

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** GMW050-0023      **USGS Hydrologic Unit:** 050800030501  
**Stream Name:** Tributary of Salt Creek      **County:** Decatur  
**Description:** CR 150 N      **Latitude:** 39 21 25.42100      **Longitude:** -85 18 57.12500  
**Drainage:**      **Site Number:** 14T-001

**SiteID:** GMW050-0023      **Sample Date:** 05/19/2014      **IDEM Sample #:** AB17004  
**Water Flow Type** Riffle      **Water Appearance** Clear      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	110.2 %		ASTM D888-09(C)
DO	11.48 mg/L		ASTM D888-09(C)
pH (Field)	8.21 SU		EPA 150.2
Specific Conductance (Field)	551 umho/cm		SM2510B
Temperature	13.42 °C		SM2550B(2)
Turbidity (Hach)	5.16 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #:</u> 506428	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	199 mg/L	10	EPA 310.2
Chloride	19 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	258 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	4 mg/L	4	SM2540D
Solids, Total (TS)	340 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	329 mg/L	10	SM2540C
Sulfate	20 mg/L	5	EPA 375.2
COD	13.1 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	9.6 mg/L	0.25	EPA 353.1
Phosphorus, Total	0.027 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	1.9 mg/L	1	SM5310B

<u>Lab ID #:</u> AB17004	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	488.4 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
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Surface Water Results Summary**

SiteID: GMW050-0023

Sample Date: 06/16/2014

IDEM Sample #: AB17409

Water Flow Type Run

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	100.8 %		ASTM D888-09(C)
DO	8.92 mg/L		ASTM D888-09(C)
pH (Field)	8.08 SU		EPA 150.2
Specific Conductance (Field)	550 umho/cm		SM2510B
Temperature	21.29 °C		SM2550B(2)
Turbidity (Hach)	5.79 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation
<b>Lab ID #: 509117</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	216 mg/L	10	EPA 310.2
Chloride	22 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	294 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	4 mg/L	4	SM2540D
Solids, Total (TS)	374 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	348 mg/L	10	SM2540C
Sulfate	20 mg/L	5	EPA 375.2
COD	10.1 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	7.9 mg/L	0.25	EPA 353.1
Phosphorus, Total	0.032 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	2.2 mg/L	1	SM5310B
<b>Lab ID #: AB17409</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	387.3 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW050-0023

Sample Date: 07/14/2014

IDEM Sample #: AB17584

Water Flow Type Run

Water Appearance Brown

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	90.5 %		ASTM D888-09(C)
DO	7.83 mg/L		ASTM D888-09(C)
pH (Field)	7.79 SU		EPA 150.2
Specific Conductance (Field)	302 umho/cm		SM2510B
Temperature	22.54 °C		SM2550B(2)
Turbidity (Hach)	76.9 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation
<b>Lab ID #: 511647</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	102 mg/L	10	EPA 310.2
Chloride	12 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	136 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	35 mg/L	4	SM2540D
Solids, Total (TS)	256 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	203 mg/L	10	SM2540C
Sulfate	14 mg/L	5	EPA 375.2
<b>Lab ID #: AB17584a</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B
E. coli	> 24196 MPN/100mL	24196	SM9223B

**Indiana Department of Environmental Management  
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Surface Water Results Summary**

SiteID: GMW050-0023      Sample Date: 07/21/2014      IDEM Sample #: AB17641  
 Water Flow Type Run      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	92.3 %		ASTM D888-09(C)
DO	8.42 mg/L		ASTM D888-09(C)
pH (Field)	7.91 SU		EPA 150.2
Specific Conductance (Field)	430 umho/cm		SM2510B
Temperature	19.77 °C		SM2550B(2)
Turbidity (Hach)	3.93 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation
<b>Lab ID #: AB17641</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	488.4 MPN/100mL	1	SM9223B

SiteID: GMW050-0023      Sample Date: 07/21/2014      IDEM Sample #: AB17867  
 Water Flow Type Pool      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	47.8 %		ASTM D888-09(C)
DO	4.78 mg/L		ASTM D888-09(C)
pH (Field)	8.04 SU		EPA 150.2
Specific Conductance (Field)	414 umho/cm		SM2510B
Temperature	19.97 °C		SM2550B(2)
Turbidity (Hach)	5.77 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW050-0023

Sample Date: 07/28/2014

IDEM Sample #: AB17776

Water Flow Type Riffle

Water Appearance Murky

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	92.3 %		ASTM D888-09(C)
DO	8.52 mg/L		ASTM D888-09(C)
pH (Field)	7.93 SU		EPA 150.2
Specific Conductance (Field)	464 umho/cm		SM2510B
Temperature	19.19 °C		SM2550B(2)
Turbidity (Hach)	26.9 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: AB17776	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B

Weather Code Definitions					
SC	WD	WS	AT		
Sky Conditions	Wind Direction	Wind Strength	Air Temp		
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	

**Indiana Department of Environmental Management  
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Surface Water Results Summary**

**SiteID:** GMW-05-0006      **USGS Hydrologic Unit:** 050800030502  
**Stream Name:** Salt Creek      **County:** Decatur  
**Description:** CR 50 N      **Latitude:** 39 20 51.70366      **Longitude:** -85 18 22.94456  
**Drainage:**      **Site Number:** 14T-002

**SiteID:** GMW-05-0006      **Sample Date:** 05/19/2014      **IDEM Sample #:** AB17005  
**Water Flow Type:** Glide      **Water Appearance:** Clear      **Water Depth:**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %:** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	113.8 %		ASTM D888-09(C)
DO	11.99 mg/L		ASTM D888-09(C)
pH (Field)	8.04 SU		EPA 150.2
Specific Conductance (Field)	515 umho/cm		SM2510B
Temperature	13.02 °C		SM2550B(2)
Turbidity (Hach)	6.18 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #:</u> 506429	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	189 mg/L	10	EPA 310.2
Chloride	18 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	230 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	4 mg/L	4	SM2540D
Solids, Total (TS)	322 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	302 mg/L	10	SM2540C
Sulfate	21 mg/L	5	EPA 375.2
COD	10.4 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	6.4 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.026 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	2.4 mg/L	1	SM5310B

<u>Lab ID #:</u> AB17005	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	547.5 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
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Surface Water Results Summary**

SiteID: GMW-05-0006

Sample Date: 06/16/2014

IDEM Sample #: AB17410

Water Flow Type Glide

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	123.3 %		ASTM D888-09(C)
DO	10.91 mg/L		ASTM D888-09(C)
pH (Field)	8.2 SU		EPA 150.2
Specific Conductance (Field)	523 umho/cm		SM2510B
Temperature	21.33 °C		SM2550B(2)
Turbidity (Hach)	4.89 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation
<b>Lab ID #: 509118</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	198 mg/L	10	EPA 310.2
Chloride	21 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	254 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 4 mg/L	4	SM2540D
Solids, Total (TS)	344 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	313 mg/L	10	SM2540C
Sulfate	22 mg/L	5	EPA 375.2
COD	< 10 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	5.4 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.026 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	2.5 mg/L	1	SM5310B
<b>Lab ID #: AB17410</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	260.3 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
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Surface Water Results Summary**

SiteID: GMW-05-0006      Sample Date: 07/14/2014      IDEM Sample #: AB17585  
 Water Flow Type Run      Water Appearance Brown      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments: Very muddy

Lab ID #:	Result	Reporting Limit	Method
% Sat	80 %		ASTM D888-09(C)
DO	6.88 mg/L		ASTM D888-09(C)
pH (Field)	7.71 SU		EPA 150.2
Specific Conductance (Field)	329 umho/cm		SM2510B
Temperature	22.7 °C		SM2550B(2)
Turbidity (Hach)	156 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: 511648	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	116 mg/L	10	EPA 310.2
Chloride	14 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	153 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	86 mg/L	4	SM2540D
Solids, Total (TS)	317 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	217 mg/L	10	SM2540C
Sulfate	15 mg/L	5	EPA 375.2

Lab ID #: AB17585a	Result	Reporting Limit	Method
Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B
E. coli	> 24196 MPN/100mL	24196	SM9223B



**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** GMW-05-0006      **Sample Date:** 07/21/2014      **IDEM Sample #:** AB17890  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:** Site sampled u/s o bridge. Electric fence d/s Excessive algae in sunny areas

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	58.6 %		ASTM D888-09(C)
DO	5.18 mg/L		ASTM D888-09(C)
pH (Field)	8.17 SU		EPA 150.2
Specific Conductance (Field)	372 umho/cm		SM2510B
Temperature	20.05 °C		SM2550B(2)
Turbidity (Hach)	6.59 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

**SiteID:** GMW-05-0006      **Sample Date:** 07/21/2014      **IDEM Sample #:** AB17617  
**Water Flow Type** Run      **Water Appearance** Murky      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	176.7 %		ASTM D888-09(C)
DO	15.37 mg/L		ASTM D888-09(C)
pH (Field)	8.49 SU		EPA 150.2
Specific Conductance (Field)	370 umho/cm		SM2510B
Temperature	22.19 °C		SM2550B(2)
Turbidity (Hach)	16.3 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

<u>Lab ID #:</u> AB17617	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	461.1 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
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Surface Water Results Summary**

SiteID: GMW-05-0006

Sample Date: 07/28/2014

IDEM Sample #: AB17752

Water Flow Type Run

Water Appearance Brown

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	88.3 %		ASTM D888-09(C)
DO	8.02 mg/L		ASTM D888-09(C)
pH (Field)	7.97 SU		EPA 150.2
Specific Conductance (Field)	418 umho/cm		SM2510B
Temperature	19.98 °C		SM2550B(2)
Turbidity (Hach)	47.9 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: AB17752a	Result	Reporting Limit	Method
Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B
E. coli	5475 MPN/100mL	10	SM9223B

Weather Code Definitions					
SC	WD	WS	AT		
Sky Conditions	Wind Direction	Wind Strength	Air Temp		
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** GMW-05-0014      **USGS Hydrologic Unit:** 050800030502  
**Stream Name:** Righthand Fork Salt Creek      **County:** Decatur  
**Description:** E CR 550 N      **Latitude:** 39 25 20.10720      **Longitude:** -85 19 14.20680  
**Drainage:**      **Site Number:** 14T-003

**SiteID:** GMW-05-0014      **Sample Date:** 05/19/2014      **IDEM Sample #:** AB17006  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	101.6 %		ASTM D888-09(C)
DO	10.64 mg/L		ASTM D888-09(C)
pH (Field)	7.86 SU		EPA 150.2
Specific Conductance (Field)	660 umho/cm		SM2510B
Temperature	13.14 °C		SM2550B(2)
Turbidity (Hach)	10.8 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #:</u> 506430	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	256 mg/L	10	EPA 310.2
Chloride	31 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	311 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	12 mg/L	4	SM2540D
Solids, Total (TS)	415 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	386 mg/L	10	SM2540C
Sulfate	18 mg/L	5	EPA 375.2
COD	16.7 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	7.3 mg/L	0.25	EPA 353.1
Phosphorus, Total	0.061 mg/L	0.03	EPA 365.1
TKN	0.5 mg/L	0.3	EPA 351.2
TOC	2 mg/L	1	SM5310B

<u>Lab ID #:</u> AB17006	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1046.2 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-05-0014

Sample Date: 06/16/2014

IDEM Sample #: AB17411

Water Flow Type Pool

Water Appearance Murky

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	92.5 %		ASTM D888-09(C)
DO	8.49 mg/L		ASTM D888-09(C)
pH (Field)	7.96 SU		EPA 150.2
Specific Conductance (Field)	680 umho/cm		SM2510B
Temperature	19.43 °C		SM2550B(2)
Turbidity (Hach)	14.5 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation
<b>Lab ID #: 509119</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	274 mg/L	10	EPA 310.2
Chloride	31 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	326 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	12 mg/L	4	SM2540D
Solids, Total (TS)	446 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	406 mg/L	10	SM2540C
Sulfate	21 mg/L	5	EPA 375.2
COD	< 10 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	6.6 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.066 mg/L	0.03	EPA 365.1
TKN	0.5 mg/L	0.3	EPA 351.2
TOC	1.9 mg/L	1	SM5310B
<b>Lab ID #: AB17411</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	980.4 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-05-0014      Sample Date: 07/14/2014      IDEM Sample #: AB17586  
 Water Flow Type Pool      Water Appearance Brown      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments: small velocity

Lab ID #:	Result	Reporting Limit	Method
% Sat	83.3 %		ASTM D888-09(C)
DO	7.39 mg/L		ASTM D888-09(C)
pH (Field)	7.76 SU		EPA 150.2
Specific Conductance (Field)	670 umho/cm		SM2510B
Temperature	21.18 °C		SM2550B(2)
Turbidity (Hach)	17.5 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	2 Lookup		Observation
<b>Lab ID #: 511649</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	267 mg/L	10	EPA 310.2
Chloride	36 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	353 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	14 mg/L	4	SM2540D
Solids, Total (TS)	450 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	409 mg/L	10	SM2540C
Sulfate	29 mg/L	5	EPA 375.2
<b>Lab ID #: AB17586</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-05-0014      Sample Date: 07/21/2014      IDEM Sample #: AB17640  
 Water Flow Type Run      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	70.5 %		ASTM D888-09(C)
DO	6.68 mg/L		ASTM D888-09(C)
pH (Field)	7.65 SU		EPA 150.2
Specific Conductance (Field)	716 umho/cm		SM2510B
Temperature	17.98 °C		SM2550B(2)
Turbidity (Hach)	6.92 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation
<b>Lab ID #: AB17640</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	285.1 MPN/100mL	1	SM9223B

SiteID: GMW-05-0014      Sample Date: 07/22/2014      IDEM Sample #: AB17863  
 Water Flow Type Run      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments: some isolated pools

Lab ID #:	Result	Reporting Limit	Method
% Sat	66.9 %		ASTM D888-09(C)
DO	5.68 mg/L		ASTM D888-09(C)
pH (Field)	7.72 SU		EPA 150.2
Specific Conductance (Field)	705 umho/cm		SM2510B
Temperature	22.51 °C		SM2550B(2)
Turbidity (Hach)	3.98 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-05-0014

Sample Date: 07/28/2014

IDEM Sample #: AB17775

Water Flow Type Run

Water Appearance Murky

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	86.8 %		ASTM D888-09(C)
DO	8.14 mg/L		ASTM D888-09(C)
pH (Field)	7.88 SU		EPA 150.2
Specific Conductance (Field)	748 umho/cm		SM2510B
Temperature	18.41 °C		SM2550B(2)
Turbidity (Hach)	10.2 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: AB17775	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1732.9 MPN/100mL	1	SM9223B

Weather Code Definitions					
SC	WD	WS	AT		
Sky Conditions	Wind Direction	Wind Strength	Air Temp		
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** GMW-05-0011      **USGS Hydrologic Unit:** 050800030502  
**Stream Name:** Righthand Fork Salt Creek      **County:** Franklin  
**Description:** Hamburg Rd      **Latitude:** 39 22 54.94878      **Longitude:** -85 17 10.87400  
**Drainage:**      **Site Number:** 14T-004

**SiteID:** GMW-05-0011      **Sample Date:** 05/19/2014      **IDEM Sample #:** AB17003  
**Water Flow Type** Pool      **Water Appearance** Clear      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	105.2 %		ASTM D888-09(C)
DO	10.49 mg/L		ASTM D888-09(C)
pH (Field)	8.23 SU		EPA 150.2
Specific Conductance (Field)	341 umho/cm		SM2510B
Temperature	15.49 °C		SM2550B(2)
Turbidity (Hach)	8.57 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #:</u> 506432	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	119 mg/L	10	EPA 310.2
Chloride	15 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	132 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	8 mg/L	4	SM2540D
Solids, Total (TS)	210 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	193 mg/L	10	SM2540C
Sulfate	14 mg/L	5	EPA 375.2
COD	28.9 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.2 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.151 mg/L	0.03	EPA 365.1
TKN	1 mg/L	0.3	EPA 351.2
TOC	5.3 mg/L	1	SM5310B

<u>Lab ID #:</u> AB17003	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	96 MPN/100mL	1	SM9223B



**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-05-0011

Sample Date: 06/16/2014

IDEM Sample #: AB17408

Water Flow Type Riffle

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	87.5 %		ASTM D888-09(C)
DO	7.91 mg/L		ASTM D888-09(C)
pH (Field)	7.81 SU		EPA 150.2
Specific Conductance (Field)	417 umho/cm		SM2510B
Temperature	20.2 °C		SM2550B(2)
Turbidity (Hach)	5.23 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation
<b>Lab ID #: 509120</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	142 mg/L	10	EPA 310.2
Chloride	22 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	172 mg/L	75	EPA 130.1
Solids, Suspended Total, (TSS)	< 4 mg/L	4	SM2540D
Solids, Total (TS)	276 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	255 mg/L	10	SM2540C
Sulfate	13 mg/L	5	EPA 375.2
COD	12.2 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	4.8 mg/L	0.25	EPA 353.1
Phosphorus, Total	0.511 mg/L	0.03	EPA 365.1
TKN	0.8 mg/L	0.3	EPA 351.2
TOC	4.3 mg/L	1	SM5310B
<b>Lab ID #: AB17408</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	980.4 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-05-0011

Sample Date: 07/14/2014

IDEM Sample #: AB17583

Water Flow Type Pool

Water Appearance Brown

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	90 %		ASTM D888-09(C)
DO	8 mg/L		ASTM D888-09(C)
pH (Field)	7.73 SU		EPA 150.2
Specific Conductance (Field)	387 umho/cm		SM2510B
Temperature	21.12 °C		SM2550B(2)
Turbidity (Hach)	31.6 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation
<b>Lab ID #: 511650</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	117 mg/L	10	EPA 310.2
Chloride	22 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	154 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	25 mg/L	4	SM2540D
Solids, Total (TS)	292 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	255 mg/L	10	SM2540C
Sulfate	22 mg/L	5	EPA 375.2
<b>Lab ID #: AB17583</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-05-0011      Sample Date: 07/21/2014      IDEM Sample #: AB17644  
 Water Flow Type Run      Water Appearance Murky      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	83.4 %		ASTM D888-09(C)
DO	7.69 mg/L		ASTM D888-09(C)
pH (Field)	7.71 SU		EPA 150.2
Specific Conductance (Field)	574 umho/cm		SM2510B
Temperature	19.32 °C		SM2550B(2)
Turbidity (Hach)	10.1 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation
<b>Lab ID #: AB17644</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1203.3 MPN/100mL	1	SM9223B

SiteID: GMW-05-0011      Sample Date: 07/28/2014      IDEM Sample #: AB17779  
 Water Flow Type Run      Water Appearance Murky      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	84.9 %		ASTM D888-09(C)
DO	7.88 mg/L		ASTM D888-09(C)
pH (Field)	7.72 SU		EPA 150.2
Specific Conductance (Field)	476 umho/cm		SM2510B
Temperature	18.89 °C		SM2550B(2)
Turbidity (Hach)	10.9 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation
<b>Lab ID #: AB17779</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	816.4 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

<b>Weather Code Definitions</b>					
<b>SC Sky Conditions</b>		<b>WD Wind Direction</b>		<b>WS Wind Strength</b>	<b>AT Air Temp</b>
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** GMW-05-0009      **USGS Hydrologic Unit:** 050800030503  
**Stream Name:** Bull Fork      **County:** Franklin  
**Description:** Bullfork Rd      **Latitude:** 39 23 41.04332      **Longitude:** -85 15 12.36757  
**Drainage:**      **Site Number:** 14T-005

