

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

**SiteID:** WBU-18-0004      **USGS Hydrologic Unit:** 051201111804  
**Stream Name:** Maria Creek      **County:** Knox  
**Description:** N Old 41      **Latitude:** 38 46 24.47793      **Longitude:** -87 28 21.95307  
**Drainage:** 90.629      **Site Number:** 20T-001

**SiteID:** WBU-18-0004      **Sample Date:** 8/5/2020      **IDEM Sample #:** AB43141  
**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	84.6 %		ASTM D888-09(C)
DO	7.66 mg/L		ASTM D888-09(C)
pH (Field)	7.55 SU		EPA 150.2
Specific Conductance (Field)	461 umho/cm		SM2510B
Temperature	20.1 °C		SM2550B(2)
Turbidity (Hach)	26.7 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 #:	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	313 MPN/100mL	1	SM9223B

**SiteID:** WBU-18-0004      **Sample Date:** 8/19/2020      **IDEM Sample #:** AB43859  
**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	86.8 %		ASTM D888-09(C)
DO	7.54 mg/L		ASTM D888-09(C)
pH (Field)	7.82 SU		EPA 150.2
Specific Conductance (Field)	595 umho/cm		SM2510B
Temperature	22.3 °C		SM2550B(2)
Turbidity (Hach)	6.55 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	2 Lookup		Observation

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Lab ID #: 500-186716-17

	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	190 mg/L	5	SM2320B
Chloride	22 mg/L	2	EPA 300.0
Hardness (as CaCO3)	270 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	7 mg/L	5	SM2540D
Solids, Total (TS)	400 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	310 mg/L	30	SM2540C
Sulfate	86 mg/L	2	EPA 300.0
Calcium (Total)	68 mg/L	0.2	EPA 200.7
Magnesium (Total)	24 mg/L	0.1	EPA 200.7
COD	14 mg/L	10	SM5220C
Nitrogen, Ammonia	0.25 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	1.2 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.099 mg/L	0.05	SM4500P-E
TKN	< 0.4 mg/L	0.4	SM4500N(Org)-D
TOC	2.9 mg/L	1	SM5310C

SiteID: WBU-18-0004

Sample Date: 9/16/2020

IDEM Sample #: AB44126

Water Flow Type Glide

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	89.7 %		ASTM D888-09(C)
DO	8.38 mg/L		ASTM D888-09(C)
pH (Field)	7.84 SU		EPA 150.2
Specific Conductance (Field)	1009 umho/cm		SM2510B
Temperature	18.5 °C		SM2550B(2)
Turbidity (Hach)	8.28 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

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Lab ID #: 500-188008-14	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	210 mg/L	5	SM2320B
Chloride	30 mg/L	10	EPA 300.0
Hardness (as CaCO3)	430 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	7.7 mg/L	5	I-3765-85
Solids, Total (TS)	770 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	680 mg/L	30	SM2540C
Sulfate	300 mg/L	10	EPA 300.0
Calcium (Total)	130 mg/L	0.2	EPA 200.7
Magnesium (Total)	25 mg/L	0.1	EPA 200.7
COD	12 mg/L	10	SM5220C
Nitrogen, Ammonia	0.16 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	1.8 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.049 mg/L	0.05	SM4500P-E
TKN	0.47 mg/L	0.4	SM4500N(Org)-D
TOC	2.1 mg/L	1	SM5310C

Lab ID #: AB44126	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	387.3 MPN/100mL	1	SM9223B

**SiteID:** WBU-18-0004      **Sample Date:** 10/14/2020      **IDEM Sample #:** AB44300  
**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	77.3 %		ASTM D888-09(C)
DO	7.91 mg/L		ASTM D888-09(C)
pH (Field)	7.88 SU		EPA 150.2
Specific Conductance (Field)	547 umho/cm		SM2510B
Temperature	14.3 °C		SM2550B(2)
Turbidity (Hach)	4.52 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: 500-189597-14	Result	Reporting Limit	Method
Hardness (as CaCO3)	270 mg/L	0.91	SM2340B
Calcium (Total)	68 mg/L	0.2	EPA 200.7
Magnesium (Total)	23 mg/L	0.1	EPA 200.7

Lab ID #: AB44300	Result	Reporting Limit	Method
Coliforms (Total)	1553.1 MPN/100mL	1	SM9223B
E. coli	54.6 MPN/100mL	1	SM9223B

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

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<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:** WBU-18-0006      **USGS Hydrologic Unit:** 051201111804  
**Stream Name:** Cotton Branch      **County:** Knox  
**Description:** E Springtown Road      **Latitude:** 38 48 17.43643      **Longitude:** -87 26 12.60862  
**Drainage:** 3.133      **Site Number:** 20T-003

**SiteID:** WBU-18-0006      **Sample Date:** 8/5/2020      **IDEM Sample #:** AB43140  
**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	8.56 mg/L		ASTM D888-09(C)
pH (Field)	7.78 SU		EPA 150.2
Specific Conductance (Field)	580 umho/cm		SM2510B
Temperature	17.2 °C		SM2550B(2)
Turbidity (Hach)	4.98 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 #:	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	285.1 MPN/100mL	1	SM9223B

**SiteID:** WBU-18-0006      **Sample Date:** 8/19/2020      **IDEM Sample #:** AB43858  
**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	88 %		ASTM D888-09(C)
DO	8.27 mg/L		ASTM D888-09(C)
pH (Field)	7.98 SU		EPA 150.2
Specific Conductance (Field)	554 umho/cm		SM2510B
Temperature	18.3 °C		SM2550B(2)
Turbidity (Hach)	5.58 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	2 Lookup		Observation

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Lab ID #:	500-186716-16	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	230 mg/L	5	SM2320B	
Chloride	12 mg/L	2	EPA 300.0	
Hardness (as CaCO3)	300 mg/L	0.91	SM2340B	
Solids, Suspended Total, (TSS)	7.5 mg/L	5	SM2540D	
Solids, Total (TS)	450 mg/L	30	SM2540B	
Solids, Total Dissolved (TDS)	300 mg/L	30	SM2540C	
Sulfate	28 mg/L	2	EPA 300.0	
Calcium (Total)	78 mg/L	0.2	EPA 200.7	
Magnesium (Total)	25 mg/L	0.1	EPA 200.7	
COD	13 mg/L	10	SM5220C	
Nitrogen, Ammonia	0.13 mg/L	0.2	SM4500NH3-G	
Nitrogen, Nitrate+Nitrite	5 mg/L	0.5	SM4500NO3-F	
Phosphorus, Total	0.063 mg/L	0.05	SM4500P-E	
TKN	< 0.4 mg/L	0.4	SM4500N(Org)-D	
TOC	1.4 mg/L	1	SM5310C	

**SiteID:** WBU-18-0006      **Sample Date:** 9/16/2020      **IDEM Sample #:** AB44125  
**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	90.3 %		ASTM D888-09(C)
DO	8.93 mg/L		ASTM D888-09(C)
pH (Field)	7.99 SU		EPA 150.2
Specific Conductance (Field)	550 umho/cm		SM2510B
Temperature	15.9 °C		SM2550B(2)
Turbidity (Hach)	3.86 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

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Lab ID #: 500-188008-13	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	240 mg/L	5	SM2320B
Chloride	13 mg/L	10	EPA 300.0
Hardness (as CaCO3)	270 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	3 mg/L	5	I-3765-85
Solids, Total (TS)	390 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	290 mg/L	30	SM2540C
Sulfate	28 mg/L	10	EPA 300.0
Calcium (Total)	73 mg/L	0.2	EPA 200.7
Magnesium (Total)	22 mg/L	0.1	EPA 200.7
COD	< 10 mg/L	10	SM5220C
Nitrogen, Ammonia	< 0.2 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	5.8 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	< 0.05 mg/L	0.05	SM4500P-E
TKN	0.37 mg/L	0.4	SM4500N(Org)-D
TOC	1.1 mg/L	1	SM5310C

Lab ID #: AB44125	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	547.5 MPN/100mL	1	SM9223B

**SiteID:** WBU-18-0006      **Sample Date:** 10/14/2020      **IDEM Sample #:** AB44299  
**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	72.5 %		ASTM D888-09(C)
DO	7.63 mg/L		ASTM D888-09(C)
pH (Field)	7.85 SU		EPA 150.2
Specific Conductance (Field)	558 umho/cm		SM2510B
Temperature	12.9 °C		SM2550B(2)
Turbidity (Hach)	2.71 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: 500-189597-13	Result	Reporting Limit	Method
Hardness (as CaCO3)	300 mg/L	0.91	SM2340B
Calcium (Total)	78 mg/L	0.2	EPA 200.7
Magnesium (Total)	24 mg/L	0.1	EPA 200.7

Lab ID #: AB44299	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	147 MPN/100mL	1	SM9223B

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<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  
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Surface Water Results Summary**

**SiteID:** WBU-18-0007      **USGS Hydrologic Unit:** 051201111804  
**Stream Name:** Maria Creek      **County:** Knox  
**Description:** N Perry Road      **Latitude:** 38 48 40.75368      **Longitude:** -87 25 4.32367  
**Drainage:** 78.969      **Site Number:** 20T-004

**SiteID:** WBU-18-0007      **Sample Date:** 8/5/2020      **IDEM Sample #:** AB43139  
**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	87.8 %		ASTM D888-09(C)
DO	8.01 mg/L		ASTM D888-09(C)
pH (Field)	7.53 SU		EPA 150.2
Specific Conductance (Field)	527 umho/cm		SM2510B
Temperature	19.8 °C		SM2550B(2)
Turbidity (Hach)	31.1 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 #:	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	209.8 MPN/100mL	1	SM9223B

