HW-56
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	
HW56	Anionic Surfactants	0.01	U	mg/L										
HW56	Heterotrophic Plate Count	22.00	J	cfu/1mL										
HW56	Total Coliform Bacteria	1.00	U	cfu/100mL	0.00	cfu/100mL	5.00	%*						
HW56	Ethane	62.00		ug/L										
HW56	Ethene	1.10	U	ug/L										
HW56	Methane	8,700.00		ug/L	28,000.00	ug/L								
HW56	2-Butoxyethanol	25.00	U	ug/L										
HW56	2-Methoxyethanol	10.00	U	ug/L	78.00	ug/L								
HW56	Diethylene Glycol	50.00	U	ug/L	8,000.00	ug/L								
HW56	Ethylene glycol	2,000.00	U	ug/L	31,000.00	ug/L								
HW56	Propylene glycol	2,000.00	U	ug/L										
HW56	Tetraethylene glycol	25.00	U	ug/L	8,000.00	ug/L								
HW56	Triethylene glycol	25.00	U	ug/L	8,000.00	ug/L								
HW56	Bromide	0.50	U	mg/L										
HW56	Chloride	0.97		mg/L					250.00	mg/L			250.00	mg/L
HW56	Fluoride	0.10	U	mg/L	0.62	mg/L	4.00	mg/L	2.00	mg/L	2.00	mg/L		
HW56	Sulfate	10.10		mg/L					250.00	mg/L			250.00	mg/L
HW56	Aluminum	30.00	U	ug/L	16,000.00	ug/L			200.00	ug/L			200.00	ug/L
HW56	Antimony	2.00	U	ug/L	6.00	ug/L	6.00	ug/L			6.00	ug/L		
HW56	Arsenic	1.50		ug/L	4.50	ug/L	10.00	ug/L			10.00	ug/L		
HW56	Barium	531.00		ug/L	2,900.00	ug/L	2,000.00	ug/L			2,000.00	ug/L		
HW56	Beryllium	1.00	U	ug/L	16.00	ug/L	4.00	ug/L			4.00	ug/L		
HW56	Boron	50.00	U	ug/L	3,100.00	ug/L								
HW56	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
HW56	Calcium	22,600.00	ug/L					
HW56	Chromium	2.00 U	ug/L	3.10 ug/L	100.00 ug/L		100.00 ug/L	
HW56	Cobalt	1.00 U	ug/L	4.70 ug/L				
HW56	Copper	2.40	ug/L	620.00 ug/L	1,300.00 ug/L**	1,000.00 ug/L	1,000.00 ug/L***	
HW56	Iron	171.00	ug/L	11,000.00 ug/L		300.00 ug/L		300.00 ug/L
HW56	Lead	2.00 U	ug/L	15.00 ug/L	15.00 ug/L**		5.00 ug/L***	
HW56	Lithium	30.50	ug/L	31.00 ug/L				
HW56	Magnesium	3,550.00	ug/L					
HW56	Manganese	90.70	ug/L	320.00 ug/L		50.00 ug/L		50.00 ug/L
HW56	Nickel	1.00 U	ug/L	300.00 ug/L				
HW56	Potassium	2,000.00 U	ug/L					
HW56	Selenium	5.00 U	ug/L	78.00 ug/L	50.00 ug/L		50.00 ug/L	
HW56	Silver	1.00 U	ug/L	71.00 ug/L		100.00 ug/L		100.00 ug/L
HW56	Sodium	10,600.00	ug/L	20,000.00 ug/L				
HW56	Strontium	369.00	ug/L	9,300.00 ug/L				
HW56	Thallium	1.00 U	ug/L	0.16 ug/L	2.00 ug/L		2.00 ug/L	
HW56	Tin	200.00 U	ug/L	9,300.00 ug/L				
HW56	Titanium	200.00 U	ug/L					
HW56	Uranium	1.00	ug/L	47.00 ug/L	30.00 ug/L		30.00 ug/L	
HW56	Vanadium	5.00 U	ug/L	78.00 ug/L				
HW56	Zinc	2.00 U	ug/L	4,700.00 ug/L		5,000.00 ug/L		5,000.00 ug/L