**SiteID:** GMW-05-0009      **Sample Date:** 05/19/2014      **IDEM Sample #:** AB17002  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	105.5 %		ASTM D888-09(C)
DO	11.45 mg/L		ASTM D888-09(C)
pH (Field)	8.12 SU		EPA 150.2
Specific Conductance (Field)	518 umho/cm		SM2510B
Temperature	11.59 °C		SM2550B(2)
Turbidity (Hach)	4.6 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #:</u> 506433	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	221 mg/L	10	EPA 310.2
Chloride	11 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	238 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 4 mg/L	4	SM2540D
Solids, Total (TS)	322 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	302 mg/L	10	SM2540C
Sulfate	17 mg/L	5	EPA 375.2
COD	12.6 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	5.5 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.016 mg/L	0.03	EPA 365.1
TKN	0.3 mg/L	0.3	EPA 351.2
TOC	2.3 mg/L	1	SM5310B

<u>Lab ID #:</u> AB17002	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	193.5 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-05-0009

Sample Date: 06/16/2014

IDEM Sample #: AB17407

Water Flow Type Run

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	104.3 %		ASTM D888-09(C)
DO	9.44 mg/L		ASTM D888-09(C)
pH (Field)	8.19 SU		EPA 150.2
Specific Conductance (Field)	519 umho/cm		SM2510B
Temperature	20.11 °C		SM2550B(2)
Turbidity (Hach)	NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation
<b>Lab ID #: 509121</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	219 mg/L	10	EPA 310.2
Chloride	14 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	252 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 4 mg/L	4	SM2540D
Solids, Total (TS)	340 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	309 mg/L	10	SM2540C
Sulfate	18 mg/L	5	EPA 375.2
COD	< 10 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	5.5 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.019 mg/L	0.03	EPA 365.1
TKN	0.3 mg/L	0.3	EPA 351.2
TOC	2 mg/L	1	SM5310B
<b>Lab ID #: AB17407</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	101.4 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-05-0009      Sample Date: 07/14/2014      IDEM Sample #: AB17582  
 Water Flow Type Riffle      Water Appearance Murky      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	94.1 %		ASTM D888-09(C)
DO	8.28 mg/L		ASTM D888-09(C)
pH (Field)	7.88 SU		EPA 150.2
Specific Conductance (Field)	392 umho/cm		SM2510B
Temperature	21.68 °C		SM2550B(2)
Turbidity (Hach)	44.1 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation
<b>Lab ID #: 511651</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	151 mg/L	10	EPA 310.2
Chloride	11 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	199 mg/L	75	EPA 130.1
Solids, Suspended Total, (TSS)	21 mg/L	4	SM2540D
Solids, Total (TS)	273 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	233 mg/L	10	SM2540C
Sulfate	19 mg/L	5	EPA 375.2
<b>Lab ID #: AB17582</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-05-0009      Sample Date: 07/21/2014      IDEM Sample #: AB17614  
 Water Flow Type Riffle      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	90.5 %		ASTM D888-09(C)
DO	8.31 mg/L		ASTM D888-09(C)
pH (Field)	7.87 SU		EPA 150.2
Specific Conductance (Field)	472 umho/cm		SM2510B
Temperature	19.47 °C		SM2550B(2)
Turbidity (Hach)	6.17 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation
<b>Lab ID #: AB17614</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	127.4 MPN/100mL	1	SM9223B

SiteID: GMW-05-0009      Sample Date: 07/22/2014      IDEM Sample #: AB17875  
 Water Flow Type Riffle      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments: Turbidity measured w/ hatch meter B1 in lab on 7/23

Lab ID #:	Result	Reporting Limit	Method
% Sat	58.2 %		ASTM D888-09(C)
DO	5 mg/L		ASTM D888-09(C)
pH (Field)	8.03 SU		EPA 150.2
Specific Conductance (Field)	454 umho/cm		SM2510B
Temperature	21.56 °C		SM2550B(2)
Turbidity (Hach)	4.96 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation



**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-05-0009      Sample Date: 07/28/2014      IDEM Sample #: AB17749  
 Water Flow Type Riffle      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	92.3 %		ASTM D888-09(C)
DO	8.47 mg/L		ASTM D888-09(C)
pH (Field)	7.96 SU		EPA 150.2
Specific Conductance (Field)	460 umho/cm		SM2510B
Temperature	19.47 °C		SM2550B(2)
Turbidity (Hach)	14.9 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID #: AB17749	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	488.4 MPN/100mL	1	SM9223B

Weather Code Definitions					
SC	WD	WS	AT		
Sky Conditions	Wind Direction	Wind Strength	Air Temp		
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** GMW-05-0007      **USGS Hydrologic Unit:** 050800030502  
**Stream Name:** Salt Creek      **County:** Franklin  
**Description:** Rail Fence Rd      **Latitude:** 39 23 3.70466      **Longitude:** -85 13 6.11403  
**Drainage:**      **Site Number:** 14T-006

**SiteID:** GMW-05-0007      **Sample Date:** 05/19/2014      **IDEM Sample #:** AB16996  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:** Algae on Rocks

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	103.7 %		ASTM D888-09(C)
DO	11.08 mg/L		ASTM D888-09(C)
pH (Field)	7.84 SU		EPA 150.2
Specific Conductance (Field)	475 umho/cm		SM2510B
Temperature	12.34 °C		SM2550B(2)
Turbidity (Hach)	7.12 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Flow	39.6644 cf/sec		TM D5389-95/D3858
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

<u>Lab ID #:</u> 506434	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	180 mg/L	10	EPA 310.2
Chloride	17 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	218 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	5 mg/L	4	SM2540D
Solids, Total (TS)	300 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	273 mg/L	10	SM2540C
Sulfate	22 mg/L	5	EPA 375.2
COD	19.3 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	4 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.035 mg/L	0.03	EPA 365.1
TKN	0.7 mg/L	0.3	EPA 351.2
TOC	3.1 mg/L	1	SM5310B

<u>Lab ID #:</u> AB16996	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	150 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-05-0007

Sample Date: 06/16/2014

IDEM Sample #: AB17401

Water Flow Type Riffle

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	90.9 %		ASTM D888-09(C)
DO	8.03 mg/L		ASTM D888-09(C)
pH (Field)	7.94 SU		EPA 150.2
Specific Conductance (Field)	456 umho/cm		SM2510B
Temperature	21.41 °C		SM2550B(2)
Turbidity (Hach)	10.9 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Flow	5.2737 cf/sec		TM D5389-95/D3858
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: 509122	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	164 mg/L	10	EPA 310.2
Chloride	22 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	194 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	9 mg/L	4	SM2540D
Solids, Total (TS)	295 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	265 mg/L	10	SM2540C
Sulfate	24 mg/L	5	EPA 375.2
COD	12.3 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	2.1 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.031 mg/L	0.03	EPA 365.1
TKN	0.5 mg/L	0.3	EPA 351.2
TOC	3.1 mg/L	1	SM5310B

Lab ID #: AB17401	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	62.4 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-05-0007

Sample Date: 07/14/2014

IDEM Sample #: AB17576

Water Flow Type Riffle

Water Appearance Brown

Water Depth  Algae?

Water Flow (cf/sec):  Flow Estimated?  Aquatic Life? Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	83.1 %		ASTM D888-09(C)
DO	7.12 mg/L		ASTM D888-09(C)
pH (Field)	7.75 SU		EPA 150.2
Specific Conductance (Field)	419 umho/cm		SM2510B
Temperature	23.01 °C		SM2550B(2)
Turbidity (Hach)	32 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Flow	12.951 cf/sec		TM D5389-95/D3858
Sky Conditions	4 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID #: 511652	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	152 mg/L	10	EPA 310.2
Chloride	21 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	193 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	23 mg/L	4	SM2540D
Solids, Total (TS)	276 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	239 mg/L	10	SM2540C
Sulfate	25 mg/L	5	EPA 375.2

Lab ID #: AB17576	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	2419.6 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-05-0007      Sample Date: 07/21/2014      IDEM Sample #: AB17624  
 Water Flow Type Run      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	76.9 %		ASTM D888-09(C)
DO	6.96 mg/L		ASTM D888-09(C)
pH (Field)	7.67 SU		EPA 150.2
Specific Conductance (Field)	420 umho/cm		SM2510B
Temperature	20.19 °C		SM2550B(2)
Turbidity (Hach)	11.9 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation
<b>Lab ID #: AB17624</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	248.1 MPN/100mL	1	SM9223B

SiteID: GMW-05-0007      Sample Date: 07/21/2014      IDEM Sample #: AB17860  
 Water Flow Type Run      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	83.3 %		ASTM D888-09(C)
DO	6.52 mg/L		ASTM D888-09(C)
pH (Field)	8.15 SU		EPA 150.2
Specific Conductance (Field)	381 umho/cm		SM2510B
Temperature	26.42 °C		SM2550B(2)
Turbidity (Hach)	8.38 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-05-0007

Sample Date: 07/28/2014

IDEM Sample #: AB17759

Water Flow Type Riffle

Water Appearance Murky

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	85.6 %		ASTM D888-09(C)
DO	7.58 mg/L		ASTM D888-09(C)
pH (Field)	7.93 SU		EPA 150.2
Specific Conductance (Field)	420 umho/cm		SM2510B
Temperature	21.31 °C		SM2550B(2)
Turbidity (Hach)	25.5 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID #: AB17759	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	461.1 MPN/100mL	1	SM9223B

Weather Code Definitions					
SC	WD	WS	AT		
Sky Conditions	Wind Direction	Wind Strength	Air Temp		
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** GMW-05-0012      **USGS Hydrologic Unit:** 050800030505  
**Stream Name:** Harvey Branch      **County:** Franklin  
**Description:** Rail Fence Rd      **Latitude:** 39 23 4.06250      **Longitude:** -85 12 59.52865  
**Drainage:**      **Site Number:** 14T-007

**SiteID:** GMW-05-0012      **Sample Date:** 05/19/2014      **IDEM Sample #:** AB17001  
**Water Flow Type:** Glide      **Water Appearance:** Clear      **Water Depth:**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %:** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	127.5 %		ASTM D888-09(C)
DO	13.7 mg/L		ASTM D888-09(C)
pH (Field)	8.32 SU		EPA 150.2
Specific Conductance (Field)	525 umho/cm		SM2510B
Temperature	12.19 °C		SM2550B(2)
Turbidity (Hach)	4.11 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #:</u> 506435	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	211 mg/L	10	EPA 310.2
Chloride	21 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	236 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 4 mg/L	4	SM2540D
Solids, Total (TS)	322 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	303 mg/L	10	SM2540C
Sulfate	26 mg/L	5	EPA 375.2
COD	16.2 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.7 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.039 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	3.5 mg/L	1	SM5310B

<u>Lab ID #:</u> AB17001	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	228.2 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-05-0012

Sample Date: 06/16/2014

IDEM Sample #: AB17406

Water Flow Type Pool

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	110.6 %		ASTM D888-09(C)
DO	9.96 mg/L		ASTM D888-09(C)
pH (Field)	8.09 SU		EPA 150.2
Specific Conductance (Field)	549 umho/cm		SM2510B
Temperature	20.54 °C		SM2550B(2)
Turbidity (Hach)	6.78 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation
<b>Lab ID #: 509123</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	198 mg/L	10	EPA 310.2
Chloride	35 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	208 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 4 mg/L	4	SM2540D
Solids, Total (TS)	330 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	310 mg/L	10	SM2540C
Sulfate	29 mg/L	5	EPA 375.2
COD	12 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.5 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.099 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	3.6 mg/L	1	SM5310B
<b>Lab ID #: AB17406</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	129.6 MPN/100mL	1	SM9223B



**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-05-0012

Sample Date: 07/14/2014

IDEM Sample #: AB17581

Water Flow Type Run

Water Appearance Brown

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	93 %		ASTM D888-09(C)
DO	8.09 mg/L		ASTM D888-09(C)
pH (Field)	7.89 SU		EPA 150.2
Specific Conductance (Field)	542 umho/cm		SM2510B
Temperature	22.21 °C		SM2550B(2)
Turbidity (Hach)	120 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation
<b>Lab ID #: 511653</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	122 mg/L	10	EPA 310.2
Chloride	60 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	180 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	114 mg/L	8	SM2540D
Solids, Total (TS)	463 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	331 mg/L	10	SM2540C
Sulfate	33 mg/L	5	EPA 375.2
<b>Lab ID #: AB17581a</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B
E. coli	6488 MPN/100mL	10	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-05-0012      Sample Date: 07/21/2014      IDEM Sample #: AB17643  
 Water Flow Type Run      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	83 %		ASTM D888-09(C)
DO	7.66 mg/L		ASTM D888-09(C)
pH (Field)	7.75 SU		EPA 150.2
Specific Conductance (Field)	453 umho/cm		SM2510B
Temperature	19.18 °C		SM2550B(2)
Turbidity (Hach)	12.4 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation
<b>Lab ID #: AB17643</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	110.6 MPN/100mL	1	SM9223B

SiteID: GMW-05-0012      Sample Date: 07/28/2014      IDEM Sample #: AB17778  
 Water Flow Type Pool      Water Appearance Murky      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	94 %		ASTM D888-09(C)
DO	8.6 mg/L		ASTM D888-09(C)
pH (Field)	7.94 SU		EPA 150.2
Specific Conductance (Field)	494 umho/cm		SM2510B
Temperature	19.58 °C		SM2550B(2)
Turbidity (Hach)	14.7 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation
<b>Lab ID #: AB17778</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	307.6 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

<b>Weather Code Definitions</b>					
<b>SC Sky Conditions</b>		<b>WD Wind Direction</b>		<b>WS Wind Strength</b>	<b>AT Air Temp</b>
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** GMW-05-0015      **USGS Hydrologic Unit:** 050800030504  
**Stream Name:** S Fk Little Salt Cr      **County:** Franklin  
**Description:** Chapel Rd      **Latitude:** 39 27 58.63320      **Longitude:** -85 16 38.64720  
**Drainage:**      **Site Number:** 14T-008

**SiteID:** GMW-05-0015      **Sample Date:** 05/19/2014      **IDEM Sample #:** AB17007  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	110.6 %		ASTM D888-09(C)
DO	11.48 mg/L		ASTM D888-09(C)
pH (Field)	8.29 SU		EPA 150.2
Specific Conductance (Field)	600 umho/cm		SM2510B
Temperature	13.66 °C		SM2550B(2)
Turbidity (Hach)	7.38 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #:</u> 506436	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	222 mg/L	10	EPA 310.2
Chloride	26 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	288 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	5 mg/L	4	SM2540D
Solids, Total (TS)	376 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	349 mg/L	10	SM2540C
Sulfate	25 mg/L	5	EPA 375.2
COD	14.1 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	8.3 mg/L	0.25	EPA 353.1
Phosphorus, Total	0.025 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	2 mg/L	1	SM5310B

<u>Lab ID #:</u> AB17007	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	461.1 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-05-0015

Sample Date: 06/16/2014

IDEM Sample #: AB17412

Water Flow Type Glide

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	103.5 %		ASTM D888-09(C)
DO	9.42 mg/L		ASTM D888-09(C)
pH (Field)	8.18 SU		EPA 150.2
Specific Conductance (Field)	637 umho/cm		SM2510B
Temperature	19.84 °C		SM2550B(2)
Turbidity (Hach)	5.54 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation
<b>Lab ID #: 509124</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	248 mg/L	10	EPA 310.2
Chloride	28 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	288 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 4 mg/L	4	SM2540D
Solids, Total (TS)	408 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	378 mg/L	10	SM2540C
Sulfate	27 mg/L	5	EPA 375.2
COD	< 10 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	6.9 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.037 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	1.9 mg/L	1	SM5310B
<b>Lab ID #: AB17412</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1203.3 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-05-0015

Sample Date: 07/14/2014

IDEM Sample #: AB17587

Water Flow Type Pool

Water Appearance Brown

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	96.4 %		ASTM D888-09(C)
DO	8.43 mg/L		ASTM D888-09(C)
pH (Field)	8.05 SU		EPA 150.2
Specific Conductance (Field)	470 umho/cm		SM2510B
Temperature	21.77 °C		SM2550B(2)
Turbidity (Hach)	41.9 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation
<b>Lab ID #: 511655</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	178 mg/L	10	EPA 310.2
Chloride	26 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	223 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	31 mg/L	4	SM2540D
Solids, Total (TS)	328 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	284 mg/L	10	SM2540C
Sulfate	19 mg/L	5	EPA 375.2
<b>Lab ID #: AB17587</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-05-0015      Sample Date: 07/21/2014      IDEM Sample #: AB17635  
 Water Flow Type Run      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	99.5 %		ASTM D888-09(C)
DO	9.21 mg/L		ASTM D888-09(C)
pH (Field)	7.98 SU		EPA 150.2
Specific Conductance (Field)	586 umho/cm		SM2510B
Temperature	18.97 °C		SM2550B(2)
Turbidity (Hach)	4.74 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation
<b>Lab ID #: AB17635</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	228.2 MPN/100mL	1	SM9223B

SiteID: GMW-05-0015      Sample Date: 07/28/2014      IDEM Sample #: AB17770  
 Water Flow Type Run      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	89.1 %		ASTM D888-09(C)
DO	8.24 mg/L		ASTM D888-09(C)
pH (Field)	7.96 SU		EPA 150.2
Specific Conductance (Field)	581 umho/cm		SM2510B
Temperature	19.05 °C		SM2550B(2)
Turbidity (Hach)	4.69 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation
<b>Lab ID #: AB17770</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	290.9 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

<b>Weather Code Definitions</b>					
<b>SC Sky Conditions</b>		<b>WD Wind Direction</b>		<b>WS Wind Strength</b>	<b>AT Air Temp</b>
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	



**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** GMW-05-0008      **USGS Hydrologic Unit:** 050800030504  
**Stream Name:** Little Salt Creek      **County:** Franklin  
**Description:** Stipps Hill Rd      **Latitude:** 39 26 14.52460      **Longitude:** -85 11 43.56081  
**Drainage:**      **Site Number:** 14T-009

**SiteID:** GMW-05-0008      **Sample Date:** 05/19/2014      **IDEM Sample #:** AB17008  
**Water Flow Type** Riffle      **Water Appearance** Clear      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	105.8 %		ASTM D888-09(C)
DO	10.61 mg/L		ASTM D888-09(C)
pH (Field)	8.15 SU		EPA 150.2
Specific Conductance (Field)	546 umho/cm		SM2510B
Temperature	15.14 °C		SM2550B(2)
Turbidity (Hach)	5.77 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #:</u> 506437	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	226 mg/L	10	EPA 310.2
Chloride	17 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	255 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	4 mg/L	4	SM2540D
Solids, Total (TS)	337 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	312 mg/L	10	SM2540C
Sulfate	19 mg/L	5	EPA 375.2
COD	13.1 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	4.7 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.022 mg/L	0.03	EPA 365.1
TKN	0.3 mg/L	0.3	EPA 351.2
TOC	2 mg/L	1	SM5310B

<u>Lab ID #:</u> AB17008	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	2419.6 MPN/100mL	1	SM9223B
E. coli	135.4 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-05-0008

Sample Date: 06/16/2014

IDEM Sample #: AB17413

Water Flow Type Riffle

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	108.8 %		ASTM D888-09(C)
DO	9.8 mg/L		ASTM D888-09(C)
pH (Field)	7.92 SU		EPA 150.2
Specific Conductance (Field)	542 umho/cm		SM2510B
Temperature	20.37 °C		SM2550B(2)
Turbidity (Hach)	3.63 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation
<b>Lab ID #: 509125</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	229 mg/L	10	EPA 310.2
Chloride	19 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	209 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 4 mg/L	4	SM2540D
Solids, Total (TS)	333 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	308 mg/L	10	SM2540C
Sulfate	21 mg/L	5	EPA 375.2
COD	< 10 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	2.8 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.015 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	1.4 mg/L	1	SM5310B
<b>Lab ID #: AB17413</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	72.3 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-05-0008