**SiteID:** WBU-18-0007      **Sample Date:** 8/19/2020      **IDEM Sample #:** AB43857  
**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	141.8 %		ASTM D888-09(C)
DO	12.35 mg/L		ASTM D888-09(C)
pH (Field)	8.1 SU		EPA 150.2
Specific Conductance (Field)	650 umho/cm		SM2510B
Temperature	22.1 °C		SM2550B(2)
Turbidity (Hach)	5.84 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	3 Lookup		Observation

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Lab ID #: 500-186716-15

	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	170 mg/L	5	SM2320B
Chloride	29 mg/L	2	EPA 300.0
Hardness (as CaCO3)	270 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	6 mg/L	5	SM2540D
Solids, Total (TS)	500 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	400 mg/L	30	SM2540C
Sulfate	130 mg/L	4	EPA 300.0
Calcium (Total)	72 mg/L	0.2	EPA 200.7
Magnesium (Total)	21 mg/L	0.1	EPA 200.7
COD	16 mg/L	10	SM5220C
Nitrogen, Ammonia	0.1 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	1.6 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.074 mg/L	0.05	SM4500P-E
TKN	< 0.4 mg/L	0.4	SM4500N(Org)-D
TOC	2.5 mg/L	1	SM5310C

**SiteID:** WBU-18-0007      **Sample Date:** 9/16/2020      **IDEM Sample #:** AB44124  
**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	120.4 %		ASTM D888-09(C)
DO	11.33 mg/L		ASTM D888-09(C)
pH (Field)	7.93 SU		EPA 150.2
Specific Conductance (Field)	486 umho/cm		SM2510B
Temperature	18.2 °C		SM2550B(2)
Turbidity (Hach)	7.59 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

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Lab ID #: 500-188008-12	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	190 mg/L	5	SM2320B
Chloride	24 mg/L	10	EPA 300.0
Hardness (as CaCO3)	250 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	6 mg/L	5	I-3765-85
Solids, Total (TS)	490 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	390 mg/L	30	SM2540C
Sulfate	110 mg/L	10	EPA 300.0
Calcium (Total)	67 mg/L	0.2	EPA 200.7
Magnesium (Total)	21 mg/L	0.1	EPA 200.7
COD	6.8 mg/L	10	SM5220C
Nitrogen, Ammonia	< 0.2 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	2.2 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.09 mg/L	0.05	SM4500P-E
TKN	0.35 mg/L	0.4	SM4500N(Org)-D
TOC	2 mg/L	1	SM5310C

Lab ID #: AB44124	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	56.3 MPN/100mL	1	SM9223B

**SiteID:** WBU-18-0007      **Sample Date:** 10/14/2020      **IDEM Sample #:** AB44298  
**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	119.5 %		ASTM D888-09(C)
DO	12.38 mg/L		ASTM D888-09(C)
pH (Field)	8.15 SU		EPA 150.2
Specific Conductance (Field)	536 umho/cm		SM2510B
Temperature	13.7 °C		SM2550B(2)
Turbidity (Hach)	5.71 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	3 Lookup		Observation

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<b>Lab ID #:</b> 500-189597-12	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	210 mg/L	5	SM2320B
Chloride	13 mg/L	5	EPA 300.0
Hardness (as CaCO3)	260 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	2.7 mg/L	5	I-3765-85
Solids, Total (TS)	320 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	310 mg/L	30	SM2540C
Sulfate	45 mg/L	5	EPA 300.0
Calcium (Total)	68 mg/L	0.2	EPA 200.7
Magnesium (Total)	21 mg/L	0.1	EPA 200.7
COD	9.8 mg/L	10	SM5220C
Nitrogen, Ammonia	< 0.2 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	1.8 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.067 mg/L	0.05	SM4500P-E
TKN	0.5 mg/L	0.4	SM4500N(Org)-D
TOC	1.8 mg/L	1	SM5310C

<b>Lab ID #:</b> AB44298	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	83.3 MPN/100mL	1	SM9223B

<b>Weather Code Definitions</b>			
<b>SC</b>	<b>WD</b>	<b>WS</b>	<b>AT</b>
<b>Sky Conditions</b>	<b>Wind Direction</b>	<b>Wind Strength</b>	<b>Air Temp</b>
1 - Clear	8 - Rain	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	2 - Mod./Light	3 - 46-60
4 - Cloudy	27	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:** WBU-18-0008      **USGS Hydrologic Unit:** 051201111802  
**Stream Name:** Maria Creek      **County:** Knox  
**Description:** N Risley Road      **Latitude:** 38 49 21.98872      **Longitude:** -87 23 29.96194  
**Drainage:** 49.206      **Site Number:** 20T-005

**SiteID:** WBU-18-0008      **Sample Date:** 8/5/2020      **IDEM Sample #:** AB43138  
**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	84.8 %		ASTM D888-09(C)
DO	7.71 mg/L		ASTM D888-09(C)
pH (Field)	7.62 SU		EPA 150.2
Specific Conductance (Field)	468 umho/cm		SM2510B
Temperature	20 °C		SM2550B(2)
Turbidity (Hach)	37.5 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 #:	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	488.4 MPN/100mL	1	SM9223B

**SiteID:** WBU-18-0008      **Sample Date:** 8/18/2020      **IDEM Sample #:** AB42672  
**Water Flow Type** Run      **Water Appearance** Murky      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**  **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:** Site always very turbid.

Lab ID #:	Result	Reporting Limit	Method
% Sat	69.2 %		ASTM D888-09(C)
DO	5.86 mg/L		ASTM D888-09(C)
pH (Field)	7.72 SU		EPA 150.2
Specific Conductance (Field)	548 umho/cm		SM2510B
Temperature	23.6 °C		SM2550B(2)
Turbidity (Hach)	43.9 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: WBU-18-0008

Sample Date: 8/19/2020

IDEM Sample #: AB43856

Water Flow Type  Glide

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	79.9 %		ASTM D888-09(C)
DO	6.92 mg/L		ASTM D888-09(C)
pH (Field)	7.87 SU		EPA 150.2
Specific Conductance (Field)	560 umho/cm		SM2510B
Temperature	22.5 °C		SM2550B(2)
Turbidity (Hach)	37.7 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	3 Lookup		Observation

Lab ID #: 500-186716-14	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	180 mg/L	5	SM2320B
Chloride	11 mg/L	2	EPA 300.0
Hardness (as CaCO3)	230 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	37 mg/L	5	SM2540D
Solids, Total (TS)	480 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	280 mg/L	30	SM2540C
Sulfate	87 mg/L	2	EPA 300.0
Calcium (Total)	57 mg/L	0.2	EPA 200.7
Magnesium (Total)	20 mg/L	0.1	EPA 200.7
COD	17 mg/L	10	SM5220C
Nitrogen, Ammonia	0.19 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	1.1 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.1 mg/L	0.05	SM4500P-E
TKN	< 0.4 mg/L	0.4	SM4500N(Org)-D
TOC	2.7 mg/L	1	SM5310C

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

SiteID: WBU-18-0008

Sample Date: 9/16/2020

IDEM Sample #: AB44123

Water Flow Type Glide

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	93.8 %		ASTM D888-09(C)
DO	8.65 mg/L		ASTM D888-09(C)
pH (Field)	7.81 SU		EPA 150.2
Specific Conductance (Field)	677 umho/cm		SM2510B
Temperature	19.2 °C		SM2550B(2)
Turbidity (Hach)	30.5 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 #: 500-188008-11	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	230 mg/L	5	SM2320B
Chloride	19 mg/L	10	EPA 300.0
Hardness (as CaCO3)	240 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	26 mg/L	5	I-3765-85
Solids, Total (TS)	490 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	410 mg/L	30	SM2540C
Sulfate	110 mg/L	10	EPA 300.0
Calcium (Total)	62 mg/L	0.2	EPA 200.7
Magnesium (Total)	22 mg/L	0.1	EPA 200.7
COD	11 mg/L	10	SM5220C
Nitrogen, Ammonia	0.14 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	1.5 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.096 mg/L	0.05	SM4500P-E
TKN	0.61 mg/L	0.4	SM4500N(Org)-D
TOC	2 mg/L	1	SM5310C

Lab ID #: AB44123	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	517.2 MPN/100mL	1	SM9223B

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

SiteID: WBU-18-0008

Sample Date: 10/14/2020

IDEM Sample #: AB44297

Water Flow Type  Glide

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	78.5 %		ASTM D888-09(C)
DO	7.94 mg/L		ASTM D888-09(C)
pH (Field)	7.91 SU		EPA 150.2
Specific Conductance (Field)	577 umho/cm		SM2510B
Temperature	14.9 °C		SM2550B(2)
Turbidity (Hach)	27.3 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: 500-189597-11	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	230 mg/L	5	SM2320B
Chloride	15 mg/L	5	EPA 300.0
Hardness (as CaCO3)	270 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	24 mg/L	5	I-3765-85
Solids, Total (TS)	460 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	330 mg/L	30	SM2540C
Sulfate	13 mg/L	5	EPA 300.0
Calcium (Total)	70 mg/L	0.2	EPA 200.7
Magnesium (Total)	23 mg/L	0.1	EPA 200.7
COD	12 mg/L	10	SM5220C
Nitrogen, Ammonia	0.18 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	1.7 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.14 mg/L	0.05	SM4500P-E
TKN	0.58 mg/L	0.4	SM4500N(Org)-D
TOC	1.8 mg/L	1	SM5310C

