

**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:** 11/13/2013      **IDEM Sample #:** AB14968  
**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 on rocks

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	95.2 %		ASTM D888-09(C)
DO	12.95 mg/L		ASTM D888-09(C)
pH (Field)	7.92 SU		EPA 150.2
Specific Conductance (Field)	574 umho/cm		SM2510B
Temperature	2.51 °C		SM2550B(2)
Turbidity (Hach)	2.08 NTU		EPA 180.1
Air Temp	1 Lookup		Observation
Flow	9.6599 cf/sec		TM D5389-95/D3858
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

<u>Lab ID #:</u> 489291	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	218 mg/L	10	EPA 310.2
Chloride	21 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)	305 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	292 mg/L	10	SM2540C
Sulfate	35 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	1.3 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	3.1 mg/L	1	SM5310B

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

SiteID: GMW-05-0007

Sample Date: 12/9/2013

IDEM Sample #: AB15388

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	94 %		ASTM D888-09(C)
DO	13.14 mg/L		ASTM D888-09(C)
pH (Field)	7.82 SU		EPA 150.2
Specific Conductance (Field)	439 umho/cm		SM2510B
Temperature	1.61 °C		SM2550B(2)
Turbidity (Hach)	4.39 NTU		EPA 180.1
Air Temp	1 Lookup		Observation
Flow	40.726 cf/sec		TM D5389-95/D3858
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID #: 491492	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	162 mg/L	10	EPA 310.2
Chloride	18 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	181 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 4 mg/L	4	SM2540D
Solids, Total (TS)	232 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	216 mg/L	10	SM2540C
Sulfate	19 mg/L	5	EPA 375.2
COD	21.8 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	0.03 mg/L	0.03	EPA 365.1
TKN	0.5 mg/L	0.3	EPA 351.2
TOC	4.4 mg/L	1	SM5310B

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

**SiteID:** GMW-05-0007

**Sample Date:** 1/13/2014

**IDEM Sample #:** AB15850

**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	94.6 %	ASTM D888-09(C)
	DO	12.73 mg/L	ASTM D888-09(C)
	pH (Field)	7.49 SU	EPA 150.2
	Specific Conductance (Field)	400 umho/cm	SM2510B
	Temperature	2.97 °C	SM2550B(2)
	Turbidity (Hach)	15.5 NTU	EPA 180.1
	Air Temp	3 Lookup	Observation
	Flow	112.4797 cf/sec	TM D5389-95/D3858
	Sky Conditions	4 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	2 Lookup	Observation

<b>Lab ID #:</b> 494188	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
	Alkalinity (as CaCO3)	145 mg/L	10 EPA 310.2
	Chloride	15 mg/L	5 SM4500Cl-E
	Hardness (as CaCO3)	178 mg/L	30 EPA 130.1
	Solids, Suspended Total, (TSS)	9 mg/L	4 SM2540D
	Solids, Total (TS)	255 mg/L	10 SM2540B
	Solids, Total Dissolved (TDS)	230 mg/L	10 SM2540C
	Sulfate	18 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	3.2 mg/L	0.1 EPA 353.1
	Phosphorus, Total	0.119 mg/L	0.03 EPA 365.1
	TKN	< 0.3 mg/L	0.3 EPA 351.2
	TOC	3.4 mg/L	1 SM5310B

<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:** 11/13/2013      **IDEM Sample #:** AB14971  
**Water Flow Type** Glide      **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	99.2 %		ASTM D888-09(C)
DO	12.88 mg/L		ASTM D888-09(C)
pH (Field)	7.89 SU		EPA 150.2
Specific Conductance (Field)	576 umho/cm		SM2510B
Temperature	4.29 °C		SM2550B(2)
Turbidity (Hach)	5.6 NTU		EPA 180.1
Air Temp	1 Lookup		Observation
Flow	18.2645 cf/sec		TM D5389-95/D3858
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #:</u> 489293	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	238 mg/L	10	EPA 310.2
Chloride	18 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	250 mg/L	75	EPA 130.1
Solids, Suspended Total, (TSS)	< 4 mg/L	4	SM2540D
Solids, Total (TS)	314 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	297 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	0.4 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	2.7 mg/L	1	SM5310B