Sample Date: 07/14/2014

IDEM Sample #: AB17588

Water Flow Type Run

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments: Stream clear, many minnows

Lab ID #:	Result	Reporting Limit	Method
% Sat	125.5 %		ASTM D888-09(C)
DO	10.63 mg/L		ASTM D888-09(C)
pH (Field)	7.81 SU		EPA 150.2
Specific Conductance (Field)	521 umho/cm		SM2510B
Temperature	23.75 °C		SM2550B(2)
Turbidity (Hach)	2.3 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation
<b>Lab ID #: 511656</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	230 mg/L	10	EPA 310.2
Chloride	16 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	251 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 4 mg/L	4	SM2540D
Solids, Total (TS)	312 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	293 mg/L	10	SM2540C
Sulfate	18 mg/L	5	EPA 375.2
COD	< 10 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.3 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.017 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	1.2 mg/L	1	SM5310B
<b>Lab ID #: AB17588</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	96 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** GMW-05-0008      **Sample Date:** 07/21/2014      **IDEM Sample #:** AB17616  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:** Algae mats observed in the stream

Lab ID #:	Result	Reporting Limit	Method
% Sat	146 %		ASTM D888-09(C)
DO	12.54 mg/L		ASTM D888-09(C)
pH (Field)	7.73 SU		EPA 150.2
Specific Conductance (Field)	484 umho/cm		SM2510B
Temperature	22.76 °C		SM2550B(2)
Turbidity (Hach)	3.56 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	1 Lookup		Observation
<b>Lab ID #:</b> AB17616	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	9.6 MPN/100mL	1	SM9223B

**SiteID:** GMW-05-0008      **Sample Date:** 07/28/2014      **IDEM Sample #:** AB17751  
**Water Flow Type** Riffle      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:** Algae mats observed in-stream

Lab ID #:	Result	Reporting Limit	Method
% Sat	124.8 %		ASTM D888-09(C)
DO	11.25 mg/L		ASTM D888-09(C)
pH (Field)	7.66 SU		EPA 150.2
Specific Conductance (Field)	560 umho/cm		SM2510B
Temperature	20.39 °C		SM2550B(2)
Turbidity (Hach)	1.89 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation
<b>Lab ID #:</b> AB17751	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	37.3 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

<b>Weather Code Definitions</b>					
<b>SC Sky Conditions</b>		<b>WD Wind Direction</b>		<b>WS Wind Strength</b>	<b>AT Air Temp</b>
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** GMW-05-0010      **USGS Hydrologic Unit:** 050800030505  
**Stream Name:** Salt Creek      **County:** Franklin  
**Description:** SR 229      **Latitude:** 39 26 46.54508      **Longitude:** -85 9 1.67470  
**Drainage:**      **Site Number:** 14T-010

**SiteID:** GMW-05-0010      **Sample Date:** 05/19/2014      **IDEM Sample #:** AB16997  
**Water Flow Type** Run      **Water Appearance** Murky      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	106.1 %		ASTM D888-09(C)
DO	10.56 mg/L		ASTM D888-09(C)
pH (Field)	7.98 SU		EPA 150.2
Specific Conductance (Field)	517 umho/cm		SM2510B
Temperature	15.51 °C		SM2550B(2)
Turbidity (Hach)	13.2 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Flow	105.8567 cf/sec		TM D5389-95/D3858
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #:</u> 506438	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	213 mg/L	10	EPA 310.2
Chloride	14 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	220 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	16 mg/L	4	SM2540D
Solids, Total (TS)	343 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	311 mg/L	10	SM2540C
Sulfate	20 mg/L	5	EPA 375.2
COD	17.1 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	4 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.034 mg/L	0.03	EPA 365.1
TKN	0.5 mg/L	0.3	EPA 351.2
TOC	2.3 mg/L	1	SM5310B

<u>Lab ID #:</u> AB16997	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	148.3 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-05-0010

Sample Date: 06/16/2014

IDEM Sample #: AB17402

Water Flow Type Run

Water Appearance Murky

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	109 %		ASTM D888-09(C)
DO	9.23 mg/L		ASTM D888-09(C)
pH (Field)	7.88 SU		EPA 150.2
Specific Conductance (Field)	516 umho/cm		SM2510B
Temperature	23.58 °C		SM2550B(2)
Turbidity (Hach)	10.8 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Flow	19.7914 cf/sec		TM D5389-95/D3858
Sky Conditions	3 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID #: 509126	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	216 mg/L	10	EPA 310.2
Chloride	18 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	232 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	13 mg/L	4	SM2540D
Solids, Total (TS)	327 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	295 mg/L	10	SM2540C
Sulfate	22 mg/L	5	EPA 375.2
COD	10.9 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.9 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.023 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	2.4 mg/L	1	SM5310B

Lab ID #: AB17402	Result	Reporting Limit	Method
Coliforms (Total)	2419.6 MPN/100mL	1	SM9223B
E. coli	160.7 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-05-0010

Sample Date: 07/14/2014

IDEM Sample #: AB17577

Water Flow Type Pool

Water Appearance Brown

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	92.5 %		ASTM D888-09(C)
DO	7.36 mg/L		ASTM D888-09(C)
pH (Field)	7.79 SU		EPA 150.2
Specific Conductance (Field)	522 umho/cm		SM2510B
Temperature	27.37 °C		SM2550B(2)
Turbidity (Hach)	25.7 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Flow	17.6746 cf/sec		TM D5389-95/D3858
Sky Conditions	3 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID #: 511657	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	230 mg/L	10	EPA 310.2
Chloride	16 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	262 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	30 mg/L	4	SM2540D
Solids, Total (TS)	342 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	300 mg/L	10	SM2540C
Sulfate	20 mg/L	5	EPA 375.2
COD	< 10 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	< 0.1 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.051 mg/L	0.03	EPA 365.1
TKN	0.5 mg/L	0.3	EPA 351.2
TOC	2.2 mg/L	1	SM5310B

Lab ID #: AB17577	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	435.2 MPN/100mL	1	SM9223B



**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** GMW-05-0010      **Sample Date:** 07/21/2014      **IDEM Sample #:** AB17645  
**Water Flow Type** Run      **Water Appearance** Murky      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	106.3 %		ASTM D888-09(C)
DO	8.52 mg/L		ASTM D888-09(C)
pH (Field)	7.7 SU		EPA 150.2
Specific Conductance (Field)	510 umho/cm		SM2510B
Temperature	26.62 °C		SM2550B(2)
Turbidity (Hach)	14 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation
<b>Lab ID #:</b> AB17645			
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	52.8 MPN/100mL	1	SM9223B

**SiteID:** GMW-05-0010      **Sample Date:** 07/28/2014      **IDEM Sample #:** AB17780  
**Water Flow Type** Run      **Water Appearance** Murky      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	81.6 %		ASTM D888-09(C)
DO	7.02 mg/L		ASTM D888-09(C)
pH (Field)	7.81 SU		EPA 150.2
Specific Conductance (Field)	424 umho/cm		SM2510B
Temperature	22.79 °C		SM2550B(2)
Turbidity (Hach)	35.6 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation
<b>Lab ID #:</b> AB17780			
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	410.6 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

<b>Weather Code Definitions</b>					
<b>SC Sky Conditions</b>		<b>WD Wind Direction</b>		<b>WS Wind Strength</b>	<b>AT Air Temp</b>
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** GMW-04-0018      **USGS Hydrologic Unit:** 050800030408  
**Stream Name:** Whitewater River      **County:** Franklin  
**Description:** US 52      **Latitude:** 39 26 58.81830      **Longitude:** -85 8 54.46486  
**Drainage:**      **Site Number:** 14T-011

**SiteID:** GMW-04-0018      **Sample Date:** 05/19/2014      **IDEM Sample #:** AB16998  
**Water Flow Type** Run      **Water Appearance** Murky      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	% Sat	99.3 %	ASTM D888-09(C)
	DO	9.74 mg/L	ASTM D888-09(C)
	pH (Field)	8.03 SU	EPA 150.2
	Specific Conductance (Field)	613 umho/cm	SM2510B
	Temperature	16.22 °C	SM2550B(2)
	Turbidity (Hach)	22.2 NTU	EPA 180.1
	Air Temp	4 Lookup	Observation
	Sky Conditions	1 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	1 Lookup	Observation

<u>Lab ID #:</u> 506439	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Alkalinity (as CaCO3)	263 mg/L	10	EPA 310.2
	Chloride	19 mg/L	5	SM4500Cl-E
	Hardness (as CaCO3)	284 mg/L	30	EPA 130.1
	Solids, Suspended Total, (TSS)	30 mg/L	4	SM2540D
	Solids, Total (TS)	433 mg/L	10	SM2540B
	Solids, Total Dissolved (TDS)	377 mg/L	10	SM2540C
	Sulfate	24 mg/L	5	EPA 375.2
	COD	13.5 mg/L	10	SM5220D
	Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
	Nitrogen, Nitrate+Nitrite	4.8 mg/L	0.1	EPA 353.1
	Phosphorus, Total	0.059 mg/L	0.03	EPA 365.1
	TKN	0.4 mg/L	0.3	EPA 351.2
	TOC	2 mg/L	1	SM5310B

<u>Lab ID #:</u> AB16998	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Coliforms (Total)	2419.6 MPN/100mL	1	SM9223B
	E. coli	178.5 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-04-0018      Sample Date: 06/16/2014      IDEM Sample #: AB17403  
 Water Flow Type Riffle      Water Appearance Murky      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	125.7 %		ASTM D888-09(C)
DO	11.05 mg/L		ASTM D888-09(C)
pH (Field)	8.16 SU		EPA 150.2
Specific Conductance (Field)	589 umho/cm		SM2510B
Temperature	21.72 °C		SM2550B(2)
Turbidity (Hach)	9.55 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: 509127	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	241 mg/L	10	EPA 310.2
Chloride	21 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	272 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	15 mg/L	4	SM2540D
Solids, Total (TS)	400 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	357 mg/L	10	SM2540C
Sulfate	28 mg/L	5	EPA 375.2
COD	< 10 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	2.9 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.02 mg/L	0.03	EPA 365.1
TKN	0.3 mg/L	0.3	EPA 351.2
TOC	1.4 mg/L	1	SM5310B

Lab ID #: AB17403	Result	Reporting Limit	Method
Coliforms (Total)	1986.3 MPN/100mL	1	SM9223B
E. coli	44.3 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** GMW-04-0018      **Sample Date:** 06/30/2014      **IDEM Sample #:** AB17888  
**Water Flow Type** Run      **Water Appearance** Murky      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**  **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:** Q6 Turb = 20.8

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	89.1 %		SM4500-OG
DO	7.82 mg/L		SM4500-OG
pH (Field)	8.15 SU		EPA 150.2
Specific Conductance (Field)	608 umho/cm		SM2510B
Temperature	21.6 °C		SM2550B(2)
Turbidity (Hach)	13.1 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

**SiteID:** GMW-04-0018      **Sample Date:** 07/14/2014      **IDEM Sample #:** AB17578  
**Water Flow Type** Riffle      **Water Appearance** Brown      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**  **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	115.1 %		ASTM D888-09(C)
DO	9.57 mg/L		ASTM D888-09(C)
pH (Field)	8.02 SU		EPA 150.2
Specific Conductance (Field)	572 umho/cm		SM2510B
Temperature	24.48 °C		SM2550B(2)
Turbidity (Hach)	112 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

Lab ID #: 511658	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	233 mg/L	10	EPA 310.2
Chloride	22 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	311 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	139 mg/L	4	SM2540D
Solids, Total (TS)	500 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	337 mg/L	10	SM2540C
Sulfate	26 mg/L	5	EPA 375.2
COD	< 10 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	2.4 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.098 mg/L	0.03	EPA 365.1
TKN	0.5 mg/L	0.3	EPA 351.2
TOC	1.8 mg/L	1	SM5310B

Lab ID #: AB17578	Result	Reporting Limit	Method
E. coli	980.4 MPN/100mL	1	SM9223B

Lab ID #: AB17578a	Result	Reporting Limit	Method
Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B

**SiteID:** GMW-04-0018      **Sample Date:** 07/21/2014      **IDEM Sample #:** AB17615  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

Lab ID #:	Result	Reporting Limit	Method
% Sat	136.2 %		ASTM D888-09(C)
DO	11.73 mg/L		ASTM D888-09(C)
pH (Field)	8.06 SU		EPA 150.2
Specific Conductance (Field)	573 umho/cm		SM2510B
Temperature	22.73 °C		SM2550B(2)
Turbidity (Hach)	7.87 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID #: AB17615	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	22.5 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-04-0018

Sample Date: 07/28/2014

IDEM Sample #: AB17750

Water Flow Type Run

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	112.3 %		ASTM D888-09(C)
DO	10.03 mg/L		ASTM D888-09(C)
pH (Field)	8.05 SU		EPA 150.2
Specific Conductance (Field)	625 umho/cm		SM2510B
Temperature	20.81 °C		SM2550B(2)
Turbidity (Hach)	8.99 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: AB17750	Result	Reporting Limit	Method
Coliforms (Total)	2419.6 MPN/100mL	1	SM9223B
E. coli	19.7 MPN/100mL	1	SM9223B

Weather Code Definitions					
SC	WD	WS	AT		
Sky Conditions	Wind Direction	Wind Strength	Air Temp		
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** GMW-06-0019      **USGS Hydrologic Unit:** 050800030603  
**Stream Name:** Duck Creek      **County:** Franklin  
**Description:** US 52      **Latitude:** 39 26 54.31200      **Longitude:** -85 7 58.71360  
**Drainage:**      **Site Number:** 14T-012

**SiteID:** GMW-06-0019      **Sample Date:** 05/19/2014      **IDEM Sample #:** AB16999  
**Water Flow Type** Riffle      **Water Appearance** Clear      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	105.5 %		ASTM D888-09(C)
DO	10.31 mg/L		ASTM D888-09(C)
pH (Field)	8.11 SU		EPA 150.2
Specific Conductance (Field)	543 umho/cm		SM2510B
Temperature	16.45 °C		SM2550B(2)
Turbidity (Hach)	6.5 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #:</u> 506440	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	255 mg/L	10	EPA 310.2
Chloride	9.8 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	299 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	4 mg/L	4	SM2540D
Solids, Total (TS)	345 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	329 mg/L	10	SM2540C
Sulfate	22 mg/L	5	EPA 375.2
COD	14.1 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.4 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.037 mg/L	0.03	EPA 365.1
TKN	0.3 mg/L	0.3	EPA 351.2
TOC	1.7 mg/L	1	SM5310B

<u>Lab ID #:</u> AB16999	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	1986.3 MPN/100mL	1	SM9223B
E. coli	43.5 MPN/100mL	1	SM9223B



**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-06-0019      Sample Date: 06/16/2014      IDEM Sample #: AB17404  
 Water Flow Type Riffle      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	118.3 %		ASTM D888-09(C)
DO	10.39 mg/L		ASTM D888-09(C)
pH (Field)	8.09 SU		EPA 150.2
Specific Conductance (Field)	520 umho/cm		SM2510B
Temperature	21.67 °C		SM2550B(2)
Turbidity (Hach)	5.01 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: 509129	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	239 mg/L	10	EPA 310.2
Chloride	11 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	268 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	4 mg/L	4	SM2540D
Solids, Total (TS)	329 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	309 mg/L	10	SM2540C
Sulfate	24 mg/L	5	EPA 375.2
COD	< 10 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.2 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.015 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	1 mg/L	1	SM5310B

Lab ID #: AB17404	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	125.9 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-06-0019

Sample Date: 07/14/2014

IDEM Sample #: AB17579

Water Flow Type Run

Water Appearance Brown

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	93.1 %		ASTM D888-09(C)
DO	7.87 mg/L		ASTM D888-09(C)
pH (Field)	7.8 SU		EPA 150.2
Specific Conductance (Field)	291 umho/cm		SM2510B
Temperature	23.69 °C		SM2550B(2)
Turbidity (Hach)	1000 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation
<b>Lab ID #: 511659</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	119 mg/L	10	EPA 310.2
Chloride	< 5 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	190 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	768 mg/L	16	SM2540D
Solids, Total (TS)	1010 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	215 mg/L	10	SM2540C
Sulfate	12 mg/L	5	EPA 375.2
COD	< 10 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.4 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.569 mg/L	0.03	EPA 365.1
TKN	2 mg/L	0.3	EPA 351.2
TOC	5.8 mg/L	1	SM5310B
<b>Lab ID #: AB17579a</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B
E. coli	12997 MPN/100mL	10	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-06-0019      Sample Date: 07/21/2014      IDEM Sample #: AB17642  
 Water Flow Type Pool      Water Appearance Murky      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments: Stream nearly pooled and very low flow

Lab ID #:	Result	Reporting Limit	Method
% Sat	132.5 %		ASTM D888-09(C)
DO	11.14 mg/L		ASTM D888-09(C)
pH (Field)	8.01 SU		EPA 150.2
Specific Conductance (Field)	465 umho/cm		SM2510B
Temperature	24.02 °C		SM2550B(2)
Turbidity (Hach)	15.8 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID #: AB17642	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	160.7 MPN/100mL	1	SM9223B

Weather Code Definitions					
SC	WD	WS	AT		
Sky Conditions	Wind Direction	Wind Strength	Air Temp		
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** GMW-06-0022      **USGS Hydrologic Unit:** 050800030605  
**Stream Name:** Whitewater Canal      **County:** Franklin  
**Description:** Park Ave at Whitewater Canal State Historic      **Latitude:** 39 26 58.77240      **Longitude:** -85 7 10.49160  
**Drainage:**      **Site Number:** 14T-013

**SiteID:** GMW-06-0022      **Sample Date:** 05/19/2014      **IDEM Sample #:** AB17000  
**Water Flow Type** Glide      **Water Appearance** Murky      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	% Sat	112 %	ASTM D888-09(C)
	DO	10.73 mg/L	ASTM D888-09(C)
	pH (Field)	8.17 SU	EPA 150.2
	Specific Conductance (Field)	604 umho/cm	SM2510B
	Temperature	17.4 °C	SM2550B(2)
	Turbidity (Hach)	53.4 NTU	EPA 180.1
	Air Temp	4 Lookup	Observation
	Sky Conditions	1 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	1 Lookup	Observation

<u>Lab ID #:</u> 506441	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Alkalinity (as CaCO3)	256 mg/L	10	EPA 310.2
	Chloride	19 mg/L	5	SM4500Cl-E
	Hardness (as CaCO3)	295 mg/L	30	EPA 130.1
	Solids, Suspended Total, (TSS)	42 mg/L	4	SM2540D
	Solids, Total (TS)	442 mg/L	10	SM2540B
	Solids, Total Dissolved (TDS)	378 mg/L	10	SM2540C
	Sulfate	24 mg/L	5	EPA 375.2
	COD	11.1 mg/L	10	SM5220D
	Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
	Nitrogen, Nitrate+Nitrite	4.6 mg/L	0.1	EPA 353.1
	Phosphorus, Total	0.09 mg/L	0.03	EPA 365.1
	TKN	0.5 mg/L	0.3	EPA 351.2
	TOC	2.2 mg/L	1	SM5310B

<u>Lab ID #:</u> AB17000	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
	E. coli	209.8 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-06-0022

Sample Date: 06/16/2014

IDEM Sample #: AB17405

Water Flow Type Glide

Water Appearance Brown

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	106 %		ASTM D888-09(C)
DO	9.05 mg/L		ASTM D888-09(C)
pH (Field)	8.15 SU		EPA 150.2
Specific Conductance (Field)	573 umho/cm		SM2510B
Temperature	23.19 °C		SM2550B(2)
Turbidity (Hach)	70.6 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: 509130	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	235 mg/L	10	EPA 310.2
Chloride	22 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	258 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	65 mg/L	4	SM2540D
Solids, Total (TS)	435 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	354 mg/L	10	SM2540C
Sulfate	28 mg/L	5	EPA 375.2
COD	< 10 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	2.8 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.056 mg/L	0.03	EPA 365.1
TKN	0.5 mg/L	0.3	EPA 351.2
TOC	1.3 mg/L	1	SM5310B