Lab ID #: AB44297	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 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:** WBU-18-0009      **USGS Hydrologic Unit:** 051201111802  
**Stream Name:** Tilley Ditch      **County:** Knox  
**Description:** E Pepmeir Road      **Latitude:** 38 50 6.57523      **Longitude:** -87 21 47.52254  
**Drainage:** 9.299      **Site Number:** 20T-006

**SiteID:** WBU-18-0009      **Sample Date:** 8/4/2020      **IDEM Sample #:** AB43149  
**Water Flow Type** Run      **Water Appearance** Murky      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:** Recent Rain

Lab ID #:	Result	Reporting Limit	Method
% Sat	70.4 %		ASTM D888-09(C)
DO	6.19 mg/L		ASTM D888-09(C)
pH (Field)	7.2 SU		EPA 150.2
Specific Conductance (Field)	439 umho/cm		SM2510B
Temperature	21.7 °C		SM2550B(2)
Turbidity (Hach)	14.6 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 #:	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	275.5 MPN/100mL	1	SM9223B

**SiteID:** WBU-18-0009      **Sample Date:** 8/18/2020      **IDEM Sample #:** AB43867  
**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	116.4 %		ASTM D888-09(C)
DO	10.18 mg/L		ASTM D888-09(C)
pH (Field)	7.63 SU		EPA 150.2
Specific Conductance (Field)	521 umho/cm		SM2510B
Temperature	21.9 °C		SM2550B(2)
Turbidity (Hach)	7.51 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	3 Lookup		Observation

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

Lab ID #: 500-186716-8	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	210 mg/L	5	SM2320B
Chloride	12 mg/L	2	EPA 300.0
Hardness (as CaCO3)	260 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	11 mg/L	5	SM2540D
Solids, Total (TS)	440 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	200 mg/L	30	SM2540C
Sulfate	39 mg/L	2	EPA 300.0
Calcium (Total)	69 mg/L	0.2	EPA 200.7
Magnesium (Total)	22 mg/L	0.1	EPA 200.7
COD	11 mg/L	10	SM5220C
Nitrogen, Ammonia	0.12 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	2.1 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.066 mg/L	0.05	SM4500P-E
TKN	0.35 mg/L	0.4	SM4500N(Org)-D
TOC	2.3 mg/L	1	SM5310C

**SiteID:** WBU-18-0009      **Sample Date:** 9/15/2020      **IDEM Sample #:** AB44134  
**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	96.1 %		ASTM D888-09(C)
DO	9.24 mg/L		ASTM D888-09(C)
pH (Field)	7.63 SU		EPA 150.2
Specific Conductance (Field)	520 umho/cm		SM2510B
Temperature	17.2 °C		SM2550B(2)
Turbidity (Hach)	5.7 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	3 Lookup		Observation

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

Lab ID #: 500-188008-6	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	240 mg/L	5	SM2320B
Chloride	14 mg/L	10	EPA 300.0
Hardness (as CaCO3)	260 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	4.7 mg/L	5	I-3765-85
Solids, Total (TS)	400 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	280 mg/L	30	SM2540C
Sulfate	20 mg/L	10	EPA 300.0
Calcium (Total)	69 mg/L	0.2	EPA 200.7
Magnesium (Total)	21 mg/L	0.1	EPA 200.7
COD	6.8 mg/L	10	SM5220C
Nitrogen, Ammonia	0.15 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	2.9 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.056 mg/L	0.05	SM4500P-E
TKN	0.24 mg/L	0.4	SM4500N(Org)-D
TOC	1.5 mg/L	1	SM5310C

Lab ID #: AB44134	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	191.8 MPN/100mL	1	SM9223B

**SiteID:** WBU-18-0009      **Sample Date:** 10/13/2020      **IDEM Sample #:** AB44308  
**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	80.9 %		ASTM D888-09(C)
DO	8.66 mg/L		ASTM D888-09(C)
pH (Field)	7.48 SU		EPA 150.2
Specific Conductance (Field)	517 umho/cm		SM2510B
Temperature	12.2 °C		SM2550B(2)
Turbidity (Hach)	4.14 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 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**

<b>Lab ID #:</b> 500-189597-6	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	240 mg/L	10	SM2320B
Chloride	12 mg/L	5	EPA 300.0
Hardness (as CaCO3)	270 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	1.7 mg/L	5	I-3765-85
Solids, Total (TS)	340 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	290 mg/L	30	SM2540C
Sulfate	20 mg/L	5	EPA 300.0
Calcium (Total)	74 mg/L	0.2	EPA 200.7
Magnesium (Total)	22 mg/L	0.1	EPA 200.7
COD	< 10 mg/L	10	SM5220C
Nitrogen, Ammonia	< 0.2 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	2.7 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.082 mg/L	0.05	SM4500P-E
TKN	0.3 mg/L	0.4	SM4500N(Org)-D
TOC	1.3 mg/L	1	SM5310C

<b>Lab ID #:</b> AB44308	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	435.2 MPN/100mL	1	SM9223B

<b>Weather Code Definitions</b>			
<b>SC</b>	<b>WD</b>	<b>WS</b>	<b>AT</b>
<b>Sky Conditions</b>	<b>Wind Direction</b>	<b>Wind Strength</b>	<b>Air Temp</b>
1 - Clear	8 - Rain	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	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:** WBU-18-0010      **USGS Hydrologic Unit:** 051201111802  
**Stream Name:** Tributary of Maria Creek      **County:** Knox  
**Description:** County Road 700 E, Lane Road      **Latitude:** 38 51 17.67748      **Longitude:** -87 20 3.32353  
**Drainage:** 2.623      **Site Number:** 20T-007

**SiteID:** WBU-18-0010      **Sample Date:** 8/4/2020      **IDEM Sample #:** AB43146  
**Water Flow Type** Run      **Water Appearance** Brown      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**  **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:** Recent Rain

Lab ID #:	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	89.5 %		ASTM D888-09(C)
DO	7.93 mg/L		ASTM D888-09(C)
pH (Field)	7.53 SU		EPA 150.2
Specific Conductance (Field)	321 umho/cm		SM2510B
Temperature	21.3 °C		SM2550B(2)
Turbidity (Hach)	30.6 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 #:	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1732.9 MPN/100mL	1	SM9223B

**SiteID:** WBU-18-0010      **Sample Date:** 8/18/2020      **IDEM Sample #:** AB43864  
**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 #:	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	102.8 %		ASTM D888-09(C)
DO	8.51 mg/L		ASTM D888-09(C)
pH (Field)	8.06 SU		EPA 150.2
Specific Conductance (Field)	496 umho/cm		SM2510B
Temperature	25 °C		SM2550B(2)
Turbidity (Hach)	3.46 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	3 Lookup		Observation

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

Lab ID #: 500-186716-5

	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	140 mg/L	5	SM2320B
Chloride	53 mg/L	2	EPA 300.0
Hardness (as CaCO3)	170 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	14 mg/L	5	SM2540D
Solids, Total (TS)	390 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	240 mg/L	30	SM2540C
Sulfate	32 mg/L	2	EPA 300.0
Calcium (Total)	42 mg/L	0.2	EPA 200.7
Magnesium (Total)	16 mg/L	0.1	EPA 200.7
COD	24 mg/L	10	SM5220C
Nitrogen, Ammonia	0.31 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	0.15 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.074 mg/L	0.05	SM4500P-E
TKN	0.8 mg/L	0.4	SM4500N(Org)-D
TOC	6.6 mg/L	1	SM5310C

<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:** WBU-18-0011      **USGS Hydrologic Unit:** 051201111802  
**Stream Name:** Tributary of Maria Creek      **County:** Knox  
**Description:** County Road 900 N, E Lower Freelandville      **Latitude:** 38 51 29.73365      **Longitude:** -87 21 36.30306  
**Drainage:** 3.055      **Site Number:** 20T-008

**SiteID:** WBU-18-0011      **Sample Date:** 8/4/2020      **IDEM Sample #:** AB43148  
**Water Flow Type** Run      **Water Appearance** Murky      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:** Recent Rain

Lab ID #:	Result	Reporting Limit	Method
% Sat	102.8 %		ASTM D888-09(C)
DO	9.15 mg/L		ASTM D888-09(C)
pH (Field)	7.59 SU		EPA 150.2
Specific Conductance (Field)	436 umho/cm		SM2510B
Temperature	21 °C		SM2550B(2)
Turbidity (Hach)	21.9 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #:	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	613.1 MPN/100mL	1	SM9223B

**SiteID:** WBU-18-0011      **Sample Date:** 8/18/2020      **IDEM Sample #:** AB43866  
**Water Flow Type** Glide      **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	59.1 %		ASTM D888-09(C)
DO	4.99 mg/L		ASTM D888-09(C)
pH (Field)	7.56 SU		EPA 150.2
Specific Conductance (Field)	523 umho/cm		SM2510B
Temperature	23.7 °C		SM2550B(2)
Turbidity (Hach)	17 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	3 Lookup		Observation

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

Lab ID #: 500-186716-7

	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	220 mg/L	5	SM2320B
Chloride	16 mg/L	2	EPA 300.0
Hardness (as CaCO3)	280 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	12 mg/L	5	SM2540D
Solids, Total (TS)	440 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	250 mg/L	30	SM2540C
Sulfate	26 mg/L	2	EPA 300.0
Calcium (Total)	68 mg/L	0.2	EPA 200.7
Magnesium (Total)	26 mg/L	0.1	EPA 200.7
COD	18 mg/L	10	SM5220C
Nitrogen, Ammonia	0.12 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	0.14 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.091 mg/L	0.05	SM4500P-E
TKN	0.34 mg/L	0.4	SM4500N(Org)-D
TOC	4 mg/L	1	SM5310C

