2000	97.14	8.100	-
3-24-76	0.7000	91.25	7.600	7.700	0.3000	96.25	7.500	-
3-25-76	-	-	-	-	-	-	-	-
3-26-76	-	-	-	-	-	-	-	-
3-27-76	-	-	-	-	-	-	-	-
3-28-76	-	-	-	-	-	-	-	-
3-29-76	0.5000	95.83	7.400	7.600	0.2000	98.23	7.500	-
3-30-76	-	-	-	-	-	-	-	-

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[illegible]

NEW HOLLAND, PA WASTEWATER TREATMENT PLANT
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DATE	9 OLD PRIM. EFF SET SOLIDS (ML/L)	10 P.C. REM. SET SOLIDS OLD P. CLAR	11 OLD PRIM. EFF. PH (UNITS)	12 FILTER EFF PH (UNITS)	13 FINAL EFF SET SOLIDS (ML/L)	14 PC OVERALL SET SOLIDS REMOVED	15 FINAL EFFLUENT PH (UNITS)	16 TRICK FILT EFF D.O. (MG/L)
5-15-76	-	-	-	-	-	-	-	-
5-16-76	-	-	-	-	-	-	-	-
5-17-76	-	-	-	-	-	-	7.300	-
5-18-76	-	-	7.300	7.200	-	-	7.300	-
5-19-76	-	-	-	-	-	-	-	-
5-20-76	-	-	-	-	-	-	-	-
5-21-76	-	-	-	-	-	-	7.400	-
5-22-76	-	-	-	-	-	-	-	-
5-23-76	-	-	-	-	-	-	-	-
5-24-76	0.9000	95.71	7.300	7.500	0.2000	99.05	7.300	-
5-25-76	-	-	-	-	-	-	-	-
5-26-76	0.8000	92.00	7.300	7.300	0.2000	98.00	7.200	-
5-27-76	-	-	-	-	-	-	-	-
5-28-76	-	-	7.000	7.300	-	-	7.200	-
5-29-76	-	-	-	-	-	-	-	-
5-30-76	-	-	-	-	-	-	-	-
5-31-76	-	-	-	-	-	-	7.300	-
6- 1-76	-	-	-	-	-	-	-	-
6- 2-76	-	-	-	-	-	-	-	-
6- 3-76	-	-	7.200	7.400	-	-	7.300	-
6- 4-76	-	-	7.400	7.400	-	-	7.300	-
6- 5-76	-	-	-	-	-	-	-	-
6- 6-76	-	-	-	-	-	-	-	-
6- 7-76	1.300	90.00	7.100	7.400	0.4000	96.92	7.200	-
6- 8-76	0.9000	90.00	7.300	7.400	0.4000	95.56	7.200	-
6- 9-76	-	-	-	-	-	-	-	-
6-10-76	-	-	7.400	7.500	-	-	7.300	-
6-11-76	-	-	-	-	-	-	-	-
6-12-76	-	-	-	-	-	-	-	-
6-13-76	-	-	-	-	-	-	-	-
6-14-76	-	-	7.400	7.400	-	-	7.300	-
6-15-76	-	-	7.500	7.400	-	-	7.400	-
6-16-76	-	-	-	-	-	-	-	-
6-17-76	0.9000	87.14	7.300	7.400	0.3000	95.71	7.100	-
6-18-76	-	-	-	-	-	-	-	-
6-19-76	-	-	-	-	-	-	-	-
6-20-76	-	-	-	-	-	-	-	-
6-21-76	-	-	-	-	-	-	-	-
6-22-76	-	-	7.500	7.500	-	-	7.400	-
6-23-76	-	-	7.300	7.300	-	-	7.200	-
6-24-76	-	-	-	-	-	-	-	-
6-25-76	-	-	7.300	7.400	-	-	7.300	-
6-26-76	-	-	-	-	-	-	-	-
6-27-76	-	-	-	-	-	-	-	-
6-28-76	-	-	7.200	7.300	-	-	7.200	-

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DATE	9 OLD PRIM. EF SET SOLIDS (ML/L)	10 P.C. REM. SET SOLIDS OLD P. CLAR	11 OLD PRIM. EFF. PH (UNITS)	12 FILTER EFF PH (UNITS)	13 FINAL EFF SET SOLIDS (ML/L)	14 PC OVERALL SET SOLIDS REMOVED	15 FINAL EFFLUENT PH (UNITS)	16 TRICK FILT EFF D.O. (MG/L)
6-29-76	-	-	7.300	7.300	-	-	7.200	-
6-30-76	-	-	-	-	-	-	-	-
7- 1-76	-	-	7.400	7.300	-	-	7.300	-
7- 2-76	-	-	-	-	-	-	-	-
7- 3-76	-	-	-	-	-	-	-	-
7- 4-76	-	-	-	-	-	-	-	-
7- 5-76	-	-	-	-	-	-	-	-
7- 6-76	-	-	-	-	-	-	-	-
7- 7-76	-	-	-	-	-	-	-	-
7- 8-76	3.500	50.00	6.500	7.300	0.5000	92.86	7.200	-
7- 9-76	3.000	70.00	6.600	6.900	0.5000	95.00	7.000	3.000
7-10-76	-	-	-	-	-	-	-	-
7-11-76	-	-	-	-	-	-	-	-
7-12-76	1.500	87.50	6.900	7.200	0.5000	95.83	7.100	-
7-13-76	-	-	-	-	-	-	-	-
7-14-76	-	-	-	-	-	-	-	-
7-15-76	3.000	83.33	6.800	7.000	0.5000	97.22	6.900	1.800
7-16-76	1.500	85.00	6.700	7.400	0.3000	97.00	7.400	2.500
7-17-76	-	-	-	-	-	-	-	-
7-18-76	-	-	-	-	-	-	-	-
7-19-76	-	-	-	-	-	-	-	-
7-20-76	-	-	-	-	-	-	-	-
7-21-76	1.500	75.00	6.700	-	0.5000	91.67	7.100	2.800
7-22-76	1.200	86.67	7.000	7.600	0.3000	96.67	6.900	3.600
7-23-76	2.000	33.33	6.600	7.300	0.4000	86.67	7.100	2.300
7-24-76	-	-	-	-	-	-	-	-
7-25-76	-	-	-	-	-	-	-	-
7-26-76	6.000	53.85	6.600	7.500	0.2000	98.46	7.200	5.400
7-27-76	0.5000	97.06	6.500	7.300	0.2000	98.82	7.000	3.200
7-28-76	1.000	93.33	6.700	6.800	0.4000	97.33	6.800	2.700
7-29-76	1.200	97.60	6.400	6.900	0.5000	99.00	6.800	3.400
7-30-76	0.6000	94.00	6.600	6.700	0.5000	95.00	6.800	2.200
7-31-76	-	-	-	-	-	-	-	-
8- 1-76	-	-	-	-	-	-	-	-
8- 2-76	1.000	87.50	6.900	-	0.4000	95.00	6.900	3.800
8- 3-76	0.4000	94.67	7.000	7.400	0.1000	98.67	7.100	4.900
8- 4-76	1.000	90.00	7.300	7.400	0.3000	97.00	7.000	2.900
8- 5-76	1.000	90.00	7.000	-	0.3000	97.00	6.800	5.000
8- 6-76	0.8000	90.00	7.300	7.100	0.2000	97.50	7.000	4.200
8- 7-76	-	-	-	-	-	-	-	-
8- 8-76	-	-	-	-	-	-	-	-
8- 9-76	0.7000	88.33	7.100	6.800	0.2000	96.67	7.000	2.200
8-10-76	1.500	81.25	7.300	7.100	0.0	-	7.200	2.500
8-11-76	1.600	80.00	6.900	7.000	0.2000	97.50	7.000	2.100
8-12-76	1.100	89.00	6.400	7.000	0.4000	96.00	6.700	3.500

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8-13-76	1.500	75.00	6.400	7.100	0.4000	93.33	6.800	2.200
8-14-76	-	-	-	-	-	-	-	-
8-15-76	-	-	-	-	-	-	-	-
8-16-76	-	-	-	-	-	-	-	-
8-17-76	1.400	89.23	6.200	7.100	0.4000	96.92	6.800	4.300
8-18-76	-	-	-	-	-	-	-	-
8-19-76	0.5000	95.83	5.900	6.900	0.1000	99.17	6.700	4.200
8-20-76	1.500	89.29	6.700	7.100	0.1000	99.29	6.900	2.600
8-21-76	-	-	-	-	-	-	-	-
8-22-76	-	-	-	-	-	-	-	-
8-23-76	0.5000	92.86	6.900	7.000	0.1000	98.57	6.800	2.600
8-24-76	-	-	-	-	-	-	-	-
8-25-76	1.800	80.00	6.900	7.400	0.2000	97.78	7.200	2.000
8-26-76	1.000	87.50	6.700	7.300	0.2000	97.50	6.600	4.000
8-27-76	0.4000	-	6.800	7.800	0.1000	-	7.100	1.600
8-28-76	-	-	-	-	-	-	-	-
8-29-76	-	-	-	-	-	-	-	-
8-30-76	1.300	87.00	6.600	7.600	0.0	T	6.800	4.500
8-31-76	0.8000	91.11	6.700	7.300	0.2000	97.78	6.900	4.000
9- 1-76	0.7000	94.17	6.200	7.500	0.2000	98.33	6.900	4.900
9- 2-76	0.8000	86.67	6.800	7.200	0.2000	96.67	6.900	3.600
9- 3-76	1.800	82.86	6.700	7.300	0.2000	98.10	7.000	4.500
9- 4-76	-	-	-	-	-	-	-	-
9- 5-76	-	-	-	-	-	-	-	-
9- 6-76	-	-	-	-	-	-	-	-
9- 7-76	1.200	86.67	6.700	7.300	0.2000	97.78	6.800	5.000
9- 8-76	1.000	86.67	6.900	7.200	0.2000	97.33	6.900	4.900
9- 9-76	1.200	85.00	6.800	7.200	0.3000	96.25	6.700	3.900
9-10-76	0.7000	91.76	6.700	7.400	0.2000	97.65	7.000	3.700
9-11-76	-	-	-	-	-	-	-	-
9-12-76	-	-	-	-	-	-	-	-
9-13-76	1.000	89.47	7.100	7.400	0.2000	97.89	7.000	3.100
9-14-76	1.000	86.67	7.100	7.200	0.1000	98.67	7.000	4.200
9-15-76	0.9000	88.75	7.000	7.300	0.2000	97.50	7.000	3.600
9-16-76	-	-	-	-	-	-	-	-
9-17-76	0.5000	93.75	7.000	7.500	0.0	T	7.000	3.200
9-18-76	-	-	-	-	-	-	-	-
9-19-76	-	-	-	-	-	-	-	-
9-20-76	-	-	-	-	-	-	-	-
9-21-76	-	-	-	-	-	-	-	-
9-22-76	-	-	-	-	-	-	-	-
9-23-76	-	-	-	-	-	-	-	-
9-24-76	-	-	-	-	-	-	-	-
9-25-76	-	-	-	-	-	-	-	-
9-26-76	-	-	-	-	-	-	-	-

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9-27-76	-	-	-	7.700	0.2000	97.89	7.200	5.100
9-28-76	-	-	-	7.700	0.1000	99.38	7.200	5.200
9-29-76	-	-	-	7.500	0.1000	99.33	7.100	5.000
9-30-76	-	-	-	-	-	-	-	-
10- 1-76	-	-	-	7.800	0.0	T	7.300	3.500
10- 2-76	-	-	-	-	-	-	-	-
10- 3-76	-	-	-	-	-	-	-	-
10- 4-76	-	-	-	7.600	0.2000	98.00	7.200	4.000
10- 5-76	-	-	-	-	0.2000	98.82	-	4.300
10- 6-76	-	-	-	-	0.2000	98.18	-	3.800
10- 7-76	-	-	-	-	0.1000	99.17	-	3.500
10- 8-76	-	-	-	-	0.2000	97.65	-	3.400
10- 9-76	-	-	-	-	-	-	-	-
10-10-76	-	-	-	-	-	-	-	-
10-11-76	-	-	-	-	0.1000	98.89	3.500	6.400
10-12-76	-	-	-	-	0.0	T	4.100	6.600
10-13-76	-	-	-	-	0.1000	98.82	3.600	6.500
10-14-76	-	-	-	-	0.1000	99.33	4.100	6.300
10-15-76	-	-	-	-	-	-	-	-
10-16-76	-	-	-	-	-	-	-	-
10-17-76	-	-	-	-	-	-	-	-
10-18-76	-	-	-	-	0.1000	99.00	-	4.500
10-19-76	-	-	-	-	-	-	-	-
10-20-76	0.9000	95.50	6.800	7.300	0.4000	98.00	7.400	5.700
10-21-76	0.5000	93.75	7.100	7.700	0.0	T	7.200	5.400
10-22-76	1.200	88.00	7.300	7.500	0.0	T	7.500	4.600
10-23-76	-	-	-	-	-	-	-	-
10-24-76	-	-	-	-	-	-	-	-
10-25-76	-	-	-	-	-	-	-	-
10-26-76	0.7000	88.33	7.300	7.800	0.0	T	7.400	3.500
10-27-76	1.400	86.00	7.100	8.000	0.1000	99.00	7.500	4.400
10-28-76	1.000	90.00	7.300	7.800	0.1000	99.00	7.500	4.400
10-29-76	1.200	87.37	7.500	7.600	0.1000	98.95	7.300	4.000
10-30-76	-	-	-	-	-	-	-	-
10-31-76	-	-	-	-	-	-	-	-
11- 1-76	0.6000	92.00	7.700	7.700	0.0	T	7.400	3.800
11- 2-76	-	-	-	-	-	-	-	-
11- 3-76	-	-	-	-	-	-	-	-
11- 4-76	-	-	-	-	-	-	-	-
11- 5-76	0.4000	96.36	7.100	7.700	0.1000	99.09	7.300	3.000
11- 6-76	-	-	-	-	-	-	-	-
11- 7-76	-	-	-	-	-	-	-	-
11- 8-76	1.500	86.36	7.100	7.600	0.1000	99.09	7.200	4.200
11- 9-76	0.7000	92.22	7.500	7.900	0.1000	98.89	7.400	5.800
11-10-76	0.6000	95.36	7.500	7.700	0.1000	99.23	7.400	-