HW56	Total Dissolved Solids	95.00	mg/L			500.00 mg/L		500.00 mg/L
HW56	Total Suspended Solids	10.00 U	mg/L					
HW56	1-Methylnaphthalene	4.76 U	ug/L	97.00 ug/L				
HW56	Acenaphthene	4.76 U	ug/L	400.00 ug/L				
HW56	Acenaphthylene	4.76 U	ug/L					
HW56	Acetophenone	4.76 U	ug/L	1,500.00 ug/L				
HW56	Anthracene	4.76 U	ug/L	1,300.00 ug/L				
HW56	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
HW56	Benzo(a)anthracene	4.76 U	ug/L	2.90 ug/L				
HW56	Benzo(a)pyrene	4.76 U	ug/L	0.29 ug/L	0.20 ug/L		0.20 ug/L	
HW56	Biphenyl	4.76 U	ug/L					
HW56	Bromophenyl-4 Phenyl Ether	4.76 U	ug/L					
HW56	Butylbenzyl phthalate	5.00 U	ug/L	1,400.00 ug/L				
HW56	Caprolactam	4.76 U	ug/L	7,700.00 ug/L				
HW56	Carbazole	4.76 U	ug/L					
HW56	Chlorobenzenamine-4	4.76 U	ug/L	3.20 ug/L				
HW56	Chloronaphthalene-2	4.76 U	ug/L	550.00 ug/L				
HW56	Chlorophenol-2	4.76 U	ug/L	71.00 ug/L				
HW56	Chlorophenyl-4 phenyl ether	4.76 U	ug/L					
HW56	Chrysene	4.76 U	ug/L	290.00 ug/L				
HW56	Cresol, parachloro meta-	4.76 U	ug/L					
HW56	Cresol-4,6-dinitro-ortho	9.52 UJ	ug/L					
HW56	Cresol-o	4.76 U	ug/L	720.00 ug/L				
HW56	Cresol-p	4.76 U	ug/L	72.00 ug/L				
HW56	Dibenz(a,h)anthracene	4.76 U	ug/L	0.29 ug/L				
HW56	Dibenzofuran	4.76 U	ug/L					
HW56	Dichlorobenzidine-3,3'	4.76 U	ug/L	11.00 ug/L				
HW56	Dichlorophenol-2,4	4.76 U	ug/L	35.00 ug/L				
HW56	Dimethylphenol, 2,4-	4.76 U	ug/L	270.00 ug/L				
HW56	Dinitrophenol-2,4	38.10 UJ	ug/L	30.00 ug/L				
HW56	Dinitrotoluene-2,4	4.76 U	ug/L					
HW56	Dinitrotoluene-2,6	4.76 U	ug/L					
HW56	Ether, bis(2-chloroethyl)	4.76 U	ug/L	1.20 ug/L				
HW56	Ether-bis(2-chloroisopropyl)	4.76 U	ug/L					
HW56	Fluoranthene	4.76 U	ug/L	630.00 ug/L				
HW56	Fluoranthene benzo(k)	4.76 UJ	ug/L	29.00 ug/L				
HW56	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
HW56	Fluorene	4.76 U	ug/L	220.00 ug/L				
HW56	Hexachlorobenzene	4.76 U	ug/L	4.20 ug/L	1.00 ug/L		1.00 ug/L	
HW56	Hexachlorobutadiene	4.76 U	ug/L	26.00 ug/L				
HW56	Hexachlorobutadiene	0.50 U	ug/L	26.00 ug/L				
HW56	Hexachlorocyclopentadiene	4.76 U	ug/L	22.00 ug/L	50.00 ug/L		50.00 ug/L	
HW56	Hexachloroethane	4.76 U	ug/L	5.10 ug/L				
HW56	Isophorone	4.76 U	ug/L	6,700.00 ug/L				
HW56	Methane, bis(2-chloroethoxy)	4.76 U	ug/L	47.00 ug/L				
HW56	Methylnaphthalene-2	4.76 U	ug/L	27.00 ug/L				
HW56	Naphthalene	4.76 U	ug/L	14.00 ug/L				
HW56	Naphthalene	0.50 U	ug/L	14.00 ug/L				
HW56	Nitroaniline, ortho	4.76 U	ug/L	150.00 ug/L				
