HW-60
EPA Validated Data Summary Report
Dimock Residential Sampling
Sample Date: 3/5/2012

Sample Number	Analyte	Result			Trigger Levels		EPA Primary MCLs		EPA Secondary MCLs		DEP Primary MCLs		DEP Secondary MCLs	
HW60	Anionic Surfactants	0.01	U	mg/L										
HW60	Heterotrophic Plate Count	14.00	J	cfu/1mL										
HW60	Total Coliform Bacteria	1.00	UJ	cfu/100mL	0.00	cfu/100mL	5.00	%*						
HW60	Ethane	10.00		ug/L										
HW60	Ethene	1.10	U	ug/L										
HW60	Methane	21,000.00		ug/L	28,000.00	ug/L								
HW60	2-Butoxyethanol	25.00	U	ug/L										
HW60	2-Methoxyethanol	10.00	U	ug/L	78.00	ug/L								
HW60	Diethylene Glycol	50.00	U	ug/L	8,000.00	ug/L								
HW60	Ethylene glycol	2,000.00	U	ug/L	31,000.00	ug/L								
HW60	Propylene glycol	2,000.00	U	ug/L										
HW60	Tetraethylene glycol	25.00	U	ug/L	8,000.00	ug/L								
HW60	Triethylene glycol	25.00	U	ug/L	8,000.00	ug/L								
HW60	Bromide	0.50	U	mg/L										
HW60	Chloride	34.90		mg/L					250.00	mg/L			250.00	mg/L
HW60	Fluoride	0.10	U	mg/L	0.62	mg/L	4.00	mg/L	2.00	mg/L	2.00	mg/L		
HW60	Sulfate	1.56		mg/L					250.00	mg/L			250.00	mg/L
HW60	Aluminum	30.00	U	ug/L	16,000.00	ug/L			200.00	ug/L			200.00	ug/L
HW60	Antimony	2.00	U	ug/L	6.00	ug/L	6.00	ug/L			6.00	ug/L		
HW60	Arsenic	**9.30**		ug/L	4.50	ug/L	10.00	ug/L			10.00	ug/L		
HW60	Barium	1,650.00		ug/L	2,900.00	ug/L	2,000.00	ug/L			2,000.00	ug/L		
HW60	Beryllium	1.00	U	ug/L	16.00	ug/L	4.00	ug/L			4.00	ug/L		
HW60	Boron	50.00	U	ug/L	3,100.00	ug/L								
HW60	Cadmium	1.00	U	ug/L	6.90	ug/L	5.00	ug/L			5.00	ug/L		

Sample Number	Analyte	Result		Trigger Levels	EPA Primary MCLs	EPA Secondary MCLs	DEP Primary MCLs	DEP Secondary MCLs
HW60	Calcium	29,800.00	ug/L					
HW60	Chromium	2.00 U	ug/L	3.10 ug/L	100.00 ug/L		100.00 ug/L	
HW60	Cobalt	1.00 U	ug/L	4.70 ug/L				
HW60	Copper	3.00	ug/L	620.00 ug/L	1,300.00 ug/L**	1,000.00 ug/L	1,000.00 ug/L***	
HW60	Iron	754.00	ug/L	11,000.00 ug/L		300.00 ug/L		300.00 ug/L
HW60	Lead	2.00 U	ug/L	15.00 ug/L	15.00 ug/L**		5.00 ug/L***	
HW60	Lithium	**47.70**	ug/L	31.00 ug/L				
HW60	Magnesium	7,490.00	ug/L					
HW60	Manganese	217.00	ug/L	320.00 ug/L		50.00 ug/L		50.00 ug/L
HW60	Nickel	1.00 U	ug/L	300.00 ug/L				
HW60	Potassium	2,000.00 U	ug/L					
HW60	Selenium	5.00 U	ug/L	78.00 ug/L	50.00 ug/L		50.00 ug/L	
HW60	Silver	1.00 U	ug/L	71.00 ug/L		100.00 ug/L		100.00 ug/L
HW60	Sodium	**20,300.00**	ug/L	20,000.00 ug/L				
HW60	Strontium	865.00	ug/L	9,300.00 ug/L				
HW60	Thallium	1.00 U	ug/L	0.16 ug/L	2.00 ug/L		2.00 ug/L	
HW60	Tin	200.00 U	ug/L	9,300.00 ug/L				
HW60	Titanium	200.00 U	ug/L					
HW60	Uranium	1.00 U	ug/L	47.00 ug/L	30.00 ug/L		30.00 ug/L	
HW60	Vanadium	5.00 U	ug/L	78.00 ug/L				
HW60	Zinc	2.60	ug/L	4,700.00 ug/L		5,000.00 ug/L		5,000.00 ug/L
HW60	Total Dissolved Solids	174.00	mg/L			500.00 mg/L		500.00 mg/L
HW60	Total Suspended Solids	10.00 U	mg/L					
HW60	1-Methylnaphthalene	4.76 U	ug/L	97.00 ug/L				
HW60	Acenaphthene	4.76 U	ug/L	400.00 ug/L				
HW60	Acenaphthylene	4.76 U	ug/L					
HW60	Acetophenone	4.76 U	ug/L	1,500.00 ug/L				
HW60	Anthracene	4.76 U	ug/L	1,300.00 ug/L				
HW60	Atrazine	4.76 U	ug/L	26.00 ug/L	3.00 ug/L		3.00 ug/L	