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DATE	9 OLD PRIM. EFF SET SOLIDS (ML/L)	10 P.C. REM. SET SOLIDS OLD P. CLAR	11 OLD PRIM. EFF. PH (UNITS)	12 FILTER EFF PH (UNITS)	13 FINAL EFF SET SOLIDS (ML/L)	14 PC OVERALL SET SOLIDS REMOVED	15 FINAL EFFLUENT PH (UNITS)	16 TRICK FILT EFF D.O. (MG/L)
11-11-76	0.9000	93.08	7.600	-	0.0	T	7.400	-
11-12-76	-	-	-	-	-	-	-	-
11-13-76	-	-	-	-	-	-	-	-
11-14-76	-	-	-	-	-	-	-	-
11-15-76	-	-	-	-	-	-	-	-
11-16-76	0.5000	96.15	7.400	7.600	0.1000	99.23	7.200	6.100
11-17-76	-	-	-	-	-	-	-	-
11-18-76	-	-	-	-	-	-	-	-
11-19-76	-	-	-	-	-	-	-	-
11-20-76	-	-	-	-	-	-	-	-
11-21-76	-	-	-	-	-	-	-	-
11-22-76	0.6000	96.25	7.500	7.900	0.1000	99.38	7.300	7.100
11-23-76	1.100	90.00	7.400	-	0.3000	97.27	7.400	-
11-24-76	0.5000	96.15	7.400	7.600	0.0	T	7.300	6.800
11-25-76	-	-	-	-	-	-	-	-
11-26-76	-	-	-	-	-	-	-	-
11-27-76	-	-	-	-	-	-	-	-
11-28-76	-	-	-	-	-	-	-	-
11-29-76	-	-	-	-	-	-	-	-
11-30-76	-	-	-	-	-	-	-	-
12- 1-76	-	-	-	-	-	-	-	-
12- 2-76	-	-	-	-	-	-	-	-
12- 3-76	-	-	-	-	-	-	-	-
12- 4-76	-	-	-	-	-	-	-	-
12- 5-76	-	-	-	-	-	-	-	-
12- 6-76	2.000	81.82	7.400	7.700	-	-	-	-
12- 7-76	-	-	-	-	-	-	-	-
12- 8-76	1.000	94.44	7.500	7.800	-	-	-	-
12- 9-76	0.7000	91.25	7.600	7.900	-	-	-	-
12-10-76	-	-	-	-	-	-	-	-
12-11-76	-	-	-	-	-	-	-	-
12-12-76	-	-	-	-	-	-	-	-
12-13-76	-	-	-	-	-	-	-	-
12-14-76	0.5000	96.43	7.300	7.800	0.1000	99.29	7.500	4.100
12-15-76	0.1000	99.32	7.500	7.500	0.0	T	7.300	4.200
12-16-76	-	-	-	-	-	-	-	-
12-17-76	0.7000	92.22	7.400	7.500	0.1000	98.89	7.300	4.400
12-18-76	-	-	-	-	-	-	-	-
12-19-76	-	-	-	-	-	-	-	-
12-20-76	0.9000	88.75	7.400	7.600	0.2000	97.50	7.100	3.800
12-21-76	1.000	88.24	7.300	7.500	0.0	T	7.300	3.500
12-22-76	-	-	-	-	-	-	-	-
12-23-76	-	-	-	-	-	-	-	-
12-24-76	-	-	-	-	-	-	-	-
12-25-76	-	-	-	-	-	-	-	-

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DATE	9 OLD PRIM EFF SET SOLIDS (ML/L)	10 P.C. REM. SET SOLIDS OLD P CLAR	11 OLD PRIM. EFF. PH (UNITS)	12 FILTER EFF PH (UNITS)	13 FINAL EFF SET SOLIDS (ML/L)	14 PC OVERALL SET SOLIDS REMOVED	15 FINAL EFFLUENT PH (UNITS)	16 TRICK FILT EFF D.U. (MG/L)
12-26-76	-	-	-	-	-	-	-	-
12-27-76	-	-	-	-	0.0	T	7.200	4.600
12-28-76	0.9000	92.50	7.100	7.800	0.3000	97.50	7.000	5.800
12-29-76	1.000	92.31	7.200	7.700	0.0	T	7.200	4.000
12-30-76	0.9000	94.00	7.400	7.400	-	-	7.200	6.800
12-31-76	0.9000	-	7.100	7.600	-	-	-	-
MINIMUM	0.1000E 00	33.33	5.900	6.700	0.0	T	75.00	1.800
MAXIMUM	6.000	99.33	8.700	8.300	0.6000	99.38	8.100	9.200
AVERAGE	0.9964	89.14	7.154	7.448	0.2068	97.24	7.127	4.352
STD.DEV.	0.7153	9.060	0.3790	0.2627	0.1426	2.884	0.5950	1.627
VLD.PTS.	110	108	125	130	132	112	147	83

NOTE - () SEE FOOTNOTE TABLE.

* SEE COMMENT TABLE.

T.G.L. OR Q = TRACE. GREATER THAN. LESS THAN, OR QUESTIONABLE DATA.

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DATE	17 FINAL EFF D.O. (MG/L)	18 FINAL EFF BOD(5 DAY) (MG/L)	19 PERCENT OVERALL BOD REMOVED	20 FINAL EFF SUS SOLIDS (MG/L)	21 PERCENT OVERALL SS REMOVED	22 CHLORINE USED POUNDS/DAY	23 CHLORINE RESIDUAL (MG/L)	24 DIGESTER SUPT PH (UNITS)
1- 1-76	-	-	-	-	-	30.00	-	-
1- 2-76	-	-	-	-	-	40.00	1.000	-
1- 3-76	-	-	-	-	-	-	-	-
1- 4-76	-	-	-	-	-	-	-	-
1- 5-76	9.800	-	-	-	-	40.00	0.8000	-
1- 6-76	-	-	-	-	-	35.00	0.6000	-
1- 7-76	-	-	-	-	-	35.00	0.5000	-
1- 8-76	9.100	15.00	87.07	-	-	40.00	0.8000	5.900
1- 9-76	-	-	-	-	-	30.00	0.6000	-
1-10-76	-	-	-	-	-	-	-	-
1-11-76	-	-	-	-	-	30.00	-	-
1-12-76	-	-	-	-	-	30.00	0.2000	-
1-13-76	-	-	-	-	-	30.00	0.4000	-
1-14-76	-	34.00	84.40	-	-	30.00	-	-
1-15-76	-	-	-	-	-	35.00	0.3000	-
1-16-76	11.50	-	-	-	-	30.00	0.2000	-
1-17-76	-	-	-	-	-	-	-	-
1-18-76	-	-	-	-	-	-	-	-
1-19-76	-	-	-	-	-	35.00	0.6000	6.300
1-20-76	-	-	-	-	-	35.00	0.5000	-
1-21-76	-	-	-	28.00	85.86	35.00	0.4000	6.300
1-22-76	-	-	-	-	-	35.00	0.5000	6.300
1-23-76	-	-	-	-	-	35.00	0.4000	-
1-24-76	-	-	-	-	-	-	-	-
1-25-76	-	-	-	-	-	30.00	-	-
1-26-76	-	-	-	-	-	35.00	0.5000	-
1-27-76	-	-	-	42.00	82.35	35.00	0.5000	-
1-28-76	-	-	-	-	-	40.00	0.6000	6.100
1-29-76	-	-	-	-	-	35.00	0.5000	-
1-30-76	-	65.00	74.81	-	-	35.00	0.4000	6.100
1-31-76	-	-	-	-	-	30.00	-	-
2- 1-76	-	-	-	-	-	30.00	-	-
2- 2-76	-	-	-	-	-	35.00	0.5000	6.100
2- 3-76	9.300	-	-	-	-	35.00	0.6000	-
2- 4-76	-	29.00	-	25.00	-	35.00	0.4000	6.100
2- 5-76	9.200	-	-	-	-	35.00	0.7000	-
2- 6-76	-	-	-	-	-	35.00	0.4000	6.100
2- 7-76	-	-	-	-	-	30.00	-	-
2- 8-76	-	-	-	-	-	30.00	-	-
2- 9-76	-	-	-	23.00	88.32	50.00	0.3000	-
2-10-76	-	-	-	-	-	50.00	0.1000	5.600
2-11-76	-	43.00	82.16	-	-	60.00	0.5000	-
2-12-76	-	-	-	-	-	60.00	0.4000	-
2-13-76	-	-	-	-	-	60.00	0.3000	-
2-14-76	-	-	-	-	-	30.00	-	-

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2-15-76	-	-	-	-	-	30.00	-	-
2-16-76	-	-	-	-	-	50.00	0.2000	-
2-17-76	-	-	-	50.00	79.76	-	-	-
2-18-76	-	-	-	-	-	60.00	0.4000	-
2-19-76	-	56.00	-	-	-	60.00	0.6000	-
2-20-76	-	-	-	-	-	50.00	0.5000	-
2-21-76	-	-	-	-	-	30.00	-	-
2-22-76	-	-	-	-	-	30.00	-	-
2-23-76	-	-	-	-	-	40.00	0.1000	-
2-24-76	-	-	-	22.00	-	60.00	0.4000	-
2-25-76	-	-	-	-	-	80.00	0.6000	-
2-26-76	-	-	-	-	-	-	-	-
2-27-76	-	-	-	-	-	70.00	0.5000	-
2-28-76	-	-	-	-	-	-	-	-
2-29-76	-	-	-	-	-	-	-	-
3- 1-76	-	-	-	-	-	60.00	0.5000	-
3- 2-76	-	-	-	-	-	60.00	0.3000	-
3- 3-76	-	60.00	-	48.00	-	60.00	0.5000	-
3- 4-76	-	-	-	-	-	50.00	-	-
3- 5-76	-	-	-	-	-	60.00	0.4000	-
3- 6-76	-	-	-	-	-	30.00	-	-
3- 7-76	-	-	-	-	-	30.00	-	-
3- 8-76	-	-	-	-	-	80.00	0.3000	-
3- 9-76	-	-	-	27.00	-	70.00	0.2000	-
3-10-76	-	-	-	-	-	70.00	0.4000	-
3-11-76	-	-	-	-	-	75.00	0.3000	-
3-12-76	-	-	-	-	-	70.00	0.5000	-
3-13-76	-	-	-	-	-	40.00	-	-
3-14-76	-	-	-	-	-	40.00	-	-
3-15-76	-	-	-	-	-	60.00	0.6000	-
3-16-76	-	-	-	-	-	60.00	0.5000	-
3-17-76	-	-	-	33.00	-	60.00	0.8000	-
3-18-76	-	-	-	-	-	60.00	0.6000	-
3-19-76	-	-	-	-	-	60.00	0.8000	-
3-20-76	-	-	-	-	-	30.00	-	-
3-21-76	-	-	-	-	-	30.00	-	-
3-22-76	-	-	-	-	-	80.00	0.6000	-
3-23-76	-	-	-	38.00	79.35	80.00	0.4000	-
3-24-76	-	-	-	-	-	100.0	0.4000	-
3-25-76	-	-	-	-	-	60.00	0.6000	-
3-26-76	-	-	-	-	-	60.00	0.3000	-
3-27-76	-	-	-	-	-	30.00	-	-
3-28-76	-	-	-	-	-	30.00	-	-
3-29-76	-	-	-	-	-	40.00	0.4000	-
3-30-76	-	-	-	-	-	40.00	0.4000	-

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3-31-76	-	-	-	-	-	60.00	0.5000	-
4- 1-76	-	35.00	82.23	-	-	60.00	0.4000	-
4- 2-76	-	-	-	33.00	83.82	60.00	0.5000	-
4- 3-76	-	-	-	-	-	-	-	-
4- 4-76	-	-	-	-	-	30.00	-	-
4- 5-76	-	-	-	-	-	40.00	0.3000	-
4- 6-76	-	-	-	28.00	84.27	50.00	0.6000	-
4- 7-76	-	-	-	-	-	50.00	0.7000	-
4- 8-76	-	45.00	81.78	-	-	50.00	0.6000	-
4- 9-76	-	-	-	-	-	40.00	0.5000	-
4-10-76	-	-	-	-	-	-	-	-
4-11-76	-	-	-	-	-	30.00	-	-
4-12-76	-	-	-	-	-	40.00	0.5000	-
4-13-76	-	-	-	-	-	40.00	0.4000	-
4-14-76	-	48.00	79.31	-	-	40.00	0.5000	-
4-15-76	-	-	-	36.00	78.57	40.00	0.2000	-
4-16-76	-	-	-	-	-	40.00	0.3000	-
4-17-76	-	-	-	-	-	30.00	-	-
4-18-76	-	-	-	-	-	30.00	-	-
4-19-76	-	-	-	-	-	40.00	0.4000	-
4-20-76	-	-	-	-	-	40.00	0.5000	-
4-21-76	-	-	-	-	-	40.00	0.3000	-
4-22-76	-	28.00	82.39	31.00	85.17	40.00	0.5000	-
4-23-76	-	-	-	-	-	40.00	0.6000	-
4-24-76	-	-	-	-	-	30.00	-	-
4-25-76	-	-	-	-	-	30.00	-	-
4-26-76	-	-	-	-	-	40.00	0.3000	-
4-27-76	-	-	-	-	-	40.00	0.5000	-
4-28-76	-	-	-	-	-	40.00	0.2000	-
4-29-76	-	22.00	78.22	8.000	-	40.00	0.5000	-
4-30-76	-	-	-	-	-	40.00	0.4000	-
5- 1-76	-	-	-	-	-	30.00	-	-
5- 2-76	-	-	-	-	-	30.00	-	-
5- 3-76	-	-	-	-	-	30.00	0.4000	-
5- 4-76	-	-	-	37.00	80.32	30.00	0.5000	-
5- 5-76	-	-	-	-	-	30.00	0.3000	-
5- 6-76	-	-	-	-	-	30.00	0.5000	-
5- 7-76	-	-	-	-	-	-	-	-
5- 8-76	-	-	-	-	-	-	-	-
5- 9-76	-	-	-	-	-	30.00	-	-
5-10-76	-	-	-	-	-	30.00	0.4000	-
5-11-76	-	-	-	-	-	30.00	0.3000	-
5-12-76	-	36.00	84.35	-	-	30.00	0.4000	5.400
5-13-76	-	-	-	-	-	30.00	0.5000	-
5-14-76	-	-	-	28.00	92.39	30.00	0.5000	-

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5-15-76	-	-	-	-	-	30.00	-	-
5-16-76	-	-	-	-	-	30.00	-	-
5-17-76	-	-	-	-	-	30.00	0.6000	-
5-18-76	-	-	-	-	-	30.00	0.4000	-
5-19-76	-	27.00	94.32	-	-	30.00	0.5000	-
5-20-76	-	-	-	37.00	85.55	30.00	0.3000	-
5-21-76	-	-	-	-	-	30.00	-	-
5-22-76	-	-	-	-	-	30.00	-	-
5-23-76	-	-	-	-	-	30.00	-	-
5-24-76	-	-	-	-	-	30.00	0.4000	-
5-25-76	-	-	-	-	-	30.00	-	-
5-26-76	-	-	-	-	-	30.00	0.5000	-
5-27-76	-	39.00	73.47	29.00	71.84	30.00	0.4000	-
5-28-76	-	-	-	-	-	30.00	0.3000	-
5-29-76	-	-	-	-	-	30.00	-	-
5-30-76	-	-	-	-	-	30.00	-	-
5-31-76	-	-	-	-	-	30.00	0.4000	-
6- 1-76	-	-	-	-	-	30.00	0.3000	-
6- 2-76	-	34.00	80.57	-	-	30.00	0.4000	-
6- 3-76	-	-	-	47.00	81.20	30.00	0.4000	-
6- 4-76	-	-	-	-	-	30.00	0.5000	-
6- 5-76	-	-	-	-	-	-	-	-
6- 6-76	-	-	-	-	-	30.00	-	-
6- 7-76	-	-	-	-	-	30.00	0.5000	-
6- 8-76	-	-	-	-	-	30.00	0.3000	-
6- 9-76	-	-	-	-	-	30.00	0.4000	-
6-10-76	-	44.00	69.23	56.00	76.76	30.00	0.6000	-
6-11-76	-	-	-	-	-	30.00	0.4000	-
6-12-76	-	-	-	-	-	30.00	-	-
6-13-76	-	-	-	-	-	30.00	-	-
6-14-76	-	-	-	-	-	30.00	0.5000	-
6-15-76	-	-	-	-	-	30.00	0.4000	-
6-16-76	-	13.00	97.34	39.00	79.26	30.00	0.5000	-
6-17-76	-	-	-	-	-	30.00	0.3000	-
6-18-76	-	-	-	-	-	30.00	0.4000	-
6-19-76	-	-	-	-	-	30.00	-	-
6-20-76	-	-	-	-	-	30.00	-	-
6-21-76	-	-	-	-	-	30.00	0.4000	-
6-22-76	-	-	-	-	-	30.00	0.4000	-
6-23-76	-	-	-	-	-	30.00	0.5000	-
6-24-76	-	-	-	24.00	85.96	30.00	0.3000	-
6-25-76	-	11.00	90.91	-	-	30.00	0.4000	5.400
6-26-76	-	-	-	-	-	30.00	-	-
6-27-76	-	-	-	-	-	30.00	-	-
6-28-76	-	-	-	-	-	30.00	0.7000	-