SiteID: WBU-18-0011

Sample Date: 9/15/2020

IDEM Sample #: AB44133

Water Flow Type Glide

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	75.1 %		ASTM D888-09(C)
DO	6.9 mg/L		ASTM D888-09(C)
pH (Field)	7.74 SU		EPA 150.2
Specific Conductance (Field)	512 umho/cm		SM2510B
Temperature	19.5 °C		SM2550B(2)
Turbidity (Hach)	65.6 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	3 Lookup		Observation



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

Lab ID #: 500-188008-5	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	230 mg/L	5	SM2320B
Chloride	18 mg/L	10	EPA 300.0
Hardness (as CaCO3)	260 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	44 mg/L	5	I-3765-85
Solids, Total (TS)	400 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	280 mg/L	30	SM2540C
Sulfate	28 mg/L	10	EPA 300.0
Calcium (Total)	63 mg/L	0.2	EPA 200.7
Magnesium (Total)	26 mg/L	0.1	EPA 200.7
COD	17 mg/L	10	SM5220C
Nitrogen, Ammonia	0.16 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	< 0.1 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.095 mg/L	0.05	SM4500P-E
TKN	0.45 mg/L	0.4	SM4500N(Org)-D
TOC	4.3 mg/L	1	SM5310C

Lab ID #: AB44133	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B

**SiteID:** WBU-18-0011      **Sample Date:** 10/13/2020      **IDEM Sample #:** AB44307  
**Water Flow Type** Glide      **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	37 %		ASTM D888-09(C)
DO	3.92 mg/L		ASTM D888-09(C)
pH (Field)	7.59 SU		EPA 150.2
Specific Conductance (Field)	562 umho/cm		SM2510B
Temperature	12.8 °C		SM2550B(2)
Turbidity (Hach)	21.2 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 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**

<b>Lab ID #:</b> 500-189597-5	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	250 mg/L	10	SM2320B
Chloride	17 mg/L	5	EPA 300.0
Hardness (as CaCO3)	300 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	16 mg/L	5	I-3765-85
Solids, Total (TS)	380 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	320 mg/L	30	SM2540C
Sulfate	36 mg/L	5	EPA 300.0
Calcium (Total)	74 mg/L	0.2	EPA 200.7
Magnesium (Total)	29 mg/L	0.1	EPA 200.7
COD	20 mg/L	10	SM5220C
Nitrogen, Ammonia	< 0.2 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	< 0.1 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.16 mg/L	0.05	SM4500P-E
TKN	< 0.4 mg/L	0.4	SM4500N(Org)-D
TOC	5.7 mg/L	1	SM5310C

<b>Lab ID #:</b> AB44307	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	224.7 MPN/100mL	1	SM9223B

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

# Indiana Department of Environmental Management

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

### Surface Water Results Summary

**SiteID:** WBU-18-0013      **USGS Hydrologic Unit:** 051201111802  
**Stream Name:** Maria Creek      **County:** Knox  
**Description:** County Road 900 N      **Latitude:** 38 51 30.84594      **Longitude:** -87 21 12.18373  
**Drainage:** 30.791      **Site Number:** 20T-009

**SiteID:** WBU-18-0013      **Sample Date:** 8/4/2020      **IDEM Sample #:** AB43147  
**Water Flow Type** Run      **Water Appearance** Brown      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**  **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:** Recent Rain

Lab ID #:	Result	Reporting Limit	Method
% Sat	89.3 %		ASTM D888-09(C)
DO	7.84 mg/L		ASTM D888-09(C)
pH (Field)	7.38 SU		EPA 150.2
Specific Conductance (Field)	401 umho/cm		SM2510B
Temperature	21.7 °C		SM2550B(2)
Turbidity (Hach)	80.1 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

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

**SiteID:** WBU-18-0013      **Sample Date:** 8/18/2020      **IDEM Sample #:** AB43865  
**Water Flow Type** Glide      **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	91.5 %		ASTM D888-09(C)
DO	7.56 mg/L		ASTM D888-09(C)
pH (Field)	7.97 SU		EPA 150.2
Specific Conductance (Field)	632 umho/cm		SM2510B
Temperature	24.8 °C		SM2550B(2)
Turbidity (Hach)	36.7 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	3 Lookup		Observation

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

Lab ID #:	500-186716-6	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	110 mg/L	5	SM2320B	
Chloride	9.7 mg/L	1	EPA 300.0	
Hardness (as CaCO3)	140 mg/L	0.91	SM2340B	
Solids, Suspended Total, (TSS)	25 mg/L	5	SM2540D	
Solids, Total (TS)	480 mg/L	30	SM2540B	
Solids, Total Dissolved (TDS)	370 mg/L	30	SM2540C	
Sulfate	180 mg/L	4	EPA 300.0	
Calcium (Total)	34 mg/L	0.2	EPA 200.7	
Magnesium (Total)	13 mg/L	0.1	EPA 200.7	
COD	13 mg/L	10	SM5220C	
Nitrogen, Ammonia	0.11 mg/L	0.2	SM4500NH3-G	
Nitrogen, Nitrate+Nitrite	< 0.1 mg/L	0.1	SM4500NO3-F	
Phosphorus, Total	0.082 mg/L	0.05	SM4500P-E	
TKN	< 0.4 mg/L	0.4	SM4500N(Org)-D	
TOC	3.2 mg/L	1	SM5310C	

**SiteID:** WBU-18-0013      **Sample Date:** 9/15/2020      **IDEM Sample #:** AB44132  
**Water Flow Type** Glide      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**  **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:** Scum on top upstream of bridge

Lab ID #:	Result	Reporting Limit	Method
% Sat	62.3 %		ASTM D888-09(C)
DO	5.7 mg/L		ASTM D888-09(C)
pH (Field)	7.93 SU		EPA 150.2
Specific Conductance (Field)	1135 umho/cm		SM2510B
Temperature	19.5 °C		SM2550B(2)
Turbidity (Hach)	25.2 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	3 Lookup		Observation

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

Lab ID #: 500-188008-4

	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	180 mg/L	5	SM2320B
Chloride	23 mg/L	10	EPA 300.0
Hardness (as CaCO3)	160 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	21 mg/L	5	I-3765-85
Solids, Total (TS)	810 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	720 mg/L	30	SM2540C
Sulfate	360 mg/L	10	EPA 300.0
Calcium (Total)	38 mg/L	0.2	EPA 200.7
Magnesium (Total)	17 mg/L	0.1	EPA 200.7
COD	14 mg/L	10	SM5220C
Nitrogen, Ammonia	0.15 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	< 0.1 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.038 mg/L	0.05	SM4500P-E
TKN	0.32 mg/L	0.4	SM4500N(Org)-D
TOC	3.2 mg/L	1	SM5310C

Lab ID #: AB44132

	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	122.3 MPN/100mL	1	SM9223B

SiteID: WBU-18-0013

Sample Date: 10/13/2020

IDEM Sample #: AB44306

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 #:

	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	72.8 %		ASTM D888-09(C)
DO	7.44 mg/L		ASTM D888-09(C)
pH (Field)	8.06 SU		EPA 150.2
Specific Conductance (Field)	1235 umho/cm		SM2510B
Temperature	14.3 °C		SM2550B(2)
Turbidity (Hach)	33.3 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 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**

<b>Lab ID #:</b> 500-189597-4	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	190 mg/L	10	SM2320B
Chloride	26 mg/L	5	EPA 300.0
Hardness (as CaCO3)	190 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	27 mg/L	5	I-3765-85
Solids, Total (TS)	900 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	800 mg/L	30	SM2540C
Sulfate	400 mg/L	5	EPA 300.0
Calcium (Total)	43 mg/L	0.2	EPA 200.7
Magnesium (Total)	21 mg/L	0.1	EPA 200.7
COD	24 mg/L	10	SM5220C
Nitrogen, Ammonia	< 0.2 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	< 0.1 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.13 mg/L	0.05	SM4500P-E
TKN	0.37 mg/L	0.4	SM4500N(Org)-D
TOC	4.7 mg/L	1	SM5310C

<b>Lab ID #:</b> AB44306	<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

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

# Indiana Department of Environmental Management

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

### Surface Water Results Summary

**SiteID:** WBU190-0001      **USGS Hydrologic Unit:** 051201111803  
**Stream Name:** Marsh Creek      **County:** Knox  
**Description:** E Springtown Road      **Latitude:** 38 49 42.46832      **Longitude:** -87 23 59.53848  
**Drainage:** 23.57      **Site Number:** 20T-010

**SiteID:** WBU190-0001      **Sample Date:** 8/5/2020      **IDEM Sample #:** AB43137  
**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	90.9 %		ASTM D888-09(C)
DO	8.44 mg/L		ASTM D888-09(C)
pH (Field)	7.53 SU		EPA 150.2
Specific Conductance (Field)	612 umho/cm		SM2510B
Temperature	18.9 °C		SM2550B(2)
Turbidity (Hach)	18.7 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 #:	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	328.2 MPN/100mL	1	SM9223B

**SiteID:** WBU190-0001      **Sample Date:** 8/19/2020      **IDEM Sample #:** AB43855  
**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	106.2 %		ASTM D888-09(C)
DO	9.42 mg/L		ASTM D888-09(C)
pH (Field)	7.93 SU		EPA 150.2
Specific Conductance (Field)	939 umho/cm		SM2510B
Temperature	21.2 °C		SM2550B(2)
Turbidity (Hach)	2.95 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	9 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**