Sample Number	Analyte	Result		Trigger Levels	EPA Primary MCLs	EPA Secondary MCLs	DEP Primary MCLs	DEP Secondary MCLs
HW60	Benzo(a)anthracene	4.76 U	ug/L	2.90 ug/L				
HW60	Benzo(a)pyrene	4.76 U	ug/L	0.29 ug/L	0.20 ug/L		0.20 ug/L	
HW60	Biphenyl	4.76 U	ug/L					
HW60	Bromophenyl-4 Phenyl Ether	4.76 U	ug/L					
HW60	Butylbenzyl phthalate	5.00 U	ug/L	1,400.00 ug/L				
HW60	Caprolactam	4.76 U	ug/L	7,700.00 ug/L				
HW60	Carbazole	4.76 U	ug/L					
HW60	Chlorobenzenamine-4	4.76 U	ug/L	3.20 ug/L				
HW60	Chloronaphthalene-2	4.76 U	ug/L	550.00 ug/L				
HW60	Chlorophenol-2	4.76 U	ug/L	71.00 ug/L				
HW60	Chlorophenyl-4 phenyl ether	4.76 U	ug/L					
HW60	Chrysene	4.76 U	ug/L	290.00 ug/L				
HW60	Cresol, parachloro meta-	4.76 U	ug/L					
HW60	Cresol-4,6-dinitro-ortho	9.52 UJ	ug/L					
HW60	Cresol-o	4.76 U	ug/L	720.00 ug/L				
HW60	Cresol-p	4.76 U	ug/L	72.00 ug/L				
HW60	Dibenz(a,h)anthracene	4.76 U	ug/L	0.29 ug/L				
HW60	Dibenzofuran	4.76 U	ug/L					
HW60	Dichlorobenzidine-3,3'	4.76 U	ug/L	11.00 ug/L				
HW60	Dichlorophenol-2,4	4.76 U	ug/L	35.00 ug/L				
HW60	Dimethylphenol, 2,4-	4.76 U	ug/L	270.00 ug/L				
HW60	Dinitrophenol-2,4	38.10 UJ	ug/L	30.00 ug/L				
HW60	Dinitrotoluene-2,4	4.76 U	ug/L					
HW60	Dinitrotoluene-2,6	4.76 U	ug/L					
HW60	Ether, bis(2-chloroethyl)	4.76 U	ug/L	1.20 ug/L				
HW60	Ether-bis(2-chloroisopropyl)	4.76 U	ug/L					
HW60	Fluoranthene	4.76 U	ug/L	630.00 ug/L				
HW60	Fluoranthene benzo(k)	4.76 UJ	ug/L	29.00 ug/L				
HW60	Fluoranthene-benzo(b)	4.76 U	ug/L	5.60 ug/L				