Lab ID #: AB17405	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	365.4 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-06-0022

Sample Date: 07/14/2014

IDEM Sample #: AB17580

Water Flow Type Run

Water Appearance Brown

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	89.4 %		ASTM D888-09(C)
DO	7.35 mg/L		ASTM D888-09(C)
pH (Field)	7.55 SU		EPA 150.2
Specific Conductance (Field)	268 umho/cm		SM2510B
Temperature	25.16 °C		SM2550B(2)
Turbidity (Hach)	1000 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation
<b>Lab ID #: 511660</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	104 mg/L	10	EPA 310.2
Chloride	5.8 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	141 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	380 mg/L	16	SM2540D
Solids, Total (TS)	822 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	324 mg/L	10	SM2540C
Sulfate	8.8 mg/L	5	EPA 375.2
COD	< 10 mg/L	10	SM5220D
Nitrogen, Ammonia	0.7 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.5 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.584 mg/L	0.03	EPA 365.1
TKN	1.3 mg/L	0.3	EPA 351.2
TOC	4.9 mg/L	1	SM5310B
<b>Lab ID #: AB17580a</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B
E. coli	9804 MPN/100mL	10	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** GMW-06-0022      **Sample Date:** 07/21/2014      **IDEM Sample #:** AB17613  
**Water Flow Type** Run      **Water Appearance** Brown      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**  **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

Lab ID #:	Result	Reporting Limit	Method
% Sat	129.4 %		ASTM D888-09(C)
DO	10.87 mg/L		ASTM D888-09(C)
pH (Field)	8.18 SU		EPA 150.2
Specific Conductance (Field)	557 umho/cm		SM2510B
Temperature	23.97 °C		SM2550B(2)
Turbidity (Hach)	51.4 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation
<b>Lab ID #:</b> AB17613	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	172.5 MPN/100mL	1	SM9223B

**SiteID:** GMW-06-0022      **Sample Date:** 07/28/2014      **IDEM Sample #:** AB17748  
**Water Flow Type** Glide      **Water Appearance** Brown      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**  **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

Lab ID #:	Result	Reporting Limit	Method
% Sat	106.2 %		ASTM D888-09(C)
DO	9.25 mg/L		ASTM D888-09(C)
pH (Field)	8.19 SU		EPA 150.2
Specific Conductance (Field)	624 umho/cm		SM2510B
Temperature	22.06 °C		SM2550B(2)
Turbidity (Hach)	72.2 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation
<b>Lab ID #:</b> AB17748	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1299.7 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

<b>Weather Code Definitions</b>					
<b>SC Sky Conditions</b>		<b>WD Wind Direction</b>		<b>WS Wind Strength</b>	<b>AT Air Temp</b>
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	



**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** GMW-06-0015      **USGS Hydrologic Unit:** 050800030604  
**Stream Name:** Pipe Creek      **County:** Franklin  
**Description:** Silver Creek Rd      **Latitude:** 39 25 53.45715      **Longitude:** -85 6 38.84657  
**Drainage:**      **Site Number:** 14T-014

**SiteID:** GMW-06-0015      **Sample Date:** 05/20/2014      **IDEM Sample #:** AB17020  
**Water Flow Type** Run      **Water Appearance** Murky      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	92.8 %		ASTM D888-09(C)
DO	9.17 mg/L		ASTM D888-09(C)
pH (Field)	7.85 SU		EPA 150.2
Specific Conductance (Field)	494 umho/cm		SM2510B
Temperature	15.86 °C		SM2550B(2)
Turbidity (Hach)	18.6 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Flow	26.229 cf/sec		TM D5389-95/D3858
Sky Conditions	4 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #:</u> 506681	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	207 mg/L	10	EPA 310.2
Chloride	16 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	222 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	17 mg/L	4	SM2540D
Solids, Total (TS)	315 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	286 mg/L	10	SM2540C
Sulfate	25 mg/L	5	EPA 375.2
COD	16.8 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.6 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.019 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	2.9 mg/L	1	SM5310B

<u>Lab ID #:</u> AB17020	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	218.7 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-06-0015

Sample Date: 06/17/2014

IDEM Sample #: AB17425

Water Flow Type Pool

Water Appearance Murky

Water Depth

Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	76.2 %		ASTM D888-09(C)
DO	6.48 mg/L		ASTM D888-09(C)
pH (Field)	7.61 SU		EPA 150.2
Specific Conductance (Field)	519 umho/cm		SM2510B
Temperature	23.32 °C		SM2550B(2)
Turbidity (Hach)	18.9 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Flow	4.788 cf/sec		ASTM D3858-95
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID #: 509372	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	205 mg/L	10	EPA 310.2
Chloride	23 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	230 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	17 mg/L	4	SM2540D
Solids, Total (TS)	340 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	318 mg/L	10	SM2540C
Sulfate	21 mg/L	5	EPA 375.2
COD	16.7 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.9 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.06 mg/L	0.03	EPA 365.1
TKN	0.5 mg/L	0.3	EPA 351.2
TOC	3.9 mg/L	1	SM5310B

Lab ID #: AB17425	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	146.7 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-06-0015

Sample Date: 07/15/2014

IDEM Sample #: AB17600

Water Flow Type Run

Water Appearance Brown

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	71.3 %		ASTM D888-09(C)
DO	5.98 mg/L		ASTM D888-09(C)
pH (Field)	7.73 SU		EPA 150.2
Specific Conductance (Field)	455 umho/cm		SM2510B
Temperature	24.02 °C		SM2550B(2)
Turbidity (Hach)	28.9 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Flow	32.3843 cf/sec		TM D5389-95/D3858
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	3 Lookup		Observation

Lab ID #: 511831	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	191 mg/L	10	EPA 310.2
Chloride	15 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	214 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	28 mg/L	4	SM2540D
Solids, Total (TS)	301 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	261 mg/L	10	SM2540C
Sulfate	24 mg/L	5	EPA 375.2
COD	< 10 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.1 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.082 mg/L	0.03	EPA 365.1
TKN	0.6 mg/L	0.3	EPA 351.2
TOC	3.2 mg/L	1	SM5310B

Lab ID #: AB17600	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1413.6 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-06-0015      Sample Date: 07/22/2014      IDEM Sample #: AB17637  
 Water Flow Type Pool      Water Appearance Murky      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	76.1 %		ASTM D888-09(C)
DO	6.42 mg/L		ASTM D888-09(C)
pH (Field)	7.47 SU		EPA 150.2
Specific Conductance (Field)	413 umho/cm		SM2510B
Temperature	23.86 °C		SM2550B(2)
Turbidity (Hach)	18.4 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation
<b>Lab ID #: AB17637</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	59.4 MPN/100mL	1	SM9223B

SiteID: GMW-06-0015      Sample Date: 07/29/2014      IDEM Sample #: AB17772  
 Water Flow Type Pool      Water Appearance Murky      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	63.1 %		ASTM D888-09(C)
DO	5.65 mg/L		ASTM D888-09(C)
pH (Field)	7.66 SU		EPA 150.2
Specific Conductance (Field)	440 umho/cm		SM2510B
Temperature	20.64 °C		SM2550B(2)
Turbidity (Hach)	28.3 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation
<b>Lab ID #: AB17772</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	172.2 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

<b>Weather Code Definitions</b>					
<b>SC Sky Conditions</b>		<b>WD Wind Direction</b>		<b>WS Wind Strength</b>	<b>AT Air Temp</b>
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** GMW-06-0013      **USGS Hydrologic Unit:** 050800030602  
**Stream Name:** Clear Fork      **County:** Franklin  
**Description:** Schwegman Rd      **Latitude:** 39 22 20.84904      **Longitude:** -85 8 36.02632  
**Drainage:**      **Site Number:** 14T-015

**SiteID:** GMW-06-0013      **Sample Date:** 05/20/2014      **IDEM Sample #:** AB17026  
**Water Flow Type** Riffle      **Water Appearance** Clear      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	113.8 %		ASTM D888-09(C)
DO	11.54 mg/L		ASTM D888-09(C)
pH (Field)	8.19 SU		EPA 150.2
Specific Conductance (Field)	489 umho/cm		SM2510B
Temperature	14.72 °C		SM2550B(2)
Turbidity (Hach)	4.21 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #:</u> 506682	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	196 mg/L	10	EPA 310.2
Chloride	20 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	217 mg/L	75	EPA 130.1
Solids, Suspended Total, (TSS)	< 4 mg/L	4	SM2540D
Solids, Total (TS)	308 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	293 mg/L	10	SM2540C
Sulfate	25 mg/L	5	EPA 375.2
COD	10.5 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.2 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.016 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	2.9 mg/L	1	SM5310B

<u>Lab ID #:</u> AB17026	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	67 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-06-0013      Sample Date: 06/17/2014      IDEM Sample #: AB17431  
 Water Flow Type Riffle      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	104.8 %		ASTM D888-09(C)
DO	9.47 mg/L		ASTM D888-09(C)
pH (Field)	7.98 SU		EPA 150.2
Specific Conductance (Field)	497 umho/cm		SM2510B
Temperature	20.31 °C		SM2550B(2)
Turbidity (Hach)	5.96 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: 509373	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	196 mg/L	10	EPA 310.2
Chloride	27 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	231 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 4 mg/L	4	SM2540D
Solids, Total (TS)	320 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	311 mg/L	10	SM2540C
Sulfate	21 mg/L	5	EPA 375.2
COD	< 10 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.026 mg/L	0.03	EPA 365.1
TKN	0.3 mg/L	0.3	EPA 351.2
TOC	3 mg/L	1	SM5310B

Lab ID #: AB17431	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	77.1 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-06-0013

Sample Date: 07/15/2014

IDEM Sample #: AB17606

Water Flow Type Riffle

Water Appearance Brown

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	96.2 %		ASTM D888-09(C)
DO	8.6 mg/L		ASTM D888-09(C)
pH (Field)	7.96 SU		EPA 150.2
Specific Conductance (Field)	346 umho/cm		SM2510B
Temperature	20.8 °C		SM2550B(2)
Turbidity (Hach)	86.8 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation
<b>Lab ID #: 511832</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	125 mg/L	10	EPA 310.2
Chloride	15 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	162 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	56 mg/L	4	SM2540D
Solids, Total (TS)	288 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	219 mg/L	10	SM2540C
Sulfate	16 mg/L	5	EPA 375.2
COD	11.2 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.9 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.16 mg/L	0.03	EPA 365.1
TKN	0.9 mg/L	0.3	EPA 351.2
TOC	5.5 mg/L	1	SM5310B
<b>Lab ID #: AB17606</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B



**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-06-0013      Sample Date: 07/22/2014      IDEM Sample #: AB17622  
 Water Flow Type Riffle      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	100.5 %		ASTM D888-09(C)
DO	8.76 mg/L		ASTM D888-09(C)
pH (Field)	7.85 SU		EPA 150.2
Specific Conductance (Field)	488 umho/cm		SM2510B
Temperature	22.06 °C		SM2550B(2)
Turbidity (Hach)	5.55 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation
<b>Lab ID #: AB17622</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	86.2 MPN/100mL	1	SM9223B

SiteID: GMW-06-0013      Sample Date: 07/29/2014      IDEM Sample #: AB17757  
 Water Flow Type Riffle      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	108.2 %		ASTM D888-09(C)
DO	10.43 mg/L		ASTM D888-09(C)
pH (Field)	8.05 SU		EPA 150.2
Specific Conductance (Field)	462 umho/cm		SM2510B
Temperature	17.03 °C		SM2550B(2)
Turbidity (Hach)	4.43 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation
<b>Lab ID #: AB17757</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	56.3 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SitID: GMW-06-0013      Sample Date: 07/30/2014      IDEM Sample #: AB17869  
 Water Flow Type Run      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):       Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments: Q6 = 5.3

Lab ID #:	Result	Reporting Limit	Method
% Sat	110.7 %		SM4500-OG
DO	10.07 mg/L		SM4500-OG
pH (Field)	8.36 SU		EPA 150.2
Specific Conductance (Field)	451 umho/cm		SM2510B
Temperature	18.38 °C		SM2550B(2)
Turbidity (Hach)	2.61 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Weather Code Definitions					
SC Sky Conditions		WD Wind Direction		WS Wind Strength	AT Air Temp
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** GMW-06-0020      **USGS Hydrologic Unit:** 050800030604  
**Stream Name:** Pipe Creek      **County:** Franklin  
**Description:** St Marys Rd      **Latitude:** 39 21 6.72840      **Longitude:** -85 6 35.01720  
**Drainage:**      **Site Number:** 14T-016

**SiteID:** GMW-06-0020      **Sample Date:** 05/20/2014      **IDEM Sample #:** AB17024  
**Water Flow Type** Riffle      **Water Appearance** Clear      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	107 %		ASTM D888-09(C)
DO	10.8 mg/L		ASTM D888-09(C)
pH (Field)	8.07 SU		EPA 150.2
Specific Conductance (Field)	476 umho/cm		SM2510B
Temperature	14.91 °C		SM2550B(2)
Turbidity (Hach)	4.86 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #:</u> 506683	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	188 mg/L	10	EPA 310.2
Chloride	22 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	219 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	4 mg/L	4	SM2540D
Solids, Total (TS)	292 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	276 mg/L	10	SM2540C
Sulfate	24 mg/L	5	EPA 375.2
COD	10.6 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.6 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.036 mg/L	0.03	EPA 365.1
TKN	0.3 mg/L	0.3	EPA 351.2
TOC	3.6 mg/L	1	SM5310B

<u>Lab ID #:</u> AB17024	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	167 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-06-0020

Sample Date: 06/17/2014

IDEM Sample #: AB17429

Water Flow Type Riffle

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	82.3 %		ASTM D888-09(C)
DO	7.31 mg/L		ASTM D888-09(C)
pH (Field)	7.81 SU		EPA 150.2
Specific Conductance (Field)	507 umho/cm		SM2510B
Temperature	21.09 °C		SM2550B(2)
Turbidity (Hach)	6.48 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation
<b>Lab ID #: 509374</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	189 mg/L	10	EPA 310.2
Chloride	33 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	231 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	4 mg/L	4	SM2540D
Solids, Total (TS)	322 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	295 mg/L	10	SM2540C
Sulfate	20 mg/L	5	EPA 375.2
COD	11.9 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	< 0.1 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.03 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	4.2 mg/L	1	SM5310B
<b>Lab ID #: AB17429</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	155.3 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-06-0020

Sample Date: 07/15/2014

IDEM Sample #: AB17604

Water Flow Type Riffle

Water Appearance Murky

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	90.4 %		ASTM D888-09(C)
DO	8.08 mg/L		ASTM D888-09(C)
pH (Field)	7.92 SU		EPA 150.2
Specific Conductance (Field)	399 umho/cm		SM2510B
Temperature	20.68 °C		SM2550B(2)
Turbidity (Hach)	39.9 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation
<b>Lab ID #: 511833</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	150 mg/L	10	EPA 310.2
Chloride	20 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	176 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	29 mg/L	4	SM2540D
Solids, Total (TS)	279 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	238 mg/L	10	SM2540C
Sulfate	16 mg/L	5	EPA 375.2
COD	17.5 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.6 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.188 mg/L	0.03	EPA 365.1
TKN	0.9 mg/L	0.3	EPA 351.2
TOC	6.2 mg/L	1	SM5310B
<b>Lab ID #: AB17604</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** GMW-06-0020      **Sample Date:** 07/22/2014      **IDEM Sample #:** AB17620  
**Water Flow Type** Riffle      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	90.3 %		ASTM D888-09(C)
DO	8.02 mg/L		ASTM D888-09(C)
pH (Field)	7.77 SU		EPA 150.2
Specific Conductance (Field)	505 umho/cm		SM2510B
Temperature	21.17 °C		SM2550B(2)
Turbidity (Hach)	5.41 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation
<b>Lab ID #:</b> AB17620			
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	106.7 MPN/100mL	1	SM9223B

**SiteID:** GMW-06-0020      **Sample Date:** 07/29/2014      **IDEM Sample #:** AB17755  
**Water Flow Type** Riffle      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	98.1 %		ASTM D888-09(C)
DO	9.55 mg/L		ASTM D888-09(C)
pH (Field)	7.95 SU		EPA 150.2
Specific Conductance (Field)	443 umho/cm		SM2510B
Temperature	16.55 °C		SM2550B(2)
Turbidity (Hach)	13.7 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation
<b>Lab ID #:</b> AB17755			
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	488.4 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SitID: GMW-06-0020      Sample Date: 07/30/2014      IDEM Sample #: AB17865  
 Water Flow Type Run      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments: Q6 TURB = 9.3

Lab ID #:	Result	Reporting Limit	Method
% Sat	119.8 %		SM4500-OG
DO	10.44 mg/L		SM4500-OG
pH (Field)	8.64 SU		EPA 150.2
Specific Conductance (Field)	426 umho/cm		SM2510B
Temperature	20.55 °C		SM2550B(2)
Turbidity (Hach)	2.61 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Weather Code Definitions					
SC Sky Conditions		WD Wind Direction		WS Wind Strength	AT Air Temp
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** GMW-06-0014      **USGS Hydrologic Unit:** 050800030601  
**Stream Name:** Tributary of Pipe Creek      **County:** Ripley  
**Description:** St Marys Rd      **Latitude:** 39 17 56.56584      **Longitude:** -85 6 15.47564  
**Drainage:**      **Site Number:** 14T-017

**SiteID:** GMW-06-0014      **Sample Date:** 05/20/2014      **IDEM Sample #:** AB17021  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	83 %		ASTM D888-09(C)
DO	8.4 mg/L		ASTM D888-09(C)
pH (Field)	7.72 SU		EPA 150.2
Specific Conductance (Field)	493 umho/cm		SM2510B
Temperature	14.73 °C		SM2550B(2)
Turbidity (Hach)	9.63 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #:</u> 506685	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	186 mg/L	10	EPA 310.2
Chloride	26 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	219 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	8 mg/L	4	SM2540D
Solids, Total (TS)	314 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	292 mg/L	10	SM2540C
Sulfate	22 mg/L	5	EPA 375.2
COD	17.4 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.8 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.036 mg/L	0.03	EPA 365.1
TKN	0.5 mg/L	0.3	EPA 351.2
TOC	3.7 mg/L	1	SM5310B

<u>Lab ID #:</u> AB17021	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	365.4 MPN/100mL	1	SM9223B



**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-06-0014

Sample Date: 06/17/2014

IDEM Sample #: AB17426

Water Flow Type Run

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	67.3 %		ASTM D888-09(C)
DO	6.03 mg/L		ASTM D888-09(C)
pH (Field)	7.59 SU		EPA 150.2
Specific Conductance (Field)	559 umho/cm		SM2510B
Temperature	20.64 °C		SM2550B(2)
Turbidity (Hach)	16.5 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation
<b>Lab ID #: 509375</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	212 mg/L	10	EPA 310.2
Chloride	36 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	227 mg/L	75	EPA 130.1
Solids, Suspended Total, (TSS)	9 mg/L	4	SM2540D
Solids, Total (TS)	354 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	329 mg/L	10	SM2540C
Sulfate	19 mg/L	5	EPA 375.2
COD	18 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.9 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.068 mg/L	0.03	EPA 365.1
TKN	0.6 mg/L	0.3	EPA 351.2
TOC	4.4 mg/L	1	SM5310B
<b>Lab ID #: AB17426</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1553.1 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-06-0014