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

SiteID: GMW-05-0010

Sample Date: 12/9/2013

IDEM Sample #: AB15391

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	95.2 %		ASTM D888-09(C)
DO	13.54 mg/L		ASTM D888-09(C)
pH (Field)	7.95 SU		EPA 150.2
Specific Conductance (Field)	439 umho/cm		SM2510B
Temperature	0.95 °C		SM2550B(2)
Turbidity (Hach)	4.51 NTU		EPA 180.1
Air Temp	1 Lookup		Observation
Flow	46.633 cf/sec		TM D5389-95/D3858
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID #: 491493	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	182 mg/L	10	EPA 310.2
Chloride	18 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	195 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 4 mg/L	4	SM2540D
Solids, Total (TS)	245 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	229 mg/L	10	SM2540C
Sulfate	19 mg/L	5	EPA 375.2
COD	14.8 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	0.027 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	3.9 mg/L	1	SM5310B

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

**SiteID:** GMW-05-0010

**Sample Date:** 1/13/2014

**IDEM Sample #:** AB15853

**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	92.2 %	ASTM D888-09(C)
	DO	12.33 mg/L	ASTM D888-09(C)
	pH (Field)	7.86 SU	EPA 150.2
	Specific Conductance (Field)	436 umho/cm	SM2510B
	Temperature	3.2 °C	SM2550B(2)
	Turbidity (Hach)	26.4 NTU	EPA 180.1
	Air Temp	3 Lookup	Observation
	Flow	233.0347 cf/sec	TM D5389-95/D3858
	Sky Conditions	4 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	3 Lookup	Observation

<b>Lab ID #:</b> 494190	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
	Alkalinity (as CaCO3)	168 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)	29 mg/L	4 SM2540D
	Solids, Total (TS)	303 mg/L	10 SM2540B
	Solids, Total Dissolved (TDS)	252 mg/L	10 SM2540C
	Sulfate	21 mg/L	5 EPA 375.2
	COD	17 mg/L	10 SM5220D
	Nitrogen, Ammonia	< 0.1 mg/L	0.1 EPA 350.1
	Nitrogen, Nitrate+Nitrite	3 mg/L	0.1 EPA 353.1
	Phosphorus, Total	0.124 mg/L	0.03 EPA 365.1
	TKN	0.3 mg/L	0.3 EPA 351.2
	TOC	3.2 mg/L	1 SM5310B

<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:** 11/13/2013      **IDEM Sample #:** AB14972  
**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	122.2 %		ASTM D888-09(C)
DO	15.2 mg/L		ASTM D888-09(C)
pH (Field)	8.24 SU		EPA 150.2
Specific Conductance (Field)	670 umho/cm		SM2510B
Temperature	5.92 °C		SM2550B(2)
Turbidity (Hach)	3.56 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #:</u> 489294	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	282 mg/L	10	EPA 310.2
Chloride	24 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	270 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 4 mg/L	4	SM2540D
Solids, Total (TS)	365 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	342 mg/L	10	SM2540C
Sulfate	31 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 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.01 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	1.6 mg/L	1	SM5310B

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

SiteID: GMW-04-0018      Sample Date: 12/9/2013      IDEM Sample #: AB15392  
 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

Lab ID #:	Result	Reporting Limit	Method
% Sat	103.7 %		ASTM D888-09(C)
DO	13.64 mg/L		ASTM D888-09(C)
pH (Field)	8.12 SU		EPA 150.2
Specific Conductance (Field)	668 umho/cm		SM2510B
Temperature	3.79 °C		SM2550B(2)
Turbidity (Hach)	2.86 NTU		EPA 180.1
Air Temp	1 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

  

Lab ID #: 491495	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	285 mg/L	10	EPA 310.2
Chloride	27 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	316 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	29 mg/L	5	EPA 375.2
COD	11.7 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	0.016 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	1.5 mg/L	1	SM5310B