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6-29-76	-	-	-	-	-	30.00	0.5000	-
6-30-76	-	31.00	86.04	34.00	81.62	30.00	0.4000	-
7- 1-76	-	-	-	-	-	30.00	0.4000	-
7- 2-76	-	-	-	-	-	30.00	-	-
7- 3-76	-	-	-	-	-	30.00	-	-
7- 4-76	-	-	-	-	-	30.00	-	-
7- 5-76	-	-	-	-	-	30.00	0.4000	-
7- 6-76	-	-	-	-	-	30.00	0.5000	-
7- 7-76	-	-	-	-	-	30.00	0.4000	-
7- 8-76	-	-	-	31.00	82.58	40.00	0.6000	-
7- 9-76	5.100	37.00	82.55	-	-	40.00	0.4000	-
7-10-76	-	-	-	-	-	-	-	-
7-11-76	-	-	-	-	-	-	-	-
7-12-76	-	-	-	30.00	80.26	40.00	0.4000	-
7-13-76	-	-	-	-	-	40.00	0.3000	-
7-14-76	-	-	-	-	-	40.00	0.5000	-
7-15-76	6.500	-	-	-	-	60.00	0.6000	-
7-16-76	5.200	47.00	-	-	-	40.00	0.4000	-
7-17-76	-	-	-	-	-	-	-	-
7-18-76	-	-	-	-	-	-	-	-
7-19-76	-	-	-	-	-	40.00	0.6000	-
7-20-76	-	-	-	-	-	40.00	0.6000	-
7-21-76	4.500	-	-	-	-	40.00	0.8000	-
7-22-76	5.200	-	-	-	-	35.00	0.6000	-
7-23-76	5.800	33.00	93.28	-	-	-	-	-
7-24-76	-	-	-	-	-	-	-	-
7-25-76	-	-	-	-	-	-	-	-
7-26-76	6.000	-	-	-	-	35.00	0.3000	-
7-27-76	3.900	-	-	-	-	80.00	1.000	G
7-28-76	4.500	-	-	102.0	-2.000	60.00	1.000	G
7-29-76	4.600	-	-	97.00	88.67	60.00	1.000	G
7-30-76	7.100	50.00	71.91	-	-	60.00	1.000	G
7-31-76	-	-	-	-	-	-	-	-
8- 1-76	-	-	-	-	-	-	-	-
8- 2-76	6.000	-	-	7.000	98.26	50.00	1.000	G
8- 3-76	4.900	-	-	7.000	93.00	50.00	0.6000	-
8- 4-76	6.100	-	-	-	-	50.00	0.4000	-
8- 5-76	7.900	-	-	-	-	50.00	1.000	G
8- 6-76	7.800	64.00	57.33	-	-	50.00	1.000	G
8- 7-76	-	-	-	-	-	-	-	-
8- 8-76	-	-	-	-	-	-	-	-
8- 9-76	5.200	-	-	7.000	92.71	50.00	1.000	G
8-10-76	5.400	-	-	5.000	95.15	50.00	0.1000	6.600
8-11-76	5.000	-	-	14.00	86.67	60.00	1.000	G
8-12-76	5.700	-	-	15.00	85.51	60.00	1.000	G

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8-13-76	4.600	25.00	84.28	25.00	71.59	40.00	0.0	-
8-14-76	-	-	-	-	-	-	-	-
8-15-76	-	-	-	-	-	-	-	-
8-16-76	-	-	-	-	-	-	-	-
8-17-76	5.400	-	-	15.00	-	50.00	1.000	G
8-18-76	-	-	-	-	-	-	-	-
8-19-76	6.400	-	-	1.000	99.46	40.00	1.000	G
8-20-76	5.500	28.00	89.96	17.00	90.86	40.00	1.000	G
8-21-76	-	-	-	-	-	-	-	-
8-22-76	-	-	-	-	-	-	-	-
8-23-76	5.500	-	-	22.00	92.14	30.00	0.3000	-
8-24-76	-	-	-	-	-	40.00	-	-
8-25-76	5.500	-	-	19.00	84.43	45.00	0.7000	-
8-26-76	5.400	-	-	16.00	90.12	45.00	1.000	G
8-27-76	5.100	18.00	80.22	-	-	45.00	1.000	G
8-28-76	-	-	-	-	-	45.00	-	-
8-29-76	-	-	-	-	-	45.00	-	-
8-30-76	7.400	-	-	11.00	91.13	45.00	1.000	G
8-31-76	6.400	-	-	13.00	93.66	45.00	1.000	G
9- 1-76	5.800	-	-	3.000	98.35	45.00	1.000	G
9- 2-76	5.500	-	-	13.00	90.71	45.00	1.000	G
9- 3-76	6.200	-	-	15.00	94.93	45.00	1.000	G
9- 4-76	-	-	-	-	-	-	-	-
9- 5-76	-	-	-	-	-	-	-	-
9- 6-76	-	-	-	-	-	-	-	-
9- 7-76	6.000	-	-	13.00	92.22	45.00	1.000	G
9- 8-76	6.300	-	-	5.000	96.21	40.00	1.000	G
9- 9-76	5.600	-	-	11.00	89.22	40.00	1.000	G
9-10-76	5.400	12.00	92.55	11.00	93.89	40.00	0.8000	-
9-11-76	-	-	-	-	-	-	-	-
9-12-76	-	-	-	-	-	40.00	-	-
9-13-76	5.600	-	-	11.00	89.22	40.00	0.9000	-
9-14-76	6.400	-	-	6.000	94.34	40.00	1.000	G
9-15-76	5.800	-	-	5.000	97.19	40.00	1.000	G
9-16-76	-	-	-	-	-	40.00	-	-
9-17-76	4.600	36.00	87.14	12.00	92.59	40.00	1.000	-
9-18-76	-	-	-	-	-	40.00	-	-
9-19-76	-	-	-	-	-	-	-	-
9-20-76	-	-	-	-	-	-	-	-
9-21-76	-	-	-	-	-	40.00	-	-
9-22-76	-	-	-	-	-	40.00	-	7.000
9-23-76	-	-	-	-	-	40.00	-	6.900
9-24-76	-	52.00	84.34	-	-	40.00	-	-
9-25-76	-	-	-	-	-	40.00	-	-
9-26-76	-	-	-	-	-	40.00	-	-

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9-27-76	6.200	-	-	14.00	-	40.00	1.000	G 6.900
9-28-76	6.600	-	-	14.00	-	40.00	1.000	G 7.000
9-29-76	5.200	-	-	17.00	-	40.00	1.000	G 6.800
9-30-76	-	-	-	-	-	40.00	-	-
10- 1-76	5.800	26.00	-	19.00	-	40.00	0.9000	6.800
10- 2-76	-	-	-	-	-	-	-	-
10- 3-76	-	-	-	-	-	-	-	-
10- 4-76	5.200	-	-	16.00	94.54	40.00	1.000	G 7.200
10- 5-76	5.700	-	-	15.00	91.94	40.00	1.000	G 7.200
10- 6-76	5.900	-	-	13.00	94.20	40.00	0.7000	6.900
10- 7-76	5.900	-	-	11.00	95.18	40.00	1.000	G 6.800
10- 8-76	6.200	28.00	86.60	12.00	95.42	40.00	0.5000	6.800
10- 9-76	-	-	-	-	-	-	-	-
10-10-76	-	-	-	-	-	35.00	-	-
10-11-76	-	-	-	20.00	92.37	35.00	0.6000	-
10-12-76	-	-	-	10.00	96.40	35.00	0.8000	-
10-13-76	-	-	-	9.000	95.36	40.00	1.000	G 6.700
10-14-76	-	-	-	10.00	96.35	40.00	1.000	G -
10-15-76	-	53.00	-	-	-	40.00	1.000	G -
10-16-76	-	-	-	-	-	40.00	-	-
10-17-76	-	-	-	-	-	40.00	-	-
10-18-76	7.400	-	-	9.000	96.37	40.00	1.000	G -
10-19-76	-	-	-	-	-	40.00	-	-
10-20-76	6.900	-	-	26.00	92.61	40.00	0.9000	-
10-21-76	6.200	-	-	10.00	94.74	40.00	1.000	G -
10-22-76	6.500	30.00	92.13	13.00	94.49	40.00	0.8000	6.500
10-23-76	-	-	-	-	-	-	-	-
10-24-76	-	-	-	-	-	40.00	-	-
10-25-76	-	-	-	-	-	40.00	-	7.000
10-26-76	6.200	-	-	13.00	94.96	40.00	0.6000	6.900
10-27-76	4.400	-	-	20.00	94.74	40.00	0.0	6.900
10-28-76	6.300	-	-	24.00	89.47	60.00	0.2000	6.900
10-29-76	5.700	54.00	84.87	16.00	94.24	70.00	1.000	G 6.900
10-30-76	-	-	-	-	-	40.00	-	-
10-31-76	-	-	-	-	-	40.00	-	-
11- 1-76	6.800	-	-	9.000	97.08	40.00	0.7000	-
11- 2-76	-	-	-	-	-	40.00	-	-
11- 3-76	-	-	-	-	-	40.00	-	-
11- 4-76	-	-	-	-	-	40.00	-	-
11- 5-76	4.300	39.00	92.14	36.00	93.05	40.00	0.5000	6.800
11- 6-76	-	-	-	-	-	40.00	-	-
11- 7-76	-	-	-	-	-	40.00	-	-
11- 8-76	7.000	-	-	14.00	96.00	40.00	0.3000	6.800
11- 9-76	6.600	-	-	14.00	93.20	40.00	0.8000	6.800
11-10-76	-	-	-	17.00	92.34	40.00	0.7000	-

NEW HOLLAND, PA WASTEWATER TREATMENT PLANT
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DATE	17 FINAL EFF D.O. (MG/L)	18 FINAL EFF BOD(5 DAY) (MG/L)	19 PERCENT OVERALL BOD REMOVED	20 FINAL EFF SUS SOLIDS (MG/L)	21 PERCENT OVERALL SS REMOVED	22 CHLORINE USED POUNDS/DAY	23 CHLORINE RESIDUAL (MG/L)	24 DIGESTER SUPT PH (UNITS)
11-11-76	-	-	-	-	-	40.00	-	-
11-12-76	-	-	-	-	-	40.00	-	-
11-13-76	-	-	-	-	-	40.00	-	-
11-14-76	-	-	-	-	-	40.00	-	-
11-15-76	-	-	-	-	-	40.00	-	-
11-16-76	7.500	-	-	20.00	94.44	40.00	0.4000	-
11-17-76	-	-	-	-	-	40.00	-	-
11-18-76	-	-	-	-	-	40.00	-	-
11-19-76	-	-	-	-	-	40.00	-	-
11-20-76	-	-	-	-	-	40.00	-	-
11-21-76	-	-	-	-	-	40.00	-	-
11-22-76	8.000	-	-	23.00	93.78	40.00	1.000	G
11-23-76	-	-	-	28.00	92.51	40.00	0.9000	-
11-24-76	7.500	43.00	-	27.00	94.05	40.00	0.8000	-
11-25-76	-	-	-	-	-	40.00	-	-
11-26-76	-	-	-	-	-	40.00	-	-
11-27-76	-	-	-	-	-	40.00	-	-
11-28-76	-	-	-	-	-	40.00	-	-
11-29-76	-	-	-	-	-	40.00	0.8000	-
11-30-76	-	-	-	-	-	40.00	-	-
12- 1-76	-	-	-	-	-	40.00	-	-
12- 2-76	-	-	-	-	-	40.00	-	-
12- 3-76	-	-	-	-	-	40.00	-	-
12- 4-76	-	-	-	-	-	40.00	-	-
12- 5-76	-	-	-	-	-	40.00	-	-
12- 6-76	-	-	-	-	-	40.00	0.8000	-
12- 7-76	-	-	-	-	-	40.00	-	-
12- 8-76	-	-	-	-	-	40.00	0.5000	-
12- 9-76	-	-	-	-	-	40.00	0.5000	-
12-10-76	-	-	-	-	-	-	-	-
12-11-76	-	-	-	-	-	-	-	-
12-12-76	-	-	-	-	-	40.00	-	-
12-13-76	-	-	-	-	-	50.00	0.4000	-
12-14-76	6.000	-	-	48.00	-	50.00	0.5000	-
12-15-76	6.800	-	-	44.00	-	50.00	0.4000	-
12-16-76	-	-	-	-	-	50.00	-	-
12-17-76	6.300	-	-	33.00	-	50.00	0.7000	-
12-18-76	-	-	-	-	-	50.00	-	-
12-19-76	-	-	-	-	-	40.00	-	-
12-20-76	7.600	-	-	32.00	91.58	60.00	1.000	G
12-21-76	6.700	-	-	28.00	89.63	60.00	1.000	G
12-22-76	-	66.00	84.58	-	-	60.00	1.000	G
12-23-76	-	-	-	-	-	60.00	-	-
12-24-76	-	-	-	-	-	60.00	-	-
12-25-76	-	-	-	-	-	60.00	-	-

NEW HOLLAND, PA WASTEWATER TREATMENT PLANT
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DATE	17 FINAL EFF D.O. (MG/L)	18 FINAL EFF BOD(5 DAY) (MG/L)	19 PERCENT OVERAL BOD REMOVED	20 FINAL EFF SUS SOLIDS (MG/L)	21 PERCENT OVERALL SS REMOVED	22 CHLORINE USED POUNDS/DAY	23 CHLORINE RESIDUAL (MG/L)	24 DIGESTER SUPT PH (UNITS)
12-26-76	-	-	-	-	-	-	-	-
12-27-76	6.800	-	-	30.00	90.74	60.00	1.000	G 6.400
12-28-76	7.200	-	-	33.00	82.26	60.00	1.000	G -
12-29-76	6.200	-	-	35.00	85.77	60.00	1.000	G 6.400
12-30-76	7.100	47.00	92.41	24.00	88.89	60.00	1.000	G 6.400
12-31-76	-	-	-	-	-	-	-	-
MINIMUM	3.900	11.00	57.33	1.000	-2.000	30.00	0.0	5.400
MAXIMUM	11.50	66.00	97.34	102.0	99.46	100.0	1.000	7.200
AVERAGE	6.233	37.63	83.78	23.31	88.59	41.28	0.5881	6.551
STD.DEV.	1.310	14.77	8.155	16.59	12.08	11.75	0.2658	0.4753
VLD.PTS.	79	40	33	93	79	320	218	37

NOTE - () SEE FOOTNOTE TABLE.