HW56	Nitroaniline-3	4.76 U	ug/L					
HW56	Nitrobenzenamine-4	4.76 U	ug/L	61.00 ug/L				
HW56	Nitrobenzene	4.76 U	ug/L	12.00 ug/L				
HW56	Nitrophenol-2	4.76 U	ug/L					
HW56	Nitrophenol-4	9.52 U	ug/L					
HW56	Nitrosodimethylamine-n	4.76 U	ug/L	0.04 ug/L				
HW56	Nitrosodiphenylamine-n	4.76 U	ug/L	1,000.00 ug/L				
HW56	Pentachlorophenol	4.76 U	ug/L	17.00 ug/L	1.00 ug/L		1.00 ug/L	
HW56	Perylene-benzo(ghi)	4.76 U	ug/L					
HW56	Phenanthrene	4.76 U	ug/L					
HW56	Phenol	4.76 U	ug/L	4,500.00 ug/L				
HW56	Phthalate, bis(2-ethylhexyl) (DEHP)	5.00 U	ug/L	7.10 ug/L	6.00 ug/L		6.00 ug/L	
HW56	Phthalate, Dimethyl	4.76 U	ug/L	1,400.00 ug/L				
HW56	Phthalate, di-n-butyl-	5.00 U	ug/L	670.00 ug/L				
HW56	Phthalate, di-n-octyl	4.76 U	ug/L					
HW56	Phthalate-diethyl	5.00 U	ug/L	11,000.00 ug/L				
HW56	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
HW56	Pyrene	4.76 U	ug/L	87.00 ug/L				
HW56	Pyrene-indeno(1,2,3-cd)	4.76 U	ug/L	3.00 ug/L				
HW56	Tetrachlorobenzene, 1,2,4,5-	4.76 U	ug/L	1.20 ug/L				
HW56	Tetrachlorophenol, 2,3,4,6-	4.76 U	ug/L	170.00 ug/L				
HW56	Trichlorophenol-2,4,5	4.76 U	ug/L	890.00 ug/L				
HW56	Trichlorophenol-2,4,6	4.76 U	ug/L	9.04 ug/L				
HW56	TPH - Gasoline Range Organics	50.00 U	ug/L					
HW56	1,2-Dibromo-3-chloropropane (DBCP)	0.50 U	ug/L	0.03 ug/L	0.20 ug/L		0.20 ug/L	
HW56	4-Methyl-2-pentanone	2.00 U	ug/L	1,000.00 ug/L				
HW56	Acetone	2.00 U	ug/L					
HW56	Benzene	0.50 U	ug/L		5.00 ug/L		5.00 ug/L	
HW56	Bromobenzene	0.50 U	ug/L					
HW56	Bromoform	0.50 U	ug/L		80.00 ug/L		80.00 ug/L	
HW56	Butylbenzene	0.50 U	ug/L					
HW56	Butylbenzene, sec-	0.50 U	ug/L					
HW56	Butylbenzene, tert-	0.50 U	ug/L					
HW56	Carbon disulfide	0.50 U	ug/L					
HW56	Carbon Tetrachloride	0.50 U	ug/L		5.00 ug/L		5.00 ug/L	
HW56	Chlorobenzene	0.50 U	ug/L		100.00 ug/L			
HW56	Chlorobromomethane	0.50 U	ug/L					
HW56	Chloroethane	0.50 U	ug/L					
HW56	Chloroform	0.50 U	ug/L		80.00 ug/L		80.00 ug/L	
HW56	Chlorotoluene	0.50 U	ug/L	180.00 ug/L				
HW56	Chlorotoluene-p	0.50 U	ug/L	190.00 ug/L				
HW56	Cyclohexane	0.50 U	ug/L					
HW56	Dibromochloromethane	0.50 U	ug/L		80.00 ug/L		80.00 ug/L	
HW56	Dibromoethane-1,2	0.50 U	ug/L	0.65 ug/L	0.05 ug/L		0.05 ug/L	
HW56	Dibromomethane	0.50 U	ug/L					
HW56	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
HW56	Dichlorobenzene-1,3	0.50 U	ug/L					
HW56	Dichlorobenzene-1,4	0.50 U	ug/L	42.00 ug/L	75.00 ug/L		75.00 ug/L	
HW56	Dichlorobromomethane	0.50 U	ug/L		80.00 ug/L		80.00 ug/L	
