

**Attachment C-1**

**Stream Characterization Data**

**Stream 40636 (Site CR-1B)**

## **STREAM 40636 (SITE CR-1B) CHARACTERIZATION DATA**

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### Land Use

Stream 40636 is a tributary of House Run. A majority of the valley surrounding tributary 40636 is forested. The site is located along a reclaimed access road in a less densely forested portion of the valley. Many early successional species are observed in the floodplain including multi-flora rose, black willow, and poison ivy. The lowland floodplain habitat quickly transitions into forested upland habitat containing black cherry, oaks, and hawthorn (*Crataegus* spp.).

### Stream Habitat

The stream habitat scored in the sub-optimal range. Pool substrate characterization, channel sinuosity, bank stability on both banks and the vegetative protection on both banks received a marginal rating while pool variability was rated as poor. The majority of the stream bed consisted of gravel and sand with lesser amounts of cobble and silt present. The dominant morphology type for this stream was riffle (60%) with pool (20%) and run (20%) comprising the remainder. During the sampling event, no aquatic vegetation was present.

## Macroinvertebrate Data

Identification and Enumeration of Benthic Macroinvertebrates Collected from Stream 40636 on April 30th 2008.

Taxa Order	Pollution Tolerance Value	Functional Feeding Group		HQ 4
<b>Ephemeroptera (mayflies)</b>				
Ameletidae				
<i>Ameletus</i>	0	GC		8
Heptageniidae				
<i>Maccaffertium</i>	3	SC		1
<i>Epeorus</i>	0	SC		30
Ephemerellidae				
<i>Ephemerella</i>	1	GC		27
<i>Eurylophella</i>	4	GC		1
<b>Plecoptera (stoneflies)</b>				
Perlodidae				
<i>Isoperla</i>	2	PR		32
Chloroperlidae				
<i>Sweltsa</i>	0	PR		3
Nemouridae				
<i>Amphinemura</i>	3	SH		69
<b>Trichoptera (caddisflies)</b>				
Limnephilidae				
<i>Ironoquia</i>	3	SH		1
Hydropsychidae				
<i>Diplectrona</i>	0	FC		3
Rhyacophilidae				
<i>Rhyacophila</i>	1	PR		2
Uenoidae				
<i>Neophylax</i>	3	SC		2
<b>Diptera (true flies)</b>				
Chironomidae	6	GC		25
Tipulidae				
<i>Tipula</i>	4	SH		1
<i>Hexatoma</i>	2	PR		1
<i>Pseudolimnophilia</i>	2	PR		1
<i>Molophilus</i>	4	SH		1
<b>Average Pollution Tolerance Value</b>	<b>2.24</b>		<b>Total Individuals</b>	<b>208</b>
			<b>Species Diversity</b>	<b>17</b>
			<b>Average Pollution Tolerance Value</b>	<b>2.24</b>

**Summary of the Macroinvertebrate  
Population Data Collected from Stream  
40636 on April 30th, 2008.**

Metric	40636
Total Number of Individuals	208
Taxa Richness	17
% EPT	86%
% Ephemeroptera	32%
No. Intolerant Taxa	16
% Tolerant Organisms	12%
PADEP Tolerance Value	2.24
% Contribution Dominant Family	33%
% Chironomidae	12%
% Scrapers and Predators	35%
% Filterers and Gatherers	31%
Shannon-Wiener Diversity Index	1.969
Equitability Index	0.6951

40636 – A total of two hundred eight (208) individuals belonging to seventeen (17) taxa were present in the sample. The dominant taxon is the pollution intolerant Nemouridae. Twelve (12) of the seventeen (17) taxa identified are members of the pollution sensitive EPT taxa. One (1) pollution tolerant taxa is present, representing 12% of the sample. The average PADEP tolerance value for the sample is 2.24, indicating there is no apparent organic pollution entering the stream. The SDI for this station is 1.969 which suggests there may be some slight impairment to the stream. The Equitability Index is 0.6951 which suggests the population is not impacted by oxygen demand wastes.

Water Quality

**Water Quality Data for Stream 40636 UNT  
to House Run, Spring 2008.**

Water Quality Parameter	Stream 40636
pH (standard units)	7.3
Temperature (°C)	10
Dissolved Oxygen (ppm)	10.6
Ammonia Nitrogen (ug/L)	140
Total Iron (ug/L)	262
Total Aluminum (ug/L)	231
Dissolved Arsenic (ug/L)	0.72
Dissolved Copper (ug/L)	1
Dissolved Nickel (ug/L)	0.21
Dissolved Lead (ug/L)	0.078
Dissolved Zinc (ug/L)	2.2

The water quality data for stream 40636 was compared to the PA Code 25 Ch. 93 Specific Water Quality Criteria, Section 93.7. If the criterion for a parameter was not

specified in 93.7, the parameter was compared to PA Code 25 Ch. 16 Fish and Aquatic Life Water Quality Criteria Maximum and Chronic Values. One (1) parameter, ammonia nitrogen, failed to meet PADEP water quality criteria. All other parameters were well within the PADEP required water quality standard and able to support fish and other aquatic life.