Lab ID #: 500-186716-13	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	160 mg/L	5	SM2320B
Chloride	57 mg/L	2	EPA 300.0
Hardness (as CaCO3)	360 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	4.5 mg/L	5	SM2540D
Solids, Total (TS)	690 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	580 mg/L	30	SM2540C
Sulfate	240 mg/L	10	EPA 300.0
Calcium (Total)	100 mg/L	0.2	EPA 200.7
Magnesium (Total)	25 mg/L	0.1	EPA 200.7
COD	13 mg/L	10	SM5220C
Nitrogen, Ammonia	< 0.2 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	2.1 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.097 mg/L	0.05	SM4500P-E
TKN	0.25 mg/L	0.4	SM4500N(Org)-D
TOC	2.3 mg/L	1	SM5310C

**SiteID:** WBU190-0001      **Sample Date:** 9/16/2020      **IDEM Sample #:** AB44122  
**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	109.9 %		ASTM D888-09(C)
DO	10.51 mg/L		ASTM D888-09(C)
pH (Field)	8.07 SU		EPA 150.2
Specific Conductance (Field)	779 umho/cm		SM2510B
Temperature	17.4 °C		SM2550B(2)
Turbidity (Hach)	5.59 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 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**

Lab ID #: 500-188008-10	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	170 mg/L	5	SM2320B
Chloride	43 mg/L	10	EPA 300.0
Hardness (as CaCO3)	290 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	6.7 mg/L	5	I-3765-85
Solids, Total (TS)	530 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	480 mg/L	30	SM2540C
Sulfate	160 mg/L	10	EPA 300.0
Calcium (Total)	80 mg/L	0.2	EPA 200.7
Magnesium (Total)	23 mg/L	0.1	EPA 200.7
COD	13 mg/L	10	SM5220C
Nitrogen, Ammonia	0.11 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	2.6 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.066 mg/L	0.05	SM4500P-E
TKN	0.43 mg/L	0.4	SM4500N(Org)-D
TOC	2.2 mg/L	1	SM5310C

Lab ID #: AB44122	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	166.4 MPN/100mL	1	SM9223B

**SiteID:** WBU190-0001      **Sample Date:** 10/14/2020      **IDEM Sample #:** AB44296  
**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	110.2 %		ASTM D888-09(C)
DO	11.54 mg/L		ASTM D888-09(C)
pH (Field)	8.12 SU		EPA 150.2
Specific Conductance (Field)	515 umho/cm		SM2510B
Temperature	13.3 °C		SM2550B(2)
Turbidity (Hach)	4.81 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	18 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**

<b>Lab ID #:</b> 500-189597-10	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	170 mg/L	5	SM2320B
Chloride	20 mg/L	5	EPA 300.0
Hardness (as CaCO3)	230 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	5.3 mg/L	5	I-3765-85
Solids, Total (TS)	370 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	280 mg/L	30	SM2540C
Sulfate	64 mg/L	5	EPA 300.0
Calcium (Total)	60 mg/L	0.2	EPA 200.7
Magnesium (Total)	19 mg/L	0.1	EPA 200.7
COD	10 mg/L	10	SM5220C
Nitrogen, Ammonia	< 0.2 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	0.84 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.055 mg/L	0.05	SM4500P-E
TKN	0.52 mg/L	0.4	SM4500N(Org)-D
TOC	2.4 mg/L	1	SM5310C

<b>Lab ID #:</b> AB44296	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	2419.6 MPN/100mL	1	SM9223B
E. coli	70.3 MPN/100mL	1	SM9223B

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

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

**SiteID:** WBU-18-0012      **USGS Hydrologic Unit:** 051201111803  
**Stream Name:** Marsh Creek      **County:** Knox  
**Description:** E Hunley Road      **Latitude:** 38 51 14.83083      **Longitude:** -87 24 2.25881  
**Drainage:** 20.805      **Site Number:** 20T-011

**SiteID:** WBU-18-0012      **Sample Date:** 8/5/2020      **IDEM Sample #:** AB43136  
**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	88.3 %		ASTM D888-09(C)
DO	8.16 mg/L		ASTM D888-09(C)
pH (Field)	7.6 SU		EPA 150.2
Specific Conductance (Field)	630 umho/cm		SM2510B
Temperature	19.1 °C		SM2550B(2)
Turbidity (Hach)	13.6 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 #:	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	290.9 MPN/100mL	1	SM9223B

**SiteID:** WBU-18-0012      **Sample Date:** 8/19/2020      **IDEM Sample #:** AB43854  
**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	121.4 %		ASTM D888-09(C)
DO	10.77 mg/L		ASTM D888-09(C)
pH (Field)	8.12 SU		EPA 150.2
Specific Conductance (Field)	908 umho/cm		SM2510B
Temperature	21.1 °C		SM2550B(2)
Turbidity (Hach)	3.08 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	9 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**

<b>Lab ID #:</b> 500-186716-12	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	160 mg/L	5	SM2320B
Chloride	64 mg/L	2	EPA 300.0
Hardness (as CaCO3)	370 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	4 mg/L	5	SM2540D
Solids, Total (TS)	740 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	610 mg/L	30	SM2540C
Sulfate	270 mg/L	10	EPA 300.0
Calcium (Total)	110 mg/L	0.2	EPA 200.7
Magnesium (Total)	26 mg/L	0.1	EPA 200.7
COD	19 mg/L	10	SM5220C
Nitrogen, Ammonia	< 0.2 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	2.2 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.061 mg/L	0.05	SM4500P-E
TKN	< 0.4 mg/L	0.4	SM4500N(Org)-D
TOC	2.3 mg/L	1	SM5310C

**SiteID:** WBU-18-0012      **Sample Date:** 9/16/2020      **IDEM Sample #:** AB44121

**Water Flow Type** Glide      **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	124.4 %		ASTM D888-09(C)
DO	12.15 mg/L		ASTM D888-09(C)
pH (Field)	8.19 SU		EPA 150.2
Specific Conductance (Field)	767 umho/cm		SM2510B
Temperature	16.4 °C		SM2550B(2)
Turbidity (Hach)	3.04 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 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**

Lab ID #: 500-188008-9

	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	180 mg/L	5	SM2320B
Chloride	45 mg/L	10	EPA 300.0
Hardness (as CaCO3)	290 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	3 mg/L	5	I-3765-85
Solids, Total (TS)	600 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	490 mg/L	30	SM2540C
Sulfate	170 mg/L	10	EPA 300.0
Calcium (Total)	80 mg/L	0.2	EPA 200.7
Magnesium (Total)	22 mg/L	0.1	EPA 200.7
COD	6.8 mg/L	10	SM5220C
Nitrogen, Ammonia	0.2 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	2.7 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.068 mg/L	0.05	SM4500P-E
TKN	0.36 mg/L	0.4	SM4500N(Org)-D
TOC	2.1 mg/L	1	SM5310C

Lab ID #: AB44121

	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	104.3 MPN/100mL	1	SM9223B

SiteID: WBU-18-0012

Sample Date: 10/14/2020

IDEM Sample #: AB44295

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 #:

	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	100.4 %		ASTM D888-09(C)
DO	10.87 mg/L		ASTM D888-09(C)
pH (Field)	8.08 SU		EPA 150.2
Specific Conductance (Field)	533 umho/cm		SM2510B
Temperature	11.7 °C		SM2550B(2)
Turbidity (Hach)	2.26 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	3 Lookup		Observation

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

<b>Lab ID #:</b> 500-189597-9	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	180 mg/L	5	SM2320B
Chloride	20 mg/L	5	EPA 300.0
Hardness (as CaCO3)	250 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	< 5 mg/L	5	I-3765-85
Solids, Total (TS)	370 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	310 mg/L	30	SM2540C
Sulfate	68 mg/L	5	EPA 300.0
Calcium (Total)	68 mg/L	0.2	EPA 200.7
Magnesium (Total)	20 mg/L	0.1	EPA 200.7
COD	13 mg/L	10	SM5220C
Nitrogen, Ammonia	0.11 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	0.88 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	< 0.05 mg/L	0.05	SM4500P-E
TKN	0.58 mg/L	0.4	SM4500N(Org)-D
TOC	2.4 mg/L	1	SM5310C

<b>Lab ID #:</b> AB44295	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	1986.3 MPN/100mL	1	SM9223B
E. coli	235.9 MPN/100mL	1	SM9223B

<b>Weather Code Definitions</b>				
<b>SC</b>		<b>WD</b>	<b>WS</b>	<b>AT</b>
<b>Sky Conditions</b>		<b>Wind Direction</b>	<b>Wind Strength</b>	<b>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:** WBU-18-0015      **USGS Hydrologic Unit:** 051201111803  
**Stream Name:** Marsh Creek      **County:** Knox  
**Description:** E Moody Road      **Latitude:** 38 53 40.47876      **Longitude:** -87 25 19.41824  
**Drainage:** 12.234      **Site Number:** 20T-012

**SiteID:** WBU-18-0015      **Sample Date:** 8/5/2020      **IDEM Sample #:** AB43135  
**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	83.4 %		ASTM D888-09(C)
DO	7.77 mg/L		ASTM D888-09(C)
pH (Field)	7.43 SU		EPA 150.2
Specific Conductance (Field)	674 umho/cm		SM2510B
Temperature	18.7 °C		SM2550B(2)
Turbidity (Hach)	11.2 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 #:	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	613.1 MPN/100mL	1	SM9223B

**SiteID:** WBU-18-0015      **Sample Date:** 8/19/2020      **IDEM Sample #:** AB43853  
**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	106.5 %		ASTM D888-09(C)
DO	9.64 mg/L		ASTM D888-09(C)
pH (Field)	7.88 SU		EPA 150.2
Specific Conductance (Field)	1069 umho/cm		SM2510B
Temperature	20.1 °C		SM2550B(2)
Turbidity (Hach)	3.69 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	9 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**