HW56	Dichlorodifluoromethane	0.50 U	ug/L					
HW56	Dichloroethane-1,1	0.50 U	ug/L	240.00 ug/L				
HW56	Dichloroethane-1,2	0.50 U	ug/L	15.00 ug/L	5.00 ug/L		5.00 ug/L	
HW56	Dichloroethene-1,2 trans	0.50 U	ug/L		100.00 ug/L		100.00 ug/L	
HW56	Dichloroethylene-1,1	0.50 U	ug/L		7.00 ug/L		7.00 ug/L	
HW56	Dichloroethylene-1,2 cis	0.50 U	ug/L		70.00 ug/L		70.00 ug/L	
HW56	Dichloropropane, 1,2-	0.50 U	ug/L	38.00 ug/L	5.00 ug/L		5.00 ug/L	
HW56	Dichloropropane, 1,3-	0.50 U	ug/L	290.00 ug/L				
HW56	Dichloropropane, 2,2-	0.50 U	ug/L					
HW56	Dichloropropene, 1,1-	0.50 U	ug/L					
HW56	Dichloropropene, 1,3 cis-	0.50 U	ug/L					
HW56	Dichloropropene, 1,3 trans-	0.50 U	ug/L					
HW56	Ethylbenzene	0.50 U	ug/L		700.00 ug/L		700.00 ug/L	
HW56	Freon 113	0.50 U	ug/L					
HW56	Hexanone, 2-	2.00 U	ug/L	34.00 ug/L				
HW56	Isopropylbenzene	0.50 U	ug/L					
HW56	Isopropylbenzene-4,methyl-1	0.50 U	ug/L					
HW56	m,p-Xylene	1.00 U	ug/L		10,000.00 ug/L		10,000.00 ug/L	
HW56	Methyl acetate	0.50 U	ug/L					
HW56	Methyl bromide	0.50 U	ug/L					
HW56	Methyl chloride	0.50 U	ug/L					
HW56	Methyl cyclohexane	0.50 U	ug/L					
HW56	Methyl ethyl ketone	2.00 U	ug/L	4,900.00 ug/L				
HW56	Methyl tertiary butyl ether (MTBE)	0.50 U	ug/L					
HW56	Methylene chloride	0.50 U	ug/L		5.00 ug/L		5.00 ug/L	
HW56	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
HW56	Styrene	1.00 U	ug/L		100.00 ug/L		100.00 ug/L	
HW56	Tetrachloroethane, 1,1,1,2-	0.50 U	ug/L	50.00 ug/L				
HW56	Tetrachloroethane, 1,1,2,2-	0.50 U	ug/L	6.60 ug/L				
HW56	Tetrachloroethylene	0.50 U	ug/L		5.00 ug/L		5.00 ug/L	
HW56	Toluene	0.50 U	ug/L		1,000.00 ug/L		1,000.00 ug/L	
HW56	Trichlorobenzene-1,2,3	0.50 U	ug/L	5.20 ug/L				
HW56	Trichlorobenzene-1,2,4	0.50 U	ug/L	5.20 ug/L	70.00 ug/L		70.00 ug/L	
HW56	Trichloroethane-1,1,1	0.50 U	ug/L	7,500.00 ug/L	200.00 ug/L		200.00 ug/L	
HW56	Trichloroethane-1,1,2	0.50 U	ug/L	0.41 ug/L	5.00 ug/L		5.00 ug/L	
HW56	Trichloroethylene	0.50 U	ug/L		5.00 ug/L		5.00 ug/L	
HW56	Trichlorofluoromethane	0.50 U	ug/L					
HW56	Trichloropropane-1,2,3	0.50 U	ug/L	0.07 ug/L				
HW56	Trimethylbenzene-1,2,4	0.50 U	ug/L	15.00 ug/L				
HW56	Trimethylbenzene-1,3,5	0.50 U	ug/L	87.00 ug/L				
HW56	Vinyl acetate	0.50 U	ug/L					
HW56	Vinyl chloride	0.50 U	ug/L		2.00 ug/L		2.00 ug/L	
HW56	Xylene-o	1.00 U	ug/L		10,000.00 ug/L		10,000.00 ug/L	
HW56	Nitrogen, Nitrite + Nitrate	0.05 U	mg/L		10.00 mg/L		10.00 mg/L	
HW56	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