* SEE COMMENT TABLE.

T.G.L. OR Q = TRACE, GREATER THAN, LESS THAN, OR QUESTIONABLE DATA.

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32
DET. TIME
OLD PRIM.
CLAR (HRS)

[illegible]

NEW HOLLAND, PA WASTEWATER TREATMENT PLANT
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DATE	25 DIG SUPT SET SOLIDS (ML/L)	26 FECAL COLIFORM (ORG./100)	27 SLUDGE HAULED (GAL.)	28 P.C. TOTAL SQL. SLUDGE HAULED	29 PERCENT VOLATILE SOLIDS	30 PH OF SLUDGE HAULED	31 DET. TIME NEW PRIM. CLAR (HRS)	32 DET. TIME OLD PRIM. CLAP (HRS)
2-15-76	-	-	-	-	-	-	5.947	7.813
2-16-76	-	24.00	-	-	-	-	3.965	5.208
2-17-76	-	-	-	-	-	-	3.591	4.717
2-18-76	-	-	-	-	-	-	3.884	5.102
2-19-76	-	-	-	-	-	-	3.965	5.208
2-20-76	-	-	-	-	-	-	4.049	5.319
2-21-76	-	-	-	-	-	-	4.879	6.410
2-22-76	-	-	-	-	-	-	5.597	7.353
2-23-76	-	-	3400.	5.200	76.00	5.400	3.884	5.102
2-24-76	-	0.0	-	-	-	-	3.806	5.000
2-25-76	-	-	-	-	-	-	4.049	5.319
2-26-76	-	-	-	-	-	-	4.531	5.952
2-27-76	-	-	-	-	-	-	4.325	5.682
2-28-76	-	-	-	-	-	-	4.641	6.098
2-29-76	-	-	-	-	-	-	4.426	5.814
3- 1-76	-	-	-	-	-	-	3.398	4.464
3- 2-76	-	42.00	3400.	5.800	75.00	-	3.225	4.237
3- 3-76	-	-	-	-	-	-	3.172	4.167
3- 4-76	-	-	-	-	-	-	2.440	3.205
3- 5-76	-	-	-	-	-	-	2.440	3.205
3- 6-76	-	-	-	-	-	-	3.524	4.630
3- 7-76	-	-	-	-	-	-	3.806	5.000
3- 8-76	-	-	8500.	-	-	-	2.799	3.676
3- 9-76	-	-	-	-	-	-	2.799	3.676
3-10-76	-	-	-	-	-	-	3.172	4.167
3-11-76	-	0.0	0.1020E 05	4.600	86.00	5.300	2.607	3.425
3-12-76	-	-	0.1020E 05	4.400	86.00	5.200	2.758	3.623
3-13-76	-	-	-	-	-	-	3.021	3.968
3-14-76	-	-	-	-	-	-	4.426	5.814
3-15-76	-	-	6800.	4.800	87.00	5.400	2.799	3.676
3-16-76	-	-	0.1020E 05	4.800	83.00	5.300	2.799	3.676
3-17-76	-	0.0	0.1700E 05	4.400	77.00	5.300	2.973	3.906
3-18-76	-	-	0.1870E 05	-	-	-	2.840	3.731
3-19-76	-	-	8500.	4.000	85.00	5.300	3.021	3.968
3-20-76	-	-	-	-	-	-	3.460	4.545
3-21-76	-	-	-	-	-	-	3.806	5.000
3-22-76	-	-	-	-	-	-	2.572	3.378
3-23-76	-	-	8500.	-	-	-	3.120	4.098
3-24-76	-	-	0.2380E 05	3.800	84.00	5.300	2.883	3.788
3-25-76	-	-	0.1190E 05	4.600	86.00	5.500	3.120	4.098
3-26-76	-	50.00	6800.	-	-	-	2.928	3.846
3-27-76	-	-	-	-	-	-	3.281	4.310
3-28-76	-	-	-	-	-	-	3.731	4.902
3-29-76	-	-	0.1870E 05	4.000	80.00	5.300	2.572	3.378
3-30-76	-	-	0.1360E 05	-	-	-	2.883	3.788

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DATE	25 DIG SUPT SET SOLIDS (ML/L)	26 FECAL COLIFORM (ORG./100)	27 SLUDGE HAULED (GAL.)	28 P.C. TOTAL SOL. SLUDGE HAULED	29 PERCENT VOLATILE SOLIDS	30 PH OF SLUDGE HAULED	31 DET. TIME NEW PRIM. CLAR (HRS)	32 DET. TIME OLD PRIM. CLAR (HRS)
3-31-76	-	-	0.1020E 05	-	-	-	2.138	2.809
4- 1-76	-	-	-	-	-	-	3.225	4.237
4- 2-76	-	-	-	-	-	-	2.840	3.731
4- 3-76	-	-	-	-	-	-	3.398	4.464
4- 4-76	-	-	-	-	-	-	3.460	4.545
4- 5-76	-	-	3400.	-	-	-	2.643	3.472
4- 6-76	-	-	0.1190E 05	-	-	-	2.680	3.521
4- 7-76	-	0.0	0.1360E 05	3.400	-	5.300	2.799	3.676
4- 8-76	-	-	1700.	-	-	-	2.719	3.571
4- 9-76	-	-	0.1020E 05	-	-	-	2.719	3.571
4-10-76	-	-	-	-	-	-	3.172	4.167
4-11-76	-	-	-	-	-	-	3.591	4.717
4-12-76	-	22.00	0.1190E 05	4.200	85.00	5.400	2.758	3.623
4-13-76	-	-	0.1360E 05	4.200	80.00	5.400	2.758	3.623
4-14-76	-	-	0.1530E 05	4.200	80.00	5.400	2.883	3.788
4-15-76	-	-	0.1020E 05	-	-	-	2.758	3.623
4-16-76	-	-	-	-	-	-	3.281	4.310
4-17-76	-	-	-	-	-	-	3.225	4.237
4-18-76	-	-	-	-	-	-	3.884	5.102
4-19-76	-	-	-	-	-	-	2.643	3.472
4-20-76	-	-	-	-	-	-	2.680	3.521
4-21-76	-	-	5100.	-	-	-	2.973	3.906
4-22-76	-	0.0	1700.	-	-	-	2.758	3.623
4-23-76	-	-	-	-	-	-	3.021	3.968
4-24-76	-	-	-	-	-	-	3.591	4.717
4-25-76	-	-	-	-	-	-	3.660	4.808
4-26-76	-	-	-	-	-	-	2.799	3.676
4-27-76	-	-	-	-	-	-	2.840	3.731
4-28-76	-	-	6800.	-	-	-	3.021	3.968
4-29-76	-	58.00	0.1360E 05	3.200	87.00	5.500	2.758	3.623
4-30-76	-	-	0.1190E 05	-	-	-	2.840	3.731
5- 1-76	-	-	-	-	-	-	3.069	4.032
5- 2-76	-	-	-	-	-	-	3.806	5.000
5- 3-76	-	-	-	-	-	-	2.719	3.571
5- 4-76	-	-	0.1360E 05	3.600	83.00	5.300	2.840	3.731
5- 5-76	-	2.000	0.1360E 05	3.800	78.00	5.200	2.883	3.788
5- 6-76	-	-	0.1190E 05	-	-	-	2.840	3.731
5- 7-76	-	-	-	-	-	-	3.069	4.032
5- 8-76	-	-	-	-	-	-	3.731	4.902
5- 9-76	-	-	-	-	-	-	3.591	4.717
5-10-76	-	13.00	0.1360E 05	4.400	86.00	5.300	2.680	3.521
5-11-76	-	-	0.1360E 05	3.600	83.00	5.400	2.643	3.472
5-12-76	-	-	-	-	-	-	2.643	3.472
5-13-76	-	-	3400.	-	-	-	3.069	4.032
5-14-76	-	-	8500.	3.400	88.00	5.400	2.928	3.846

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DATE	25 DIG SUPT SET SOLIDS (ML/L)	26 FECAL COLIFORM (ORG./100)	27 SLUDGE HAULED (GAL.)	28 P.C. TOTAL SOL. SLUDGE HAULED	29 PERCENT VOLATILE SOLIDS	30 PH OF SLUDGE HAULED	31 DET. TIME NEW PRIM. CLAR (HRS)	32 DET. TIME OLD PRIM. CLAR (HRS)
5-15-76	-	-	-	-	-	-	3.460	4.545
5-16-76	-	-	-	-	-	-	3.460	4.545
5-17-76	-	-	-	-	-	-	2.607	3.425
5-18-76	-	-	-	-	-	-	2.758	3.623
5-19-76	-	7.000	-	-	-	-	2.840	3.731
5-20-76	-	-	-	-	-	-	2.719	3.571
5-21-76	-	-	-	-	-	-	3.021	3.968
5-22-76	-	-	-	-	-	-	3.591	4.717
5-23-76	-	-	-	-	-	-	3.806	5.000
5-24-76	-	-	0.1190E 05	3.600	83.00	5.200	2.758	3.623
5-25-76	-	8.000	0.1360E 05	3.400	76.00	5.200	2.504	3.289
5-26-76	-	-	5100.	-	-	-	2.799	3.676
5-27-76	-	-	6800.	-	-	-	3.120	4.098
5-28-76	-	-	0.1360E 05	-	-	-	3.225	4.237
5-29-76	-	-	-	-	-	-	3.731	4.902
5-30-76	-	-	-	-	-	-	4.325	5.682
5-31-76	-	-	-	-	-	-	4.137	5.435
6- 1-76	-	0.0	-	-	-	-	2.572	3.378
6- 2-76	-	-	-	-	-	-	2.840	3.731
6- 3-76	-	-	-	-	-	-	2.758	3.623
6- 4-76	-	-	-	-	-	-	3.069	4.032
6- 5-76	-	-	-	-	-	-	3.398	4.464
6- 6-76	-	-	-	-	-	-	4.137	5.435
6- 7-76	-	-	-	-	-	-	3.069	4.032
6- 8-76	-	-	8500.	-	-	-	2.928	3.846
6- 9-76	-	23.00	0.1190E 05	3.400	82.00	5.300	3.069	4.032
6-10-76	-	-	0.1190E 05	-	-	-	3.069	4.032
6-11-76	-	-	-	-	-	-	2.607	3.425
6-12-76	-	-	-	-	-	-	3.281	4.310
6-13-76	-	-	-	-	-	-	3.660	4.808
6-14-76	-	0.0	0.1190E 05	3.600	77.00	5.400	2.680	3.521
6-15-76	-	-	0.1190E 05	3.200	75.00	5.300	2.572	3.378
6-16-76	-	-	0.1350E 05	-	-	-	2.504	3.289
6-17-76	-	-	-	-	-	-	2.504	3.289
6-18-76	-	-	-	-	-	-	2.719	3.571
6-19-76	-	-	-	-	-	-	3.660	4.808
6-20-76	-	-	-	-	-	-	3.460	4.545
6-21-76	-	-	-	-	-	-	2.471	3.247
6-22-76	-	-	-	-	-	-	2.643	3.472
6-23-76	-	-	-	-	-	-	2.928	3.846
6-24-76	-	40.00	-	-	-	-	2.680	3.521
6-25-76	300.0	-	-	-	-	-	3.281	4.310
6-26-76	-	-	-	-	-	-	3.731	4.902
6-27-76	-	-	-	-	-	-	3.965	5.208
6-28-76	-	16.00	6800.	-	-	-	2.504	3.289

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DATE	25 DIG SUPT SET SOLIDS (ML/L)	26 FECAL COLIFORM (ORG./100)	27 SLUDGE HAULED (GAL.)	28 P.C. TOTAL SOL. SLUDGE HAULED	29 PERCENT VOLATILE SOLIDS	30 PH OF SLUDGE HAULED	31 DET. TIME NEW PRIM. CLAR (HRS)	32 DET. TIME OLD PRIM. CLAR (HRS)
6-29-76	-	-	-	-	-	-	2.607	3.425
6-30-76	-	-	8500.	-	-	-	2.840	3.731
7- 1-76	-	-	-	-	-	-	2.680	3.521
7- 2-76	-	-	-	-	-	-	2.973	3.906
7- 3-76	-	-	-	-	-	-	3.591	4.717
7- 4-76	-	-	-	-	-	-	4.531	5.952
7- 5-76	-	-	-	-	-	-	3.398	4.464
7- 6-76	-	28.00	-	-	-	-	2.440	3.205
7- 7-76	-	-	-	-	-	-	2.409	3.165
7- 8-76	-	-	-	-	-	-	2.643	3.472
7- 9-76	-	-	-	-	-	-	2.680	3.521
7-10-76	-	-	-	-	-	-	2.883	3.786
7-11-76	-	-	-	-	-	-	3.806	5.000
7-12-76	-	-	-	-	-	-	2.471	3.247
7-13-76	-	-	-	-	-	-	2.719	3.571
7-14-76	-	0.0	1000.	-	-	-	2.719	3.571
7-15-76	-	-	-	-	-	-	2.719	3.571
7-16-76	-	-	3000.	-	-	-	2.680	3.521
7-17-76	-	-	-	-	-	-	3.281	4.310
7-18-76	-	-	-	-	-	-	3.731	4.902
7-19-76	-	-	0.1100E 05	-	-	-	2.680	3.521
7-20-76	-	-	0.1100E 05	3.400	76.00	5.600	2.537	3.333
7-21-76	-	-	9000.	-	-	-	2.572	3.378
7-22-76	-	-	-	-	-	-	3.069	4.032
7-23-76	-	-	-	-	-	-	2.607	3.425
7-24-76	-	-	-	-	-	-	3.281	4.310
7-25-76	-	-	-	-	-	-	3.524	4.630
7-26-76	-	-	1000.	-	-	-	2.643	3.472
7-27-76	-	-	7000.	3.600	72.00	6.000	2.719	3.571
7-28-76	-	-	8000.	3.600	66.00	6.000	2.719	3.571
7-29-76	-	69.00	9000.	3.400	76.00	6.200	2.349	3.086
7-30-76	-	-	-	-	-	-	3.120	4.098
7-31-76	-	-	-	-	-	-	4.229	5.556
8- 1-76	-	-	-	-	-	-	4.641	6.098
8- 2-76	-	-	10000.	3.400	76.00	-	2.680	3.521
8- 3-76	-	-	0.1100E 05	-	-	-	2.471	3.247
8- 4-76	-	-	10000.	3.800	75.00	6.300	3.225	4.237
8- 5-76	-	0.0	-	-	-	-	2.643	3.472
8- 6-76	-	-	-	-	-	-	2.409	3.165
8- 7-76	-	-	-	-	-	-	2.758	3.623
8- 8-76	-	-	-	-	-	-	3.069	4.032
8- 9-76	-	0.0	-	-	-	-	2.471	3.247
8-10-76	200.0	G	-	-	-	-	2.440	3.205
8-11-76	-	-	-	-	-	-	2.680	3.521
8-12-76	-	-	3000.	-	-	-	2.537	3.333