Lab ID #: 500-186716-11

	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	150 mg/L	5	SM2320B
Chloride	73 mg/L	2	EPA 300.0
Hardness (as CaCO3)	400 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	4 mg/L	5	SM2540D
Solids, Total (TS)	790 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	680 mg/L	30	SM2540C
Sulfate	310 mg/L	10	EPA 300.0
Calcium (Total)	120 mg/L	0.2	EPA 200.7
Magnesium (Total)	26 mg/L	0.1	EPA 200.7
COD	14 mg/L	10	SM5220C
Nitrogen, Ammonia	< 0.2 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	2.7 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.077 mg/L	0.05	SM4500P-E
TKN	< 0.4 mg/L	0.4	SM4500N(Org)-D
TOC	2.1 mg/L	1	SM5310C

SiteID: WBU-18-0015

Sample Date: 9/16/2020

IDEM Sample #: AB44120

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 #:

	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	102 %		ASTM D888-09(C)
DO	10.13 mg/L		ASTM D888-09(C)
pH (Field)	7.89 SU		EPA 150.2
Specific Conductance (Field)	811 umho/cm		SM2510B
Temperature	15.6 °C		SM2550B(2)
Turbidity (Hach)	3.64 NTU		EPA 180.1
Air Temp	4 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**

Lab ID #: 500-188008-8	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	170 mg/L	5	SM2320B
Chloride	46 mg/L	10	EPA 300.0
Hardness (as CaCO3)	300 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	3.7 mg/L	5	I-3765-85
Solids, Total (TS)	600 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	500 mg/L	30	SM2540C
Sulfate	170 mg/L	10	EPA 300.0
Calcium (Total)	83 mg/L	0.2	EPA 200.7
Magnesium (Total)	22 mg/L	0.1	EPA 200.7
COD	7.3 mg/L	10	SM5220C
Nitrogen, Ammonia	0.19 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	3.8 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.11 mg/L	0.05	SM4500P-E
TKN	0.51 mg/L	0.4	SM4500N(Org)-D
TOC	1.9 mg/L	1	SM5310C

Lab ID #: AB44120	Result	Reporting Limit	Method
Coliforms (Total)	1732.9 MPN/100mL	1	SM9223B
E. coli	142.1 MPN/100mL	1	SM9223B

**SiteID:** WBU-18-0015      **Sample Date:** 10/14/2020      **IDEM Sample #:** AB44294  
**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	91.2 %		ASTM D888-09(C)
DO	9.85 mg/L		ASTM D888-09(C)
pH (Field)	7.86 SU		EPA 150.2
Specific Conductance (Field)	555 umho/cm		SM2510B
Temperature	11.9 °C		SM2550B(2)
Turbidity (Hach)	4.29 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	3 Lookup		Observation

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

<b>Lab ID #:</b> 500-189597-8	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	190 mg/L	5	SM2320B
Chloride	19 mg/L	5	EPA 300.0
Hardness (as CaCO3)	270 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	1.7 mg/L	5	I-3765-85
Solids, Total (TS)	400 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	320 mg/L	30	SM2540C
Sulfate	72 mg/L	5	EPA 300.0
Calcium (Total)	75 mg/L	0.2	EPA 200.7
Magnesium (Total)	20 mg/L	0.1	EPA 200.7
COD	10 mg/L	10	SM5220C
Nitrogen, Ammonia	0.11 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	1.4 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.09 mg/L	0.05	SM4500P-E
TKN	0.3 mg/L	0.4	SM4500N(Org)-D
TOC	2.4 mg/L	1	SM5310C

<b>Lab ID #:</b> AB44294	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	206.4 MPN/100mL	1	SM9223B

<b>Weather Code Definitions</b>			
<b>SC</b>	<b>WD</b>	<b>WS</b>	<b>AT</b>
<b>Sky Conditions</b>	<b>Wind Direction</b>	<b>Wind Strength</b>	<b>Air Temp</b>
1 - Clear	8 - Rain	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	2 - Mod./Light	3 - 46-60
4 - Cloudy	27	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:** WBU-18-0016      **USGS Hydrologic Unit:** 051201111803  
**Stream Name:** Marsh Creek      **County:** Sullivan  
**Description:** S County Road 50 E      **Latitude:** 38 55 22.25295      **Longitude:** -87 24 13.53507  
**Drainage:** 8.376      **Site Number:** 20T-013

**SiteID:** WBU-18-0016      **Sample Date:** 8/5/2020      **IDEM Sample #:** AB43134  
**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	7.94 mg/L		ASTM D888-09(C)
pH (Field)	7.16 SU		EPA 150.2
Specific Conductance (Field)	796 umho/cm		SM2510B
Temperature	19 °C		SM2550B(2)
Turbidity (Hach)	12.9 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 #:	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	248.9 MPN/100mL	1	SM9223B

**SiteID:** WBU-18-0016      **Sample Date:** 8/19/2020      **IDEM Sample #:** AB43852  
**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	83.3 %		ASTM D888-09(C)
DO	7.41 mg/L		ASTM D888-09(C)
pH (Field)	7.78 SU		EPA 150.2
Specific Conductance (Field)	1380 umho/cm		SM2510B
Temperature	20.9 °C		SM2550B(2)
Turbidity (Hach)	3.17 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	9 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**

Lab ID #:	500-186716-10	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	140 mg/L	5	SM2320B	
Chloride	96 mg/L	4	EPA 300.0	
Hardness (as CaCO3)	460 mg/L	0.91	SM2340B	
Solids, Suspended Total, (TSS)	6 mg/L	5	SM2540D	
Solids, Total (TS)	1100 mg/L	30	SM2540B	
Solids, Total Dissolved (TDS)	730 mg/L	30	SM2540C	
Sulfate	440 mg/L	20	EPA 300.0	
Calcium (Total)	140 mg/L	0.2	EPA 200.7	
Magnesium (Total)	30 mg/L	0.1	EPA 200.7	
COD	13 mg/L	10	SM5220C	
Nitrogen, Ammonia	0.14 mg/L	0.2	SM4500NH3-G	
Nitrogen, Nitrate+Nitrite	4 mg/L	0.5	SM4500NO3-F	
Phosphorus, Total	0.039 mg/L	0.05	SM4500P-E	
TKN	0.26 mg/L	0.4	SM4500N(Org)-D	
TOC	1.9 mg/L	1	SM5310C	

**SiteID:** WBU-18-0016      **Sample Date:** 9/16/2020      **IDEM Sample #:** AB44119  
**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	84.7 %		ASTM D888-09(C)
DO	8.33 mg/L		ASTM D888-09(C)
pH (Field)	7.82 SU		EPA 150.2
Specific Conductance (Field)	1039 umho/cm		SM2510B
Temperature	16 °C		SM2550B(2)
Turbidity (Hach)	7.07 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	3 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**

Lab ID #: 500-188008-7

	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	160 mg/L	5	SM2320B
Chloride	68 mg/L	10	EPA 300.0
Hardness (as CaCO3)	360 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	9.3 mg/L	5	I-3765-85
Solids, Total (TS)	780 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	640 mg/L	30	SM2540C
Sulfate	270 mg/L	10	EPA 300.0
Calcium (Total)	99 mg/L	0.2	EPA 200.7
Magnesium (Total)	26 mg/L	0.1	EPA 200.7
COD	14 mg/L	10	SM5220C
Nitrogen, Ammonia	0.2 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	6.2 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.057 mg/L	0.05	SM4500P-E
TKN	0.35 mg/L	0.4	SM4500N(Org)-D
TOC	1.7 mg/L	1	SM5310C

Lab ID #: AB44119

	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	579.4 MPN/100mL	1	SM9223B

SiteID: WBU-18-0016

Sample Date: 10/14/2020

IDEM Sample #: AB44293

Water Flow Type

Water Appearance

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	59.6 %		ASTM D888-09(C)
DO	6.34 mg/L		ASTM D888-09(C)
pH (Field)	8.03 SU		EPA 150.2
Specific Conductance (Field)	790 umho/cm		SM2510B
Temperature	12.3 °C		SM2550B(2)
Turbidity (Hach)	8.44 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	18 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**

**Lab ID #:** 500-189597-7

	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	200 mg/L	10	SM2320B
Chloride	44 mg/L	5	EPA 300.0
Hardness (as CaCO3)	360 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	6 mg/L	5	I-3765-85
Solids, Total (TS)	770 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	630 mg/L	30	SM2540C
Sulfate	230 mg/L	5	EPA 300.0
Calcium (Total)	94 mg/L	0.2	EPA 200.7
Magnesium (Total)	30 mg/L	0.1	EPA 200.7
COD	12 mg/L	10	SM5220C
Nitrogen, Ammonia	< 0.2 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	5.1 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.082 mg/L	0.05	SM4500P-E
TKN	0.51 mg/L	0.4	SM4500N(Org)-D
TOC	2.5 mg/L	1	SM5310C

**Lab ID #:** AB44293

	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	2419.6 MPN/100mL	1	SM9223B
E. coli	184.2 MPN/100mL	1	SM9223B

<b>Weather Code Definitions</b>				
<b>SC</b>		<b>WD</b>	<b>WS</b>	
<b>Sky Conditions</b>		<b>Wind Direction</b>	<b>Wind Strength</b>	
			<b>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:** WBU-18-0017      **USGS Hydrologic Unit:** 051201111803  
**Stream Name:** Marsh Creek      **County:** Sullivan  
**Description:** S County Road 5 SE      **Latitude:** 38 56 7.96040      **Longitude:** -87 22 58.67837  
**Drainage:** 3.624      **Site Number:** 20T-014

