North Huntingdon Township Municipal Authority

Chapter 94
Municipal Wasteload Management Report

for

Youghiogheny Wastewater Treatment Plant
NPDES Permit No. PA0027243

Operating Year 2009

Submitted March 2010

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NORTH HUNTINGDON TOWNSHIP MUNICIPAL AUTHORITY

Westmoreland County, Pennsylvania

Youghiogheny Wastewater Treatment Plant
Chapter 94 – Municipal Wasteload Management Report
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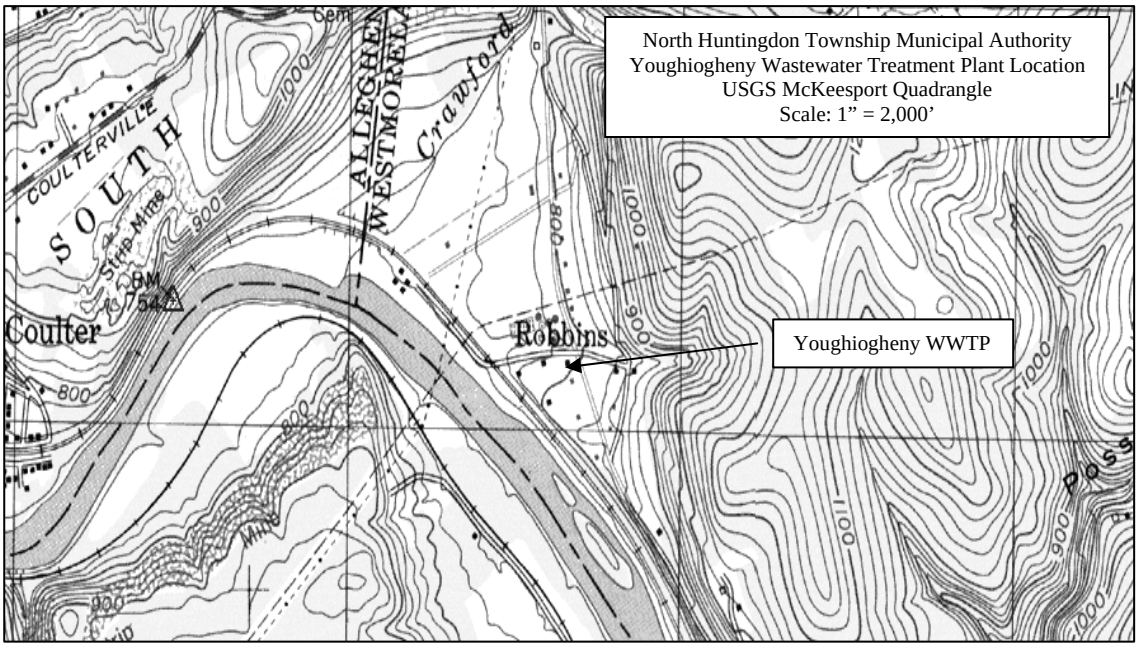
SECTION 1 Introduction

In compliance with Section 94.12, of Chapter 94, Title 25 of the Pennsylvania Code and the Rules and Regulations of the Pennsylvania Department of Environmental Protection, this report is submitted by the North Huntingdon Township Municipal Authority (NHTMA) as a summary of the loadings and conditions existing at the Youghiogheny Wastewater Treatment Plant (WWTP) and its associated pump stations, tributary sewage collection and conveyance sewer systems. In addition, this report also includes a projection of the anticipated loadings at the WWTP for the next five years (2010-2014) and at the sewage pumping stations for the next two years.

The Youghiogheny WWTP is located along Turner Valley Road and discharges into the Youghiogheny River. The plant is owned by NHTMA and operated under State Permit No. 6573448-A2 and NPDES Permit No. PA0027243. The NPDES Permit was renewed on July 3, 2008 and has an expiration date of July 31, 2013.



In addition to the Youghiogheny WWTP, flow from North Huntingdon Township is also conveyed to the Brush Creek WWTP, owned and operated by the Western Westmoreland Municipal Authority, and to the Allegheny County Sanitary Authority's WWTP.

SECTION 2 Hydraulic Loading

In accordance with § 94.12(a)(1) and (3)

Daily flow measurements are taken from the influent flow meter. The historical loadings for the past five years by month are shown on the following chart.

Actual Hydraulic Loading					
Year	**Monthly Average Flows (mgd)**				
	2005	**2006**	**2007**	**2008**	**2009**
January	**3.581**	**2.521**	**2.660**	**1.786**	2.166
February	**2.628**	**1.698**	**1.956**	**2.740**	1.917
March	**2.394**	**1.685**	**3.329**	**3.005**	1.332
April	1.853	1.738	2.202	1.614	**1.728**
May	1.486	1.874	1.582	2.275	**1.852**
June	1.492	1.803	1.580	1.753	**1.950**
July	1.380	1.773	1.604	1.729	1.426
August	1.497	1.725	2.438	1.347	1.474
September	1.360	1.828	1.495	1.371	1.252
October	1.521	2.094	1.341	1.224	1.424
November	1.621	1.908	1.656	1.291	1.195
December	1.671	1.479	2.658	2.759	1.921
Annual Average	1.874	1.844	2.042	1.908	1.636
Maximum 3-Month Average Flow	2.868	1.968	2.648	2.510	1.843
Ratio of Max. 3-Month to Annual Average	1.53	1.07	1.30	1.32	1.13
EDUs	6,062	6,139	6,342	6,359	6,402
Flow per EDU (gpd/EDU)	309	300	322	300	256

Note: Flows in **RED** are values indicating the highest arithmetic mean of three (3) consecutive months for that particular year.

The following chart is a summary of the hydraulic loading over the past five years. This will be used as the basis for determining both the projected annual average flows and projected maximum 3-month flows for the next five years.