# Indiana Department of Environmental Management

## Office of Water Quality-Watershed Assessment and Planning Branch

### Surface Water Results Summary

**SiteID:** GMW-04-0018      **Sample Date:** 1/13/2014      **IDEM Sample #:** AB15854  
**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 #:	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	93.1 %		ASTM D888-09(C)
DO	12.4 mg/L		ASTM D888-09(C)
pH (Field)	8.08 SU		EPA 150.2
Specific Conductance (Field)	478 umho/cm		SM2510B
Temperature	3.31 °C		SM2550B(2)
Turbidity (Hach)	63.4 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	3 Lookup		Observation

Lab ID #: 494191	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	188 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)	73 mg/L	4	SM2540D
Solids, Total (TS)	365 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	276 mg/L	10	SM2540C
Sulfate	20 mg/L	5	EPA 375.2
COD	20.3 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	3.6 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.245 mg/L	0.03	EPA 365.1
TKN	0.5 mg/L	0.3	EPA 351.2
TOC	3.4 mg/L	1	SM5310B

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-06-0015      **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:** 11/13/2013      **IDEM Sample #:** AB14973  
**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 pooled at bridge. Algae on rocks

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	91.4 %		ASTM D888-09(C)
DO	11.62 mg/L		ASTM D888-09(C)
pH (Field)	7.84 SU		EPA 150.2
Specific Conductance (Field)	574 umho/cm		SM2510B
Temperature	5.11 °C		SM2550B(2)
Turbidity (Hach)	11.1 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Flow	6.204 cf/sec		TM D5389-95/D3858
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #:</u> 489296	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	235 mg/L	10	EPA 310.2
Chloride	17 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	264 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)	286 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	0.1 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	3.3 mg/L	1	SM5310B

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

SiteID: GMW-06-0015

Sample Date: 12/9/2013

IDEM Sample #: AB15393

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	13.85 mg/L		ASTM D888-09(C)
pH (Field)	7.89 SU		EPA 150.2
Specific Conductance (Field)	555 umho/cm		SM2510B
Temperature	1.62 °C		SM2550B(2)
Turbidity (Hach)	5.34 NTU		EPA 180.1
Air Temp	1 Lookup		Observation
Flow	13.92 cf/sec		TM D5389-95/D3858
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID #: 491497	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	222 mg/L	10	EPA 310.2
Chloride	20 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	245 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 4 mg/L	4	SM2540D
Solids, Total (TS)	294 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	274 mg/L	10	SM2540C
Sulfate	26 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	0.2 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.014 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	2.6 mg/L	1	SM5310B

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

**SiteID:** GMW-06-0015

**Sample Date:** 1/13/2014

**IDEM Sample #:** AB15855

**Water Flow Type** Glide

**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	93.8 %	ASTM D888-09(C)
	DO	12.6 mg/L	ASTM D888-09(C)
	pH (Field)	7.72 SU	EPA 150.2
	Specific Conductance (Field)	390 umho/cm	SM2510B
	Temperature	3.04 °C	SM2550B(2)
	Turbidity (Hach)	21.1 NTU	EPA 180.1
	Air Temp	3 Lookup	Observation
	Flow	104.6673 cf/sec	TM D5389-95/D3858
	Sky Conditions	4 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	3 Lookup	Observation

<b>Lab ID #:</b> 494193	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
	Alkalinity (as CaCO3)	147 mg/L	10 EPA 310.2
	Chloride	16 mg/L	5 SM4500Cl-E
	Hardness (as CaCO3)	175 mg/L	30 EPA 130.1
	Solids, Suspended Total, (TSS)	12 mg/L	4 SM2540D
	Solids, Total (TS)	253 mg/L	10 SM2540B
	Solids, Total Dissolved (TDS)	226 mg/L	10 SM2540C
	Sulfate	18 mg/L	5 EPA 375.2
	COD	19.2 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	0.104 mg/L	0.03 EPA 365.1
	TKN	0.4 mg/L	0.3 EPA 351.2
	TOC	3.9 mg/L	1 SM5310B