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9-27-76	150.0	-	-	-	-	-	2.680	3.521
9-28-76	120.0	-	-	-	-	-	3.069	4.032
9-29-76	160.0	28.00	0.1300E 05	4.800	66.00	6.700	3.120	4.098
9-30-76	-	-	-	-	-	-	2.440	3.205
10- 1-76	-	-	-	-	-	-	-	-
10- 2-76	-	-	-	-	-	-	-	-
10- 3-76	-	-	-	-	-	-	2.440	3.205
10- 4-76	150.0	-	-	-	-	-	2.504	3.289
10- 5-76	160.0	-	-	-	-	-	2.607	3.425
10- 6-76	160.0	-	-	-	-	-	2.799	3.676
10- 7-76	-	0.0	-	-	-	-	2.607	3.425
10- 8-76	170.0	-	-	-	-	-	2.471	3.247
10- 9-76	-	-	-	-	-	-	2.572	3.378
10-10-76	-	-	-	-	-	-	3.225	4.237
10-11-76	150.0	-	-	-	-	-	2.537	3.333
10-12-76	-	0.0	1300.	-	-	-	2.643	3.472
10-13-76	130.0	-	-	-	-	-	3.021	3.968
10-14-76	-	-	-	-	-	-	2.840	3.731
10-15-76	-	-	-	-	-	-	2.799	3.676
10-16-76	-	-	-	-	-	-	3.731	4.902
10-17-76	-	-	-	-	-	-	4.229	5.556
10-18-76	200.0	-	-	-	-	-	2.758	3.623
10-19-76	-	-	0.1300E 05	-	-	-	2.680	3.521
10-20-76	-	-	-	-	-	-	1.962	2.577
10-21-76	-	22.00	-	-	-	-	2.471	3.247
10-22-76	150.0	-	-	-	-	-	2.840	3.731
10-23-76	-	-	-	-	-	-	3.460	4.545
10-24-76	-	-	-	-	-	-	3.172	4.167
10-25-76	130.0	-	-	-	-	-	2.504	3.289
10-26-76	130.0	-	-	-	-	-	2.265	2.976
10-27-76	130.0	-	-	-	-	-	2.643	3.472
10-28-76	130.0	0.0	2600.	-	-	-	2.799	3.676
10-29-76	150.0	-	2600.	-	-	-	2.719	3.571
10-30-76	-	-	-	-	-	-	3.339	4.386
10-31-76	-	-	-	-	-	-	3.339	4.386
11- 1-76	-	-	2600.	5.400	57.00	6.800	2.572	3.378
11- 2-76	-	-	5200.	-	-	-	2.840	3.731
11- 3-76	-	0.0	9100.	-	-	-	2.973	3.906
11- 4-76	-	-	-	-	-	-	2.758	3.623
11- 5-76	80.00	-	-	-	-	-	2.840	3.731
11- 6-76	-	-	-	-	-	-	-	-
11- 7-76	-	-	-	-	-	-	-	-
11- 8-76	85.00	5.000	-	-	-	-	2.799	3.676
11- 9-76	80.00	-	-	-	-	-	3.120	4.098
11-10-76	-	-	9100.	-	-	-	3.172	4.167

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DATE	25 DIG SUPT SET SOLIDS (ML/L)	26 FECAL COLIFORM (ORG./100)	27 SLUDGE HAULED (GAL.)	28 P.C. TOTAL SOL. SLOGE HAULED	29 PERCENT VOLATILE SOLIDS	30 PH OF SLUDGE HAULED	31 DET. TIME NEW PRIM. CLAR (HRS)	32 DET. TIME OLD PRIM. CLAP (HRS)
11-11-76	-	-	1300.	-	-	-	2.573	3.906
11-12-76	-	-	0.1170E 05	-	-	-	3.225	4.237
11-13-76	-	-	-	-	-	-	3.884	5.102
11-14-76	-	-	-	-	-	-	3.806	5.000
11-15-76	-	-	9100.	-	-	-	3.021	3.968
11-16-76	-	0.0	-	-	-	-	2.758	3.623
11-17-76	-	-	-	-	-	-	2.928	3.846
11-18-76	-	-	9100.	-	-	-	2.759	3.676
11-19-76	-	-	-	-	-	-	2.680	3.521
11-20-76	-	-	-	-	-	-	3.172	4.167
11-21-76	-	-	-	-	-	-	3.591	4.717
11-22-76	-	-	0.1300E 05	4.000	65.00	6.600	2.643	3.472
11-23-76	-	15.00	-	-	-	-	2.799	3.676
11-24-76	-	-	1300.	-	-	-	2.504	3.289
11-25-76	-	-	-	-	-	-	3.281	4.310
11-26-76	-	-	-	-	-	-	3.281	4.310
11-27-76	-	-	-	-	-	-	3.225	4.237
11-28-76	-	-	-	-	-	-	3.591	4.717
11-29-76	-	-	-	-	-	-	2.719	3.571
11-30-76	-	-	-	-	-	-	3.069	4.032
12- 1-76	-	-	-	-	-	-	2.928	3.846
12- 2-76	-	-	-	-	-	-	2.758	3.623
12- 3-76	-	-	-	-	-	-	2.840	3.731
12- 4-76	-	-	-	-	-	-	1.922	2.525
12- 5-76	-	-	-	-	-	-	2.504	3.289
12- 6-76	-	-	-	-	-	-	2.409	3.165
12- 7-76	-	-	-	-	-	-	2.213	2.907
12- 8-76	-	-	5200.	3.000	73.00	6.300	2.719	3.571
12- 9-76	-	3.000	0.1300E 05	2.800	71.00	6.400	2.643	3.472
12-10-76	-	-	0.1040E 05	-	-	-	2.607	3.425
12-11-76	-	-	-	-	-	-	3.281	4.310
12-12-76	-	-	-	-	-	-	3.120	4.098
12-13-76	-	-	6500.	-	-	-	2.680	3.521
12-14-76	-	39.00	0.1300E 05	3.400	76.00	6.400	2.680	3.521
12-15-76	-	-	6500.	3.000	80.00	6.400	2.799	3.676
12-16-76	-	-	3400.	-	-	-	2.840	3.731
12-17-76	-	-	-	-	-	-	2.471	3.247
12-18-76	-	-	-	-	-	-	3.591	4.717
12-19-76	-	-	-	-	-	-	3.660	4.808
12-20-76	-	-	-	-	-	-	2.680	3.521
12-21-76	-	0.0	6500.	2.400	83.00	6.300	2.680	3.521
12-22-76	-	-	6500.	-	-	-	2.840	3.731
12-23-76	-	-	5200.	-	-	-	2.928	3.846
12-24-76	-	-	-	-	-	-	2.928	3.846
12-25-76	-	-	-	-	-	-	4.137	5.435

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DATE	25 DIG SUPT SET SOLIDS (ML/L)	26 FECAL COLIFORM (ORG./100)	27 SLUDGE HAULED (GAL.)	28 P.C. TOTAL SOL. SLOGE HAULED	29 PERCENT VOLATILE SOLIDS	30 PH OF SLUDGE HAULED	31 DET. TIME NEW PRIM. CLAR (HRS)	32 DET. TIME OLD PRIM. CLAR (HRS)
12-26-76	-	-	-	-	-	-	2.883	3.788
12-27-76	35.00	63.00	-	-	-	-	2.719	3.571
12-28-76	-	-	-	-	-	-	2.759	3.676
12-29-76	23.00	-	-	-	-	-	2.928	3.846
12-30-76	24.00	-	-	-	-	-	2.471	3.247
12-31-76	-	-	-	-	-	-	-	-
MINIMUM	2.000	0.0	1000.	2.400	57.00	5.200	1.106	1.453
MAXIMUM	300.0	2400.	0.2380E 05	5.800	88.00	7.000	5.947	7.813
AVERAGE	97.17	6.40E	9168.	4.093	75.57	5.953	3.072	4.036
STD.DEV.	75.16	348.2	4338.	0.7835	8.205	0.6628	0.6431	0.8449
VLD.PTS.	35	49	110	54	53	51	361	361

NOTE - () SEE FOOTNOTE TABLE.

* SEE COMMENT TABLE.

T, G, L, OR Q = TRACE, GREATER THAN, LESS THAN, OR QUESTIONABLE DATA.

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DATE	33 DET. TIME FINAL CLAR (HRS)	34 O.F. RATE NEW P CLAR (GPD/S.F.)	35 O.F. RATE OLD P CLAR (GPD/S.F.)	36 O.F. RATE FINAL CLAR (GPD/S.F.)	37 WEIR LOAD. OLD P CLAR (GPD/FT.)	38 WEIR LOAD. NEW P CLAR (GPD/FT.)	39 WEIR LOAD. FINAL CLAR (GPD/FT.)	40 HYD. LOAD. TRICK FILT MG/A/DAY
1- 1-76	4.015	481.0	755.5	346.3	0.2264E 05	3611.	4332.	3.237
1- 2-76	3.957	488.1	766.7	351.4	0.2298E 05	3664.	4395.	3.284
1- 3-76	3.792	509.3	800.0	366.7	0.2398E 05	3823.	4586.	3.427
1- 4-76	4.789	403.2	633.3	290.3	0.1898E 05	3027.	3631.	2.713
1- 5-76	3.957	488.1	766.7	351.4	0.2298E 05	3664.	4395.	3.284
1- 6-76	3.900	495.2	777.8	356.5	0.2331E 05	3717.	4459.	3.332
1- 7-76	4.136	466.9	733.3	336.1	0.2198E 05	3505.	4204.	3.142
1- 8-76	3.845	502.3	788.9	361.6	0.2364E 05	3770.	4523.	3.380
1- 9-76	4.075	474.0	744.4	341.2	0.2231E 05	3558.	4268.	3.189
1-10-76	5.460	353.7	555.5	254.6	0.1665E 05	2655.	3185.	2.380
1-11-76	4.875	396.1	622.2	285.2	0.1865E 05	2974.	3567.	2.666
1-12-76	3.792	509.3	800.0	366.7	0.2398E 05	3823.	4586.	3.427
1-13-76	3.329	580.1	911.1	417.6	0.2731E 05	4354.	5223.	3.903
1-14-76	4.015	481.0	755.5	346.3	0.2264E 05	3611.	4332.	3.237
1-15-76	4.015	481.0	755.5	346.3	0.2264E 05	3611.	4332.	3.237
1-16-76	3.845	502.3	788.9	361.6	0.2364E 05	3770.	4523.	3.380
1-17-76	5.056	382.0	600.0	275.0	0.1798E 05	2867.	3440.	2.570
1-18-76	4.875	396.1	622.2	285.2	0.1865E 05	2974.	3567.	2.666
1-19-76	1.596	1210.	1900.	870.9	0.5694E 05	9080.	0.1089E 05	8.140
1-20-76	1.587	1217.	1911.	876.0	0.5728E 05	9133.	0.1096E 05	8.187
1-21-76	4.075	474.0	744.4	341.2	0.2231E 05	3558.	4268.	3.189
1-22-76	3.792	509.3	800.0	366.7	0.2398E 05	3823.	4586.	3.427
1-23-76	4.015	481.0	755.5	346.3	0.2264E 05	3611.	4332.	3.237
1-24-76	4.789	403.2	633.3	290.3	0.1898E 05	3027.	3631.	2.713
1-25-76	4.789	403.2	633.3	290.3	0.1898E 05	3027.	3631.	2.713
1-26-76	4.200	459.8	722.2	331.0	0.2164E 05	3451.	4140.	3.094
1-27-76	2.528	764.0	1200.	550.0	0.3596E 05	5735.	6880.	5.141
1-28-76	4.403	438.6	688.9	315.8	0.2065E 05	3292.	3949.	2.951
1-29-76	4.875	396.1	622.2	285.2	0.1865E 05	2974.	3567.	2.666
1-30-76	4.015	481.0	755.5	346.3	0.2264E 05	3611.	4332.	3.237
1-31-76	8.273	233.4	366.7	168.1	0.1099E 05	1752.	2102.	1.571
2- 1-76	4.789	403.2	633.3	290.3	0.1898E 05	3027.	3631.	2.713
2- 2-76	4.875	396.1	622.2	285.2	0.1865E 05	2974.	3567.	2.666
2- 3-76	5.056	382.0	600.0	275.0	0.1798E 05	2867.	3440.	2.570
2- 4-76	4.550	424.4	666.7	305.6	0.1998E 05	3186.	3822.	2.856
2- 5-76	7.378	261.7	411.1	188.4	0.1232E 05	1965.	2357.	1.761
2- 6-76	4.475	431.5	677.8	310.7	0.2031E 05	3239.	3886.	2.904
2- 7-76	7.000	275.9	433.3	198.6	0.1299E 05	2071.	2484.	1.856
2- 8-76	8.273	233.4	366.7	168.1	0.1099E 05	1752.	2102.	1.571
2- 9-76	5.460	353.7	555.5	254.6	0.1665E 05	2655.	3185.	2.380
2-10-76	5.250	367.8	577.8	264.8	0.1732E 05	2761.	3312.	2.475
2-11-76	5.687	339.6	533.3	244.5	0.1598E 05	2549.	3058.	2.285
2-12-76	5.353	360.8	566.7	259.7	0.1698E 05	2708.	3249.	2.428
2-13-76	5.250	367.8	577.8	264.8	0.1732E 05	2761.	3312.	2.475
2-14-76	7.800	247.6	388.9	178.3	0.1165E 05	1858.	2229.	1.666