Summary of Hydraulic Loading	
5-Year Annual Average of Ratios	1.267
5-Year Annual Average of Flows (mgd)	1.858
5-Year Average of Flows per EDU (gpd)	297
Design Capacity (mgd)	3.31

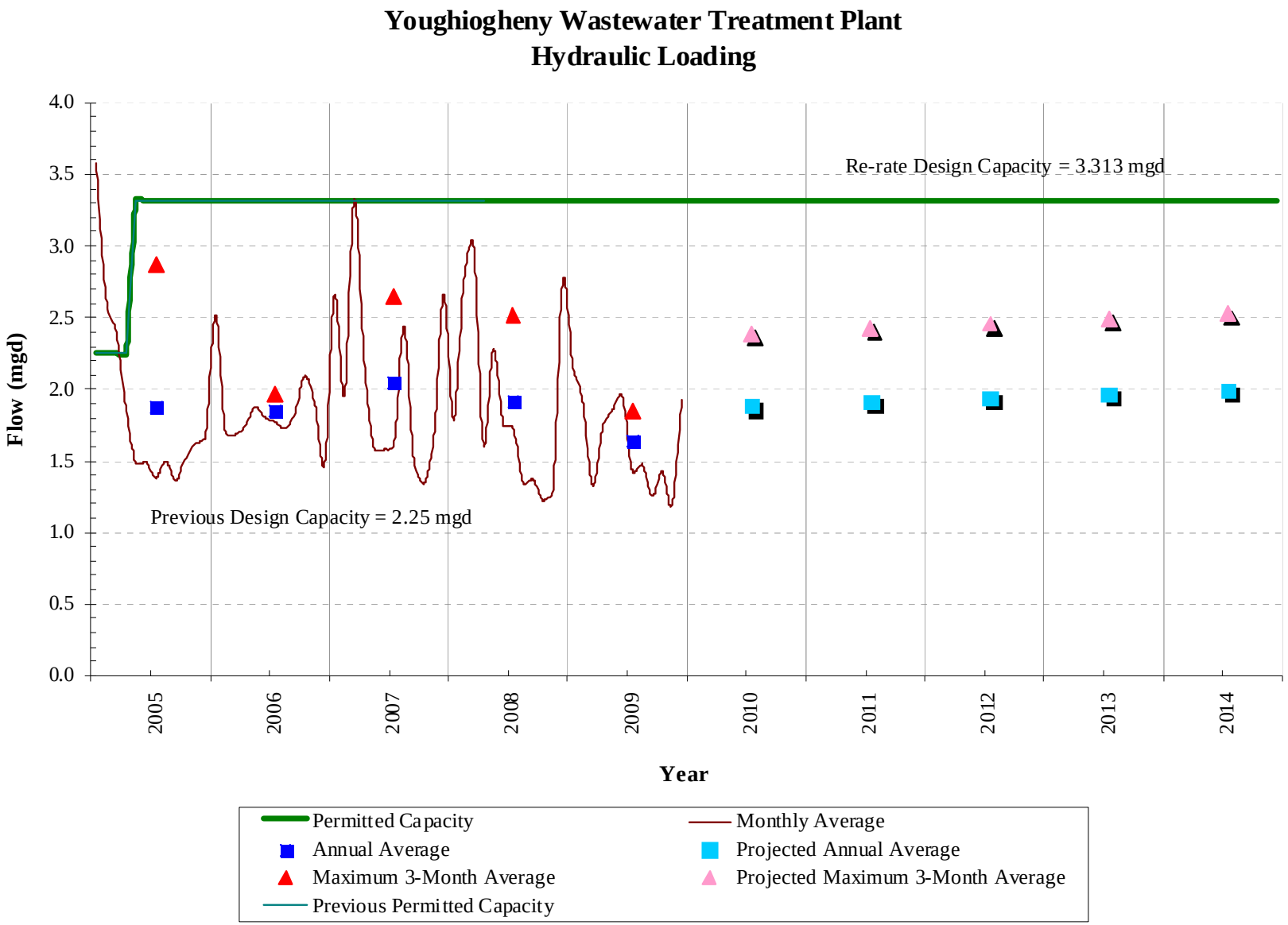
Using the five-year average flow as the starting point (1.858 mgd) and then adding flows from new EDUs annually, the hydraulic loading for the next five years is projected. The Township continues to grow at an average rate; this growth trend is projected to continue over the next five years. Estimated growth from 2010 through 2014 can be seen in the Projected Hydraulic Loading Table below. The number of EDUs is multiplied by the five-year average flow per EDU (297 gpd/EDU) to determine the increase in flow due to growth for each year. The projected annual average flows are shown on the following chart.

Projected Hyrdraulic Loading				
Year	**Previous Flow (mgd)**	**Additional EDUs (297 gpd/EDU)**	**Additional Increase in Flow (mgd)**	**Projected Flow (mgd)**
2010	1.858	92	0.027	1.885
2011	1.885	92	0.027	1.912
2012	1.912	92	0.027	1.940
2013	1.940	88	0.026	1.966
2014	1.966	87	0.026	1.992

To determine the three-month maximum flows for the next five years, the projected annual average is multiplied by the average of the ratios from the past five years (1.267). This ratio is the average three-month maximum flow to annual average. The projected flows can be found in the chart below.

Projected Maximum 3-Month Flows			
Year	**Projected Flow (mgd)**	**Average of 5-Year Ratios**	**Max 3-Month Projected Flow (mgd)**
2010	1.885	1.267	2.389
2011	1.912	1.267	2.424
2012	1.940	1.267	2.458
2013	1.966	1.267	2.492
2014	1.992	1.267	2.524

The hydraulic loading graph on the next page illustrates the design hydraulic loading; the monthly average, annual average, and maximum three-month average flow for the past five years; the projected annual and maximum three-month average flows for the next five years. As evident in the charts and graph, the maximum three-month flows will not exceed the design capacity of 3.313 mgd. ***Therefore, the Youghiogheny WWTP is not projected to be hydraulically overloaded within the next five years.***


Youghiogheny Wastewater Treatment Plant
Hydraulic Loading
Re-rate Design Capacity = 3.313 mgd
Previous Design Capacity = 2.25 mgd
Flow (mgd)
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
Year
Permitted Capacity
Monthly Average
Annual Average
Projected Annual Average
Maximum 3-Month Average
Projected Maximum 3-Month Average
Previous Permitted Capacity

SECTION 3 Organic Loading

In accordance with § 94.12(a)(2) and (3)

The design organic loading of the treatment plant is 5,524 lbs BOD/day. The historical loadings for the past five years by month are shown on the chart below.