<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:** 11/13/2013      **IDEM Sample #:** AB14974  
**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	114.9 %		ASTM D888-09(C)
DO	13.9 mg/L		ASTM D888-09(C)
pH (Field)	8.24 SU		EPA 150.2
Specific Conductance (Field)	640 umho/cm		SM2510B
Temperature	6.98 °C		SM2550B(2)
Turbidity (Hach)	2.25 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #:</u> 489297	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	265 mg/L	10	EPA 310.2
Chloride	23 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	302 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)	321 mg/L	10	SM2540C
Sulfate	32 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	0.009 mg/L	0.03	EPA 365.1
TKN	0.3 mg/L	0.3	EPA 351.2
TOC	1.5 mg/L	1	SM5310B

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

SiteID: GMW-06-0012

Sample Date: 12/9/2013

IDEM Sample #: AB15394

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	101.4 %		ASTM D888-09(C)
DO	13.6 mg/L		ASTM D888-09(C)
pH (Field)	8.09 SU		EPA 150.2
Specific Conductance (Field)	619 umho/cm		SM2510B
Temperature	3.06 °C		SM2550B(2)
Turbidity (Hach)	2.95 NTU		EPA 180.1
Air Temp	1 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation
<b>Lab ID #: 491498</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	257 mg/L	10	EPA 310.2
Chloride	25 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	286 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 4 mg/L	4	SM2540D
Solids, Total (TS)	339 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	318 mg/L	10	SM2540C
Sulfate	28 mg/L	5	EPA 375.2
COD	14.6 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	0.015 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	2.1 mg/L	1	SM5310B

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

SiteID: GMW-06-0012

Sample Date: 1/13/2014

IDEM Sample #: AB15856

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	93.7 %		ASTM D888-09(C)
DO	12.39 mg/L		ASTM D888-09(C)
pH (Field)	8.03 SU		EPA 150.2
Specific Conductance (Field)	460 umho/cm		SM2510B
Temperature	3.6 °C		SM2550B(2)
Turbidity (Hach)	64.5 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	3 Lookup		Observation

Lab ID #: 494194	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	180 mg/L	10	EPA 310.2
Chloride	18 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	199 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	76 mg/L	4	SM2540D
Solids, Total (TS)	357 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	265 mg/L	10	SM2540C
Sulfate	20 mg/L	5	EPA 375.2
COD	17.9 mg/L	10	SM5220D
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	3.3 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.222 mg/L	0.03	EPA 365.1
TKN	0.6 mg/L	0.3	EPA 351.2
TOC	3.6 mg/L	1	SM5310B

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-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:** 11/13/2013      **IDEM Sample #:** AB14975  
**Water Flow Type** Eddy      **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	102.8 %		ASTM D888-09(C)
DO	10.77 mg/L		ASTM D888-09(C)
pH (Field)	7.9 SU		EPA 150.2
Specific Conductance (Field)	512 umho/cm		SM2510B
Temperature	13.2 °C		SM2550B(2)
Turbidity (Hach)	7 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #:</u> 489298	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	175 mg/L	10	EPA 310.2
Chloride	29 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	207 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 4 mg/L	4	SM2540D
Solids, Total (TS)	267 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	246 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	0.5 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.021 mg/L	0.03	EPA 365.1
TKN	0.5 mg/L	0.3	EPA 351.2
TOC	2.7 mg/L	1	SM5310B

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

SiteID: GMW-07-0026

Sample Date: 12/9/2013

IDEM Sample #: AB15395

Water Flow Type Run

Water Appearance Clear

Water Depth  Algae?

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

Sampler Comments: Lots of algae on exposed rocks and in-stream rooted macrophytes

Lab ID #:	Result	Reporting Limit	Method
% Sat	147.2 %		ASTM D888-09(C)
DO	18.11 mg/L		ASTM D888-09(C)
pH (Field)	8.94 SU		EPA 150.2
Specific Conductance (Field)	504 umho/cm		SM2510B
Temperature	6.39 °C		SM2550B(2)
Turbidity (Hach)	3.21 NTU		EPA 180.1
Air Temp	1 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation
<b>Lab ID #: 491499</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	178 mg/L	10	EPA 310.2
Chloride	32 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	207 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 4 mg/L	4	SM2540D
Solids, Total (TS)	275 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	252 mg/L	10	SM2540C
Sulfate	26 mg/L	5	EPA 375.2
COD	14.6 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	0.011 mg/L	0.03	EPA 365.1
TKN	0.3 mg/L	0.3	EPA 351.2
TOC	2.8 mg/L	1	SM5310B