**SiteID:** WBU-18-0017      **Sample Date:** 8/5/2020      **IDEM Sample #:** AB43133  
**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	73.9 %		ASTM D888-09(C)
DO	6.85 mg/L		ASTM D888-09(C)
pH (Field)	7.06 SU		EPA 150.2
Specific Conductance (Field)	374 umho/cm		SM2510B
Temperature	18.9 °C		SM2550B(2)
Turbidity (Hach)	8.69 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 #:	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	185 MPN/100mL	1	SM9223B

**SiteID:** WBU-18-0017      **Sample Date:** 8/19/2020      **IDEM Sample #:** AB43851  
**Water Flow Type** Glide      **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	58.2 %		ASTM D888-09(C)
DO	5.47 mg/L		ASTM D888-09(C)
pH (Field)	7.51 SU		EPA 150.2
Specific Conductance (Field)	371 umho/cm		SM2510B
Temperature	18.5 °C		SM2550B(2)
Turbidity (Hach)	6.42 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	9 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**

Lab ID #: 500-186716-9

	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	160 mg/L	5	SM2320B
Chloride	21 mg/L	2	EPA 300.0
Hardness (as CaCO3)	190 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	5.5 mg/L	5	SM2540D
Solids, Total (TS)	300 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	190 mg/L	30	SM2540C
Sulfate	16 mg/L	2	EPA 300.0
Calcium (Total)	45 mg/L	0.2	EPA 200.7
Magnesium (Total)	18 mg/L	0.1	EPA 200.7
COD	18 mg/L	10	SM5220C
Nitrogen, Ammonia	0.12 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	0.19 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.16 mg/L	0.05	SM4500P-E
TKN	0.35 mg/L	0.4	SM4500N(Org)-D
TOC	4.7 mg/L	1	SM5310C

<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:** WBU-18-0014      **USGS Hydrologic Unit:** 051201111801  
**Stream Name:** Tributary of Maria Creek      **County:** Knox  
**Description:** Freelandville Road      **Latitude:** 38 52 51.70769      **Longitude:** -87 21 10.19095  
**Drainage:** 2.96      **Site Number:** 20T-015

**SiteID:** WBU-18-0014      **Sample Date:** 8/4/2020      **IDEM Sample #:** AB43144  
**Water Flow Type** Run      **Water Appearance** Brown      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**  **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:** Recent Rain

Lab ID #:	Result	Reporting Limit	Method
% Sat	90.3 %		ASTM D888-09(C)
DO	8.16 mg/L		ASTM D888-09(C)
pH (Field)	7.46 SU		EPA 150.2
Specific Conductance (Field)	359 umho/cm		SM2510B
Temperature	20.3 °C		SM2550B(2)
Turbidity (Hach)	19.8 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 #:	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	920.8 MPN/100mL	1	SM9223B

**SiteID:** WBU-18-0014      **Sample Date:** 8/18/2020      **IDEM Sample #:** AB43862  
**Water Flow Type** Stagnant      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**  **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:** Nearly pooled. Sheen possibly from algae.

Lab ID #:	Result	Reporting Limit	Method
% Sat	35.3 %		ASTM D888-09(C)
DO	3.09 mg/L		ASTM D888-09(C)
pH (Field)	7.52 SU		EPA 150.2
Specific Conductance (Field)	494 umho/cm		SM2510B
Temperature	22.9 °C		SM2550B(2)
Turbidity (Hach)	10.9 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	3 Lookup		Observation

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

Lab ID #: 500-186716-3

	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	200 mg/L	5	SM2320B
Chloride	16 mg/L	2	EPA 300.0
Hardness (as CaCO3)	250 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	8.5 mg/L	5	SM2540D
Solids, Total (TS)	350 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	240 mg/L	30	SM2540C
Sulfate	32 mg/L	2	EPA 300.0
Calcium (Total)	61 mg/L	0.2	EPA 200.7
Magnesium (Total)	24 mg/L	0.1	EPA 200.7
COD	25 mg/L	10	SM5220C
Nitrogen, Ammonia	0.29 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	< 0.1 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.061 mg/L	0.05	SM4500P-E
TKN	0.25 mg/L	0.4	SM4500N(Org)-D
TOC	5.5 mg/L	1	SM5310C

<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:** WBU190-0002      **USGS Hydrologic Unit:** 051201111801  
**Stream Name:** Maria Creek      **County:** Knox  
**Description:** CR 1050 N/Freelandville Road      **Latitude:** 38 52 54.21809      **Longitude:** -87 20 48.04908  
**Drainage:** 17.468      **Site Number:** 20T-016

**SiteID:** WBU190-0002      **Sample Date:** 8/4/2020      **IDEM Sample #:** AB43143  
**Water Flow Type** Run      **Water Appearance** Brown      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**  **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:** Recent Rain

Lab ID #:	Result	Reporting Limit	Method
% Sat	88.3 %		ASTM D888-09(C)
DO	7.81 mg/L		ASTM D888-09(C)
pH (Field)	7.4 SU		EPA 150.2
Specific Conductance (Field)	446 umho/cm		SM2510B
Temperature	21.4 °C		SM2550B(2)
Turbidity (Hach)	66.3 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

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

**SiteID:** WBU190-0002      **Sample Date:** 8/18/2020      **IDEM Sample #:** AB43861  
**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	97.2 %		ASTM D888-09(C)
DO	8.38 mg/L		ASTM D888-09(C)
pH (Field)	7.84 SU		EPA 150.2
Specific Conductance (Field)	693 umho/cm		SM2510B
Temperature	22.7 °C		SM2550B(2)
Turbidity (Hach)	9.39 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	9 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**

Lab ID #: 500-186716-2

	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	110 mg/L	5	SM2320B
Chloride	9.4 mg/L	1	EPA 300.0
Hardness (as CaCO3)	140 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	5.5 mg/L	5	SM2540D
Solids, Total (TS)	500 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	420 mg/L	30	SM2540C
Sulfate	440 mg/L	10	EPA 300.0
Calcium (Total)	35 mg/L	0.2	EPA 200.7
Magnesium (Total)	14 mg/L	0.1	EPA 200.7
COD	17 mg/L	10	SM5220C
Nitrogen, Ammonia	< 0.2 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	0.11 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.056 mg/L	0.05	SM4500P-E
TKN	0.42 mg/L	0.4	SM4500N(Org)-D
TOC	3.1 mg/L	1	SM5310C

SiteID: WBU190-0002

Sample Date: 9/15/2020

IDEM Sample #: AB44128

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 #:

	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	83.1 %		ASTM D888-09(C)
DO	7.67 mg/L		ASTM D888-09(C)
pH (Field)	8.07 SU		EPA 150.2
Specific Conductance (Field)	1177 umho/cm		SM2510B
Temperature	19.1 °C		SM2550B(2)
Turbidity (Hach)	8.42 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	3 Lookup		Observation

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

Lab ID #: 500-188008-2	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	190 mg/L	10	SM2320B
Chloride	21 mg/L	10	EPA 300.0
Hardness (as CaCO3)	170 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	6 mg/L	5	I-3765-85
Solids, Total (TS)	850 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	740 mg/L	30	SM2540C
Sulfate	390 mg/L	10	EPA 300.0
Calcium (Total)	39 mg/L	0.2	EPA 200.7
Magnesium (Total)	17 mg/L	0.1	EPA 200.7
COD	15 mg/L	10	SM5220C
Nitrogen, Ammonia	0.14 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	0.045 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.057 mg/L	0.05	SM4500P-E
TKN	< 0.4 mg/L	0.4	SM4500N(Org)-D
TOC	3.3 mg/L	1	SM5310C

Lab ID #: AB44128	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	115.3 MPN/100mL	1	SM9223B

**SiteID:** WBU190-0002      **Sample Date:** 10/13/2020      **IDEM Sample #:** AB44302  
**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	55 %		ASTM D888-09(C)
DO	5.89 mg/L		ASTM D888-09(C)
pH (Field)	7.91 SU		EPA 150.2
Specific Conductance (Field)	1432 umho/cm		SM2510B
Temperature	12.3 °C		SM2550B(2)
Turbidity (Hach)	4.19 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 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**

<b>Lab ID #:</b> 500-189597-2	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	240 mg/L	10	SM2320B
Chloride	24 mg/L	5	EPA 300.0
Hardness (as CaCO3)	210 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	2 mg/L	5	I-3765-85
Solids, Total (TS)	1100 mg/L	60	SM2540B
Solids, Total Dissolved (TDS)	910 mg/L	60	SM2540C
Sulfate	450 mg/L	5	EPA 300.0
Calcium (Total)	47 mg/L	0.2	EPA 200.7
Magnesium (Total)	22 mg/L	0.1	EPA 200.7
COD	18 mg/L	10	SM5220C
Nitrogen, Ammonia	< 0.2 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	< 0.1 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.061 mg/L	0.05	SM4500P-E
TKN	0.43 mg/L	0.4	SM4500N(Org)-D
TOC	5.9 mg/L	1	SM5310C

<b>Lab ID #:</b> AB44302	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	167 MPN/100mL	1	SM9223B

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

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

**SiteID:** WBU-18-0018      **USGS Hydrologic Unit:** 051201111801  
**Stream Name:** Tributary of Maria Creek      **County:** Knox  
**Description:** County Road 700 E, Lane Road      **Latitude:** 38 52 13.62972      **Longitude:** -87 20 2.55504  
**Drainage:** 4.37      **Site Number:** 20T-017