Actual Organic Loading					
Year	**Monthly Average BOD_5 Loads (lbs/day)**				
	2005	**2006**	**2007**	**2008**	**2009**
January	**5,215**	1,916	1,690	1,672	1,909
February	4,224	1,669	2,034	2,058	1,657
March	2,906	1,519	1,979	**2,358**	1,451
April	3,132	2,166	2,153	1,642	**2,220**
May	3,565	**2,286**	**2,241**	1,791	1,917
June	3,345	2,142	2,003	1,889	1,855
July	2,096	N/A	1,874	1,878	1,968
August	1,774	1,974	1,372	1,682	1,762
September	1,683	1,591	1,721	1,669	1,623
October	1,847	1,836	1,688	1,451	1,650
November	2,406	1,733	1,730	1,617	1,459
December	1,921	1,711	1,761	1,757	1,998
Annual Average	2,843	1,868	1,852	1,789	1,789
Maximum Month Average	5,215	2,286	2,241	2,358	2,220
Ratio of Max. Month to Annual Average	1.83	1.22	1.21	1.32	1.24
EDUs	6,062	6,139	6,342	6,359	6,402
Load per EDU (lbs/day)	0.469	0.304	0.292	0.281	0.279

Note: Load in **RED** is the highest value for that particular year.

The maximum monthly average organic loading in 2009 was 2,220 lbs BOD/day, below the design capacity of 5,524 lbs BOD/day. Therefore, the treatment plant is not organically overloaded.

The following chart is a summary of the organic loading over the past five years. This will be used as the basis for determining both the projected annual average loads and projected maximum month loads for the next five years.

Summary of Organic Loading	
5-Year Annual Average of Ratios	1.366
5-Year Annual Average of Loads (lbs/day)	2,028
5-Year Average of Loads per EDU (lbs/day)	0.325
Design Capacity (lbs/day)	5,524

The average BOD load/EDU of 0.325, which equals 0.127 lbs/day BOD per person (2.56 people per household), is slightly greater than the design standard of 0.22 lbs/capita for households with food waste disposal, which is indicative of the area.

Using the five-year average load as the starting point (2,028 lbs BOD/day) and then adding loads from new EDUs annually, the organic loading for the next five years is projected. The number of EDUs is multiplied by the five-year average load per EDU (0.325 lbs BOD/day) to determine the increase in loading due to growth for each year. The projections are shown on the following chart.

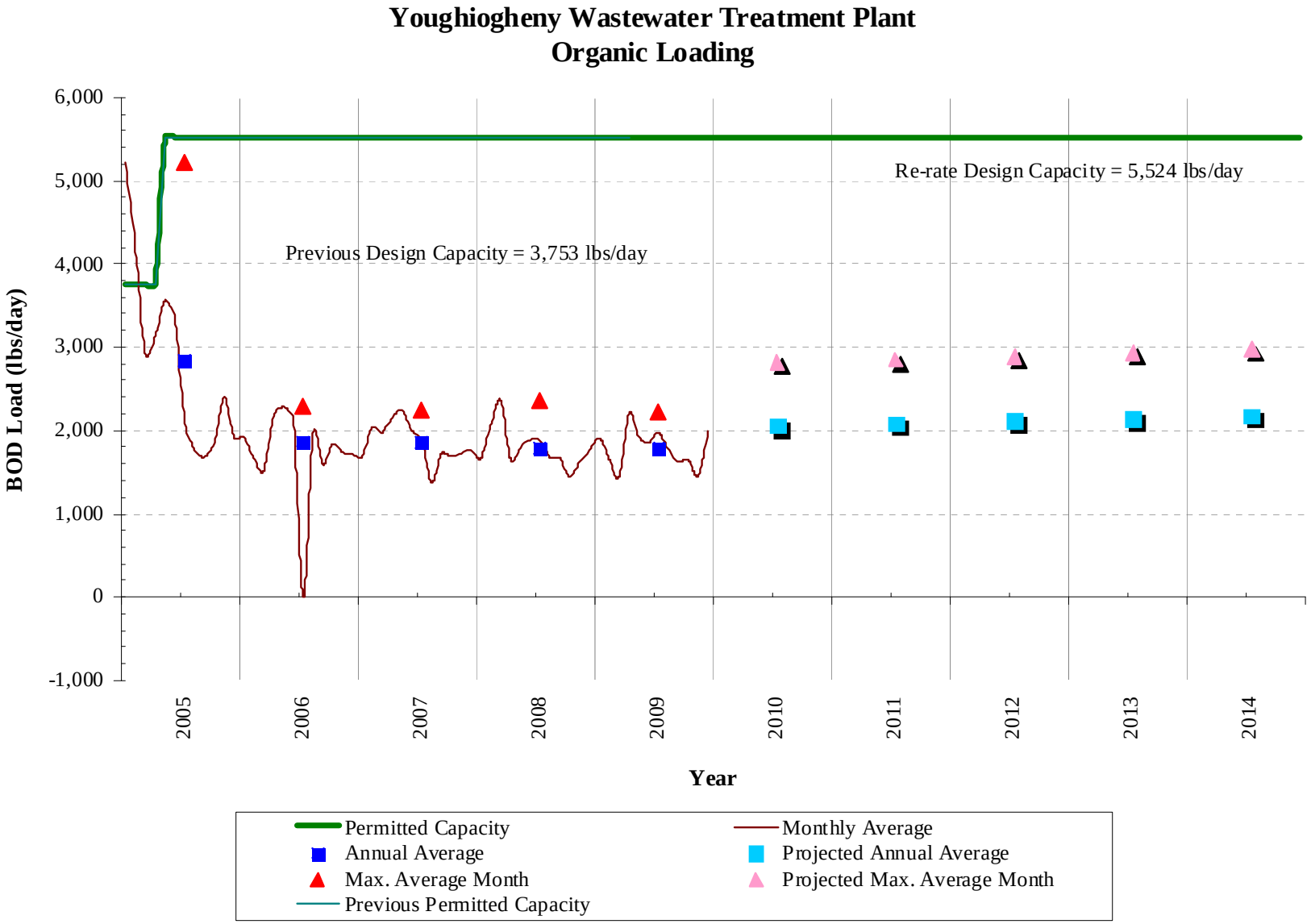
Projected Organic Loadings				
Year	Previous BOD_5 Load (lbs/day)	Additional EDUs (0.325 ppd/EDU)	Additional BOD_5 Load (lbs/day)	Projected BOD_5 Load (lbs/day)
2010	2,028	92	29.9	2,058
2011	2,058	92	29.9	2,088
2012	2,088	92	29.9	2,118
2013	2,118	88	28.6	2,146
2014	2,146	87	28.3	2,175