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

**SiteID:** GMW-07-0026

**Sample Date:** 1/13/2014

**IDEM Sample #:** AB15857

**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	100.8 %	ASTM D888-09(C)
	DO	13.57 mg/L	ASTM D888-09(C)
	pH (Field)	7.98 SU	EPA 150.2
	Specific Conductance (Field)	441 umho/cm	SM2510B
	Temperature	2.95 °C	SM2550B(2)
	Turbidity (Hach)	13.6 NTU	EPA 180.1
	Air Temp	2 Lookup	Observation
	Sky Conditions	4 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	2 Lookup	Observation

<b>Lab ID #:</b> 494195	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
	Alkalinity (as CaCO3)	157 mg/L	10 EPA 310.2
	Chloride	27 mg/L	5 SM4500Cl-E
	Hardness (as CaCO3)	185 mg/L	30 EPA 130.1
	Solids, Suspended Total, (TSS)	4 mg/L	4 SM2540D
	Solids, Total (TS)	266 mg/L	10 SM2540B
	Solids, Total Dissolved (TDS)	242 mg/L	10 SM2540C
	Sulfate	25 mg/L	5 EPA 375.2
	COD	14.8 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	0.07 mg/L	0.03 EPA 365.1
	TKN	0.5 mg/L	0.3 EPA 351.2
	TOC	3.3 mg/L	1 SM5310B

<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:** 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:** 11/13/2013      **IDEM Sample #:** AB14976  
**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	110.4 %		ASTM D888-09(C)
DO	13.65 mg/L		ASTM D888-09(C)
pH (Field)	7.79 SU		EPA 150.2
Specific Conductance (Field)	595 umho/cm		SM2510B
Temperature	6.19 °C		SM2550B(2)
Turbidity (Hach)	3.59 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Flow	2.7191 cf/sec		TM D5389-95/D3858
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #:</u> 489299	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	233 mg/L	10	EPA 310.2
Chloride	18 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	273 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 4 mg/L	4	SM2540D
Solids, Total (TS)	319 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	301 mg/L	10	SM2540C
Sulfate	37 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	0.016 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	1.9 mg/L	1	SM5310B

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

SiteID: GMW080-0003

Sample Date: 12/9/2013

IDEM Sample #: AB15396

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 on rocks

Lab ID #:	Result	Reporting Limit	Method
% Sat	103.2 %		ASTM D888-09(C)
DO	14.17 mg/L		ASTM D888-09(C)
pH (Field)	7.93 SU		EPA 150.2
Specific Conductance (Field)	582 umho/cm		SM2510B
Temperature	2.17 °C		SM2550B(2)
Turbidity (Hach)	3.05 NTU		EPA 180.1
Air Temp	1 Lookup		Observation
Flow	6.859 cf/sec		TM D5389-95/D3858
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID #: 491500	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	224 mg/L	10	EPA 310.2
Chloride	22 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)	317 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	301 mg/L	10	SM2540C
Sulfate	34 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	0.9 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.012 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	1.5 mg/L	1	SM5310B

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

**SiteID:** GMW080-0003

**Sample Date:** 1/13/2014

**IDEM Sample #:** AB15858

**Water Flow Type** Pool

**Water Appearance** Murky

**Water Depth**  **Algae?**

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

**Sampler Comments:** The water level was too high to measure flow.

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
	% Sat	94.6 %	ASTM D888-09(C)
	DO	12.39 mg/L	ASTM D888-09(C)
	pH (Field)	7.84 SU	EPA 150.2
	Specific Conductance (Field)	413 umho/cm	SM2510B
	Temperature	4.03 °C	SM2550B(2)
	Turbidity (Hach)	17.2 NTU	EPA 180.1
	Air Temp	2 Lookup	Observation
	Sky Conditions	7 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	1 Lookup	Observation