Sample Number	Analyte	Result		Trigger Levels	EPA Primary MCLs	EPA Secondary MCLs	DEP Primary MCLs	DEP Secondary MCLs
HW60	Fluorene	4.76 U	ug/L	220.00 ug/L				
HW60	Hexachlorobenzene	4.76 U	ug/L	4.20 ug/L	1.00 ug/L		1.00 ug/L	
HW60	Hexachlorobutadiene	4.76 U	ug/L	26.00 ug/L				
HW60	Hexachlorobutadiene	0.50 U	ug/L	26.00 ug/L				
HW60	Hexachlorocyclopentadiene	4.76 U	ug/L	22.00 ug/L	50.00 ug/L		50.00 ug/L	
HW60	Hexachloroethane	4.76 U	ug/L	5.10 ug/L				
HW60	Isophorone	4.76 U	ug/L	6,700.00 ug/L				
HW60	Methane, bis(2-chloroethoxy)	4.76 U	ug/L	47.00 ug/L				
HW60	Methylnaphthalene-2	4.76 U	ug/L	27.00 ug/L				
HW60	Naphthalene	4.76 U	ug/L	14.00 ug/L				
HW60	Naphthalene	0.50 U	ug/L	14.00 ug/L				
HW60	Nitroaniline, ortho	4.76 U	ug/L	150.00 ug/L				
HW60	Nitroaniline-3	4.76 U	ug/L					
HW60	Nitrobenzenamine-4	4.76 U	ug/L	61.00 ug/L				
HW60	Nitrobenzene	4.76 U	ug/L	12.00 ug/L				
HW60	Nitrophenol-2	4.76 U	ug/L					
HW60	Nitrophenol-4	9.52 U	ug/L					
HW60	Nitrosodimethylamine-n	4.76 U	ug/L	0.04 ug/L				
HW60	Nitrosodiphenylamine-n	4.76 U	ug/L	1,000.00 ug/L				
HW60	Pentachlorophenol	4.76 U	ug/L	17.00 ug/L	1.00 ug/L		1.00 ug/L	
HW60	Perylene-benzo(ghi)	4.76 U	ug/L					
HW60	Phenanthrene	4.76 U	ug/L					
HW60	Phenol	4.76 U	ug/L	4,500.00 ug/L				
HW60	Phthalate, bis(2-ethylhexyl) (DEHP)	5.00 U	ug/L	7.10 ug/L	6.00 ug/L		6.00 ug/L	
HW60	Phthalate, Dimethyl	4.76 U	ug/L	1,400.00 ug/L				
HW60	Phthalate, di-n-butyl-	5.00 U	ug/L	670.00 ug/L				
HW60	Phthalate, di-n-octyl	4.76 U	ug/L					
HW60	Phthalate-diethyl	5.00 U	ug/L	11,000.00 ug/L				
HW60	Propylamine,n-nitroso di-n-	4.76 U	ug/L	0.93 ug/L				