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DATE	33 DET. TIME FINAL CLAR (HRS.)	34 O.F. RATE NEW P CLAR (GPD/S.F.)	35 O.F. RATE OLD P CLAR (GPD/S.F.)	36 O.F. RATE FINAL CLAR (GPD/S.F.)	37 WEIR LOAD. OLD P CLAR (GPD/FT.)	38 WEIR LOAD. NEW P CLAR (GPD/FT.)	39 WEIR LOAD. FINAL CLAR (GPD/FT.)	40 HYD. LOAD. TRICK FILT MG/A/DAY
2-15-76	8.531	226.4	355.6	163.0	0.1006E 05	1699.	2038.	1.523
2-16-76	5.687	339.6	533.3	244.5	0.1598E 05	2549.	3058.	2.285
2-17-76	5.151	374.9	588.9	269.9	0.1765E 05	2814.	3376.	2.523
2-18-76	5.571	346.6	544.4	249.6	0.1632E 05	2602.	3121.	2.332
2-19-76	5.687	339.6	533.3	244.5	0.1598E 05	2549.	3058.	2.285
2-20-76	5.809	332.5	522.2	239.4	0.1565E 05	2496.	2994.	2.237
2-21-76	7.000	275.9	433.3	198.6	0.1299E 05	2071.	2484.	1.856
2-22-76	8.029	240.5	377.8	173.2	0.1132E 05	1805.	2166.	1.618
2-23-76	5.571	346.6	544.4	249.6	0.1632E 05	2602.	3121.	2.332
2-24-76	5.460	353.7	555.5	254.6	0.1665E 05	2655.	3185.	2.380
2-25-76	5.809	332.5	522.2	239.4	0.1565E 05	2496.	2994.	2.237
2-26-76	6.500	297.1	466.7	213.9	0.1399E 05	2230.	2675.	1.999
2-27-76	6.205	311.3	488.9	224.1	0.1465E 05	2336.	2803.	2.094
2-28-76	6.659	290.0	455.6	208.8	0.1365E 05	2177.	2612.	1.952
2-29-76	6.349	304.2	477.8	219.0	0.1432E 05	2283.	2739.	2.047
3- 1-76	4.875	396.1	622.2	285.2	0.1865E 05	2974.	3567.	2.666
3- 2-76	4.627	417.4	655.5	300.5	0.1965E 05	3133.	3758.	2.808
3- 3-76	4.550	424.4	666.7	305.6	0.1998E 05	3186.	3822.	2.856
3- 4-76	3.500	551.8	866.7	397.3	0.2597E 05	4142.	4969.	3.713
3- 5-76	3.500	551.8	866.7	397.3	0.2597E 05	4142.	4969.	3.713
3- 6-76	5.056	382.0	600.0	275.0	0.1798E 05	2867.	3440.	2.570
3- 7-76	5.460	353.7	555.5	254.6	0.1665E 05	2655.	3185.	2.380
3- 8-76	4.015	481.0	755.5	346.3	0.2264E 05	3611.	4332.	3.237
3- 9-76	4.015	481.0	755.5	346.3	0.2264E 05	3611.	4332.	3.237
3-10-76	4.550	424.4	666.7	305.6	0.1998E 05	3186.	3822.	2.856
3-11-76	3.740	516.4	811.1	371.8	0.2431E 05	3876.	4650.	3.475
3-12-76	3.957	488.1	766.7	351.4	0.2298E 05	3664.	4395.	3.284
3-13-76	4.333	445.7	700.0	320.9	0.2098E 05	3345.	4013.	2.999
3-14-76	6.349	304.2	477.8	219.0	0.1432E 05	2283.	2739.	2.047
3-15-76	4.015	481.0	755.5	346.3	0.2264E 05	3611.	4332.	3.237
3-16-76	4.015	481.0	755.5	346.3	0.2264E 05	3611.	4332.	3.237
3-17-76	4.266	452.7	711.1	326.0	0.2131E 05	3398.	4077.	3.046
3-18-76	4.075	474.0	744.4	341.2	0.2231E 05	3558.	4268.	3.189
3-19-76	4.333	445.7	700.0	320.9	0.2098E 05	3345.	4013.	2.999
3-20-76	4.964	389.1	611.1	280.1	0.1831E 05	2920.	3503.	2.618
3-21-76	5.460	353.7	555.5	254.6	0.1665E 05	2655.	3185.	2.380
3-22-76	3.689	523.5	822.2	376.9	0.2464E 05	3929.	4714.	3.522
3-23-76	4.475	431.5	677.8	310.7	0.2031E 05	3239.	3886.	2.904
3-24-76	4.136	466.9	733.3	336.1	0.2198E 05	3505.	4204.	3.142
3-25-76	4.475	431.5	677.8	310.7	0.2031E 05	3239.	3886.	2.904
3-26-76	4.200	459.8	722.2	331.0	0.2164E 05	3451.	4140.	3.094
3-27-76	4.707	410.3	644.4	295.4	0.1931E 05	3080.	3695.	2.761
3-28-76	5.353	360.8	566.7	259.7	0.1698E 05	2708.	3249.	2.428
3-29-76	3.689	523.5	822.2	376.9	0.2464E 05	3929.	4714.	3.522
3-30-76	4.136	466.9	733.3	336.1	0.2198E 05	3505.	4204.	3.142

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3-31-76	3.067	629.6	988.9	453.3	0.2964E 05	4726.	5669.	4.236
4- 1-76	4.627	417.4	655.5	300.5	0.1965E 05	3133.	3758.	2.808
4- 2-76	4.075	474.C	744.4	341.2	0.2231E 05	3558.	4268.	3.189
4- 3-76	4.875	396.1	622.2	285.2	0.1865E 05	2974.	3567.	2.666
4- 4-76	4.964	385.1	611.1	280.1	0.1831E 05	2920.	3503.	2.618
4- 5-76	3.792	509.3	800.0	366.7	0.2398E 05	3823.	4586.	3.427
4- 6-76	3.845	502.3	788.9	361.6	0.2364E 05	3770.	4523.	3.380
4- 7-76	4.015	481.0	755.5	346.3	0.2264E 05	3611.	4332.	3.237
4- 8-76	3.900	495.2	777.8	356.5	0.2331E 05	3717.	4459.	3.332
4- 9-76	3.900	495.2	777.8	356.5	0.2331E 05	3717.	4459.	3.332
4-10-76	4.550	424.4	666.7	305.6	0.1998E 05	3186.	3822.	2.856
4-11-76	5.151	374.9	588.9	269.9	0.1765E 05	2814.	3376.	2.523
4-12-76	3.957	488.1	766.7	351.4	0.2298E 05	3664.	4395.	3.284
4-13-76	3.957	488.1	766.7	351.4	0.2298E 05	3664.	4395.	3.284
4-14-76	4.136	466.9	733.3	336.1	0.2198E 05	3505.	4204.	3.142
4-15-76	3.957	488.1	766.7	351.4	0.2298E 05	3664.	4395.	3.284
4-16-76	4.707	410.3	644.4	295.4	0.1931E 05	3080.	3695.	2.761
4-17-76	4.627	417.4	655.5	300.5	0.1965E 05	3133.	3758.	2.808
4-18-76	5.571	346.6	544.4	249.6	0.1632E 05	2602.	3121.	2.332
4-19-76	3.792	509.3	800.0	366.7	0.2398E 05	3823.	4586.	3.427
4-20-76	3.845	502.3	788.9	361.6	0.2364E 05	3770.	4523.	3.380
4-21-76	4.266	452.7	711.1	326.0	0.2131E 05	3398.	4077.	3.046
4-22-76	3.957	488.1	766.7	351.4	0.2298E 05	3664.	4395.	3.284
4-23-76	4.333	445.7	700.0	320.9	0.2098E 05	3345.	4013.	2.999
4-24-76	5.151	374.9	588.9	269.9	0.1765E 05	2814.	3376.	2.523
4-25-76	5.250	367.8	577.8	264.8	0.1732E 05	2761.	3312.	2.475
4-26-76	4.015	481.0	755.5	346.3	0.2264E 05	3611.	4332.	3.237
4-27-76	4.075	474.C	744.4	341.2	0.2231E 05	3558.	4268.	3.189
4-28-76	4.333	445.7	700.0	320.9	0.2098E 05	3345.	4013.	2.999
4-29-76	3.957	488.1	766.7	351.4	0.2298E 05	3664.	4395.	3.284
4-30-76	4.075	474.C	744.4	341.2	0.2231E 05	3558.	4268.	3.189
5- 1-76	4.403	438.6	688.9	315.8	0.2065E 05	3292.	3949.	2.951
5- 2-76	5.460	353.7	555.5	254.6	0.1665E 05	2655.	3185.	2.380
5- 3-76	3.900	495.2	777.8	356.5	0.2331E 05	3717.	4459.	3.332
5- 4-76	4.075	474.0	744.4	341.2	0.2231E 05	3558.	4268.	3.189
5- 5-76	4.136	466.9	733.3	336.1	0.2198E 05	3505.	4204.	3.142
5- 6-76	4.075	474.C	744.4	341.2	0.2231E 05	3558.	4268.	3.189
5- 7-76	4.403	438.6	688.9	315.8	0.2065E 05	3292.	3949.	2.951
5- 8-76	5.353	360.8	566.7	259.7	0.1698E 05	2708.	3249.	2.428
5- 9-76	5.151	374.9	588.9	269.9	0.1765E 05	2814.	3376.	2.523
5-10-76	3.845	502.3	788.9	361.6	0.2364E 05	3770.	4523.	3.380
5-11-76	3.792	509.3	800.0	366.7	0.2398E 05	3823.	4586.	3.427
5-12-76	3.792	509.3	800.0	366.7	0.2398E 05	3823.	4586.	3.427
5-13-76	4.403	438.6	688.9	315.8	0.2065E 05	3292.	3949.	2.951
5-14-76	4.200	459.8	722.2	331.0	0.2164E 05	3451.	4140.	3.094

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DATE	33 DET. TIME FINAL CLAR (HRS)	34 O.F. RATE NEW P CLAR (GPD/S.F.)	35 O.F. RATE OLD P CLAR (GPD/S.F.)	36 O.F. RATE FINAL CLAR (GPD/S.F.)	37 WEIR LOAD. OLD P CLAR (GPD/FT.)	38 WEIR LOAD. NEW P CLAR (GPD/FT.)	39 WEIR LOAD. FINAL CLAR (GPD/FT.)	40 HYD. LOAD. TRICK FILT MG/A/DAY
5-15-76	4.964	389.1	611.1	280.1	0.1831E 05	2920.	3503.	2.618
5-16-76	4.964	389.1	611.1	280.1	0.1831E 05	2920.	3503.	2.618
5-17-76	3.740	516.4	811.1	371.8	0.2431E 05	3876.	4650.	3.475
5-18-76	3.957	488.1	766.7	351.4	0.2298E 05	3664.	4395.	3.284
5-19-76	4.075	474.0	744.4	341.2	0.2231E 05	3558.	4268.	3.189
5-20-76	3.900	495.2	777.8	356.5	0.2331E 05	3717.	4459.	3.332
5-21-76	4.333	445.7	700.0	320.9	0.2098E 05	3345.	4013.	2.999
5-22-76	5.151	374.9	588.9	269.9	0.1765E 05	2814.	3376.	2.523
5-23-76	5.460	352.7	555.5	254.6	0.1665E 05	2655.	3185.	2.380
5-24-76	3.957	488.1	766.7	351.4	0.2298E 05	3664.	4395.	3.284
5-25-76	3.592	537.6	844.4	387.1	0.2531E 05	4036.	4841.	3.618
5-26-76	4.015	481.0	755.5	346.3	0.2264E 05	3611.	4332.	3.237
5-27-76	4.475	431.5	677.8	310.7	0.2031E 05	3239.	3886.	2.904
5-28-76	4.627	417.4	655.5	300.5	0.1965E 05	3133.	3758.	2.808
5-29-76	5.353	360.8	566.7	259.7	0.1698E 05	2708.	3249.	2.428
5-30-76	6.205	311.3	488.9	224.1	0.1465E 05	2336.	2803.	2.094
5-31-76	5.935	325.4	511.1	234.3	0.1532E 05	2443.	2930.	2.190
6- 1-76	3.689	523.5	822.2	376.9	0.2464E 05	3929.	4714.	3.522
6- 2-76	4.075	474.0	744.4	341.2	0.2231E 05	3558.	4268.	3.189
6- 3-76	3.957	488.1	766.7	351.4	0.2298E 05	3664.	4395.	3.284
6- 4-76	4.403	438.6	688.9	315.8	0.2065E 05	3292.	3949.	2.951
6- 5-76	4.875	396.1	622.2	285.2	0.1865E 05	2974.	3567.	2.666
6- 6-76	5.935	325.4	511.1	234.3	0.1532E 05	2443.	2930.	2.190
6- 7-76	4.403	438.6	688.9	315.8	0.2065E 05	3292.	3949.	2.951
6- 8-76	4.200	459.8	722.2	331.0	0.2164E 05	3451.	4140.	3.094
6- 9-76	4.403	438.6	688.9	315.8	0.2065E 05	3292.	3949.	2.951
6-10-76	4.403	438.6	688.9	315.8	0.2065E 05	3292.	3949.	2.951
6-11-76	3.740	516.4	811.1	371.8	0.2431E 05	3876.	4650.	3.475
6-12-76	4.707	410.3	644.4	295.4	0.1931E 05	3080.	3695.	2.761
6-13-76	5.250	367.8	577.8	264.8	0.1732E 05	2761.	3312.	2.475
6-14-76	3.845	502.3	788.9	361.6	0.2364E 05	3770.	4523.	3.380
6-15-76	3.689	523.5	822.2	376.9	0.2464E 05	3929.	4714.	3.522
6-16-76	3.592	537.6	844.4	387.1	0.2531E 05	4036.	4841.	3.618
6-17-76	3.592	537.6	844.4	387.1	0.2531E 05	4036.	4841.	3.618
6-18-76	3.900	495.2	777.8	356.5	0.2331E 05	3717.	4459.	3.332
6-19-76	5.250	367.8	577.8	264.8	0.1732E 05	2761.	3312.	2.475
6-20-76	4.964	389.1	611.1	280.1	0.1831E 05	2920.	3503.	2.618
6-21-76	3.545	544.7	855.5	392.2	0.2564E 05	4089.	4905.	3.665
6-22-76	3.792	509.3	800.0	366.7	0.2398E 05	3823.	4586.	3.427
6-23-76	4.200	459.8	722.2	331.0	0.2164E 05	3451.	4140.	3.094
6-24-76	3.845	502.3	788.9	361.6	0.2364E 05	3770.	4523.	3.380
6-25-76	4.707	410.3	644.4	295.4	0.1931E 05	3080.	3695.	2.761
6-26-76	5.353	360.8	566.7	259.7	0.1698E 05	2708.	3249.	2.428
6-27-76	5.687	335.6	533.3	244.5	0.1598E 05	2549.	3058.	2.285
6-28-76	3.592	537.6	844.4	387.1	0.2531E 05	4036.	4841.	3.618

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6-29-76	3.740	516.4	811.1	371.8	0.2431E 05	3876.	4650.	3.475
6-30-76	4.075	474.0	744.4	341.2	0.2231E 05	3558.	4268.	3.189
7- 1-76	3.845	502.3	788.9	361.6	0.2364E 05	3770.	4523.	3.380
7- 2-76	4.266	452.7	711.1	326.0	0.2131E 05	3398.	4077.	3.046
7- 3-76	5.151	374.5	588.9	269.9	0.1765E 05	2814.	3376.	2.523
7- 4-76	6.500	297.1	466.7	213.9	0.1399E 05	2230.	2675.	1.999
7- 5-76	4.875	396.1	622.2	285.2	0.1865E 05	2974.	3567.	2.666
7- 6-76	3.500	551.8	866.7	397.3	0.2597E 05	4142.	4969.	3.713
7- 7-76	3.456	558.8	877.8	402.3	0.2631E 05	4195.	5032.	3.760
7- 8-76	3.792	509.3	800.0	366.7	0.2398E 05	3823.	4586.	3.427
7- 9-76	3.845	502.3	788.9	361.6	0.2364E 05	3770.	4523.	3.380
7-10-76	4.136	466.5	733.3	336.1	0.2198E 05	3505.	4204.	3.142
7-11-76	5.460	353.7	555.5	254.6	0.1665E 05	2655.	3185.	2.380
7-12-76	3.545	544.7	855.5	392.2	0.2564E 05	4089.	4905.	3.665
7-13-76	3.900	495.2	777.8	356.5	0.2331E 05	3717.	4459.	3.332
7-14-76	3.900	495.2	777.8	356.5	0.2331E 05	3717.	4459.	3.332
7-15-76	3.900	495.2	777.8	356.5	0.2331E 05	3717.	4459.	3.332
7-16-76	3.845	502.3	788.9	361.6	0.2364E 05	3770.	4523.	3.380
7-17-76	4.707	410.3	644.4	295.4	0.1931E 05	3080.	3695.	2.761
7-18-76	5.353	360.8	566.7	259.7	0.1698E 05	2708.	3249.	2.428
7-19-76	3.845	502.3	788.9	361.6	0.2364E 05	3770.	4523.	3.380
7-20-76	3.640	530.5	833.3	382.0	0.2498E 05	3983.	4778.	3.570
7-21-76	3.689	523.5	822.2	376.9	0.2464E 05	3929.	4714.	3.522
7-22-76	4.403	438.6	688.9	315.8	0.2065E 05	3292.	3949.	2.951
7-23-76	3.740	516.4	811.1	371.8	0.2431E 05	3876.	4650.	3.475
7-24-76	4.707	410.3	644.4	295.4	0.1931E 05	3080.	3695.	2.761
7-25-76	5.056	382.0	600.0	275.0	0.1798E 05	2867.	3440.	2.570
7-26-76	3.792	509.3	800.0	366.7	0.2398E 05	3823.	4586.	3.427
7-27-76	3.900	495.2	777.8	356.5	0.2331E 05	3717.	4459.	3.332
7-28-76	3.900	495.2	777.8	356.5	0.2331E 05	3717.	4459.	3.332
7-29-76	3.370	573.0	900.0	412.5	0.2697E 05	4301.	5160.	3.856
7-30-76	4.475	431.5	677.8	310.7	0.2031E 05	3239.	3886.	2.904
7-31-76	6.067	318.3	500.0	229.2	0.1498E 05	2389.	2866.	2.142
8- 1-76	6.659	290.0	455.6	208.8	0.1365E 05	2177.	2612.	1.952
8- 2-76	3.845	502.3	788.9	361.6	0.2364E 05	3770.	4523.	3.380
8- 3-76	3.545	544.7	855.5	392.2	0.2564E 05	4089.	4905.	3.665
8- 4-76	4.627	417.4	655.5	300.5	0.1965E 05	3133.	3758.	2.808
8- 5-76	3.792	509.3	800.0	366.7	0.2398E 05	3823.	4586.	3.427
8- 6-76	3.456	558.8	877.8	402.3	0.2631E 05	4195.	5032.	3.760
8- 7-76	3.957	488.1	766.7	351.4	0.2298E 05	3664.	4395.	3.284
8- 8-76	4.403	438.6	688.9	315.8	0.2065E 05	3292.	3949.	2.951
8- 9-76	3.545	544.7	855.5	392.2	0.2564E 05	4089.	4905.	3.665
8-10-76	3.500	551.8	866.7	397.3	0.2597E 05	4142.	4969.	3.713
8-11-76	3.845	502.3	788.9	361.6	0.2364E 05	3770.	4523.	3.380
8-12-76	3.640	530.5	833.3	382.0	0.2498E 05	3983.	4778.	3.570