Sample Date: 07/15/2014

IDEM Sample #: AB17601

Water Flow Type Pool

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	69.7 %		ASTM D888-09(C)
DO	6.27 mg/L		ASTM D888-09(C)
pH (Field)	7.66 SU		EPA 150.2
Specific Conductance (Field)	422 umho/cm		SM2510B
Temperature	20.22 °C		SM2550B(2)
Turbidity (Hach)	46.9 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation
<b>Lab ID #: 511834</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	126 mg/L	10	EPA 310.2
Chloride	38 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	166 mg/L	75	EPA 130.1
Solids, Suspended Total, (TSS)	39 mg/L	4	SM2540D
Solids, Total (TS)	312 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	260 mg/L	10	SM2540C
Sulfate	17 mg/L	5	EPA 375.2
COD	24.8 mg/L	10	SM5220D
Nitrogen, Ammonia	0.2 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.3 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.343 mg/L	0.03	EPA 365.1
TKN	1.5 mg/L	0.3	EPA 351.2
TOC	8.9 mg/L	1	SM5310B
<b>Lab ID #: AB17601</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** GMW-06-0014      **Sample Date:** 07/22/2014      **IDEM Sample #:** AB17638  
**Water Flow Type** Riffle      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**  **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:** Very low flow. Stream is nearly pooled at bridge

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	26.7 %		ASTM D888-09(C)
DO	2.41 mg/L		ASTM D888-09(C)
pH (Field)	7.37 SU		EPA 150.2
Specific Conductance (Field)	523 umho/cm		SM2510B
Temperature	20.72 °C		SM2550B(2)
Turbidity (Hach)	8.18 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation
<b>Lab ID #:</b> AB17638			
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	172.5 MPN/100mL	1	SM9223B

**SiteID:** GMW-06-0014      **Sample Date:** 07/29/2014      **IDEM Sample #:** AB17773  
**Water Flow Type** Run      **Water Appearance** Murky      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**  **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	76.5 %		ASTM D888-09(C)
DO	7.44 mg/L		ASTM D888-09(C)
pH (Field)	7.71 SU		EPA 150.2
Specific Conductance (Field)	356 umho/cm		SM2510B
Temperature	16.64 °C		SM2550B(2)
Turbidity (Hach)	38.1 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation
<b>Lab ID #:</b> AB17773			
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

<b>Weather Code Definitions</b>					
<b>SC Sky Conditions</b>		<b>WD Wind Direction</b>		<b>WS Wind Strength</b>	<b>AT Air Temp</b>
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** GMW060-0027      **USGS Hydrologic Unit:** 050800030601  
**Stream Name:** Pipe Creek      **County:** Ripley  
**Description:** Pipe Creek Rd      **Latitude:** 39 17 44.29900      **Longitude:** -85 5 58.54500  
**Drainage:**      **Site Number:** 14T-018

**SiteID:** GMW060-0027      **Sample Date:** 05/20/2014      **IDEM Sample #:** AB17011  
**Water Flow Type** Glide      **Water Appearance** Clear      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	80 %		ASTM D888-09(C)
DO	8.1 mg/L		ASTM D888-09(C)
pH (Field)	7.57 SU		EPA 150.2
Specific Conductance (Field)	546 umho/cm		SM2510B
Temperature	14.61 °C		SM2550B(2)
Turbidity (Hach)	9.7 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #:</u> 506686	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	212 mg/L	10	EPA 310.2
Chloride	31 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	252 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	7 mg/L	4	SM2540D
Solids, Total (TS)	337 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	320 mg/L	10	SM2540C
Sulfate	24 mg/L	5	EPA 375.2
COD	15.3 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.5 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.022 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	3.8 mg/L	1	SM5310B

<u>Lab ID #:</u> AB17011	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	686.7 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW060-0027

Sample Date: 06/17/2014

IDEM Sample #: AB17416

Water Flow Type Glide

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	67.5 %		ASTM D888-09(C)
DO	5.97 mg/L		ASTM D888-09(C)
pH (Field)	7.59 SU		EPA 150.2
Specific Conductance (Field)	565 umho/cm		SM2510B
Temperature	21.32 °C		SM2550B(2)
Turbidity (Hach)	16.2 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation
<b>Lab ID #: 509377</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	212 mg/L	10	EPA 310.2
Chloride	37 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	263 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	14 mg/L	4	SM2540D
Solids, Total (TS)	374 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	340 mg/L	10	SM2540C
Sulfate	20 mg/L	5	EPA 375.2
COD	16.7 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.4 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.053 mg/L	0.03	EPA 365.1
TKN	0.6 mg/L	0.3	EPA 351.2
TOC	4.7 mg/L	1	SM5310B
<b>Lab ID #: AB17416</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	272.3 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW060-0027

Sample Date: 07/15/2014

IDEM Sample #: AB17591

Water Flow Type Pool

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	61.6 %		ASTM D888-09(C)
DO	5.5 mg/L		ASTM D888-09(C)
pH (Field)	7.65 SU		EPA 150.2
Specific Conductance (Field)	510 umho/cm		SM2510B
Temperature	20.92 °C		SM2550B(2)
Turbidity (Hach)	19.2 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation
<b>Lab ID #: 511835</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	178 mg/L	10	EPA 310.2
Chloride	43 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	208 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	14 mg/L	4	SM2540D
Solids, Total (TS)	328 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	300 mg/L	10	SM2540C
Sulfate	17 mg/L	5	EPA 375.2
COD	18.9 mg/L	10	SM5220D
Nitrogen, Ammonia	0.3 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.5 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.079 mg/L	0.03	EPA 365.1
TKN	1.3 mg/L	0.3	EPA 351.2
TOC	7.3 mg/L	1	SM5310B
<b>Lab ID #: AB17591</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1203.3 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** GMW060-0027      **Sample Date:** 07/22/2014      **IDEM Sample #:** AB17618  
**Water Flow Type** Riffle      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**  **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	62.8 %		ASTM D888-09(C)
DO	5.64 mg/L		ASTM D888-09(C)
pH (Field)	7.62 SU		EPA 150.2
Specific Conductance (Field)	462 umho/cm		SM2510B
Temperature	20.57 °C		SM2550B(2)
Turbidity (Hach)	11.9 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation
<b>Lab ID #:</b> AB17618			
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1046.2 MPN/100mL	1	SM9223B

**SiteID:** GMW060-0027      **Sample Date:** 07/29/2014      **IDEM Sample #:** AB17753  
**Water Flow Type** Riffle      **Water Appearance** Murky      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**  **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	61.4 %		ASTM D888-09(C)
DO	5.99 mg/L		ASTM D888-09(C)
pH (Field)	7.57 SU		EPA 150.2
Specific Conductance (Field)	361 umho/cm		SM2510B
Temperature	16.51 °C		SM2550B(2)
Turbidity (Hach)	42.2 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation
<b>Lab ID #:</b> AB17753			
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B



**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

<b>Weather Code Definitions</b>					
<b>SC Sky Conditions</b>		<b>WD Wind Direction</b>		<b>WS Wind Strength</b>	<b>AT Air Temp</b>
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** GMW-06-0012      **USGS Hydrologic Unit:** 050800030605  
**Stream Name:** Whitewater River      **County:** Franklin  
**Description:** St Marys Rd      **Latitude:** 39 25 15.85784      **Longitude:** -85 0 54.84792  
**Drainage:**      **Site Number:** 14T-019

**SiteID:** GMW-06-0012      **Sample Date:** 05/20/2014      **IDEM Sample #:** AB17025  
**Water Flow Type** Run      **Water Appearance** Murky      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	93.7 %		ASTM D888-09(C)
DO	9.29 mg/L		ASTM D888-09(C)
pH (Field)	8.07 SU		EPA 150.2
Specific Conductance (Field)	592 umho/cm		SM2510B
Temperature	15.7 °C		SM2550B(2)
Turbidity (Hach)	25.2 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #:</u> 506687	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	257 mg/L	10	EPA 310.2
Chloride	19 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	288 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	40 mg/L	4	SM2540D
Solids, Total (TS)	415 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	357 mg/L	10	SM2540C
Sulfate	25 mg/L	5	EPA 375.2
COD	15.2 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	3.8 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.049 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	1.8 mg/L	1	SM5310B

<u>Lab ID #:</u> AB17025	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	172.3 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-06-0012

Sample Date: 06/17/2014

IDEM Sample #: AB17430

Water Flow Type Riffle

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	107.4 %		ASTM D888-09(C)
DO	9.28 mg/L		ASTM D888-09(C)
pH (Field)	8.01 SU		EPA 150.2
Specific Conductance (Field)	560 umho/cm		SM2510B
Temperature	22.54 °C		SM2550B(2)
Turbidity (Hach)	9.48 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation
<b>Lab ID #: 509378</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	232 mg/L	10	EPA 310.2
Chloride	21 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	287 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	15 mg/L	4	SM2540D
Solids, Total (TS)	363 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	325 mg/L	10	SM2540C
Sulfate	25 mg/L	5	EPA 375.2
COD	10.3 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	2.5 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.029 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	1.8 mg/L	1	SM5310B
<b>Lab ID #: AB17430</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	2419.6 MPN/100mL	1	SM9223B
E. coli	59.1 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-06-0012

Sample Date: 07/15/2014

IDEM Sample #: AB17605

Water Flow Type Run

Water Appearance Brown

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	103.9 %		ASTM D888-09(C)
DO	8.77 mg/L		ASTM D888-09(C)
pH (Field)	8.05 SU		EPA 150.2
Specific Conductance (Field)	524 umho/cm		SM2510B
Temperature	22.68 °C		SM2550B(2)
Turbidity (Hach)	42.2 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	3 Lookup		Observation
<b>Lab ID #: 511836</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	222 mg/L	10	EPA 310.2
Chloride	18 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	299 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	52 mg/L	4	SM2540D
Solids, Total (TS)	384 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	311 mg/L	10	SM2540C
Sulfate	28 mg/L	5	EPA 375.2
COD	< 10 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.8 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.068 mg/L	0.03	EPA 365.1
TKN	0.5 mg/L	0.3	EPA 351.2
TOC	2.6 mg/L	1	SM5310B
<b>Lab ID #: AB17605</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	547.5 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-06-0012      Sample Date: 07/22/2014      IDEM Sample #: AB17621  
 Water Flow Type Run      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	100.2 %		ASTM D888-09(C)
DO	8.48 mg/L		ASTM D888-09(C)
pH (Field)	7.91 SU		EPA 150.2
Specific Conductance (Field)	570 umho/cm		SM2510B
Temperature	23.64 °C		SM2550B(2)
Turbidity (Hach)	11.1 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation
<b>Lab ID #: AB17621</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	22.6 MPN/100mL	1	SM9223B

SiteID: GMW-06-0012      Sample Date: 07/29/2014      IDEM Sample #: AB17756  
 Water Flow Type Run      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	98.2 %		ASTM D888-09(C)
DO	9.05 mg/L		ASTM D888-09(C)
pH (Field)	7.97 SU		EPA 150.2
Specific Conductance (Field)	598 umho/cm		SM2510B
Temperature	19.2 °C		SM2550B(2)
Turbidity (Hach)	13.4 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	2 Lookup		Observation
<b>Lab ID #: AB17756</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	23.8 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

<b>Weather Code Definitions</b>					
<b>SC Sky Conditions</b>		<b>WD Wind Direction</b>		<b>WS Wind Strength</b>	<b>AT Air Temp</b>
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** GMW-07-0026      **USGS Hydrologic Unit:** 050800030717  
**Stream Name:** East Fork Whitewater River      **County:** Franklin  
**Description:** US 52      **Latitude:** 39 24 44.54104      **Longitude:** -85 0 39.39133  
**Drainage:**      **Site Number:** 14T-020

**SiteID:** GMW-07-0026      **Sample Date:** 05/20/2014      **IDEM Sample #:** AB17019  
**Water Flow Type** Riffle      **Water Appearance** Clear      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	102.6 %		ASTM D888-09(C)
DO	11.42 mg/L		ASTM D888-09(C)
pH (Field)	7.74 SU		EPA 150.2
Specific Conductance (Field)	471 umho/cm		SM2510B
Temperature	10.61 °C		SM2550B(2)
Turbidity (Hach)	4.91 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #:</u> 506688	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	169 mg/L	10	EPA 310.2
Chloride	25 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	209 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	5 mg/L	4	SM2540D
Solids, Total (TS)	288 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	269 mg/L	10	SM2540C
Sulfate	22 mg/L	5	EPA 375.2
COD	17.5 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	2 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.058 mg/L	0.03	EPA 365.1
TKN	0.5 mg/L	0.3	EPA 351.2
TOC	3.1 mg/L	1	SM5310B

<u>Lab ID #:</u> AB17019	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	6.3 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-07-0026

Sample Date: 06/17/2014

IDEM Sample #: AB17424

Water Flow Type Riffle

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	149.3 %		ASTM D888-09(C)
DO	15.51 mg/L		ASTM D888-09(C)
pH (Field)	8.42 SU		EPA 150.2
Specific Conductance (Field)	464 umho/cm		SM2510B
Temperature	13.76 °C		SM2550B(2)
Turbidity (Hach)	5.53 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation
<b>Lab ID #: 509379</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	179 mg/L	10	EPA 310.2
Chloride	25 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	212 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 4 mg/L	4	SM2540D
Solids, Total (TS)	301 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	273 mg/L	10	SM2540C
Sulfate	19 mg/L	5	EPA 375.2
COD	15.2 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.2 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.073 mg/L	0.03	EPA 365.1
TKN	0.6 mg/L	0.3	EPA 351.2
TOC	3.7 mg/L	1	SM5310B
<b>Lab ID #: AB17424</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	1732.9 MPN/100mL	1	SM9223B
E. coli	83.3 MPN/100mL	1	SM9223B



**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-07-0026

Sample Date: 07/15/2014

IDEM Sample #: AB17599

Water Flow Type Run

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments: water clear (below reservoir)

Lab ID #:	Result	Reporting Limit	Method
% Sat	143.8 %		ASTM D888-09(C)
DO	14.38 mg/L		ASTM D888-09(C)
pH (Field)	8.24 SU		EPA 150.2
Specific Conductance (Field)	476 umho/cm		SM2510B
Temperature	16.03 °C		SM2550B(2)
Turbidity (Hach)	3.62 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	2 Lookup		Observation
<b>Lab ID #: 511837</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	186 mg/L	10	EPA 310.2
Chloride	24 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	228 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 4 mg/L	4	SM2540D
Solids, Total (TS)	306 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	280 mg/L	10	SM2540C
Sulfate	25 mg/L	5	EPA 375.2
COD	< 10 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.6 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.048 mg/L	0.03	EPA 365.1
TKN	0.5 mg/L	0.3	EPA 351.2
TOC	4.1 mg/L	1	SM5310B
<b>Lab ID #: AB17599</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	39.3 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** GMW-07-0026      **Sample Date:** 07/22/2014      **IDEM Sample #:** AB17885  
**Water Flow Type** Riffle      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	97.6 %		SM4500-OG
DO	9.57 mg/L		SM4500-OG
pH (Field)	7.93 SU		EPA 150.2
Specific Conductance (Field)	473 umho/cm		SM2510B
Temperature	14.85 °C		SM2550B(2)
Turbidity (Hach)	1.76 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

**SiteID:** GMW-07-0026      **Sample Date:** 07/22/2014      **IDEM Sample #:** AB17636  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	123.3 %		ASTM D888-09(C)
DO	12.12 mg/L		ASTM D888-09(C)
pH (Field)	7.9 SU		EPA 150.2
Specific Conductance (Field)	487 umho/cm		SM2510B
Temperature	16.04 °C		SM2550B(2)
Turbidity (Hach)	3.99 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

<b>Lab ID #:</b> AB17636	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	11.6 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-07-0026      Sample Date: 07/29/2014      IDEM Sample #: AB17771  
 Water Flow Type Run      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments: Thick algae mats observed in-stream

Lab ID #:	Result	Reporting Limit	Method
% Sat	112.3 %		ASTM D888-09(C)
DO	10.27 mg/L		ASTM D888-09(C)
pH (Field)	8.01 SU		EPA 150.2
Specific Conductance (Field)	474 umho/cm		SM2510B
Temperature	19.65 °C		SM2550B(2)
Turbidity (Hach)	3.98 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: AB17771	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	579.4 MPN/100mL	1	SM9223B

Weather Code Definitions					
SC	WD	WS	AT		
Sky Conditions	Wind Direction	Wind Strength	Air Temp		
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** GMW-08-0026      **USGS Hydrologic Unit:** 050800030802  
**Stream Name:** Wolf Creek      **County:** Franklin  
**Description:** Blue Creek Rd      **Latitude:** 39 23 55.37091      **Longitude:** -85 1 5.20564  
**Drainage:**      **Site Number:** 14T-021

**SiteID:** GMW-08-0026      **Sample Date:** 05/20/2014      **IDEM Sample #:** AB17028  
**Water Flow Type** Riffle      **Water Appearance** Clear      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	112.7 %		ASTM D888-09(C)
DO	11.26 mg/L		ASTM D888-09(C)
pH (Field)	8.13 SU		EPA 150.2
Specific Conductance (Field)	504 umho/cm		SM2510B
Temperature	15.41 °C		SM2550B(2)
Turbidity (Hach)	2 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #:</u> 506689	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	213 mg/L	10	EPA 310.2
Chloride	14 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	251 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 4 mg/L	4	SM2540D
Solids, Total (TS)	304 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	290 mg/L	10	SM2540C
Sulfate	33 mg/L	5	EPA 375.2
COD	15.7 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.4 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.017 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	2 mg/L	1	SM5310B

<u>Lab ID #:</u> AB17028	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	98.7 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-08-0026

Sample Date: 06/17/2014

IDEM Sample #: AB17433

Water Flow Type Glide

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	66 %		ASTM D888-09(C)
DO	5.8 mg/L		ASTM D888-09(C)
pH (Field)	7.5 SU		EPA 150.2
Specific Conductance (Field)	537 umho/cm		SM2510B
Temperature	20.49 °C		SM2550B(2)
Turbidity (Hach)	3.54 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation
<b>Lab ID #: 509380</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	219 mg/L	10	EPA 310.2
Chloride	18 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	257 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 4 mg/L	4	SM2540D
Solids, Total (TS)	343 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	330 mg/L	10	SM2540C
Sulfate	33 mg/L	5	EPA 375.2
COD	11.1 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.3 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.024 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	1.6 mg/L	1	SM5310B
<b>Lab ID #: AB17433</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	1986.3 MPN/100mL	1	SM9223B
E. coli	172.3 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-08-0026

Sample Date: 07/15/2014

IDEM Sample #: AB17608

Water Flow Type Riffle

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	98.6 %		ASTM D888-09(C)
DO	8.59 mg/L		ASTM D888-09(C)
pH (Field)	7.99 SU		EPA 150.2
Specific Conductance (Field)	446 umho/cm		SM2510B
Temperature	22.14 °C		SM2550B(2)
Turbidity (Hach)	8.59 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	2 Lookup		Observation
<b>Lab ID #: 511838</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	183 mg/L	10	EPA 310.2
Chloride	14 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	206 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	9 mg/L	4	SM2540D
Solids, Total (TS)	285 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	266 mg/L	10	SM2540C
Sulfate	27 mg/L	5	EPA 375.2
COD	< 10 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.2 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.05 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	5.3 mg/L	1	SM5310B
<b>Lab ID #: AB17608</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1119.9 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-08-0026      Sample Date: 07/22/2014      IDEM Sample #: AB17625  
 Water Flow Type Riffle      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	104 %		ASTM D888-09(C)
DO	9.01 mg/L		ASTM D888-09(C)
pH (Field)	7.71 SU		EPA 150.2
Specific Conductance (Field)	521 umho/cm		SM2510B
Temperature	22.39 °C		SM2550B(2)
Turbidity (Hach)	2.85 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation
<b>Lab ID #: AB17625</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	196.8 MPN/100mL	1	SM9223B