Sample Number	Analyte	Result		Trigger Levels	EPA Primary MCLs	EPA Secondary MCLs	DEP Primary MCLs	DEP Secondary MCLs
HW60	Pyrene	4.76 U	ug/L	87.00 ug/L				
HW60	Pyrene-indeno(1,2,3-cd)	4.76 U	ug/L	3.00 ug/L				
HW60	Tetrachlorobenzene, 1,2,4,5-	4.76 U	ug/L	1.20 ug/L				
HW60	Tetrachlorophenol, 2,3,4,6-	4.76 U	ug/L	170.00 ug/L				
HW60	Trichlorophenol-2,4,5	4.76 U	ug/L	890.00 ug/L				
HW60	Trichlorophenol-2,4,6	4.76 U	ug/L	9.04 ug/L				
HW60	TPH - Gasoline Range Organics	50.00 U	ug/L					
HW60	1,2-Dibromo-3-chloropropane (DBCP)	0.50 U	ug/L	0.03 ug/L	0.20 ug/L		0.20 ug/L	
HW60	4-Methyl-2-pentanone	2.00 U	ug/L	1,000.00 ug/L				
HW60	Acetone	2.00 U	ug/L					
HW60	Benzene	0.50 U	ug/L		5.00 ug/L		5.00 ug/L	
HW60	Bromobenzene	0.50 U	ug/L					
HW60	Bromoform	0.50 U	ug/L		80.00 ug/L		80.00 ug/L	
HW60	Butylbenzene	0.50 U	ug/L					
HW60	Butylbenzene, sec-	0.50 U	ug/L					
HW60	Butylbenzene, tert-	0.50 U	ug/L					
HW60	Carbon disulfide	0.09 J	ug/L					
HW60	Carbon Tetrachloride	0.50 U	ug/L		5.00 ug/L		5.00 ug/L	
HW60	Chlorobenzene	0.50 U	ug/L		100.00 ug/L			
HW60	Chlorobromomethane	0.50 U	ug/L					
HW60	Chloroethane	0.50 U	ug/L					
HW60	Chloroform	0.50 U	ug/L		80.00 ug/L		80.00 ug/L	
HW60	Chlorotoluene	0.50 U	ug/L	180.00 ug/L				
HW60	Chlorotoluene-p	0.50 U	ug/L	190.00 ug/L				
HW60	Cyclohexane	0.50 U	ug/L					
HW60	Dibromochloromethane	0.50 U	ug/L		80.00 ug/L		80.00 ug/L	
HW60	Dibromoethane-1,2	0.50 U	ug/L	0.65 ug/L	0.05 ug/L		0.05 ug/L	
HW60	Dibromomethane	0.50 U	ug/L					
HW60	Dichlorobenzene-1,2	0.50 U	ug/L	280.00 ug/L	600.00 ug/L		600.00 ug/L	

Sample Number	Analyte	Result		Trigger Levels	EPA Primary MCLs	EPA Secondary MCLs	DEP Primary MCLs	DEP Secondary MCLs
HW60	Dichlorobenzene-1,3	0.50 U	ug/L					
HW60	Dichlorobenzene-1,4	0.50 U	ug/L	42.00 ug/L	75.00 ug/L		75.00 ug/L	
HW60	Dichlorobromomethane	0.50 U	ug/L		80.00 ug/L		80.00 ug/L	
HW60	Dichlorodifluoromethane	0.50 U	ug/L					
HW60	Dichloroethane-1,1	0.50 U	ug/L	240.00 ug/L				
HW60	Dichloroethane-1,2	0.50 U	ug/L	15.00 ug/L	5.00 ug/L		5.00 ug/L	
HW60	Dichloroethene-1,2 trans	0.50 U	ug/L		100.00 ug/L		100.00 ug/L	
HW60	Dichloroethylene-1,1	0.50 U	ug/L		7.00 ug/L		7.00 ug/L	
HW60	Dichloroethylene-1,2 cis	0.50 U	ug/L		70.00 ug/L		70.00 ug/L	
HW60	Dichloropropane, 1,2-	0.50 U	ug/L	38.00 ug/L	5.00 ug/L		5.00 ug/L	
HW60	Dichloropropane, 1,3-	0.50 U	ug/L	290.00 ug/L				
HW60	Dichloropropane, 2,2-	0.50 U	ug/L					
HW60	Dichloropropene, 1,1-	0.50 U	ug/L					
HW60	Dichloropropene, 1,3 cis-	0.50 U	ug/L					
HW60	Dichloropropene, 1,3 trans-	0.50 U	ug/L					
HW60	Ethylbenzene	0.50 U	ug/L		700.00 ug/L		700.00 ug/L	
HW60	Freon 113	0.50 U	ug/L					
HW60	Hexanone, 2-	2.00 U	ug/L	34.00 ug/L				
HW60	Isopropylbenzene	0.50 U	ug/L					
HW60	Isopropylbenzene-4,methyl-1	0.50 U	ug/L					
HW60	m,p-Xylene	1.00 U	ug/L		10,000.00 ug/L		10,000.00 ug/L	
HW60	Methyl acetate	0.50 U	ug/L					
HW60	Methyl bromide	0.50 U	ug/L					
HW60	Methyl chloride	0.50 U	ug/L					
HW60	Methyl cyclohexane	0.50 U	ug/L					
HW60	Methyl ethyl ketone	2.00 U	ug/L	4,900.00 ug/L				
HW60	Methyl tertiary butyl ether (MTBE)	0.50 U	ug/L					
HW60	Methylene chloride	0.50 U	ug/L		5.00 ug/L		5.00 ug/L	
HW60	Propylbenzene-n	0.50 U	ug/L					