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8-13-76	3.845	502.3	788.9	361.6	0.2364E 05	3770.	4523.	3.380
8-14-76	4.964	389.1	611.1	280.1	0.1831E 05	2920.	3503.	2.618
8-15-76	5.056	382.0	600.0	275.0	0.1798E 05	2867.	3440.	2.570
8-16-76	3.689	523.5	822.2	376.9	0.2464E 05	3929.	4714.	3.522
8-17-76	4.333	445.7	700.0	320.9	0.2098E 05	3345.	4013.	2.999
8-18-76	3.500	551.8	866.7	397.3	0.2597E 05	4142.	4969.	3.713
8-19-76	3.957	488.1	766.7	351.4	0.2298E 05	3664.	4395.	3.284
8-20-76	3.689	523.5	822.2	376.9	0.2464E 05	3929.	4714.	3.522
8-21-76	5.151	374.9	588.9	269.9	0.1765E 05	2814.	3376.	2.523
8-22-76	5.353	360.8	566.7	259.7	0.1698E 05	2708.	3249.	2.428
8-23-76	3.329	580.1	911.1	417.6	0.2731E 05	4354.	5223.	3.903
8-24-76	4.200	459.8	722.2	331.0	0.2164E 05	3451.	4140.	3.094
8-25-76	3.845	502.3	788.9	361.6	0.2364E 05	3770.	4523.	3.380
8-26-76	3.740	516.4	811.1	371.8	0.2431E 05	3876.	4650.	3.475
8-27-76	3.900	495.2	777.8	356.5	0.2331E 05	3717.	4459.	3.332
8-28-76	5.353	360.8	566.7	259.7	0.1698E 05	2708.	3249.	2.428
8-29-76	5.353	360.8	566.7	259.7	0.1698E 05	2708.	3249.	2.428
8-30-76	3.592	537.6	844.4	387.1	0.2531E 05	4036.	4841.	3.618
8-31-76	3.845	502.3	788.9	361.6	0.2364E 05	3770.	4523.	3.380
9- 1-76	4.015	481.0	755.5	346.3	0.2264E 05	3611.	4332.	3.237
9- 2-76	4.015	481.0	755.5	346.3	0.2264E 05	3611.	4332.	3.237
9- 3-76	3.900	495.2	777.8	356.5	0.2331E 05	3717.	4459.	3.332
9- 4-76	5.687	339.6	533.3	244.5	0.1598E 05	2549.	3058.	2.285
9- 5-76	5.935	325.4	511.1	234.3	0.1532E 05	2443.	2930.	2.190
9- 6-76	5.151	374.9	588.9	269.9	0.1765E 05	2814.	3376.	2.523
9- 7-76	3.740	516.4	811.1	371.8	0.2431E 05	3876.	4650.	3.475
9- 8-76	4.015	481.0	755.5	346.3	0.2264E 05	3611.	4332.	3.237
9- 9-76	3.900	495.2	777.8	356.5	0.2331E 05	3717.	4459.	3.332
9-10-76	3.957	488.1	766.7	351.4	0.2298E 05	3664.	4395.	3.284
9-11-76	5.460	353.7	555.5	254.6	0.1665E 05	2655.	3185.	2.380
9-12-76	5.056	382.0	600.0	275.0	0.1798E 05	2867.	3440.	2.570
9-13-76	3.740	516.4	811.1	371.8	0.2431E 05	3876.	4650.	3.475
9-14-76	5.250	367.8	577.8	264.8	0.1732E 05	2761.	3312.	2.475
9-15-76	4.015	481.0	755.5	346.3	0.2264E 05	3611.	4332.	3.237
9-16-76	2.133	905.5	1422.	651.9	0.4262E 05	6797.	8154.	6.093
9-17-76	3.592	537.6	844.4	387.1	0.2531E 05	4036.	4841.	3.618
9-18-76	4.964	389.1	611.1	280.1	0.1831E 05	2920.	3503.	2.618
9-19-76	5.809	332.5	522.2	239.4	0.1565E 05	2496.	2994.	2.237
9-20-76	3.329	580.1	911.1	417.6	0.2731E 05	4354.	5223.	3.903
9-21-76	3.545	544.7	855.5	392.2	0.2564E 05	4089.	4905.	3.665
9-22-76	3.289	587.1	922.2	422.7	0.2764E 05	4407.	5287.	3.951
9-23-76	3.792	509.3	800.0	366.7	0.2398E 05	3823.	4586.	3.427
9-24-76	4.015	481.0	755.5	346.3	0.2264E 05	3611.	4332.	3.237
9-25-76	5.571	346.6	544.4	249.6	0.1632E 05	2602.	3121.	2.332
9-26-76	5.809	332.5	522.2	239.4	0.1565E 05	2496.	2994.	2.237

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9-27-76	3.845	502.3	788.9	361.6	0.2364E 05	3770.	4523.	3.380
9-28-76	4.403	438.6	688.9	315.8	0.2065E 05	3292.	3949.	2.951
9-29-76	4.475	431.5	677.8	310.7	0.2031E 05	3239.	3886.	2.904
9-30-76	3.500	551.8	866.7	397.3	0.2597E 05	4142.	4969.	3.713
10- 1-76	-	-	-	-	-	-	-	-
10- 2-76	-	-	-	-	-	-	-	-
10- 3-76	3.500	551.8	866.7	397.3	0.2597E 05	4142.	4969.	3.713
10- 4-76	3.592	537.6	844.4	387.1	0.2531E 05	4036.	4841.	3.618
10- 5-76	3.740	516.4	811.1	371.8	0.2431E 05	3876.	4650.	3.475
10- 6-76	4.015	481.0	755.5	346.3	0.2264E 05	3611.	4332.	3.237
10- 7-76	3.740	516.4	811.1	371.8	0.2431E 05	3876.	4650.	3.475
10- 8-76	3.545	544.7	855.5	392.2	0.2564E 05	4089.	4905.	3.665
10- 9-76	3.689	523.5	822.2	376.9	0.2464E 05	3929.	4714.	3.522
10-10-76	4.627	417.4	655.5	300.5	0.1965E 05	3133.	3758.	2.808
10-11-76	3.640	530.5	833.3	382.0	0.2498E 05	3983.	4778.	3.570
10-12-76	3.792	505.3	800.0	366.7	0.2398E 05	3823.	4586.	3.427
10-13-76	4.333	445.7	700.0	320.9	0.2098E 05	3345.	4013.	2.999
10-14-76	4.075	474.0	744.4	341.2	0.2231E 05	3558.	4268.	3.189
10-15-76	4.015	481.0	755.5	346.3	0.2264E 05	3611.	4332.	3.237
10-16-76	5.353	360.8	566.7	259.7	0.1698E 05	2708.	3249.	2.428
10-17-76	6.067	318.3	500.0	229.2	0.1498E 05	2389.	2866.	2.142
10-18-76	3.957	488.1	766.7	351.4	0.2298E 05	3664.	4395.	3.284
10-19-76	3.845	502.3	788.9	361.6	0.2364E 05	3770.	4523.	3.380
10-20-76	2.814	686.2	1078.	494.0	0.3230E 05	5151.	6175.	4.617
10-21-76	3.545	544.7	855.5	392.2	0.2564E 05	4089.	4905.	3.665
10-22-76	4.075	474.0	744.4	341.2	0.2231E 05	3558.	4268.	3.189
10-23-76	4.964	389.1	611.1	280.1	0.1831E 05	2920.	3503.	2.618
10-24-76	4.550	424.4	666.7	305.6	0.1998E 05	3186.	3822.	2.856
10-25-76	3.592	537.6	844.4	387.1	0.2531E 05	4036.	4841.	3.618
10-26-76	3.250	594.2	933.3	427.8	0.2797E 05	4460.	5351.	3.998
10-27-76	3.792	509.3	800.0	366.7	0.2398E 05	3823.	4586.	3.427
10-28-76	4.015	481.0	755.5	346.3	0.2264E 05	3611.	4332.	3.237
10-29-76	3.900	495.2	777.8	356.5	0.2331E 05	3717.	4459.	3.332
10-30-76	4.789	403.2	633.3	290.3	0.1898E 05	3027.	3631.	2.713
10-31-76	4.789	403.2	633.3	290.3	0.1898E 05	3027.	3631.	2.713
11- 1-76	3.689	523.5	822.2	376.9	0.2464E 05	3929.	4714.	3.522
11- 2-76	4.075	474.0	744.4	341.2	0.2231E 05	3558.	4268.	3.189
11- 3-76	4.266	452.7	711.1	326.0	0.2131E 05	3398.	4077.	3.046
11- 4-76	3.957	488.1	766.7	351.4	0.2298E 05	3664.	4395.	3.284
11- 5-76	4.075	474.0	744.4	341.2	0.2231E 05	3558.	4268.	3.189
11- 6-76	-	-	-	-	-	-	-	-
11- 7-76	-	-	-	-	-	-	-	-
11- 8-76	4.015	481.0	755.5	346.3	0.2264E 05	3611.	4332.	3.237
11- 9-76	4.475	431.5	677.8	310.7	0.2031E 05	3239.	3886.	2.904
11-10-76	4.550	424.4	666.7	305.6	0.1998E 05	3186.	3822.	2.856

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11-11-76	4.266	452.7	711.1	326.0	0.2131E 05	3398.	4077.	3.046
11-12-76	4.627	417.4	655.5	300.5	0.1965E 05	3133.	3758.	2.808
11-13-76	5.571	346.6	544.4	249.6	0.1632E 05	2602.	3121.	2.332
11-14-76	5.460	353.7	555.5	254.6	0.1665E 05	2655.	3185.	2.380
11-15-76	4.333	445.7	700.0	320.9	0.2098E 05	3345.	4013.	2.999
11-16-76	3.957	488.1	766.7	351.4	0.2250E 05	3664.	4395.	3.284
11-17-76	4.200	459.8	722.2	331.0	0.2164E 05	3451.	4140.	3.094
11-18-76	4.015	481.0	755.5	346.3	0.2264E 05	3611.	4332.	3.237
11-19-76	3.845	502.3	788.9	361.6	0.2364E 05	3770.	4523.	3.380
11-20-76	4.550	424.4	666.7	305.6	0.1998E 05	3186.	3822.	2.856
11-21-76	5.151	374.9	588.9	269.9	0.1765E 05	2814.	3376.	2.523
11-22-76	3.792	509.3	800.0	366.7	0.2398E 05	3823.	4586.	3.427
11-23-76	4.015	481.0	755.5	346.3	0.2264E 05	3611.	4332.	3.237
11-24-76	3.592	537.6	844.4	387.1	0.2531E 05	4036.	4841.	3.618
11-25-76	4.707	410.3	644.4	295.4	0.1931E 05	3080.	3695.	2.761
11-26-76	4.707	410.3	644.4	295.4	0.1931E 05	3080.	3695.	2.761
11-27-76	4.627	417.4	655.5	300.5	0.1965E 05	3133.	3758.	2.808
11-28-76	5.151	374.9	588.9	269.9	0.1765E 05	2814.	3376.	2.523
11-29-76	3.900	495.2	777.8	356.5	0.2331E 05	3717.	4459.	3.332
11-30-76	4.403	438.6	688.9	315.8	0.2065E 05	3292.	3949.	2.951
12- 1-76	4.200	459.8	722.2	331.0	0.2164E 05	3451.	4140.	3.094
12- 2-76	3.957	488.1	766.7	351.4	0.2298E 05	3664.	4395.	3.284
12- 3-76	4.075	474.0	744.4	341.2	0.2231E 05	3558.	4268.	3.189
12- 4-76	2.758	700.3	1100.	504.2	0.3297E 05	5257.	6306.	4.712
12- 5-76	3.592	537.6	844.4	387.1	0.2531E 05	4036.	4841.	3.618
12- 6-76	3.456	558.8	877.8	402.3	0.2631E 05	4195.	5032.	3.760
12- 7-76	3.174	608.4	955.5	438.0	0.2864E 05	4567.	5478.	4.094
12- 8-76	3.900	495.2	777.8	356.5	0.2331E 05	3717.	4459.	3.332
12- 9-76	3.792	509.3	800.0	366.7	0.2398E 05	3823.	4586.	3.427
12-10-76	3.740	516.4	811.1	371.8	0.2431E 05	3876.	4650.	3.475
12-11-76	4.707	410.3	644.4	295.4	0.1931E 05	3080.	3695.	2.761
12-12-76	4.475	431.5	677.8	310.7	0.2031E 05	3239.	3886.	2.904
12-13-76	3.845	502.3	788.9	361.6	0.2364E 05	3770.	4523.	3.380
12-14-76	3.845	502.3	788.9	361.6	0.2364E 05	3770.	4523.	3.380
12-15-76	4.015	481.0	755.5	346.3	0.2264E 05	3611.	4332.	3.237
12-16-76	4.075	474.0	744.4	341.2	0.2231E 05	3558.	4268.	3.189
12-17-76	3.545	544.7	855.5	392.2	0.2564E 05	4089.	4905.	3.665
12-18-76	5.151	374.9	588.9	269.9	0.1765E 05	2814.	3376.	2.523
12-19-76	5.250	367.6	577.8	264.8	0.1732E 05	2761.	3312.	2.475
12-20-76	3.845	502.3	788.9	361.6	0.2364E 05	3770.	4523.	3.380
12-21-76	3.845	502.3	788.9	361.6	0.2364E 05	3770.	4523.	3.380
12-22-76	4.075	474.0	744.4	341.2	0.2231E 05	3558.	4268.	3.189
12-23-76	4.200	459.8	722.2	331.0	0.2164E 05	3451.	4140.	3.094
12-24-76	4.200	459.8	722.2	331.0	0.2164E 05	3451.	4140.	3.094
12-25-76	5.935	325.4	511.1	234.3	0.1532E 05	2443.	2930.	2.190

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12-26-76	4.136	466.9	733.3	336.1	0.2198E 05	3505.	4204.	3.142
12-27-76	3.900	495.2	777.8	356.5	0.2331E 05	3717.	4459.	3.332
12-28-76	4.015	481.0	755.5	346.3	0.2264E 05	3611.	4332.	3.237
12-29-76	4.200	455.8	722.2	331.0	0.2164E 05	3451.	4140.	3.094
12-30-76	3.545	544.7	855.5	392.2	0.2564E 05	4089.	4905.	3.665
12-31-76	-	-	-	-	-	-	-	-
MINIMUM	1.587	226.4	355.6	163.0	0.1066E 05	1699.	2038.	1.523
MAXIMUM	8.531	1217.	1911.	876.0	0.5728E 05	9133.	0.1096E 05	8.187
AVERAGE	4.408	456.5	717.0	328.6	0.2149D 05	3426.	4110.	3.071
STD.DEV.	0.9226	58.82	155.2	71.15	4652.	741.8	889.9	0.6650
VLD.PTS.	361	361	361	361	361	361	361	361

NOTE - () SEE FOOTNOTE TABLE.