SiteID: GMW-08-0026      Sample Date: 07/22/2014      IDEM Sample #: AB17872  
 Water Flow Type Run      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	107.4 %		SM4500-OG
DO	8.83 mg/L		SM4500-OG
pH (Field)	7.85 SU		EPA 150.2
Specific Conductance (Field)	499 umho/cm		SM2510B
Temperature	23.71 °C		SM2550B(2)
Turbidity (Hach)	1.3 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-08-0026

Sample Date: 07/29/2014

IDEM Sample #: AB17760

Water Flow Type Riffle

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	100.8 %		ASTM D888-09(C)
DO	9.42 mg/L		ASTM D888-09(C)
pH (Field)	7.79 SU		EPA 150.2
Specific Conductance (Field)	498 umho/cm		SM2510B
Temperature	18.64 °C		SM2550B(2)
Turbidity (Hach)	3.86 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: AB17760	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	165.8 MPN/100mL	1	SM9223B

Weather Code Definitions					
SC	WD	WS	AT		
Sky Conditions	Wind Direction	Wind Strength	Air Temp		
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	



**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** GMW080-0003      **USGS Hydrologic Unit:** 050800030802  
**Stream Name:** Blue Creek      **County:** Franklin  
**Description:** Highland Center Rd      **Latitude:** 39 23 45.00000      **Longitude:** -85 0 55.00000  
**Drainage:** 32.6      **Site Number:** 14T-022

**SiteID:** GMW080-0003      **Sample Date:** 05/20/2014      **IDEM Sample #:** AB17023  
**Water Flow Type** Pool      **Water Appearance** Brown      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	95.8 %		ASTM D888-09(C)
DO	9.48 mg/L		ASTM D888-09(C)
pH (Field)	7.83 SU		EPA 150.2
Specific Conductance (Field)	503 umho/cm		SM2510B
Temperature	15.81 °C		SM2550B(2)
Turbidity (Hach)	6.77 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Flow	11.4093 cf/sec		TM D5389-95/D3858
Sky Conditions	3 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #:</u> 506691	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	202 mg/L	10	EPA 310.2
Chloride	16 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	243 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	8 mg/L	4	SM2540D
Solids, Total (TS)	310 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	289 mg/L	10	SM2540C
Sulfate	30 mg/L	5	EPA 375.2
COD	< 10 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.8 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.018 mg/L	0.03	EPA 365.1
TKN	0.3 mg/L	0.3	EPA 351.2
TOC	2.7 mg/L	1	SM5310B

<u>Lab ID #:</u> AB17023	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	275.5 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW080-0003

Sample Date: 06/17/2014

IDEM Sample #: AB17428

Water Flow Type Pool

Water Appearance Murky

Water Depth

Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	104.6 %		ASTM D888-09(C)
DO	8.83 mg/L		ASTM D888-09(C)
pH (Field)	7.55 SU		EPA 150.2
Specific Conductance (Field)	512 umho/cm		SM2510B
Temperature	23.78 °C		SM2550B(2)
Turbidity (Hach)	6.55 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Flow	2.2014 cf/sec		ASTM D3858-95
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: 509382	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	203 mg/L	10	EPA 310.2
Chloride	20 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	221 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	4 mg/L	4	SM2540D
Solids, Total (TS)	328 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	308 mg/L	10	SM2540C
Sulfate	27 mg/L	5	EPA 375.2
COD	14.4 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.4 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.061 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	2.2 mg/L	1	SM5310B

Lab ID #: AB17428	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	93.3 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW080-0003

Sample Date: 07/15/2014

IDEM Sample #: AB17603

Water Flow Type Pool

Water Appearance Brown

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	114.3 %		ASTM D888-09(C)
DO	9.73 mg/L		ASTM D888-09(C)
pH (Field)	7.91 SU		EPA 150.2
Specific Conductance (Field)	451 umho/cm		SM2510B
Temperature	23.23 °C		SM2550B(2)
Turbidity (Hach)	22.7 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Flow	9.6814 cf/sec		TM D5389-95/D3858
Sky Conditions	3 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	4 Lookup		Observation

Lab ID #: 511840	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	178 mg/L	10	EPA 310.2
Chloride	16 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	212 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	14 mg/L	4	SM2540D
Solids, Total (TS)	297 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	269 mg/L	10	SM2540C
Sulfate	29 mg/L	5	EPA 375.2
COD	< 10 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.6 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.054 mg/L	0.03	EPA 365.1
TKN	0.5 mg/L	0.3	EPA 351.2
TOC	5.1 mg/L	1	SM5310B

Lab ID #: AB17603	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	2419.6 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW080-0003      Sample Date: 07/22/2014      IDEM Sample #: AB17639  
 Water Flow Type Run      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	94.3 %		ASTM D888-09(C)
DO	7.73 mg/L		ASTM D888-09(C)
pH (Field)	7.42 SU		EPA 150.2
Specific Conductance (Field)	519 umho/cm		SM2510B
Temperature	25.33 °C		SM2550B(2)
Turbidity (Hach)	6.4 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation
<b>Lab ID #: AB17639</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	113.7 MPN/100mL	1	SM9223B

SiteID: GMW080-0003      Sample Date: 07/29/2014      IDEM Sample #: AB17774  
 Water Flow Type Pool      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	93.4 %		ASTM D888-09(C)
DO	8.5 mg/L		ASTM D888-09(C)
pH (Field)	7.6 SU		EPA 150.2
Specific Conductance (Field)	517 umho/cm		SM2510B
Temperature	19.88 °C		SM2550B(2)
Turbidity (Hach)	9.08 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation
<b>Lab ID #: AB17774</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	193.5 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SitID: GMW080-0003

Sample Date: 07/29/2014

IDEM Sample #: AB17891

Water Flow Type Run

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments: Q6 TURB = 9.4

Lab ID #:	Result	Reporting Limit	Method
% Sat	111.1 %		SM4500-OG
DO	9.51 mg/L		SM4500-OG
pH (Field)	7.95 SU		EPA 150.2
Specific Conductance (Field)	487 umho/cm		SM2510B
Temperature	21.67 °C		SM2550B(2)
Turbidity (Hach)	6.29 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Weather Code Definitions					
SC Sky Conditions		WD Wind Direction		WS Wind Strength	AT Air Temp
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** GMW-08-0014      **USGS Hydrologic Unit:** 050800030802  
**Stream Name:** Blue Creek      **County:** Franklin  
**Description:** Blue Creek Rd      **Latitude:** 39 21 25.92724      **Longitude:** -85 2 6.60695  
**Drainage:**      **Site Number:** 14T-023

**SiteID:** GMW-08-0014      **Sample Date:** 05/20/2014      **IDEM Sample #:** AB17018  
**Water Flow Type** Riffle      **Water Appearance** Clear      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	118 %		ASTM D888-09(C)
DO	11.72 mg/L		ASTM D888-09(C)
pH (Field)	8.31 SU		EPA 150.2
Specific Conductance (Field)	501 umho/cm		SM2510B
Temperature	15.63 °C		SM2550B(2)
Turbidity (Hach)	2.63 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Flow	6.302 cf/sec		TM D5389-95/D3858
Sky Conditions	4 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #:</u> 506692	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	201 mg/L	10	EPA 310.2
Chloride	20 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	243 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 4 mg/L	4	SM2540D
Solids, Total (TS)	327 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	308 mg/L	10	SM2540C
Sulfate	30 mg/L	5	EPA 375.2
COD	11.6 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.9 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.022 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	3.2 mg/L	1	SM5310B

<u>Lab ID #:</u> AB17018	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	79.4 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-08-0014

Sample Date: 06/17/2014

IDEM Sample #: AB17423

Water Flow Type Riffle

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	133 %		ASTM D888-09(C)
DO	11.22 mg/L		ASTM D888-09(C)
pH (Field)	8.18 SU		EPA 150.2
Specific Conductance (Field)	520 umho/cm		SM2510B
Temperature	23.77 °C		SM2550B(2)
Turbidity (Hach)	2.43 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Flow	1.0097 cf/sec		ASTM D3858-95
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: 509383	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	197 mg/L	10	EPA 310.2
Chloride	29 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	227 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 4 mg/L	4	SM2540D
Solids, Total (TS)	332 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	317 mg/L	10	SM2540C
Sulfate	29 mg/L	5	EPA 375.2
COD	12 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.2 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.029 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	3 mg/L	1	SM5310B

Lab ID #: AB17423	Result	Reporting Limit	Method
Coliforms (Total)	1986.3 MPN/100mL	1	SM9223B
E. coli	98.8 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-08-0014

Sample Date: 07/15/2014

IDEM Sample #: AB17598

Water Flow Type Riffle

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	107 %		ASTM D888-09(C)
DO	9.28 mg/L		ASTM D888-09(C)
pH (Field)	8.14 SU		EPA 150.2
Specific Conductance (Field)	421 umho/cm		SM2510B
Temperature	22.38 °C		SM2550B(2)
Turbidity (Hach)	23.7 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Flow	3.8006 cf/sec		TM D5389-95/D3858
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: 511841	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	163 mg/L	10	EPA 310.2
Chloride	15 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	188 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	23 mg/L	4	SM2540D
Solids, Total (TS)	291 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	255 mg/L	10	SM2540C
Sulfate	25 mg/L	5	EPA 375.2
COD	19.8 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.4 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.076 mg/L	0.03	EPA 365.1
TKN	0.5 mg/L	0.3	EPA 351.2
TOC	6 mg/L	1	SM5310B

Lab ID #: AB17598	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B



**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-08-0014      Sample Date: 07/22/2014      IDEM Sample #: AB17634  
 Water Flow Type Riffle      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	103.4 %		ASTM D888-09(C)
DO	8.64 mg/L		ASTM D888-09(C)
pH (Field)	7.82 SU		EPA 150.2
Specific Conductance (Field)	510 umho/cm		SM2510B
Temperature	24.49 °C		SM2550B(2)
Turbidity (Hach)	4.82 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation
<b>Lab ID #: AB17634</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	147 MPN/100mL	1	SM9223B

SiteID: GMW-08-0014      Sample Date: 07/29/2014      IDEM Sample #: AB17884  
 Water Flow Type Riffle      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments: Q6 TURB = 8.8

Lab ID #:	Result	Reporting Limit	Method
% Sat	102.6 %		SM4500-OG
DO	9.16 mg/L		SM4500-OG
pH (Field)	8.27 SU		EPA 150.2
Specific Conductance (Field)	500 umho/cm		SM2510B
Temperature	19.38 °C		SM2550B(2)
Turbidity (Hach)	3.14 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-08-0014

Sample Date: 07/29/2014

IDEM Sample #: AB17769

Water Flow Type Riffle

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	112 %		ASTM D888-09(C)
DO	10.26 mg/L		ASTM D888-09(C)
pH (Field)	7.99 SU		EPA 150.2
Specific Conductance (Field)	525 umho/cm		SM2510B
Temperature	19.54 °C		SM2550B(2)
Turbidity (Hach)	9.98 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation
<b>Lab ID #: AB17769</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	2419.6 MPN/100mL	1	SM9223B
E. coli	48.2 MPN/100mL	1	SM9223B

Weather Code Definitions					
SC	WD	WS	AT		
Sky Conditions	Wind Direction	Wind Strength	Air Temp		
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** GMW-08-0022      **USGS Hydrologic Unit:** 050800030801  
**Stream Name:** East Fork Blue Creek      **County:** Franklin  
**Description:** Blue Creek Rd      **Latitude:** 39 20 41.77852      **Longitude:** -85 1 53.88210  
**Drainage:**      **Site Number:** 14T-024

**SiteID:** GMW-08-0022      **Sample Date:** 05/20/2014      **IDEM Sample #:** AB17030  
**Water Flow Type** Riffle      **Water Appearance** Clear      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	99.7 %		ASTM D888-09(C)
DO	10.15 mg/L		ASTM D888-09(C)
pH (Field)	8.08 SU		EPA 150.2
Specific Conductance (Field)	530 umho/cm		SM2510B
Temperature	14.56 °C		SM2550B(2)
Turbidity (Hach)	5.66 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #:</u> 506693	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	198 mg/L	10	EPA 310.2
Chloride	23 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	247 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 4 mg/L	4	SM2540D
Solids, Total (TS)	341 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	313 mg/L	10	SM2540C
Sulfate	32 mg/L	5	EPA 375.2
COD	15.7 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.9 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.02 mg/L	0.03	EPA 365.1
TKN	0.3 mg/L	0.3	EPA 351.2
TOC	2.9 mg/L	1	SM5310B

<u>Lab ID #:</u> AB17030	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	313 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-08-0022

Sample Date: 06/17/2014

IDEM Sample #: AB17435

Water Flow Type Riffle

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	158 %		ASTM D888-09(C)
DO	13.49 mg/L		ASTM D888-09(C)
pH (Field)	8.22 SU		EPA 150.2
Specific Conductance (Field)	526 umho/cm		SM2510B
Temperature	22.91 °C		SM2550B(2)
Turbidity (Hach)	5.52 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation
<b>Lab ID #: 509384</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	200 mg/L	10	EPA 310.2
Chloride	31 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	251 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 4 mg/L	4	SM2540D
Solids, Total (TS)	353 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	330 mg/L	10	SM2540C
Sulfate	31 mg/L	5	EPA 375.2
COD	10.9 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.7 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.037 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	3.1 mg/L	1	SM5310B
<b>Lab ID #: AB17435</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	79.4 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-08-0022

Sample Date: 07/15/2014

IDEM Sample #: AB17610

Water Flow Type Riffle

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	115.6 %		ASTM D888-09(C)
DO	10.04 mg/L		ASTM D888-09(C)
pH (Field)	7.98 SU		EPA 150.2
Specific Conductance (Field)	438 umho/cm		SM2510B
Temperature	21.88 °C		SM2550B(2)
Turbidity (Hach)	15.9 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	2 Lookup		Observation
<b>Lab ID #: 511842</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	169 mg/L	10	EPA 310.2
Chloride	18 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	194 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	9 mg/L	4	SM2540D
Solids, Total (TS)	294 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	269 mg/L	10	SM2540C
Sulfate	26 mg/L	5	EPA 375.2
COD	23.7 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.6 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.099 mg/L	0.03	EPA 365.1
TKN	0.5 mg/L	0.3	EPA 351.2
TOC	5.9 mg/L	1	SM5310B
<b>Lab ID #: AB17610</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1732.9 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-08-0022      Sample Date: 07/22/2014      IDEM Sample #: AB17627  
 Water Flow Type Riffle      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	127.1 %		ASTM D888-09(C)
DO	10.47 mg/L		ASTM D888-09(C)
pH (Field)	7.76 SU		EPA 150.2
Specific Conductance (Field)	544 umho/cm		SM2510B
Temperature	25.03 °C		SM2550B(2)
Turbidity (Hach)	4.75 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation
<b>Lab ID #: AB17627</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	78.4 MPN/100mL	1	SM9223B

SiteID: GMW-08-0022      Sample Date: 07/29/2014      IDEM Sample #: AB17877  
 Water Flow Type Run      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments: Q6 TURB = 8.8

Lab ID #:	Result	Reporting Limit	Method
% Sat	82.8 %		SM4500-OG
DO	7.8 mg/L		SM4500-OG
pH (Field)	7.86 SU		EPA 150.2
Specific Conductance (Field)	545 umho/cm		SM2510B
Temperature	16.82 °C		SM2550B(2)
Turbidity (Hach)	4.16 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-08-0022      Sample Date: 07/29/2014      IDEM Sample #: AB17762  
 Water Flow Type Run      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments: In-stream algae mats observed

Lab ID #:	Result	Reporting Limit	Method
% Sat	114.8 %		ASTM D888-09(C)
DO	10.51 mg/L		ASTM D888-09(C)
pH (Field)	7.69 SU		EPA 150.2
Specific Conductance (Field)	552 umho/cm		SM2510B
Temperature	19.55 °C		SM2550B(2)
Turbidity (Hach)	8.54 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID #: AB17762	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	152.9 MPN/100mL	1	SM9223B

Weather Code Definitions					
SC	WD	WS	AT		
Sky Conditions	Wind Direction	Wind Strength	Air Temp		
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** GMW-08-0015      **USGS Hydrologic Unit:** 050800030804  
**Stream Name:** Whitewater River      **County:** Franklin  
**Description:** SR 1      **Latitude:** 39 21 33.76751      **Longitude:** -84 57 16.95374  
**Drainage:**      **Site Number:** 14T-025

**SiteID:** GMW-08-0015      **Sample Date:** 05/21/2014      **IDEM Sample #:** AB17017  
**Water Flow Type** Run      **Water Appearance** Murky      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	% Sat	93.8 %	ASTM D888-09(C)
	DO	9.65 mg/L	ASTM D888-09(C)
	pH (Field)	7.75 SU	EPA 150.2
	Specific Conductance (Field)	528 umho/cm	SM2510B
	Temperature	13.99 °C	SM2550B(2)
	Turbidity (Hach)	22.6 NTU	EPA 180.1
	Air Temp	4 Lookup	Observation
	Sky Conditions	4 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	1 Lookup	Observation

<u>Lab ID #:</u> 506694	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Alkalinity (as CaCO3)	213 mg/L	10	EPA 310.2
	Chloride	22 mg/L	5	SM4500Cl-E
	Hardness (as CaCO3)	271 mg/L	75	EPA 130.1
	Solids, Suspended Total, (TSS)	24 mg/L	4	SM2540D
	Solids, Total (TS)	363 mg/L	10	SM2540B
	Solids, Total Dissolved (TDS)	319 mg/L	10	SM2540C
	Sulfate	25 mg/L	5	EPA 375.2
	COD	19.4 mg/L	10	SM5220D
	Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
	Nitrogen, Nitrate+Nitrite	2.8 mg/L	0.1	EPA 353.1
	Phosphorus, Total	0.056 mg/L	0.03	EPA 365.1
	TKN	0.4 mg/L	0.3	EPA 351.2
	TOC	2.2 mg/L	1	SM5310B

<u>Lab ID #:</u> AB17017	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
	E. coli	88.4 MPN/100mL	1	SM9223B



**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-08-0015

Sample Date: 06/18/2014

IDEM Sample #: AB17422

Water Flow Type Run

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	85 %		ASTM D888-09(C)
DO	7.21 mg/L		ASTM D888-09(C)
pH (Field)	7.91 SU		EPA 150.2
Specific Conductance (Field)	530 umho/cm		SM2510B
Temperature	23.5 °C		SM2550B(2)
Turbidity (Hach)	11.2 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation
<b>Lab ID #: 509385</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	220 mg/L	10	EPA 310.2
Chloride	22 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	238 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	12 mg/L	4	SM2540D
Solids, Total (TS)	354 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	309 mg/L	10	SM2540C
Sulfate	25 mg/L	5	EPA 375.2
COD	< 10 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	2.3 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.031 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	1.6 mg/L	1	SM5310B
<b>Lab ID #: AB17422</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	66.3 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-08-0015