Sample Number	Analyte	Result		Trigger Levels	EPA Primary MCLs	EPA Secondary MCLs	DEP Primary MCLs	DEP Secondary MCLs
HW60	Styrene	1.00 U	ug/L		100.00 ug/L		100.00 ug/L	
HW60	Tetrachloroethane, 1,1,1,2-	0.50 U	ug/L	50.00 ug/L				
HW60	Tetrachloroethane, 1,1,2,2-	0.50 U	ug/L	6.60 ug/L				
HW60	Tetrachloroethylene	0.50 U	ug/L		5.00 ug/L		5.00 ug/L	
HW60	Toluene	0.50 U	ug/L		1,000.00 ug/L		1,000.00 ug/L	
HW60	Trichlorobenzene-1,2,3	0.50 U	ug/L	5.20 ug/L				
HW60	Trichlorobenzene-1,2,4	0.50 U	ug/L	5.20 ug/L	70.00 ug/L		70.00 ug/L	
HW60	Trichloroethane-1,1,1	0.50 U	ug/L	7,500.00 ug/L	200.00 ug/L		200.00 ug/L	
HW60	Trichloroethane-1,1,2	0.50 U	ug/L	0.41 ug/L	5.00 ug/L		5.00 ug/L	
HW60	Trichloroethylene	0.50 U	ug/L		5.00 ug/L		5.00 ug/L	
HW60	Trichlorofluoromethane	0.50 U	ug/L					
HW60	Trichloropropane-1,2,3	0.50 U	ug/L	0.07 ug/L				
HW60	Trimethylbenzene-1,2,4	0.50 U	ug/L	15.00 ug/L				
HW60	Trimethylbenzene-1,3,5	0.50 U	ug/L	87.00 ug/L				
HW60	Vinyl acetate	0.50 U	ug/L					
HW60	Vinyl chloride	0.50 U	ug/L		2.00 ug/L		2.00 ug/L	
HW60	Xylene-o	1.00 U	ug/L		10,000.00 ug/L		10,000.00 ug/L	
HW60	Nitrogen, Nitrite + Nitrate	0.05 U	mg/L		10.00 mg/L		10.00 mg/L	
HW60	Total Nitrogen	1.00 U	mg/L					

Sample Number – Code that is used to identify the particular sample. See additional information below:

HW## – Identifies the sample location and indicates that it was collected at well head or closest point to the well head.

F – Indicates that the sample was filtered following collection. The purpose of filtering the sample is to remove any particulates in order to find what metals are actually dissolved in the water sample.

Z – Identifies a duplicate sample. Duplicate samples are collected for every ten samples collected to test the reproducibility of sampling and analytical procedures.

P – Indicates that the sample was collected at the kitchen tap. In some cases this may be following any treatment that the residence may have.

A/B – Designates which residence the sample was collected for sample locations with multiple residences using the same water source (may be a well or a spring).

RO – Indicated that the sample was collected from a residence containing a reverse osmosis treatment system.

N – Designates that the sample was collected from the new well for locations with multiple wells.

Analyte – General term for a substance in the sample. The lab does testing to find specific analytes, or substance in the water sample. The report lists each analyte that the lab tested for and what amounts were found.

TPH - Total Petroleum Hydrocarbons

Result and Units – identifies the actual result for the particular analyte and the measurement used for the particular type of sample. The results may include the following units for the various water sample analyses:

µg /L – Micrograms per liter (abbreviated as µg /L) measurements of the mass of the substance per liter of water. This measurement is commonly known as parts per billion or ppb. Drinking water results are usually reported in µg /L.

mg/L – Milligrams per liter (abbreviated as mg/L) measurements of the mass of the substance per liter of water. This measurement is commonly known as parts per million or ppm.

cfu/100 mL – Total Coliform Bacteria results are reported as colony forming units (cfu) per milliliters of water. Coliform bacteria is not a health threat in itself; it is used to indicate whether other potentially harmful bacteria may be present.

cfu/1mL – Heterotrophic Plate Count Bacteria (HPC) are reported as colony forming units (cfu) per milliliter of water. HPC has no health effects; it is an analytic method used to measure the variety of bacteria that are common in water. The lower the concentration of bacteria in drinking water, the better maintained the water system is.