To determine the maximum month loads for the next five years, the projected annual average is multiplied by the average of the ratios from the past five years (1.366). This ratio is the average month maximum load to annual average.

Projected Maximum Month Organic Loading			
Year	Projected BOD_5 Load (lbs/day)	Average of Ratios	Max. Month Projected Load (lbs/day)
2010	2,058	1.366	2,810
2011	2,088	1.366	2,851
2012	2,118	1.366	2,892
2013	2,146	1.366	2,931
2014	2,175	1.366	2,970

The organic loading graph on the next page illustrates the design organic loading; the monthly average, annual average, and maximum month loads for the past five years; the projected annual and maximum month load for the next five years. As evident in the charts and graph, the

maximum month loads will not exceed the design level of 5,524 lbs BOD/day. ***Therefore, the Youghiogheny WWTP is not projected to be organically overloaded within the next five years.***


Youghiogheny Wastewater Treatment Plant
Organic Loading
BOD Load (lbs/day)
6,000
5,000
4,000
3,000
2,000
1,000
0
-1,000
Re-rate Design Capacity = 5,524 lbs/day
Previous Design Capacity = 3,753 lbs/day
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
Year
Permitted Capacity
Annual Average
Max. Average Month
Previous Permitted Capacity
Monthly Average
Projected Annual Average
Projected Max. Average Month

SECTION 4 Sewer Extensions

In accordance with § 94.12(a)(4)

The following table shows the planning modules that have been approved in recent years, the number of vacant lots and the year the EDU's will connect into the system. A miscellaneous group has been added to account for future residential development anticipated to occur within the next five years.

Summary of Projected EDUs								
Name & Phase	**Vacant Lots**	**Drainage**	**Year Connecting Into System**					**Prepaid**
	as of 12/31/09	**Basin**	**2010**	**2011**	**2012**	**2013**	**2014**	**Y/N**
Ardara/Masters	1	Yough	1	0	0	0	0	N
Atwood (Stella De Oro)	9	Yough	2	2	2	2	1	N
Atwood Extension	2	Yough	1	1	0	0	0	N
Bella Mia	8	Yough	1	2	2	2	1	N
Betty George	1	Yough	1	0	0	0	0	N
Bobak	2	Yough	1	1	0	0	0	N
Chad Good - Caroline	1	Yough	1	0	0	0	0	N
Chad Good - Carpenter	1	Yough	1	0	0	0	0	N
Cherry Hill (sold)*	19	Yough	0	0	7	6	6	N
Chestnut Hill	63	Yough	10	10	10	10	15	N
Clay Pike Development	2	Yough	0	1	1	0	0	N
Dartmoor, Phase 1	2	Yough	1	1	0	0	0	Y
Dartmoor, Phase 2	29	Yough	5	5	5	5	9	N
Dartmoor Phase 3	62	Yough	10	10	10	10	12	N
Doris Weeber	3	Yough	1	1	1	0	0	N
Harrison	1	Yough	1	0	0	0	0	N
Industrial Park	2	Yough	1	1	0	0	0	Y
Mike Road	1	Yough	1	0	0	0	0	N
Miscellaneous	15	Yough	3	3	3	3	3	N
Mt. Ridge	39	Yough	5	5	5	5	5	N
Redstone Colonial Phase 1	28	Yough	6	6	6	6	4	N
Redstone Colonial Phase 2	22	Yough	4	4	4	4	2	N
Ryan Moving & Storage	1	Yough	1	0	0	0	0	N
Spagnolli	2	Yough	1	0	1	0	0	N
St. George Estates	18	Yough	1	2	2	2	2	Y
Villa De Bona Vita	4	Yough	1	2	0	1	0	Y
Ward	1	Yough	1	0	0	0	0	N
Whitehead	1	Yough	1	0	0	0	0	N
Willow Estates, Phase 1	58	Yough	10	10	10	10	10	N
Willow Estates, Phase 2	66	Yough	10	15	15	15	11	N
Willow Glenn Phase 1	18	Yough	1	4	5	5	3	N
Willow Glenn Phase 2	1	Yough	1	0	0	0	0	Y
Willow Glenn Phase 3	3	Yough	1	0	1	0	1	N
Woodridge	13	Yough	5	5	1	1	1	Y
Zona	6	Yough	1	1	1	1	1	N
		Prepaid	10	11	3	4	3	**31**
		Not Paid	82	81	89	84	84	**420**
TOTAL YOUGH		**Yough**	**92**	**92**	**92**	**88**	**87**	**451**

SECTION 5 Sewer System Monitoring, Maintenance, Repair, and Rehabilitation

In accordance with § 94.12(a)(5)

The North Huntingdon Township Municipal Authority is responsible for the operation and maintenance of the Youghiogheny WWTP and approximately 200 miles of its collector and interceptor sewers, and thirteen pump stations. These responsibilities include the administration, operation, maintenance, and monitoring of the plant and sewer system.