* SEE COMMENT TABLE.

T, G, L, OR Q = TRACE, GREATER THAN, LESS THAN, OR QUESTIONABLE DATA.

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1- 1-76	-
1- 2-76	-
1- 3-76	-
1- 4-76	-
1- 5-76	-
1- 6-76	-
1- 7-76	-
1- 8-76	8.030
1- 9-76	-
1-10-76	-
1-11-76	-
1-12-76	-
1-13-76	-
1-14-76	14.45
1-15-76	-
1-16-76	-
1-17-76	-
1-18-76	-
1-19-76	-
1-20-76	-
1-21-76	-
1-22-76	16.99
1-23-76	-
1-24-76	-
1-25-76	-
1-26-76	-
1-27-76	-
1-28-76	-
1-29-76	-
1-30-76	17.11
1-31-76	-
2- 1-76	-
2- 2-76	-
2- 3-76	-
2- 4-76	-
2- 5-76	-
2- 6-76	-
2- 7-76	8.936
2- 8-76	-
2- 9-76	-
2-10-76	-
2-11-76	11.28
2-12-76	-
2-13-76	-
2-14-76	-

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DATE	41 ORG LOADNG TF LB BOD/ 1000 C.F.
2-15-76	-
2-16-76	-
2-17-76	-
2-18-76	-
2-19-76	-
2-20-76	-
2-21-76	-
2-22-76	-
2-23-76	11.47
2-24-76	-
2-25-76	-
2-26-76	-
2-27-76	-
2-28-76	-
2-29-76	-
3- 1-76	-
3- 2-76	-
3- 3-76	-
3- 4-76	-
3- 5-76	-
3- 6-76	-
3- 7-76	-
3- 8-76	-
3- 9-76	-
3-10-76	-
3-11-76	-
3-12-76	-
3-13-76	-
3-14-76	-
3-15-76	-
3-16-76	-
3-17-76	-
3-18-76	-
3-19-76	-
3-20-76	-
3-21-76	-
3-22-76	-
3-23-76	-
3-24-76	-
3-25-76	-
3-26-76	16.35
3-27-76	-
3-28-76	-
3-29-76	-
3-30-76	-

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DATE	41 ORG LOADING TF LB BOD/ 1000 C.F.
3-31-76	-
4- 1-76	11.33
4- 2-76	-
4- 3-76	-
4- 4-76	-
4- 5-76	-
4- 6-76	-
4- 7-76	-
4- 8-76	16.86
4- 9-76	-
4-10-76	-
4-11-76	-
4-12-76	-
4-13-76	-
4-14-76	14.93
4-15-76	-
4-16-76	-
4-17-76	-
4-18-76	-
4-19-76	-
4-20-76	-
4-21-76	-
4-22-76	10.70
4-23-76	-
4-24-76	-
4-25-76	-
4-26-76	-
4-27-76	-
4-28-76	-
4-29-76	6.795
4-30-76	-
5- 1-76	-
5- 2-76	-
5- 3-76	-
5- 4-76	-
5- 5-76	-
5- 6-76	20.25
5- 7-76	-
5- 8-76	-
5- 9-76	-
5-10-76	-
5-11-76	-
5-12-76	16.15
5-13-76	-
5-14-76	-

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DATE	41 ORG LOADING TF LB BOD/ 1000 C.F.
5-15-76	-
5-16-76	-
5-17-76	-
5-18-76	-
5-19-76	31.03
5-20-76	-
5-21-76	-
5-22-76	-
5-23-76	-
5-24-76	-
5-25-76	-
5-26-76	-
5-27-76	8.743
5-28-76	-
5-29-76	-
5-30-76	-
5-31-76	-
6- 1-76	-
6- 2-76	11.43
6- 3-76	-
6- 4-76	-
6- 5-76	-
6- 6-76	-
6- 7-76	-
6- 8-76	-
6- 9-76	-
6-10-76	8.644
6-11-76	-
6-12-76	-
6-13-76	-
6-14-76	-
6-15-76	-
6-16-76	36.16
6-17-76	-
6-18-76	-
6-19-76	-
6-20-76	-
6-21-76	-
6-22-76	-
6-23-76	-
6-24-76	-
6-25-76	6.843
6-26-76	-
6-27-76	-
6-28-76	-

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6-29-76	-
6-30-76	14.50
7- 1-76	-
7- 2-76	-
7- 3-76	-
7- 4-76	-
7- 5-76	-
7- 6-76	-
7- 7-76	-
7- 8-76	-
7- 9-76	14.68
7-10-76	-
7-11-76	-
7-12-76	-
7-13-76	-
7-14-76	-
7-15-76	-
7-16-76	-
7-17-76	-
7-18-76	-
7-19-76	-
7-20-76	-
7-21-76	-
7-22-76	-
7-23-76	34.95
7-24-76	-
7-25-76	-
7-26-76	-
7-27-76	-
7-28-76	-
7-29-76	-
7-30-76	10.59
7-31-76	-
8- 1-76	-
8- 2-76	-
8- 3-76	-
8- 4-76	-
8- 5-76	-
8- 6-76	11.55
8- 7-76	-
8- 8-76	-
8- 9-76	-
8-10-76	-
8-11-76	-
8-12-76	-

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DATE	41 ORG LOADING TF LB BOD/ 1000 C.F.
8-13-76	11.01
8-14-76	-
8-15-76	-
8-16-76	-
8-17-76	-
8-18-76	-
8-19-76	-
8-20-76	20.13
8-21-76	-
8-22-76	-
8-23-76	-
8-24-76	-
8-25-76	-
8-26-76	-
8-27-76	6.211
8-28-76	-
8-29-76	-
8-30-76	-
8-31-76	-
9- 1-76	-
9- 2-76	-
9- 3-76	26.89
9- 4-76	-
9- 5-76	-
9- 6-76	-
9- 7-76	-
9- 8-76	-
9- 9-76	-
9-10-76	10.83
9-11-76	-
9-12-76	-
9-13-76	-
9-14-76	-
9-15-76	-
9-16-76	-
9-17-76	20.75
9-18-76	-
9-19-76	-
9-20-76	-
9-21-76	-
9-22-76	-
9-23-76	-
9-24-76	22.01
9-25-76	-
9-26-76	-

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DATE	41 ORG LOADING TF LB BOD/ 1000 C.F.
9-27-76	-
9-28-76	-
9-29-76	-
9-30-76	-
10- 1-76	-
10- 2-76	-
10- 3-76	-
10- 4-76	-
10- 5-76	-
10- 6-76	-
10- 7-76	-
10- 8-76	15.69
10- 9-76	-
10-10-76	-
10-11-76	-
10-12-76	-
10-13-76	-
10-14-76	-
10-15-76	-
10-16-76	-
10-17-76	-
10-18-76	-
10-19-76	-
10-20-76	-
10-21-76	-
10-22-76	24.89
10-23-76	-
10-24-76	-
10-25-76	-
10-26-76	-
10-27-76	-
10-28-76	-
10-29-76	24.37
10-30-76	-
10-31-76	-
11- 1-76	-
11- 2-76	-
11- 3-76	-
11- 4-76	-
11- 5-76	32.40
11- 6-76	-
11- 7-76	-
11- 8-76	-
11- 9-76	-
11-10-76	-

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04/06/77

DATE	41 ORG LOADNG TF LB BOD/ 1000 C.F.
11-11-76	-
11-12-76	-
11-13-76	-
11-14-76	-
11-15-76	-
11-16-76	-
11-17-76	-
11-18-76	-
11-19-76	-
11-20-76	-
11-21-76	-
11-22-76	-
11-23-76	-
11-24-76	-
11-25-76	-
11-26-76	-
11-27-76	-
11-28-76	-
11-29-76	-
11-30-76	-
12- 1-76	-
12- 2-76	-
12- 3-76	-
12- 4-76	-
12- 5-76	-
12- 6-76	-
12- 7-76	-
12- 8-76	-
12- 9-76	-
12-10-76	-
12-11-76	-
12-12-76	-
12-13-76	-
12-14-76	-
12-15-76	-
12-16-76	-
12-17-76	-
12-18-76	-
12-19-76	-
12-20-76	-
12-21-76	-
12-22-76	27.96
12-23-76	-
12-24-76	-
12-25-76	-

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04/06/77

DATE	41 ORG LOADING TF LB BOD/ 1000 C.F.
12-26-76	-
12-27-76	-
12-28-76	-
12-29-76	-
12-30-76	46.47
12-31-76	-
MINIMUM	6.211
MAXIMUM	46.47
AVERAGE	17.44
STO.DEV.	9.349
VLD.PTS.	39

NOTE - () SEE FOOTNOTE TABLE.

* SEE COMMENT TABLE.

T,G,L, OR Q = TRACE, GREATER THAN, LESS THAN, OR QUESTIONABLE DATA.

APPENDIX D

APPENDIX D
LABORATORY TESTING CAPABILITY AND PERFORMANCE
WASTEWATER TREATMENT FACILITY
NEW HOLLAND, PENNSYLVANIA

<u>Parameter</u>	<u>Capability</u>	<u>Testing Method</u>	<u>Frequency</u>	<u>Sampling Location</u>	<u>Type of Sample (1)</u>
Flow	Yes	Parshall Flume	Continuous	Influent	G
BOD ₅	Yes	D.O. Meter	1/week	Influent, Effluent	G
Suspended Solids	Yes		Daily	Influent, Effluent	G
Fecal Coliform	Yes	Millipore	Weekly	Effluent	G
pH	Yes	pH Meter	Daily	Raw, Primary Clarifier, Effluent, Secondary Ef- fluent, Final Effluent	G
Phosphorus					
Ammonia Nitrogen					
Nitrate Nitrogen					
Total Kjeldahl					
Dissolved Oxygen	Yes	Dissolved Oxygen Meter	Daily	Trickling Filter Effluent, Final Effluent	G
Chlorine Residual	Yes	Orthotolodine	Daily	Final Effluent	G
COD					
Other					

(1) C-8 = Composite, 8-hour
G = Grab

APPENDIX E

APPENDIX E

STAFFING ESTIMATE FOR MUNICIPAL WASTEWATER TREATMENT FACILITY ACCORDING TO EPA O&M PROCEDURE, MARCH 1973, CONTRACT 68-01-0328. BOROUGH OF NEW HOLLAND WASTEWATER TREATMENT PLANT DESIGN FLOW 1.000 MGD

I. ADJUSTMENT FOR LOCAL CONDITIONS (TABULATED VALUES ARE ADDED TO OBTAIN OVERALL PERCENTAGE ADJUSTMENT TO TABLE II TOTALS)

LOCAL CONDITION	COMMENT	ADJUSTMENT					
		OPERATION	MAINTENANCE	SUPERVISORY	CLERICAL	LABORATORY	YARDWORK
PLANT LAYOUT	AVERAGE	0	0	0	0	0	0
UNIT PROCESSES	STD.EQP.DIF.MANF	0	0	0	0	0	0
LEVEL OF TREATMENT	SECONDARY	0	0	0	0	0	0
TYPE OF WASTE REMOVAL REQUIREMENT	AMT WASTE IN EFF	10	10	0	0	0	0
INDUSTRIAL WASTE	ERRATIC	10	0	0	0	10	0
PRODUCTIVITY OF LABOR	AVG. (6.5 HR/DAY)	0	0	0	0	0	0
CLIMATE	MODERATE WINTERS	0	0	0	0	0	0
TRAINING	CERT & CONTIN.EO	-5	0	-10	0	0	0
AUTOMATIC MONITORING	MONITORING ONLY	0	0	0	0	0	0
AUTOMATIC SAMPLING	NONE	5	0	0	0	5	0
OFF-PLANT LABORATORY WORK	NONE	0	0	0	0	0	0
OFF-PLANT MAINTENANCE	NONE	0	0	0	0	0	0
AGE AND CONDITION OF EQUIPMENT	OLD/POORLY CARED	0	10	0	0	0	0
PATTERN OF NIGHT & WEEKEND STAFFING	STD-1/3DAY STAFF	0	0	0	0	0	0
OVERALL ADJUSTMENT		20	20	-10	0	15	0

II. ANNUAL MANHOURS (TABULATED VALUES APPLY UNDER STANDARD CONDITIONS)

UNIT PROCESS	MANHOURS					
	OPERATION	MAINTENANCE	SUPERVISORY	CLERICAL	LABORATORY	YARDWORK
PUMP SEWAGE AT PLANT.....	0	327	48	5	30	43
SCREENING & GRINDING.....	46	17	9	1	6	8
PRIMARY CLARIFICATION.....	230	215	66	7	41	58
TRICKLING FILTRATION.....	370	333	104	11	65	91
TRICKLE FILT. CLARIFCN.....	65	255	47	5	30	42
CHLORINATION	128	198	48	5	30	42
ANAEROBIC DIGESTION	180	45	33	3	21	29
TRUCKING	1000	50	155	16	97	137
TOTAL.....	2019	1440	510	53	320	450
ADJUSTMENT (FROM I).....	404	288	-50	0	48	0
ADJUSTED TOTAL.....	2423	1728	460	53	368	450

III. STAFFING SUGGESTION

	OPERATION	MAINTENANCE	SUPERVISORY	CLERICAL	LABORATORY	YARDWORK
TOTAL MANHOURS PER YEAR.....	2423	1728	460	53	368	450
NUMBER OF MEN.....	1.6	1.2	0.3	0.0	0.2	0.3

TOTAL HOURS/YEAR 5482

TOTAL NUMBER OF MEN 3.7

WEEKDAY- DAY SHIFT 2.1 MEN, NIGHT SHIFT 0.3 MEN, GRAVEYARD SHIFT 0.3 MEN. WEEKEND- 0.9 MEN..