**SiteID:** WBU-18-0018      **Sample Date:** 8/4/2020      **IDEM Sample #:** AB43145  
**Water Flow Type** Run      **Water Appearance** Brown      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**  **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:** Recent Rain

Lab ID #:	Result	Reporting Limit	Method
% Sat	88.5 %		ASTM D888-09(C)
DO	7.96 mg/L		ASTM D888-09(C)
pH (Field)	7.66 SU		EPA 150.2
Specific Conductance (Field)	345 umho/cm		SM2510B
Temperature	20.5 °C		SM2550B(2)
Turbidity (Hach)	28 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 #:	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1553.1 MPN/100mL	1	SM9223B

**SiteID:** WBU-18-0018      **Sample Date:** 8/18/2020      **IDEM Sample #:** AB43863  
**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	73.9 %		ASTM D888-09(C)
DO	6.39 mg/L		ASTM D888-09(C)
pH (Field)	7.9 SU		EPA 150.2
Specific Conductance (Field)	544 umho/cm		SM2510B
Temperature	23 °C		SM2550B(2)
Turbidity (Hach)	9.2 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	3 Lookup		Observation

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

Lab ID #: 500-186716-4	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	140 mg/L	5	SM2320B
Chloride	38 mg/L	2	EPA 300.0
Hardness (as CaCO3)	210 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	10 mg/L	5	SM2540D
Solids, Total (TS)	420 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	290 mg/L	30	SM2540C
Sulfate	81 mg/L	2	EPA 300.0
Calcium (Total)	52 mg/L	0.2	EPA 200.7
Magnesium (Total)	19 mg/L	0.1	EPA 200.7
COD	20 mg/L	10	SM5220C
Nitrogen, Ammonia	0.16 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	0.61 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.12 mg/L	0.05	SM4500P-E
TKN	0.49 mg/L	0.4	SM4500N(Org)-D
TOC	3.4 mg/L	1	SM5310C

**SiteID:** WBU-18-0018      **Sample Date:** 9/15/2020      **IDEM Sample #:** AB44130  
**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	70.4 %		ASTM D888-09(C)
DO	6.52 mg/L		ASTM D888-09(C)
pH (Field)	7.73 SU		EPA 150.2
Specific Conductance (Field)	712 umho/cm		SM2510B
Temperature	19 °C		SM2550B(2)
Turbidity (Hach)	22.3 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	3 Lookup		Observation



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

Lab ID #: 500-188008-3

	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	170 mg/L	5	SM2320B
Chloride	54 mg/L	10	EPA 300.0
Hardness (as CaCO3)	250 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	24 mg/L	5	I-3765-85
Solids, Total (TS)	520 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	410 mg/L	30	SM2540C
Sulfate	120 mg/L	10	EPA 300.0
Calcium (Total)	57 mg/L	0.2	EPA 200.7
Magnesium (Total)	26 mg/L	0.1	EPA 200.7
COD	18 mg/L	10	SM5220C
Nitrogen, Ammonia	0.14 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	0.51 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.063 mg/L	0.05	SM4500P-E
TKN	0.51 mg/L	0.4	SM4500N(Org)-D
TOC	3.3 mg/L	1	SM5310C

Lab ID #: AB44130

	<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

SiteID: WBU-18-0018

Sample Date: 10/13/2020

IDEM Sample #: AB44304

Water Flow Type Glike

Water Appearance Murky

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments: low flow and decaying leaves

Lab ID #:

	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	13.7 %		ASTM D888-09(C)
DO	1.38 mg/L		ASTM D888-09(C)
pH (Field)	7.37 SU		EPA 150.2
Specific Conductance (Field)	759 umho/cm		SM2510B
Temperature	13.3 °C		SM2550B(2)
Turbidity (Hach)	8.88 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 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**

<b>Lab ID #:</b> 500-189597-3	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	200 mg/L	10	SM2320B
Chloride	55 mg/L	5	EPA 300.0
Hardness (as CaCO3)	290 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	6 mg/L	5	I-3765-85
Solids, Total (TS)	510 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	470 mg/L	30	SM2540C
Sulfate	130 mg/L	5	EPA 300.0
Calcium (Total)	65 mg/L	0.2	EPA 200.7
Magnesium (Total)	31 mg/L	0.1	EPA 200.7
COD	41 mg/L	10	SM5220C
Nitrogen, Ammonia	< 0.2 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	< 0.1 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.13 mg/L	0.05	SM4500P-E
TKN	0.64 mg/L	0.4	SM4500N(Org)-D
TOC	11 mg/L	1	SM5310C

<b>Lab ID #:</b> AB44304	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	517.2 MPN/100mL	1	SM9223B

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

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

**SiteID:** WBU-18-0019      **USGS Hydrologic Unit:** 051201111801  
**Stream Name:** Maria Creek      **County:** Sullivan  
**Description:** E County Road 1050 S      **Latitude:** 38 55 27.71266      **Longitude:** -87 19 59.22943  
**Drainage:** 10.192      **Site Number:** 20T-018

**SiteID:** WBU-18-0019      **Sample Date:** 8/4/2020      **IDEM Sample #:** AB43142  
**Water Flow Type** Run      **Water Appearance** Brown      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**  **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:** Recent Rain

Lab ID #:	Result	Reporting Limit	Method
% Sat	89.7 %		ASTM D888-09(C)
DO	7.9 mg/L		ASTM D888-09(C)
pH (Field)	7.44 SU		EPA 150.2
Specific Conductance (Field)	532 umho/cm		SM2510B
Temperature	21.6 °C		SM2550B(2)
Turbidity (Hach)	84.7 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 #:	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	248.9 MPN/100mL	1	SM9223B

**SiteID:** WBU-18-0019      **Sample Date:** 8/18/2020      **IDEM Sample #:** AB43860  
**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	93.5 %		ASTM D888-09(C)
DO	7.93 mg/L		ASTM D888-09(C)
pH (Field)	7.92 SU		EPA 150.2
Specific Conductance (Field)	733 umho/cm		SM2510B
Temperature	23.4 °C		SM2550B(2)
Turbidity (Hach)	14 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	3 Lookup		Observation

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

Lab ID #: 500-186716-1	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	110 mg/L	5	SM2320B
Chloride	9 mg/L	1	EPA 300.0
Hardness (as CaCO3)	140 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	5 mg/L	5	SM2540D
Solids, Total (TS)	560 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	440 mg/L	30	SM2540C
Sulfate	230 mg/L	10	EPA 300.0
Calcium (Total)	34 mg/L	0.2	EPA 200.7
Magnesium (Total)	14 mg/L	0.1	EPA 200.7
COD	14 mg/L	10	SM5220C
Nitrogen, Ammonia	< 0.2 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	0.32 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.05 mg/L	0.05	SM4500P-E
TKN	0.36 mg/L	0.4	SM4500N(Org)-D
TOC	2.8 mg/L	1	SM5310C

**SiteID:** WBU-18-0019      **Sample Date:** 9/15/2020      **IDEM Sample #:** AB44127  
**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	93.3 %		ASTM D888-09(C)
DO	8.74 mg/L		ASTM D888-09(C)
pH (Field)	8.14 SU		EPA 150.2
Specific Conductance (Field)	1148 umho/cm		SM2510B
Temperature	18.4 °C		SM2550B(2)
Turbidity (Hach)	8.66 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	3 Lookup		Observation

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

Lab ID #: 500-188008-1

	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	190 mg/L	5	SM2320B
Chloride	22 mg/L	10	EPA 300.0
Hardness (as CaCO3)	180 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	7.3 mg/L	5	I-3765-85
Solids, Total (TS)	860 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	790 mg/L	30	SM2540C
Sulfate	400 mg/L	10	EPA 300.0
Calcium (Total)	41 mg/L	0.2	EPA 200.7
Magnesium (Total)	18 mg/L	0.1	EPA 200.7
COD	9.4 mg/L	10	SM5220C
Nitrogen, Ammonia	0.14 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	0.62 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	< 0.05 mg/L	0.05	SM4500P-E
TKN	0.42 mg/L	0.4	SM4500N(Org)-D
TOC	2.8 mg/L	1	SM5310C

Lab ID #: AB44127

	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	344.8 MPN/100mL	1	SM9223B

SiteID: WBU-18-0019

Sample Date: 10/13/2020

IDEM Sample #: AB44301

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 #:

	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	42.5 %		ASTM D888-09(C)
DO	4.68 mg/L		ASTM D888-09(C)
pH (Field)	7.62 SU		EPA 150.2
Specific Conductance (Field)	1525 umho/cm		SM2510B
Temperature	11.4 °C		SM2550B(2)
Turbidity (Hach)	3.76 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 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**

<b>Lab ID #:</b> 500-189597-1	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	280 mg/L	10	SM2320B
Chloride	24 mg/L	5	EPA 300.0
Hardness (as CaCO3)	210 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	< 5 mg/L	5	I-3765-85
Solids, Total (TS)	1100 mg/L	60	SM2540B
Solids, Total Dissolved (TDS)	990 mg/L	60	SM2540C
Sulfate	480 mg/L	5	EPA 300.0
Calcium (Total)	48 mg/L	0.2	EPA 200.7
Magnesium (Total)	22 mg/L	0.1	EPA 200.7
COD	34 mg/L	10	SM5220C
Nitrogen, Ammonia	0.12 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	< 0.1 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.14 mg/L	0.05	SM4500P-E
TKN	0.34 mg/L	0.4	SM4500N(Org)-D
TOC	12 mg/L	1	SM5310C

<b>Lab ID #:</b> AB44301	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	1986.3 MPN/100mL	1	SM9223B
E. coli	34.5 MPN/100mL	1	SM9223B

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