Absent or Present – Fecal Coliform Bacteria are reported as either being Absent or Present. Fecal Coliform Bacteria are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Disease-causing microbes (pathogens) in these wastes can cause diarrhea, cramps, nausea, headaches,

Trigger Level – established for this project, the trigger levels are based on risk-based screening levels and/or standards for public water supplies. A yellow highlighted result represents an analytical result greater than the established trigger level. Results exceeding a trigger level are referred to an EPA toxicologist for further review.
EPA Primary MCLs – the primary maximum contaminant levels (MCLs) are legally enforceable standards established under the Safe Drinking Water Act to protect public health by limiting the levels of contaminants in public drinking water systems. The MCL is the amount of an analyte (substance) that can be present in a water sample that the government considers acceptable to drink. EPA considers the MCLs when evaluating results from residential drinking water wells.
EPA Secondary MCLs - secondary MCLs are non-enforceable standards regulating contaminants that may cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water. EPA recommends secondary standards to public water systems, but does not require systems to comply. However, states may choose to adopt them as enforceable standards.
DEP MCLs (Primary and Secondary) – Chapter 109, Pennsylvania Safe Drinking Water Regulations, defines MCL as the maximum permissible level of a contaminant in water which is delivered to a user of a public water system, and includes the primary and secondary MCLs established under the Federal Safe Drinking Water Act, and MCLs adopted under the act.

* No more than 5.0% samples total coliform-positive in a month. (For water systems that collect fewer than 40 routine samples per month, no more than one sample can be total coliform-positive per month.) Every sample that has total coliform must be analyzed for either fecal coliforms or E. coli if two consecutive TC-positive samples, and one is also positive for E.coli fecal coliforms, system has an acute MCL violation.

** EPA has not established an MCL for lead or copper. Lead and copper are regulated by a Treatment Technique that requires public drinking water systems to control the corrosiveness of their water. If more than 10% of tap water samples exceed the action level, water system must take additional steps. For lead, the action level is 15 ug/L, and for copper is 1,300 ug/L.

*** The DEP Primary MCLs for lead (5 ug/L) and copper (1,000 ug/L) are applicable only to bottled, vended, retail and bulk water hauling systems, otherwise the DEP uses the federal action levels for lead (15 ug/L), and for copper (1,300 ug/L).

Validation Result Qualifiers - EPA performs a quality check on the lab results. After this quality check, EPA may mark the measurement of certain analytes with a qualifier to give additional information about the measurement. This information can apply to 1) how certain EPA is that the lab detected the analyte and 2) how certain EPA is of the measurement of the analyte once detected. If there is no qualifier by the result, the detection and measurement of the analyte are certain

U – Indicates that the analyte was not detected. If there is a number next to the U, this number is the amount of analyte that would have to be present to be detected by the lab given the particular method and/or instrumentation.
J – This means that the analyte was detected, but the value of the result is an estimate.
UJ - The U before the J means that the analyte was not detected in the sample, but this result may be inaccurate. Some analyte may be present.
R – Indicates that the data has been rejected. For glycol analyses, data with detected concentrations above the Method Detection Limit (MDL) and less than the Reporting Limit (RL) were rejected due to the laboratory not using a second column and/or gas chromatography with mass spectrometry to confirm the identity of the compound listed. For Heterotrophic Plate Count analysis, data were rejected if the laboratory did not run a method blank (i.e. sterility control) for each series of samples plated to determine whether the test samples could have been contaminated during analysis. For semivolatile organic compound analysis, non-detect data have been rejected due to low recoveries of required method quality control checks.
MDL – Is the minimum concentration of a substance that can be measured and reported with 99-percent confidence that the concentration of the substance is greater than zero.
RL – Is the lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions, typically set at the lowest standard in the calibration curve