The routine monitoring employed at the Youghiogheny WWTP is conducted in compliance with state permit requirements and federal National Pollutant Discharge Elimination System (NPDES) permit requirements. The parameters monitored, the frequency of analysis, and the type of sample collected are shown below:

Parameter	Frequency	Sample Type	Sample Location
Total Flow	Continuous	Recorded	Raw Influent
$CBOD_5$	Twice/Week	8-hour Composite	Raw Influent/Final Effluent
Suspended Solids	Twice/Week	8-hour Composite	Raw Influent/Final Effluent
Fecal Coliform	Twice/Week	Grab	Final Effluent
pH	Twice/Week	Grab	Raw Influent/Final Effluent
Total Residual Chlorine	Daily	Grab	Final Effluent

Additional routine tests conducted on raw and anaerobically digested sludge include volatile suspended solids, pH, temperature and alkalinity.

The Authority submits monthly operational reports, Discharge Monitoring Reports, and other reports as required to the DEP and EPA.

Major equipment maintenance operations at the treatment plant are grouped into three general service categories of maintenance: preventive maintenance, corrective maintenance, and major repairs. Preventive maintenance consists of maintenance functions that are generally performed while the treatment plant is operating. Corrective maintenance measures are the various repairs made while the plant is still in operation with minimum equipment downtime. These maintenance functions include packing pumps, changing belts, replacing bearings, and

replacing electric motor brushes. Major repairs generally result in a unit being out of service, and if not performed by the operator, contracted out to a third-party.

Major, corrective, and preventive maintenance are performed periodically at the WWTP. Records are kept to indicate all work done and when preventive maintenance is needed on a piece of equipment.

Maintenance of the sewage collection and conveyance system is performed under two categories of maintenance: preventive maintenance and emergency maintenance. Most maintenance operations can be classified under one of the above categories.

Preventive maintenance operations conducted by the Authority personnel include routine inspections of manholes, sewers, and pump stations, as well as routine sewer and/or manhole cleaning. Manholes are inspected more intensely during high ground water periods, and leaks found are repaired. Manholes are raised to grade when paving or landscaping dictates. The Authority typically cleans sewers and manholes if a routine inspection indicates that a potential for blockage exists. Pump stations are checked frequently for unusual conditions and pumps are examined internally for wear or damage and repaired as necessary based on the results of the examination. Emergency maintenance operations conducted by Authority personnel include the repair of a broken sewer or force main, alleviating a blocked sewer line or manhole, repair of a malfunctioning pump station, etc.

The Authority also performs special monitoring to include the inspection of the sewage collection and conveyance system. The Authority personnel inspect various manholes for signs of structural damage, blockages, unusually high volumes of sewage, and unusual appearance of sewage. The Authority has a two man crew who inspect the pump stations daily to ensure proper operation and maintenance of the stations.

The Authority's sewage system consists of many lines that were built by developers then contributed to the Authority. The Authority has an inspection crew which monitor developer built sewer lines during their construction to ensure proper installation. The developer must vacuum and air test the sewer lines. The results of the testing must then be approved by both

the inspector and the consulting engineer before the Authority will assume ownership of the line.

The sewerage system is maintained by a staff of fifteen maintenance personnel under the direction of the Authority Manager, Systems Superintendent and Operations Supervisor. The Authority employs a total of thirteen Pennsylvania Certified Treatment Plant Operators between management, plant operations, and sewer maintenance departments.

The Authority owns a sewer jet truck and a camera truck which is used to inspect various sewer lines, including private sanitary sewer service laterals, which allows the Authority staff to correct problems within the system as they are identified. Two Authority employees are dedicated to the daily operation of the camera truck.

The Authority also flow monitors continuously in the Tinkers Run Interceptor. One flow meter is in the Upper Tinkers Run Interceptor and one flow meter is in the Lower Tinkers Run Interceptor. The Upper Tinkers Run Interceptor used to be a 15-inch line, which was upgraded to a 24-inch line. The Lower Tinkers Run Interceptor is an 18-inch line. At the time of the replacement of Upper Tinkers Run, it was determined that the slope of the 18-inch line allows adequate capacity to convey the flow from the 24-inch Upper Tinkers Run Interceptor. This was agreed to by all parties as long as the Authority flow monitors the interceptor to ensure the lower portion does not become hydraulically overloaded.

SECTION 6 Condition of the Sewer System

In accordance with § 94.12(a)(6)

The general condition of the collector and interceptor sewers owned and maintained by the Authority is fair to good. The Authority rehabilitates portions of its system annually, reducing the volumes of infiltration and inflow into the system. In 2009, the Authority replaced approximately 3,300 feet of 8-inch, 10-inch, 12-inch and 18-inch VCP interceptor sewer along Lower Five Pines Road.

The Township has an ordinance requiring waste facilities, roof leaders and lawn and driveway drains to be dye tested before the sale of a property. This is to ensure that the lines are not connected into the Authority's system. If the lines are connected into the system, the owner is responsible for disconnecting the lines; this is done to reduce the amount of storm water and infiltration and inflow that enters the system.

In 2009, as required by its Rules and Regulations, the Authority continued with its inspection of individual private sanitary sewer service laterals prior to the sale, transfer or refinancing of any property. Any private owner of a sanitary sewer service lateral determined by the Authority to have a National Association of Sewer Service Companies (NASSCO) condition grade of 3 or above is required to repair or replace the sanitary sewer service lateral. In addition to the "time of sale" inspection, the Authority also conducts a system wide inspection program with the goal of reducing inflow and infiltration into the sanitary system. Since the inception of the private lateral inspection program in May 2008, 824 inspections have been conducted on home sales and refinancing, with 288 failures. 227 inspections have been completed in the program areas, with 136 failures.

The Authority is entering the eighth year of its continuing Five-Year Capital Plan. The Plan includes maintenance, upgrades, and pump replacements on the older pump stations. The Five-Year Plan also includes a budgeted amount of money each year for the replacement of various sewers throughout the system. There is also a budgeted amount of money for any type of equipment replacement that may be required at the Youghiogheny WWTP.