Sample Date: 07/16/2014

IDEM Sample #: AB17597

Water Flow Type Run

Water Appearance Green

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	84.4 %		ASTM D888-09(C)
DO	7.74 mg/L		ASTM D888-09(C)
pH (Field)	7.95 SU		EPA 150.2
Specific Conductance (Field)	533 umho/cm		SM2510B
Temperature	19.45 °C		SM2550B(2)
Turbidity (Hach)	25.8 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	6 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation
<b>Lab ID #: 511844</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	214 mg/L	10	EPA 310.2
Chloride	22 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	268 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	37 mg/L	4	SM2540D
Solids, Total (TS)	379 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	318 mg/L	10	SM2540C
Sulfate	30 mg/L	5	EPA 375.2
COD	19.8 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.9 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.06 mg/L	0.03	EPA 365.1
TKN	0.6 mg/L	0.3	EPA 351.2
TOC	2.8 mg/L	1	SM5310B
<b>Lab ID #: AB17597</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	116.9 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-08-0015      Sample Date: 07/23/2014      IDEM Sample #: AB17633  
 Water Flow Type Run      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	80.3 %		ASTM D888-09(C)
DO	6.98 mg/L		ASTM D888-09(C)
pH (Field)	7.76 SU		EPA 150.2
Specific Conductance (Field)	532 umho/cm		SM2510B
Temperature	22.28 °C		SM2550B(2)
Turbidity (Hach)	13.8 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	1 Lookup		Observation
<b>Lab ID #: AB17633</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	56.5 MPN/100mL	1	SM9223B

SiteID: GMW-08-0015      Sample Date: 07/30/2014      IDEM Sample #: AB17768  
 Water Flow Type Run      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	85.7 %		ASTM D888-09(C)
DO	7.74 mg/L		ASTM D888-09(C)
pH (Field)	8.03 SU		EPA 150.2
Specific Conductance (Field)	568 umho/cm		SM2510B
Temperature	20.27 °C		SM2550B(2)
Turbidity (Hach)	11 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation
<b>Lab ID #: AB17768</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	MPN/100mL	1	SM9223B
E. coli	49.5 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

<b>Weather Code Definitions</b>					
<b>SC Sky Conditions</b>		<b>WD Wind Direction</b>		<b>WS Wind Strength</b>	<b>AT Air Temp</b>
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** GMW-08-0016      **USGS Hydrologic Unit:** 050800030803  
**Stream Name:** Big Cedar Creek      **County:** Franklin  
**Description:** US 52      **Latitude:** 39 21 27.80481      **Longitude:** -84 56 26.33933  
**Drainage:**      **Site Number:** 14T-026

**SiteID:** GMW-08-0016      **Sample Date:** 05/21/2014      **IDEM Sample #:** AB17016  
**Water Flow Type** Riffle      **Water Appearance** Clear      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	107.5 %		ASTM D888-09(C)
DO	10.62 mg/L		ASTM D888-09(C)
pH (Field)	8.14 SU		EPA 150.2
Specific Conductance (Field)	580 umho/cm		SM2510B
Temperature	15.83 °C		SM2550B(2)
Turbidity (Hach)	3.66 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Flow	21.0442 cf/sec		TM D5389-95/D3858
Sky Conditions	3 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

<u>Lab ID #:</u> 506695	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	246 mg/L	10	EPA 310.2
Chloride	17 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	305 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 4 mg/L	4	SM2540D
Solids, Total (TS)	380 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	345 mg/L	10	SM2540C
Sulfate	24 mg/L	5	EPA 375.2
COD	10.8 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	5.9 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.023 mg/L	0.03	EPA 365.1
TKN	0.3 mg/L	0.3	EPA 351.2
TOC	1.8 mg/L	1	SM5310B

<u>Lab ID #:</u> AB17016	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	461.1 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-08-0016      Sample Date: 06/18/2014      IDEM Sample #: AB17421  
 Water Flow Type Riffle      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	96.7 %		ASTM D888-09(C)
DO	8.33 mg/L		ASTM D888-09(C)
pH (Field)	8.09 SU		EPA 150.2
Specific Conductance (Field)	549 umho/cm		SM2510B
Temperature	22.67 °C		SM2550B(2)
Turbidity (Hach)	4.68 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Flow	4.9713 cf/sec		ASTM D3858-95
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID #: 509386	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	229 mg/L	10	EPA 310.2
Chloride	19 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	246 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 4 mg/L	4	SM2540D
Solids, Total (TS)	360 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	331 mg/L	10	SM2540C
Sulfate	21 mg/L	5	EPA 375.2
COD	53.8 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	4.5 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.022 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	2.3 mg/L	1	SM5310B

Lab ID #: AB17421	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	198.9 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-08-0016

Sample Date: 07/16/2014

IDEM Sample #: AB17596

Water Flow Type Glide

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	95.6 %		ASTM D888-09(C)
DO	9.05 mg/L		ASTM D888-09(C)
pH (Field)	8.12 SU		EPA 150.2
Specific Conductance (Field)	516 umho/cm		SM2510B
Temperature	17.84 °C		SM2550B(2)
Turbidity (Hach)	5.99 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Flow	3.3824 cf/sec		TM D5389-95/D3858
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: 511845	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	224 mg/L	10	EPA 310.2
Chloride	16 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	258 mg/L	75	EPA 130.1
Solids, Suspended Total, (TSS)	4 mg/L	4	SM2540D
Solids, Total (TS)	342 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	315 mg/L	10	SM2540C
Sulfate	25 mg/L	5	EPA 375.2
COD	22.7 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.2 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.02 mg/L	0.03	EPA 365.1
TKN	0.5 mg/L	0.3	EPA 351.2
TOC	3.2 mg/L	1	SM5310B

Lab ID #: AB17596	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	161.6 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-08-0016      Sample Date: 07/23/2014      IDEM Sample #: AB17632  
 Water Flow Type Pool      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	75.5 %		ASTM D888-09(C)
DO	6.38 mg/L		ASTM D888-09(C)
pH (Field)	7.85 SU		EPA 150.2
Specific Conductance (Field)	467 umho/cm		SM2510B
Temperature	23.8 °C		SM2550B(2)
Turbidity (Hach)	5.76 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation
<b>Lab ID #: AB17632</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	325.5 MPN/100mL	1	SM9223B

SiteID: GMW-08-0016      Sample Date: 07/28/2014      IDEM Sample #: AB17882  
 Water Flow Type Run      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments: Q6 TURB = 23.9

Lab ID #:	Result	Reporting Limit	Method
% Sat	96 %		SM4500-OG
DO	8.22 mg/L		SM4500-OG
pH (Field)	8.44 SU		EPA 150.2
Specific Conductance (Field)	445 umho/cm		SM2510B
Temperature	22.02 °C		SM2550B(2)
Turbidity (Hach)	7.78 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation



**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-08-0016      Sample Date: 07/30/2014      IDEM Sample #: AB17767  
 Water Flow Type Pool      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments: Algae mats observed in-stream

Lab ID #:	Result	Reporting Limit	Method
% Sat	82.8 %		ASTM D888-09(C)
DO	7.64 mg/L		ASTM D888-09(C)
pH (Field)	7.97 SU		EPA 150.2
Specific Conductance (Field)	467 umho/cm		SM2510B
Temperature	19.24 °C		SM2550B(2)
Turbidity (Hach)	5.47 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID #: AB17767	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	52.9 MPN/100mL	1	SM9223B

Weather Code Definitions					
SC	WD	WS	AT		
Sky Conditions	Wind Direction	Wind Strength	Air Temp		
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** GMW-08-0024      **USGS Hydrologic Unit:** 050800030803  
**Stream Name:** Big Cedar Creek      **County:** Franklin  
**Description:** Big Cedar Rd      **Latitude:** 39 25 13.21578      **Longitude:** -84 54 24.67967  
**Drainage:**      **Site Number:** 14T-027

**SiteID:** GMW-08-0024      **Sample Date:** 05/21/2014      **IDEM Sample #:** AB17029  
**Water Flow Type** Riffle      **Water Appearance** Clear      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	105 %		ASTM D888-09(C)
DO	10.27 mg/L		ASTM D888-09(C)
pH (Field)	8.24 SU		EPA 150.2
Specific Conductance (Field)	578 umho/cm		SM2510B
Temperature	16.42 °C		SM2550B(2)
Turbidity (Hach)	5.85 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

<u>Lab ID #:</u> 506696	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	234 mg/L	10	EPA 310.2
Chloride	19 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	295 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	6 mg/L	4	SM2540D
Solids, Total (TS)	389 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	356 mg/L	10	SM2540C
Sulfate	19 mg/L	5	EPA 375.2
COD	16.3 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	8.4 mg/L	0.25	EPA 353.1
Phosphorus, Total	0.035 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	2 mg/L	1	SM5310B

<u>Lab ID #:</u> AB17029	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1119.9 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-08-0024

Sample Date: 06/18/2014

IDEM Sample #: AB17434

Water Flow Type Riffle

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	98 %		ASTM D888-09(C)
DO	8.62 mg/L		ASTM D888-09(C)
pH (Field)	8.19 SU		EPA 150.2
Specific Conductance (Field)	597 umho/cm		SM2510B
Temperature	21.66 °C		SM2550B(2)
Turbidity (Hach)	7.26 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation
<b>Lab ID #: 509387</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	250 mg/L	10	EPA 310.2
Chloride	21 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	302 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	5 mg/L	4	SM2540D
Solids, Total (TS)	408 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	374 mg/L	10	SM2540C
Sulfate	18 mg/L	5	EPA 375.2
COD	11.9 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	7.7 mg/L	0.25	EPA 353.1
Phosphorus, Total	0.07 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	2.3 mg/L	1	SM5310B
<b>Lab ID #: AB17434</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1553.1 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-08-0024

Sample Date: 07/16/2014

IDEM Sample #: AB17609

Water Flow Type Pool

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	97.3 %		ASTM D888-09(C)
DO	9.36 mg/L		ASTM D888-09(C)
pH (Field)	8.13 SU		EPA 150.2
Specific Conductance (Field)	561 umho/cm		SM2510B
Temperature	17.13 °C		SM2550B(2)
Turbidity (Hach)	11.2 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	1 Lookup		Observation
<b>Lab ID #: 511846</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	245 mg/L	10	EPA 310.2
Chloride	20 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	331 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	7 mg/L	4	SM2540D
Solids, Total (TS)	391 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	349 mg/L	10	SM2540C
Sulfate	28 mg/L	5	EPA 375.2
COD	20.4 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	2.7 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.141 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	4.1 mg/L	1	SM5310B
<b>Lab ID #: AB17609</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1732.9 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-08-0024      Sample Date: 07/23/2014      IDEM Sample #: AB17626  
 Water Flow Type Pool      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	91.6 %		ASTM D888-09(C)
DO	8.08 mg/L		ASTM D888-09(C)
pH (Field)	7.89 SU		EPA 150.2
Specific Conductance (Field)	578 umho/cm		SM2510B
Temperature	21.45 °C		SM2550B(2)
Turbidity (Hach)	5.58 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	1 Lookup		Observation
<b>Lab ID #: AB17626</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	275.5 MPN/100mL	1	SM9223B

SiteID: GMW-08-0024      Sample Date: 07/28/2014      IDEM Sample #: AB17876  
 Water Flow Type Run      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments: Q6 TURB = 2.3 NTU

Lab ID #:	Result	Reporting Limit	Method
% Sat	123.3 %		SM4500-OG
DO	10.68 mg/L		SM4500-OG
pH (Field)	8.8 SU		EPA 150.2
Specific Conductance (Field)	504 umho/cm		SM2510B
Temperature	20.89 °C		SM2550B(2)
Turbidity (Hach)	3.15 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-08-0024

Sample Date: 07/30/2014

IDEM Sample #: AB17761

Water Flow Type Pool

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	107.5 %		ASTM D888-09(C)
DO	10.16 mg/L		ASTM D888-09(C)
pH (Field)	8.11 SU		EPA 150.2
Specific Conductance (Field)	556 umho/cm		SM2510B
Temperature	17.97 °C		SM2550B(2)
Turbidity (Hach)	4.2 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: AB17761	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	201.4 MPN/100mL	1	SM9223B

Weather Code Definitions					
SC	WD	WS	AT		
Sky Conditions	Wind Direction	Wind Strength	Air Temp		
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** GMW-08-0019      **USGS Hydrologic Unit:** 050800030806  
**Stream Name:** Logan Creek      **County:** Dearborn  
**Description:** SR 46      **Latitude:** 39 16 38.48942      **Longitude:** -84 52 58.09151  
**Drainage:**      **Site Number:** 14T-028

**SiteID:** GMW-08-0019      **Sample Date:** 05/21/2014      **IDEM Sample #:** AB17014  
**Water Flow Type** Pool      **Water Appearance** Murky      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	92.1 %		ASTM D888-09(C)
DO	8.66 mg/L		ASTM D888-09(C)
pH (Field)	7.95 SU		EPA 150.2
Specific Conductance (Field)	622 umho/cm		SM2510B
Temperature	18.19 °C		SM2550B(2)
Turbidity (Hach)	10.1 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #:</u> 506697	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	231 mg/L	10	EPA 310.2
Chloride	28 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	302 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	8 mg/L	4	SM2540D
Solids, Total (TS)	411 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	384 mg/L	10	SM2540C
Sulfate	63 mg/L	5	EPA 375.2
COD	15.2 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	< 0.1 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.035 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	2.6 mg/L	1	SM5310B

<u>Lab ID #:</u> AB17014	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	238.2 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-08-0019

Sample Date: 06/18/2014

IDEM Sample #: AB17419

Water Flow Type Pool

Water Appearance Murky

Water Depth

Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	78.5 %		ASTM D888-09(C)
DO	6.61 mg/L		ASTM D888-09(C)
pH (Field)	7.75 SU		EPA 150.2
Specific Conductance (Field)	665 umho/cm		SM2510B
Temperature	23.92 °C		SM2550B(2)
Turbidity (Hach)	15 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation
<b>Lab ID #: 509388</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	229 mg/L	10	EPA 310.2
Chloride	43 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	274 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	11 mg/L	4	SM2540D
Solids, Total (TS)	463 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	425 mg/L	10	SM2540C
Sulfate	58 mg/L	5	EPA 375.2
COD	18.8 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	< 0.1 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.067 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	2.8 mg/L	1	SM5310B
<b>Lab ID #: AB17419</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	172.2 MPN/100mL	1	SM9223B



**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-08-0019

Sample Date: 07/16/2014

IDEM Sample #: AB17594

Water Flow Type Pool

Water Appearance Brown

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	68.9 %		ASTM D888-09(C)
DO	5.94 mg/L		ASTM D888-09(C)
pH (Field)	7.6 SU		EPA 150.2
Specific Conductance (Field)	634 umho/cm		SM2510B
Temperature	21.45 °C		SM2550B(2)
Turbidity (Hach)	35.2 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	1 Lookup		Observation
<b>Lab ID #: 511847</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	211 mg/L	10	EPA 310.2
Chloride	48 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	309 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	28 mg/L	4	SM2540D
Solids, Total (TS)	438 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	387 mg/L	10	SM2540C
Sulfate	45 mg/L	5	EPA 375.2
COD	21.5 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	< 0.1 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.112 mg/L	0.03	EPA 365.1
TKN	0.6 mg/L	0.3	EPA 351.2
TOC	3.8 mg/L	1	SM5310B
<b>Lab ID #: AB17594</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	260.3 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-08-0019      Sample Date: 07/23/2014      IDEM Sample #: AB17630  
 Water Flow Type Pool      Water Appearance Murky      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	73.1 %		ASTM D888-09(C)
DO	6.29 mg/L		ASTM D888-09(C)
pH (Field)	7.65 SU		EPA 150.2
Specific Conductance (Field)	662 umho/cm		SM2510B
Temperature	22.83 °C		SM2550B(2)
Turbidity (Hach)	21.8 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	8 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation
<b>Lab ID #: AB17630</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	920.8 MPN/100mL	1	SM9223B

SiteID: GMW-08-0019      Sample Date: 07/28/2014      IDEM Sample #: AB17880  
 Water Flow Type Run      Water Appearance Murky      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments: Q6 TURB = 36.8

Lab ID #:	Result	Reporting Limit	Method
% Sat	35.8 %		SM4500-OG
DO	3.07 mg/L		SM4500-OG
pH (Field)	7.62 SU		EPA 150.2
Specific Conductance (Field)	693 umho/cm		SM2510B
Temperature	21.76 °C		SM2550B(2)
Turbidity (Hach)	23.5 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-08-0019

Sample Date: 07/30/2014

IDEM Sample #: AB17765

Water Flow Type Pool

Water Appearance Murky

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	63.5 %		ASTM D888-09(C)
DO	5.73 mg/L		ASTM D888-09(C)
pH (Field)	7.57 SU		EPA 150.2
Specific Conductance (Field)	713 umho/cm		SM2510B
Temperature	20.48 °C		SM2550B(2)
Turbidity (Hach)	32.4 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID #: AB17765	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	35.5 MPN/100mL	1	SM9223B

Weather Code Definitions					
SC	WD	WS	AT		
Sky Conditions	Wind Direction	Wind Strength	Air Temp		
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** GMW-08-0030      **USGS Hydrologic Unit:** 050800030805  
**Stream Name:** Whitewater River      **County:** Franklin  
**Description:** St Peters Rd      **Latitude:** 39 18 52.04520      **Longitude:** -84 54 20.31480  
**Drainage:**      **Site Number:** 14T-029

**SiteID:** GMW-08-0030      **Sample Date:** 05/21/2014      **IDEM Sample #:** AB17022  
**Water Flow Type** Run      **Water Appearance** Murky      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	96 %		ASTM D888-09(C)
DO	9.62 mg/L		ASTM D888-09(C)
pH (Field)	8.01 SU		EPA 150.2
Specific Conductance (Field)	530 umho/cm		SM2510B
Temperature	15.18 °C		SM2550B(2)
Turbidity (Hach)	15.4 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #:</u> 506698	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	214 mg/L	10	EPA 310.2
Chloride	22 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	267 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	27 mg/L	4	SM2540D
Solids, Total (TS)	366 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	312 mg/L	10	SM2540C
Sulfate	24 mg/L	5	EPA 375.2
COD	13.4 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	2.8 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.068 mg/L	0.03	EPA 365.1
TKN	0.5 mg/L	0.3	EPA 351.2
TOC	2 mg/L	1	SM5310B

<u>Lab ID #:</u> AB17022	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	93.3 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-08-0030

Sample Date: 06/18/2014

IDEM Sample #: AB17427

Water Flow Type Run

Water Appearance Murky

Water Depth

Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	95.5 %		ASTM D888-09(C)
DO	7.95 mg/L		ASTM D888-09(C)
pH (Field)	8.08 SU		EPA 150.2
Specific Conductance (Field)	532 umho/cm		SM2510B
Temperature	24.53 °C		SM2550B(2)
Turbidity (Hach)	11 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation
<b>Lab ID #: 509389</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	218 mg/L	10	EPA 310.2
Chloride	22 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	247 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	12 mg/L	4	SM2540D
Solids, Total (TS)	355 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	312 mg/L	10	SM2540C
Sulfate	25 mg/L	5	EPA 375.2
COD	14.5 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	2.2 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.035 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	1.6 mg/L	1	SM5310B
<b>Lab ID #: AB17427</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	74.9 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-08-0030

Sample Date: 07/16/2014

IDEM Sample #: AB17602

Water Flow Type Run

Water Appearance Green

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	93.4 %		ASTM D888-09(C)
DO	8.48 mg/L		ASTM D888-09(C)
pH (Field)	8.04 SU		EPA 150.2
Specific Conductance (Field)	529 umho/cm		SM2510B
Temperature	19.98 °C		SM2550B(2)
Turbidity (Hach)	18.8 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	3 Lookup		Observation
<b>Lab ID #: 511848</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	214 mg/L	10	EPA 310.2
Chloride	23 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	290 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	28 mg/L	4	SM2540D
Solids, Total (TS)	364 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	307 mg/L	10	SM2540C
Sulfate	29 mg/L	5	EPA 375.2
COD	23.1 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.8 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.053 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	2.5 mg/L	1	SM5310B
<b>Lab ID #: AB17602</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	101.9 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-08-0030      Sample Date: 07/23/2014      IDEM Sample #: AB17619  
 Water Flow Type Run      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	88.4 %		ASTM D888-09(C)
DO	7.59 mg/L		ASTM D888-09(C)
pH (Field)	7.95 SU		EPA 150.2
Specific Conductance (Field)	531 umho/cm		SM2510B
Temperature	23.07 °C		SM2550B(2)
Turbidity (Hach)	10.3 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	7 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation
<b>Lab ID #: AB17619</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	81.3 MPN/100mL	1	SM9223B