<b>Lab ID #:</b> 494196	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
	Alkalinity (as CaCO3)	157 mg/L	10 EPA 310.2
	Chloride	14 mg/L	5 SM4500Cl-E
	Hardness (as CaCO3)	179 mg/L	30 EPA 130.1
	Solids, Suspended Total, (TSS)	6 mg/L	4 SM2540D
	Solids, Total (TS)	265 mg/L	10 SM2540B
	Solids, Total Dissolved (TDS)	243 mg/L	10 SM2540C
	Sulfate	23 mg/L	5 EPA 375.2
	COD	15.8 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	0.118 mg/L	0.03 EPA 365.1
	TKN	< 0.3 mg/L	0.3 EPA 351.2
	TOC	3.8 mg/L	1 SM5310B

<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-08-0014      **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:** 11/13/2013      **IDEM Sample #:** AB14977  
**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 on rocks

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	111.5 %		ASTM D888-09(C)
DO	14.18 mg/L		ASTM D888-09(C)
pH (Field)	8.16 SU		EPA 150.2
Specific Conductance (Field)	627 umho/cm		SM2510B
Temperature	5.1 °C		SM2550B(2)
Turbidity (Hach)	1.93 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Flow	1.3412 cf/sec		TM D5389-95/D3858
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #:</u> 489300	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	250 mg/L	10	EPA 310.2
Chloride	23 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	287 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)	326 mg/L	10	SM2540C
Sulfate	41 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	0.02 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	2.2 mg/L	1	SM5310B

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

SiteID: GMW-08-0014      Sample Date: 12/9/2013      IDEM Sample #: AB15397  
 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 on rocks

Lab ID #:	Result	Reporting Limit	Method
% Sat	106.9 %		ASTM D888-09(C)
DO	15.04 mg/L		ASTM D888-09(C)
pH (Field)	8.29 SU		EPA 150.2
Specific Conductance (Field)	590 umho/cm		SM2510B
Temperature	1.31 °C		SM2550B(2)
Turbidity (Hach)	3.53 NTU		EPA 180.1
Air Temp	1 Lookup		Observation
Flow	3.461 cf/sec		TM D5389-95/D3858
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID #: 491501	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	232 mg/L	10	EPA 310.2
Chloride	25 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	257 mg/L	75	EPA 130.1
Solids, Suspended Total, (TSS)	< 4 mg/L	4	SM2540D
Solids, Total (TS)	323 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	308 mg/L	10	SM2540C
Sulfate	34 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	0.018 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	2.3 mg/L	1	SM5310B

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

**SiteID:** GMW-08-0014

**Sample Date:** 1/13/2014

**IDEM Sample #:** AB15859

**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	95.2 %	ASTM D888-09(C)
	DO	12.41 mg/L	ASTM D888-09(C)
	pH (Field)	7.99 SU	EPA 150.2
	Specific Conductance (Field)	376 umho/cm	SM2510B
	Temperature	4.19 °C	SM2550B(2)
	Turbidity (Hach)	22 NTU	EPA 180.1
	Air Temp	2 Lookup	Observation
	Flow	25.0566 cf/sec	TM D5389-95/D3858
	Sky Conditions	4 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	2 Lookup	Observation

<b>Lab ID #:</b> 494197	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
	Alkalinity (as CaCO3)	136 mg/L	10 EPA 310.2
	Chloride	16 mg/L	5 SM4500Cl-E
	Hardness (as CaCO3)	161 mg/L	30 EPA 130.1
	Solids, Suspended Total, (TSS)	6 mg/L	4 SM2540D
	Solids, Total (TS)	253 mg/L	10 SM2540B
	Solids, Total Dissolved (TDS)	229 mg/L	10 SM2540C
	Sulfate	21 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	1.4 mg/L	0.1 EPA 353.1
	Phosphorus, Total	0.126 mg/L	0.03 EPA 365.1
	TKN	0.3 mg/L	0.3 EPA 351.2
	TOC	4.9 mg/L	1 SM5310B

<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-08-0015      **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:** 11/14/2013      **IDEM Sample #:** AB14978  
**Water Flow Type** Eddy      **Water Appearance** Clear      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:** Agae on rocks