SECTION 7 Pumping Stations

In accordance with § 94.12(a)(7)

The North Huntingdon Township Municipal Authority operates twelve sewage pumping stations in the Youghiogheny sewer-shed and one pumping station in the Brush Creek sewer-shed. Each pumping station, its design capacity and average daily flows (in gpd) are shown in the table on the following page. Three of the Authority's pump stations have continuous flow meters; all other stations contain a timer and this is used to estimate the flows.

Pump Station	Design Capacity	2008 Average Daily Flow	2009 Average Daily Flow	Change
Woodside Drive	259,000	40,000	31,000	-9,000
Hartford Heights	403,000	46,000	39,000	-7,000
Highland Terrace	864,000	167,000	125,000	-42,000
Stewartsville	2,220,000	476,000	405,000	-71,000
Long Run	3,456,000	800,000	800,000	0
Thomas Drive	288,000	12,000	11,000	-1,000
Indian Lake	1,116,000	315,000	317,000	+2,000
Falcon Ridge	186,000	31,000	30,000	-1,000
Ardara Road	115,000	13,000	12,000	-1,000
Masters Lane	65,000	3,000	3,000	0
Mountain Ridge Estates	115,000	1,000	1,000	0
Process Lift Station	1,620,000	500,000	500,000	0
Larimer (Brush Creek)	259,000	29,000	23,000	-6,000

SECTION 8 Industrial Waste

In accordance with § 94.12(a)(8)

The Authority's Sewer Use Rules and Regulations provide for the acceptance of certain industrial wastes that are not deemed harmful to the sewage system and treatment facility. Unacceptable industrial waste discharges are defined and provisions are made to monitor and to determine acceptable volumes of industrial wastes. However, at the present time, the Youghiogheny WWTP receives no industrial discharges into the sewage system and therefore there are no problems suspected to be caused by industrial dischargers.

SECTION 9 Review of Overload Conditions

In accordance with § 94.12(a)(9)

As previously discussed in Sections 2 and 3, the Youghiogheny WWTP is not projected to be hydraulically or organically overloaded in the next five years.

The Authority continues with the requirements of the Consent Order and Agreement (CO&A), entered into with the DEP in 2004, to review and make corrections to the portion of the collection system that discharges to the Allegheny County Sanitary Authority (ALCOSAN). The CO&A specifically outlines the work to be completed by the designated timeline. The work scope is divided into two phases. The following is a summary of the work that is being completed:

Phase I

- **Physical Survey/Visual Inspection** of all accessible manholes, exposed sewer lines, sanitary sewer overflow (SSO) structures, siphon chambers, pump station and exposed force mains
  - The work shall identify defects related to safety, structural stability, accumulated sediment and debris deposits, visible flow bottlenecks, evidence of present or prior surcharging or overflows, location of all SSO structures, defects including the conveyance of streams, receiving stream backflow and any sources of infiltration and inflow (I&I)

- **Sewer Line Cleaning & Closed Circuit Television (CCTV) Internal Inspection**
  - Sewer line cleaning must be done immediately prior to the CCTV, unless the lines are sufficiently clean to allow internal inspection
  - CCTV shall detect structural defects, misalignment, I&I sources and root intrusions
  - As a result of CCTV the Authority shall record all defects that allow I&I, all structural defects, all defects that compromise or diminish the carrying capacity of the system, all defects in siphons and any conditions and/or modifications of the system that allow for SSOs.
  - CCTV shall include audio/video documentation and written summary of the location of roots, defective joints, defective pipes, sewer line depressions, break-in lateral connections, grease accumulations, sediment accumulations, and a location reference and incorporate a defect code and defined level of severity or grade associated with each condition noted in the report.
- **Sewer System Mapping** shall be submitted in accordance with the GIS Protocol set forth in the CO&A
- **Sewer System Dye Testing and Enforcement**
  - Dye testing shall be completed of all structures to determine the sources of surface stormwater such as roof leaders, yard drains and driveway drains
  - All private and municipal catch basins within 100 feet of the sanitary sewer shall be dye tested
  - All illegal connections will either be reported on the GIS map or in a digital format
  - The Township must institute and enforce an ordinance prohibiting connections of surface stormwater to the sewer system and an ordinance that requires a visual inspection and dye test of roof leaders and yard and driveway drains at the time of property sales
- **Sewer System Deficiency Corrections**
  - All of the structurally deficient manholes, all defective siphons, pump stations and force mains shall be repaired
  - All streams and springs connected to the sewer system shall be removed
  - Within 30 days of discovery, the Authority shall initiate the repair of all significant structural defects and complete the repairs within six months of discovery

- **Hydraulic Design Capacity Evaluation**
  - The Authority shall complete a hydraulic design capacity evaluation of the entire system that discharges to ALCOSAN, which will include a capacity analysis of each sewer line, inclusive of siphons, force mains and pump stations.

Phase II

- **Flow Monitoring**
  - The Authority shall perform flow monitoring to determine the average dry and peak wet weather flows conveyed to ALCOSAN
  - Provide quality assured/quality controlled data suitable for system hydraulic characterization efforts, wet weather plan development, feasibility studies and associated alternative analyses
  - Data will quantify base infiltration, dry weather flow and the relationship between wet weather induced I&I and precipitation
- **Feasibility Study in Conjunction with an ALCOSAN Enforcement Order**
  - The Authority shall participate and cooperate with ALCOSAN in the development of their Wet Weather Plan and/or LTCP by calculating the quantity and rate of flow to the ALCOSAN system and develop a feasibility study evaluating options to construct sewage facilities to retain, store, convey and treat any sewage flows that ALCOSAN cannot accommodate or ALCOSAN could accommodate but the Authority decides to address in a separate manner
  - The Authority shall submit the Feasibility Study which evaluates a range of alternatives to eliminate SSOs and estimate the cost and time necessary to implement or construct each alternative
- **Semi-Annual Progress Reports** shall be submitted, in writing, to the DEP until all of the Authority's obligations are completed.