SiteID: GMW-08-0030      Sample Date: 07/30/2014      IDEM Sample #: AB17754  
 Water Flow Type Eddy      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	94.8 %		ASTM D888-09(C)
DO	8.48 mg/L		ASTM D888-09(C)
pH (Field)	8.11 SU		EPA 150.2
Specific Conductance (Field)	563 umho/cm		SM2510B
Temperature	20.77 °C		SM2550B(2)
Turbidity (Hach)	9.31 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation
<b>Lab ID #: AB17754</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	31.8 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

<b>Weather Code Definitions</b>					
<b>SC Sky Conditions</b>		<b>WD Wind Direction</b>		<b>WS Wind Strength</b>	<b>AT Air Temp</b>
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	



**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** GMW-08-0018      **USGS Hydrologic Unit:** 050800030806  
**Stream Name:** Johnson Fork      **County:** Dearborn  
**Description:** Johnson Fork Rd      **Latitude:** 39 17 16.19872      **Longitude:** -84 50 24.95531  
**Drainage:**      **Site Number:** 14T-030

**SiteID:** GMW-08-0018      **Sample Date:** 05/21/2014      **IDEM Sample #:** AB17015  
**Water Flow Type** Riffle      **Water Appearance** Clear      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	123.2 %		ASTM D888-09(C)
DO	11.61 mg/L		ASTM D888-09(C)
pH (Field)	8.22 SU		EPA 150.2
Specific Conductance (Field)	585 umho/cm		SM2510B
Temperature	18.2 °C		SM2550B(2)
Turbidity (Hach)	6.46 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #:</u> 506699	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	243 mg/L	10	EPA 310.2
Chloride	18 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	262 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	4 mg/L	4	SM2540D
Solids, Total (TS)	375 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	350 mg/L	10	SM2540C
Sulfate	48 mg/L	5	EPA 375.2
COD	15 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.3 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.036 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	2 mg/L	1	SM5310B

<u>Lab ID #:</u> AB17015	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	129.1 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-08-0018

Sample Date: 06/18/2014

IDEM Sample #: AB17420

Water Flow Type Pool

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	92.3 %		ASTM D888-09(C)
DO	7.9 mg/L		ASTM D888-09(C)
pH (Field)	7.91 SU		EPA 150.2
Specific Conductance (Field)	570 umho/cm		SM2510B
Temperature	23.06 °C		SM2550B(2)
Turbidity (Hach)	2.81 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation
<b>Lab ID #: 509390</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	212 mg/L	10	EPA 310.2
Chloride	26 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	260 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 4 mg/L	4	SM2540D
Solids, Total (TS)	362 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	341 mg/L	10	SM2540C
Sulfate	52 mg/L	5	EPA 375.2
COD	10.5 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	< 0.1 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.022 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	2.2 mg/L	1	SM5310B
<b>Lab ID #: AB17420</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	259.5 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-08-0018

Sample Date: 07/16/2014

IDEM Sample #: AB17595

Water Flow Type Pool

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	98.7 %		ASTM D888-09(C)
DO	9.01 mg/L		ASTM D888-09(C)
pH (Field)	8.01 SU		EPA 150.2
Specific Conductance (Field)	563 umho/cm		SM2510B
Temperature	19.8 °C		SM2550B(2)
Turbidity (Hach)	3.41 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation
<b>Lab ID #: 511849</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	215 mg/L	10	EPA 310.2
Chloride	23 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	288 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 4 mg/L	4	SM2540D
Solids, Total (TS)	358 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	333 mg/L	10	SM2540C
Sulfate	48 mg/L	5	EPA 375.2
COD	14.9 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	< 0.1 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.053 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	2.6 mg/L	1	SM5310B
<b>Lab ID #: AB17595</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	71 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** GMW-08-0018      **Sample Date:** 07/21/2014      **IDEM Sample #:** AB17881  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:** Q2 turb = 40.2

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	85.6 %		SM4500-OG
DO	7.47 mg/L		SM4500-OG
pH (Field)	7.69 SU		EPA 150.2
Specific Conductance (Field)	561 umho/cm		SM2510B
Temperature	21.09 °C		SM2550B(2)
Turbidity (Hach)	6.66 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

**SiteID:** GMW-08-0018      **Sample Date:** 07/23/2014      **IDEM Sample #:** AB17631  
**Water Flow Type** Pool      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	82.2 %		ASTM D888-09(C)
DO	7.05 mg/L		ASTM D888-09(C)
pH (Field)	7.78 SU		EPA 150.2
Specific Conductance (Field)	554 umho/cm		SM2510B
Temperature	22.93 °C		SM2550B(2)
Turbidity (Hach)	9.56 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	8 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

<u>Lab ID #:</u> AB17631	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	866.4 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-08-0018

Sample Date: 07/30/2014

IDEM Sample #: AB17766

Water Flow Type Pool

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	84.5 %		ASTM D888-09(C)
DO	7.53 mg/L		ASTM D888-09(C)
pH (Field)	7.86 SU		EPA 150.2
Specific Conductance (Field)	588 umho/cm		SM2510B
Temperature	21.05 °C		SM2550B(2)
Turbidity (Hach)	3.67 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

  

Lab ID #: AB17766	Result	Reporting Limit	Method
Coliforms (Total)	2419.6 MPN/100mL	1	SM9223B
E. coli	29.1 MPN/100mL	1	SM9223B

Weather Code Definitions					
SC	WD	WS	AT		
Sky Conditions	Wind Direction	Wind Strength	Air Temp		
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** GMW-08-0021      **USGS Hydrologic Unit:** 050800030810  
**Stream Name:** Whitewater River      **County:** Dearborn  
**Description:** Jamison Rd      **Latitude:** 39 14 57.51189      **Longitude:** -84 49 15.29368  
**Drainage:**      **Site Number:** 14T-031

**SiteID:** GMW-08-0021      **Sample Date:** 05/21/2014      **IDEM Sample #:** AB17012  
**Water Flow Type** Run      **Water Appearance** Murky      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	96.2 %		ASTM D888-09(C)
DO	9.63 mg/L		ASTM D888-09(C)
pH (Field)	7.99 SU		EPA 150.2
Specific Conductance (Field)	528 umho/cm		SM2510B
Temperature	15.28 °C		SM2550B(2)
Turbidity (Hach)	14.9 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

<u>Lab ID #:</u> 506700	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	216 mg/L	10	EPA 310.2
Chloride	22 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	267 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	32 mg/L	4	SM2540D
Solids, Total (TS)	372 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	321 mg/L	10	SM2540C
Sulfate	24 mg/L	5	EPA 375.2
COD	15.1 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	2.8 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.058 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	2.2 mg/L	1	SM5310B

<u>Lab ID #:</u> AB17012	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	88.4 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-08-0021

Sample Date: 06/18/2014

IDEM Sample #: AB17417

Water Flow Type Run

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	116.7 %		ASTM D888-09(C)
DO	9.61 mg/L		ASTM D888-09(C)
pH (Field)	8.02 SU		EPA 150.2
Specific Conductance (Field)	532 umho/cm		SM2510B
Temperature	25.09 °C		SM2550B(2)
Turbidity (Hach)	8.18 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation
<b>Lab ID #: 509391</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	221 mg/L	10	EPA 310.2
Chloride	22 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	243 mg/L	75	EPA 130.1
Solids, Suspended Total, (TSS)	14 mg/L	4	SM2540D
Solids, Total (TS)	351 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	313 mg/L	10	SM2540C
Sulfate	26 mg/L	5	EPA 375.2
COD	11 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	2.1 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.033 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	1.6 mg/L	1	SM5310B
<b>Lab ID #: AB17417</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	90.9 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-08-0021

Sample Date: 07/16/2014

IDEM Sample #: AB17592

Water Flow Type Run

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	107.7 %		ASTM D888-09(C)
DO	9.38 mg/L		ASTM D888-09(C)
pH (Field)	8.08 SU		EPA 150.2
Specific Conductance (Field)	522 umho/cm		SM2510B
Temperature	22.12 °C		SM2550B(2)
Turbidity (Hach)	13.1 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation
<b>Lab ID #: 511850</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	217 mg/L	10	EPA 310.2
Chloride	20 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	280 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	21 mg/L	4	SM2540D
Solids, Total (TS)	353 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	310 mg/L	10	SM2540C
Sulfate	28 mg/L	5	EPA 375.2
COD	18.8 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.6 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.068 mg/L	0.03	EPA 365.1
TKN	0.5 mg/L	0.3	EPA 351.2
TOC	2.1 mg/L	1	SM5310B
<b>Lab ID #: AB17592</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	113.7 MPN/100mL	1	SM9223B



**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-08-0021      Sample Date: 07/23/2014      IDEM Sample #: AB17628  
 Water Flow Type Run      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	85.5 %		ASTM D888-09(C)
DO	7.26 mg/L		ASTM D888-09(C)
pH (Field)	7.87 SU		EPA 150.2
Specific Conductance (Field)	531 umho/cm		SM2510B
Temperature	23.53 °C		SM2550B(2)
Turbidity (Hach)	7.93 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	7 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation
<b>Lab ID #: AB17628</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	143 MPN/100mL	1	SM9223B

SiteID: GMW-08-0021      Sample Date: 07/30/2014      IDEM Sample #: AB17763  
 Water Flow Type Run      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	105.2 %		ASTM D888-09(C)
DO	9.27 mg/L		ASTM D888-09(C)
pH (Field)	8 SU		EPA 150.2
Specific Conductance (Field)	566 umho/cm		SM2510B
Temperature	21.46 °C		SM2550B(2)
Turbidity (Hach)	10.2 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation
<b>Lab ID #: AB17763</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	48.2 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

<b>Weather Code Definitions</b>					
<b>SC Sky Conditions</b>		<b>WD Wind Direction</b>		<b>WS Wind Strength</b>	<b>AT Air Temp</b>
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** GMW-08-0027      **USGS Hydrologic Unit:** 050800030808  
**Stream Name:** Sours Run      **County:** Franklin  
**Description:** Drewersburg Rd      **Latitude:** 39 22 43.93458      **Longitude:** -84 50 12.39149  
**Drainage:**      **Site Number:** 14T-032

**SiteID:** GMW-08-0027      **Sample Date:** 05/21/2014      **IDEM Sample #:** AB17027  
**Water Flow Type:** Glide      **Water Appearance:** Clear      **Water Depth:**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %:** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	102 %		ASTM D888-09(C)
DO	10.07 mg/L		ASTM D888-09(C)
pH (Field)	8.02 SU		EPA 150.2
Specific Conductance (Field)	595 umho/cm		SM2510B
Temperature	16.06 °C		SM2550B(2)
Turbidity (Hach)	5.79 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

<u>Lab ID #:</u> 506701	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	264 mg/L	10	EPA 310.2
Chloride	18 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	313 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	4 mg/L	4	SM2540D
Solids, Total (TS)	388 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	370 mg/L	10	SM2540C
Sulfate	21 mg/L	5	EPA 375.2
COD	13.2 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	4.7 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.032 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	2 mg/L	1	SM5310B

<u>Lab ID #:</u> AB17027	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	435.2 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-08-0027

Sample Date: 06/18/2014

IDEM Sample #: AB17432

Water Flow Type Glide

Water Appearance Clear

Water Depth

Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	84.5 %		ASTM D888-09(C)
DO	7.36 mg/L		ASTM D888-09(C)
pH (Field)	8.01 SU		EPA 150.2
Specific Conductance (Field)	599 umho/cm		SM2510B
Temperature	22.08 °C		SM2550B(2)
Turbidity (Hach)	12.8 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation
<b>Lab ID #: 509392</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	266 mg/L	10	EPA 310.2
Chloride	21 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	300 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	9 mg/L	4	SM2540D
Solids, Total (TS)	401 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	365 mg/L	10	SM2540C
Sulfate	18 mg/L	5	EPA 375.2
COD	13.2 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	3.9 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.091 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	2.3 mg/L	1	SM5310B
<b>Lab ID #: AB17432</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1732.9 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-08-0027

Sample Date: 07/16/2014

IDEM Sample #: AB17607

Water Flow Type Glide

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	82.9 %		ASTM D888-09(C)
DO	7.86 mg/L		ASTM D888-09(C)
pH (Field)	7.97 SU		EPA 150.2
Specific Conductance (Field)	536 umho/cm		SM2510B
Temperature	17.76 °C		SM2550B(2)
Turbidity (Hach)	15.4 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID #: 511851	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	228 mg/L	10	EPA 310.2
Chloride	21 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	239 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	11 mg/L	4	SM2540D
Solids, Total (TS)	365 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	331 mg/L	10	SM2540C
Sulfate	23 mg/L	5	EPA 375.2
COD	23.5 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	2.4 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.166 mg/L	0.03	EPA 365.1
TKN	0.6 mg/L	0.3	EPA 351.2
TOC	4.6 mg/L	1	SM5310B

Lab ID #: AB17607	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	980.4 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** GMW-08-0027      **Sample Date:** 07/21/2014      **IDEM Sample #:** AB17871  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	90.1 %		SM4500-OG
DO	7.97 mg/L		SM4500-OG
pH (Field)	7.97 SU		EPA 150.2
Specific Conductance (Field)	585 umho/cm		SM2510B
Temperature	20.29 °C		SM2550B(2)
Turbidity (Hach)	5.43 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

**SiteID:** GMW-08-0027      **Sample Date:** 07/23/2014      **IDEM Sample #:** AB17623  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	81.6 %		ASTM D888-09(C)
DO	7.2 mg/L		ASTM D888-09(C)
pH (Field)	7.76 SU		EPA 150.2
Specific Conductance (Field)	596 umho/cm		SM2510B
Temperature	21.54 °C		SM2550B(2)
Turbidity (Hach)	5.89 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

<u>Lab ID #:</u> AB17623	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1553.1 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-08-0027

Sample Date: 07/30/2014

IDEM Sample #: AB17758

Water Flow Type Pool

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	99.3 %		ASTM D888-09(C)
DO	9.35 mg/L		ASTM D888-09(C)
pH (Field)	7.94 SU		EPA 150.2
Specific Conductance (Field)	586 umho/cm		SM2510B
Temperature	18.2 °C		SM2550B(2)
Turbidity (Hach)	8.31 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID #: AB17758	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	648.8 MPN/100mL	1	SM9223B

Weather Code Definitions					
SC	WD	WS	AT		
Sky Conditions	Wind Direction	Wind Strength	Air Temp		
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** GMW-08-0020      **USGS Hydrologic Unit:** 050800030807  
**Stream Name:** Dry Fork Whitewater River      **County:** Franklin  
**Description:** Dickson Rd      **Latitude:** 39 23 33.28802      **Longitude:** -84 49 16.68112  
**Drainage:**      **Site Number:** 14T-033

**SiteID:** GMW-08-0020      **Sample Date:** 05/21/2014      **IDEM Sample #:** AB17013  
**Water Flow Type** Riffle      **Water Appearance** Clear      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	104.9 %		ASTM D888-09(C)
DO	10.25 mg/L		ASTM D888-09(C)
pH (Field)	8.26 SU		EPA 150.2
Specific Conductance (Field)	592 umho/cm		SM2510B
Temperature	16.4 °C		SM2550B(2)
Turbidity (Hach)	6.08 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #:</u> 506702	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	239 mg/L	10	EPA 310.2
Chloride	20 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	289 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	5 mg/L	4	SM2540D
Solids, Total (TS)	401 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	380 mg/L	10	SM2540C
Sulfate	21 mg/L	5	EPA 375.2
COD	13.6 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	8.8 mg/L	0.25	EPA 353.1
Phosphorus, Total	0.033 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	2.1 mg/L	1	SM5310B

<u>Lab ID #:</u> AB17013	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	816.4 MPN/100mL	1	SM9223B



**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-08-0020

Sample Date: 06/18/2014

IDEM Sample #: AB17418

Water Flow Type Run

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	97.8 %		ASTM D888-09(C)
DO	8.53 mg/L		ASTM D888-09(C)
pH (Field)	8.19 SU		EPA 150.2
Specific Conductance (Field)	597 umho/cm		SM2510B
Temperature	22 °C		SM2550B(2)
Turbidity (Hach)	7.43 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation
<b>Lab ID #: 509393</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	249 mg/L	10	EPA 310.2
Chloride	21 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	303 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	8 mg/L	4	SM2540D
Solids, Total (TS)	411 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	368 mg/L	10	SM2540C
Sulfate	20 mg/L	5	EPA 375.2
COD	< 10 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	6.6 mg/L	0.25	EPA 353.1
Phosphorus, Total	0.064 mg/L	0.03	EPA 365.1
TKN	0.3 mg/L	0.3	EPA 351.2
TOC	1.9 mg/L	1	SM5310B
<b>Lab ID #: AB17418</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	980.4 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-08-0020

Sample Date: 07/16/2014

IDEM Sample #: AB17593

Water Flow Type Eddy

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	95.7 %		ASTM D888-09(C)
DO	9.26 mg/L		ASTM D888-09(C)
pH (Field)	8.22 SU		EPA 150.2
Specific Conductance (Field)	577 umho/cm		SM2510B
Temperature	17.03 °C		SM2550B(2)
Turbidity (Hach)	8.14 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: 511852	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	247 mg/L	10	EPA 310.2
Chloride	18 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	311 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	7 mg/L	4	SM2540D
Solids, Total (TS)	398 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	369 mg/L	10	SM2540C
Sulfate	25 mg/L	5	EPA 375.2
COD	20.7 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	4.6 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.159 mg/L	0.03	EPA 365.1
TKN	0.6 mg/L	0.3	EPA 351.2
TOC	3.6 mg/L	1	SM5310B

Lab ID #: AB17593	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1553.1 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** GMW-08-0020      **Sample Date:** 07/21/2014      **IDEM Sample #:** AB17879  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	140.2 %		SM4500-OG
DO	11.53 mg/L		SM4500-OG
pH (Field)	8.39 SU		EPA 150.2
Specific Conductance (Field)	512 umho/cm		SM2510B
Temperature	23.52 °C		SM2550B(2)
Turbidity (Hach)	3.32 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

**SiteID:** GMW-08-0020      **Sample Date:** 07/23/2014      **IDEM Sample #:** AB17629  
**Water Flow Type** Riffle      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	100.2 %		ASTM D888-09(C)
DO	8.8 mg/L		ASTM D888-09(C)
pH (Field)	8.04 SU		EPA 150.2
Specific Conductance (Field)	547 umho/cm		SM2510B
Temperature	21.69 °C		SM2550B(2)
Turbidity (Hach)	5.76 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

<u>Lab ID #:</u> AB17629	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	980.4 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: GMW-08-0020

Sample Date: 07/30/2014

IDEM Sample #: AB17764

Water Flow Type Riffle

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	103.8 %		ASTM D888-09(C)
DO	9.96 mg/L		ASTM D888-09(C)
pH (Field)	8.15 SU		EPA 150.2
Specific Conductance (Field)	516 umho/cm		SM2510B
Temperature	17.27 °C		SM2550B(2)
Turbidity (Hach)	5.86 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: AB17764	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	214.3 MPN/100mL	1	SM9223B

Weather Code Definitions					
SC	WD	WS	AT		
Sky Conditions	Wind Direction	Wind Strength	Air Temp		
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	