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	91.4 %		ASTM D888-09(C)
DO	10.42 mg/L		ASTM D888-09(C)
pH (Field)	8 SU		EPA 150.2
Specific Conductance (Field)	525 umho/cm		SM2510B
Temperature	9.49 °C		SM2550B(2)
Turbidity (Hach)	8.66 NTU		EPA 180.1
Air Temp	1 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

<u>Lab ID #:</u> 489301	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	195 mg/L	10	EPA 310.2
Chloride	28 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	218 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	8 mg/L	4	SM2540D
Solids, Total (TS)	290 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	0.8 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	2.2 mg/L	1	SM5310B

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

SiteID: GMW-08-0015      Sample Date: 12/10/2013      IDEM Sample #: AB15398  
 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

Lab ID #:	Result	Reporting Limit	Method
% Sat	90.9 %		ASTM D888-09(C)
DO	12.43 mg/L		ASTM D888-09(C)
pH (Field)	7.85 SU		EPA 150.2
Specific Conductance (Field)	596 umho/cm		SM2510B
Temperature	2.34 °C		SM2550B(2)
Turbidity (Hach)	3.06 NTU		EPA 180.1
Air Temp	1 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation
<b>Lab ID #: 491502</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	244 mg/L	10	EPA 310.2
Chloride	26 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	265 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)	309 mg/L	10	SM2540C
Sulfate	27 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	1.5 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.012 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	1.9 mg/L	1	SM5310B

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

**SiteID:** GMW-08-0015

**Sample Date:** 1/14/2014

**IDEM Sample #:** AB15860

**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	95.7 %	ASTM D888-09(C)
	DO	12.75 mg/L	ASTM D888-09(C)
	pH (Field)	8.12 SU	EPA 150.2
	Specific Conductance (Field)	480 umho/cm	SM2510B
	Temperature	3.35 °C	SM2550B(2)
	Turbidity (Hach)	33.5 NTU	EPA 180.1
	Air Temp	1 Lookup	Observation
	Sky Conditions	2 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	1 Lookup	Observation

<b>Lab ID #:</b> 494198	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
	Alkalinity (as CaCO3)	187 mg/L	10 EPA 310.2
	Chloride	22 mg/L	5 SM4500Cl-E
	Hardness (as CaCO3)	235 mg/L	30 EPA 130.1
	Solids, Suspended Total, (TSS)	41 mg/L	4 SM2540D
	Solids, Total (TS)	337 mg/L	10 SM2540B
	Solids, Total Dissolved (TDS)	272 mg/L	10 SM2540C
	Sulfate	23 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	2.5 mg/L	0.1 EPA 353.1
	Phosphorus, Total	0.152 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>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:** 11/14/2013      **IDEM Sample #:** AB14969  
**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 on rocks

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	98.6 %		ASTM D888-09(C)
DO	13.96 mg/L		ASTM D888-09(C)
pH (Field)	8.07 SU		EPA 150.2
Specific Conductance (Field)	656 umho/cm		SM2510B
Temperature	1.08 °C		SM2550B(2)
Turbidity (Hach)	2.37 NTU		EPA 180.1
Air Temp	1 Lookup		Observation
Flow	1.5386 cf/sec		TM D5389-95/D3858
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

<u>Lab ID #:</u> 489302	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	276 mg/L	10	EPA 310.2
Chloride	20 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	325 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 4 mg/L	4	SM2540D
Solids, Total (TS)	370 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	349 mg/L	10	SM2540C
Sulfate	44 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	0.016 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	2.1 mg/L	1	SM5310B

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

SiteID: GMW-08-0016

Sample Date: 12/10/2013

IDEM Sample #: AB15389

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	95.4 %		ASTM D888-09(C)
DO	13.91 mg/L		ASTM D888-09(C)
pH (Field)	7.97 SU		EPA 150.2
Specific Conductance (Field)	651 umho/cm		SM2510B
Temperature	0.03 °C		SM2550B(2)
Turbidity (Hach)	2.59 NTU		EPA 180.1
Air Temp	1 Lookup		Observation
Flow	3.555 cf/sec		TM D5389-95/D3858
Sky Conditions	3 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: 491503	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	277 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)	< 4 mg/L	4	SM2540D
Solids, Total (TS)	367 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	344 mg/L	10	SM2540C
Sulfate	40 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	0.011 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	1.9 mg/L	1	SM5310B