The following table shows the implementation schedule and the Authority's progress to date:

Consent Order and Agreement Implementation Schedule				
	Task Description	**Proposed Start Date**	**Required Completion Date**	**Actual Percentage Of Project Completed**
Phase I: System Inventory/Operation and Maintenance				
(A)	Physical survey (Year 1)	June 1, 2004	May 31, 2005	100%
	Physical survey (Year 2)	June 1, 2005	May 31, 2006	100%
	Physical survey (Year 3)	June 1, 2006	May 31, 2007	100%
(B)	Cleaning / CCTV (Year 1)	June 1, 2004	May 31, 2005	100%
	Cleaning / CCTV (Year 2)	June 1, 2005	May 31, 2006	100%
	Cleaning / CCTV (Year 3)	June 1, 2006	May 31, 2007	100%
	Cleaning / CCTV (Year 4)	June 1, 2007	May 31, 2008	100%
	Cleaning / CCTV (Year 5)	June 1, 2008	May 31, 2009	100%
	Cleaning / CCTV (Year 6)	June 1, 2009	May 31, 2010	100%
(C)	GIS Mapping (Year 1)	June 1, 2004	May 31, 2005	100%
	GIS Mapping (Year 2)	June 1, 2005	May 31, 2006	100%
	GIS Mapping (Year 3)	June 1, 2006	May 31, 2007	100%
(D)	Dye Testing (Year 1)	June 1, 2004	May 31, 2005	100%
	Dye Testing (Year 2)	June 1, 2005	May 31, 2006	100%
	Dye Testing (Year 3)	June 1, 2006	May 31, 2007	100%
(E)	Enforcement-illegal connections	June 1, 2004	November 30, 2007	100%
(F)	Ordinance development			
	(i) Point of Sale Ordinance	June 1, 2004	November 1, 2004	100%
	(ii) Prohibit Storm Water	June 1, 2004	November 1, 2004	100%
(G)	Deficiency corrections (Year 1)	June 1, 2005	November 30, 2006	100%
	Deficiency corrections (Year 2)	December 1, 2006	November 30, 2007	100%
	Deficiency corrections (Year 3)	December 1, 2007	November 30, 2008	100%
	Deficiency corrections (Year 4)	December 1, 2008	November 30, 2009	100%
	Deficiency corrections (Year 5)	December 1, 2009	November 30, 2010	100%
(H)	Complete hydraulic design capacity evaluation (Year 1)	June 1, 2004	May 31, 2005	100%
	Complete hydraulic design capacity evaluation (Year 2)	June 1, 2005	May 31, 2006	100%
	Complete hydraulic design capacity evaluation (Year 3)	June 1, 2006	May 31, 2007	100%
	Complete hydraulic design capacity evaluation (Year 4)	June 1, 2007	May 31, 2008	100%
Phase II: Planning				
	Flow monitoring	June 1, 2007	May 31, 2008	100%

SECTION 10 Biosolids Disposal

The biosolids generated by the Youghiogheny WWTP are stabilized by anaerobic digestion and dewatered onsite using a belt filter press. The dewatered biosolids are hauled to the National Waste and Energy DBA Valley Landfill Site, which is the Authority's primary disposal site. The Authority also has secondary sites, Kelly Run Sanitation, Inc. and Y&S Maintenance Inc., where the sludge could be disposed. Youghiogheny WWTP disposed of 207.03 dry tons in 2009.

Monthly operating reports are provided to the Department of Environmental Protection, and Annual Sewage Sludge Discharge Monitoring Reports are submitted to the United States Environmental Protection Agency.

The biosolids processing capacity is available for the projected organic loadings of the plant for the next five years.

Month	Dry Tons
January	8.75
February	12.14
March	5.47
April	26.40
May	26.70
June	20.83
July	41.31
August	29.61
September	4.95
October	14.72
November	10.62
December	5.53
Total	**207.03**

SECTION 11 Certification

In accordance with § 94.12(a)

I certify that the information provided in this report is true and correct to the best of my knowledge and belief.

Katherine B. Petrosky, Manager
North Huntingdon Township Municipal Authority

David A. Coldren, P.E., Reviewer
KLH Engineers, Inc.

Bryan M. Churilla, E.I.T., Preparer
KLH Engineers, Inc.

APPENDIX A

Hydraulic and Organic Loading Data

APPENDIX A
HYDRAULIC AND ORGANIC LOADING DATA

DAILY LOADINGS FOR 2009 (JANUARY THROUGH JUNE)

DAY	JAN			FEB			MAR			APR			MAY			JUN		
	Flow (mgd)	BOD_5 (mg/l)	BOD_5 (lb)	Flow (mgd)	BOD_5 (mg/l)	BOD_5 (lb)	Flow (mgd)	BOD_5 (mg/l)	BOD_5 (lb)	Flow (mgd)	BOD_5 (mg/l)	BOD_5 (lb)	Flow (mgd)	BOD_5 (mg/l)	BOD_5 (lb)	Flow (mgd)	BOD_5 (mg/l)	BOD_5 (lb)
1	1.84			2.88			1.43			1.61			2.24			1.55	131.5	1,698
2	1.74			2.16	104.1	1,874	1.38	134.0	1,539	1.52			1.61			1.50	131.3	1,644
3	1.60			1.94	110.6	1,791	1.20	133.4	1,334	5.50			1.48			1.39		
4	1.71			1.72			1.23			3.10			4.34	117.5	4,254	1.33		
5	1.56	141.7	1,842	1.60			1.28			2.16			2.52	77.6	1,629	1.19		
6	3.77	120.6	3,789	1.50			1.21			2.04	177.5	3,022	3.50			1.40		
7	6.00			2.87			1.29			1.74	133.5	1,933	2.42			1.32		
8	3.60			3.10			1.44			1.69			2.08			1.19	169.6	1,687
9	2.41			2.15			1.36	142.9	1,617	1.53			1.90			1.54	155.9	2,007
10	3.18			2.95	81.0	1,991	1.24	136.6	1,412	1.60			1.65			1.29		
11	2.44			2.89	73.7	1,774	1.24			1.56			1.97	120.4	1,978	2.86		
12	2.24	70.9	1,328	2.33			1.20			1.43			1.76	96.7	1,406	1.95		
13	1.90	106.9	1,694	1.95			1.20			1.49	160.4	1,989	1.50			1.51		
14	1.76			1.95			1.27			1.56	144.9	1,880	1.45			1.47		
15	1.65			1.78			1.30			1.67			1.61			1.45	151.8	1,832
16	1.62			1.67			1.25	155.9	1,626	1.49			1.74			1.63	176.2	2,403
17	1.66			1.87	101.7	1,585	1.23	143.9	1,479	1.47			1.51			4.74		
18	1.65			1.80	90.7	1,362	1.21			1.50			1.51			4.99		
19	1.54	140.9	1,812	1.61			1.16			1.40			1.47	117.7	1,463	4.39		
20	1.40	123.9	1,443	1.46			1.07			1.53	220.1	2,805	1.61	116.5	1,131	2.33		
21	1.36			1.53			1.20			1.44	209.1	2,518	1.57			2.34		
22	1.37			1.57			1.22			1.31			1.36			1.81	96.7	1,464
23	1.74			1.41	136.9	1,514	1.16	162.3	1,568	1.34			1.49			2.11	110.5	1,943
24	1.64			1.33	123.0	1,363	0.69	154.5	883	1.45			1.16			1.83		
25	1.54			1.33			1.75			1.51			1.54			1.85		
26	1.43	149.6	1,779	1.47			2.04			1.54			1.79	154.7	2,089	1.61		
27	1.43	133.0	1,586	1.46			1.41			1.58	146.9	1,933	1.45	111.5	1,391	1.64		
28	4.99			1.45			1.48			1.38	146.3	1,679	2.38			1.50		
29	2.58						2.12			1.28			1.70			1.33	170.9	1,890
30	2.01						1.57	112.9	1,474	1.43			1.62			1.45	163.6	1,981
31	1.83						1.50	126.2	1,578				1.50					
AVG	**2.17**		**1,909**	**1.92**		**1,657**	**1.33**		**1,451**	**1.73**		**2,220**	**1.85**		**1,917**	**1.95**		**1,855**

APPENDIX A
HYDRAULIC AND ORGANIC LOADING DATA

DAILY LOADINGS FOR 2009 (JULY THROUGH DECEMBER)

DAY	JUL			AUG			SEP			OCT			NOV			DEC		
	Flow (mgd)	BOD_5 (mg/l)	BOD_5 (lb)	Flow (mgd)	BOD_5 (mg/l)	BOD_5 (lb)	Flow (mgd)	BOD_5 (mg/l)	BOD_5 (lb)	Flow (mgd)	BOD_5 (mg/l)	BOD_5 (lb)	Flow (mgd)	BOD_5 (mg/l)	BOD_5 (lb)	Flow (mgd)	BOD_5 (mg/l)	BOD_5 (lb)
1	1.25			1.83			1.29	175.0	1,882	1.20			1.30			1.168	136.0	1,326
2	1.35			2.25			1.35	176.4	1,980	1.29			1.29	140.3	1,505	1.857		
3	1.27			1.74	107.9	1,570	1.33			1.20			1.18	168.3	1,650	1.661		
4	1.18			1.51	134.5	1,693	1.27			1.27			1.17			1.286		
5	1.48			1.24			1.27			1.27	132.8	1,403	1.20			1.334		
6	1.53	162.9	2,083	1.23			1.21			1.14	159.7	1,521	1.11			1.308		
7	1.43	151.4	1,802	1.33			1.31			1.09			1.27			1.266	147.8	1,562
8	1.56			1.16			1.13	188.2	1,767	1.14			1.34			2.991	171.5	4,281
9	1.29			1.58			1.20	172.3	1,723	2.12			1.14	140.9	1,342			
10	1.38			1.79	142.1	2,123	1.16			1.48			1.11	163.1	1,515			
11	1.27			1.46	115.3	1,406	1.02			1.30			1.13			2.034		
12	1.42			1.36			1.10			1.24	151.2	1,558	1.13			2.033		
13	1.42	170.0	2,016	1.59			1.27			1.17	150.4	1,466	1.10			2.036		
14	1.39	192.1	2,222	1.51			1.12	181.8	1,705	1.27			1.06			1.925	142.3	2,286
15	1.32			1.51			1.24	178.9	1,857	2.19			1.02			1.760	37.8	555
16	1.36			1.53			1.21			1.66			0.95	119.6	946	1.668		
17	1.22			1.53	154.9	1,980	1.09			1.66			0.88	150.3	1,103	1.608		
18	1.13			1.16	160.1	1,554	1.24			1.33			1.09			1.597		
19	1.10			1.49			1.28			1.81	163.8	2,474	1.56			1.708		
20	1.31	178.8	1,956	1.60			1.25			1.20	143.9	1,446	1.09			1.675		
21	1.43	139.2	1,666	1.62			1.12	174.4	1,634	1.30			1.18			1.633	150.2	2,047
22	1.62			1.50			1.52	67.0	848	1.92			1.20			1.632	151.9	2,069
23	1.73			1.19			1.11			1.49			1.26	182.4	1,912	1.676		
24	1.46			1.34	157.4	1,756	1.08			1.68			1.23	155.6	1,593	1.619		
25	1.18			1.45	165.9	2,012	1.08			1.42			1.29			4.408		
26	1.37			1.41			1.53			1.26	147.9	1,551	1.28			3.409		
27	1.55	133.3	1,723	1.50			1.91			1.44	147.6	1,777	1.30			2.421		
28	1.40	195.6	2,279	1.05			1.47	127.6	1,561	1.57			1.21			2.150	104.4	1,873
29	1.26			1.43			1.20	127.7	1,276	1.33			1.23			1.893	125.4	1,981
30	1.47			1.43			1.20			1.24			1.59	117.9	1,568	1.893		
31	3.11			1.38						1.47						2.063		
AVG	**1.43**		**1,968**	**1.47**		**1,762**	**1.25**		**1,623**	**1.42**		**1,650**	**1.20**		**1,459**	**1.92**		**1,998**