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

**SiteID:** GMW-08-0016

**Sample Date:** 1/14/2014

**IDEM Sample #:** AB15851

**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	96.1 %	ASTM D888-09(C)
	DO	12.89 mg/L	ASTM D888-09(C)
	pH (Field)	8.25 SU	EPA 150.2
	Specific Conductance (Field)	512 umho/cm	SM2510B
	Temperature	3.07 °C	SM2550B(2)
	Turbidity (Hach)	21 NTU	EPA 180.1
	Air Temp	2 Lookup	Observation
	Flow	74.3824 cf/sec	TM D5389-95/D3858
	Sky Conditions	4 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	1 Lookup	Observation

<b>Lab ID #:</b> 494199	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
	Alkalinity (as CaCO3)	209 mg/L	10 EPA 310.2
	Chloride	16 mg/L	5 SM4500Cl-E
	Hardness (as CaCO3)	260 mg/L	75 EPA 130.1
	Solids, Suspended Total, (TSS)	15 mg/L	4 SM2540D
	Solids, Total (TS)	350 mg/L	10 SM2540B
	Solids, Total Dissolved (TDS)	303 mg/L	10 SM2540C
	Sulfate	20 mg/L	5 EPA 375.2
	COD	12.7 mg/L	10 SM5220D
	Nitrogen, Ammonia	< 0.1 mg/L	0.1 EPA 350.1
	Nitrogen, Nitrate+Nitrite	5.4 mg/L	0.25 EPA 353.1
	Phosphorus, Total	0.124 mg/L	0.03 EPA 365.1
	TKN	0.5 mg/L	0.3 EPA 351.2
	TOC	2.8 mg/L	1 SM5310B

<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-08-0021      **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:** 11/14/2013      **IDEM Sample #:** AB14970  
**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	94.6 %		ASTM D888-09(C)
DO	11.11 mg/L		ASTM D888-09(C)
pH (Field)	8.08 SU		EPA 150.2
Specific Conductance (Field)	532 umho/cm		SM2510B
Temperature	8.27 °C		SM2550B(2)
Turbidity (Hach)	8.05 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

<u>Lab ID #:</u> 489303	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	199 mg/L	10	EPA 310.2
Chloride	28 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	210 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	5 mg/L	4	SM2540D
Solids, Total (TS)	293 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	268 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	0.8 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	2.5 mg/L	1	SM5310B

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

SiteID: GMW-08-0021      Sample Date: 12/10/2013      IDEM Sample #: AB15390  
 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

Lab ID #:	Result	Reporting Limit	Method
% Sat	94.7 %		ASTM D888-09(C)
DO	12.89 mg/L		ASTM D888-09(C)
pH (Field)	8.05 SU		EPA 150.2
Specific Conductance (Field)	590 umho/cm		SM2510B
Temperature	2.54 °C		SM2550B(2)
Turbidity (Hach)	3.31 NTU		EPA 180.1
Air Temp	1 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation
<b>Lab ID #: 491504</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	236 mg/L	10	EPA 310.2
Chloride	28 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	272 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)	300 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	1.4 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.011 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	1.9 mg/L	1	SM5310B

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

SiteID: GMW-08-0021

Sample Date: 1/14/2014

IDEM Sample #: AB15852

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	96 %		ASTM D888-09(C)
DO	12.79 mg/L		ASTM D888-09(C)
pH (Field)	8.16 SU		EPA 150.2
Specific Conductance (Field)	475 umho/cm		SM2510B
Temperature	3.4 °C		SM2550B(2)
Turbidity (Hach)	45.3 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: 494200	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	183 mg/L	10	EPA 310.2
Chloride	22 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	212 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	48 mg/L	4	SM2540D
Solids, Total (TS)	337 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	271 mg/L	10	SM2540C
Sulfate	23 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	2.5 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.155 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	3.3 mg/L	1	SM5310B

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	