

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

SiteID: WMI-04-0008 **USGS Hydrologic Unit:** 051201030401
Stream Name: Tributary of Campbell Creek **County:** Delaware
Description: CR 200 N **Latitude:** 40 13 12.65496 **Longitude:** -85 14 5.27081
Drainage: **Site Number:** 14T-101

SiteID: WMI-04-0008 **Sample Date:** 04/14/2014 **IDEM Sample #:** AB16167
Water Flow Type: Glide **Water Appearance:** Murky **Water Depth:** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %:** 0-20%
Sampler Comments:

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	% Sat	85.4 %	ASTM D888-09(C)
	DO	9.05 mg/L	ASTM D888-09(C)
	pH (Field)	7.8 SU	EPA 150.2
	Specific Conductance (Field)	628 umho/cm	SM2510B
	Temperature	12.73 °C	SM2550B(2)
	Turbidity (Hach)	31.3 NTU	EPA 180.1
	Air Temp	3 Lookup	Observation
	Sky Conditions	5 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	2 Lookup	Observation

<u>Lab ID #:</u> 3010697	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Alkalinity (as CaCO3)	240 mg/L	1	SM2320B
	Chloride	29 mg/L	6	EPA 300.0
	Fluoride	0.2 mg/L	0.1	SM4500F(-)-C
	Solids, Suspended Total, (TSS)	28 mg/L	10	SM2540D
	Solids, Total (TS)	380 mg/L	10	SM2540B
	Solids, Total Dissolved (TDS)	340 mg/L	10	SM2540C
	Sulfate	40 mg/L	15	EPA 300.0

<u>Lab ID #:</u> 3010698	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Hardness (as CaCO3)	320 mg/L	0.66	SM2340B
	Calcium (Total)	75 mg/L	0.1	EPA 200.7
	Magnesium (Total)	31 mg/L	0.1	EPA 200.7

<u>Lab ID #:</u> 3010699	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Nitrogen, Ammonia	< 0.1 mg/L	0.1	SM4500NH3-D

<u>Lab ID #:</u> 3010700	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Nitrogen, Nitrate+Nitrite	2.8 mg/L	0.1	EPA 353.2

<u>Lab ID #:</u> 3010701	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Phosphorus, Total	0.2 mg/L	0.05	SM4500P-E

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Lab ID #: 3010702	Result	Reporting Limit	Method
TOC	3.4 mg/L	0.5	SM5310C

Lab ID #: AA14495	Result	Reporting Limit	Method
COD	8.3 mg/L	10	EPA 410.4
TKN	0.38 mg/L	0.3	SM4500N(Org)-B

Lab ID #: AB16167	Result	Reporting Limit	Method
Coliforms (Total)	2419.6 MPN/100mL	1	SM9223B
E. coli	1413.6 MPN/100mL	1	SM9223B

SiteID: WMI-04-0008 **Sample Date:** 04/21/2014 **IDEM Sample #:** AB16411
Water Flow Type Glide **Water Appearance** Murky **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments: Dead lamb directly upstream of sampling location

Lab ID #:	Result	Reporting Limit	Method
% Sat	115.8 %		ASTM D888-09(C)
DO	12.22 mg/L		ASTM D888-09(C)
pH (Field)	7.98 SU		EPA 150.2
Specific Conductance (Field)	686 umho/cm		SM2510B
Temperature	12.83 °C		SM2550B(2)
Turbidity (Hach)	13.6 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: AB16411	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	261.3 MPN/100mL	1	SM9223B

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SiteID: WMI-04-0008 **Sample Date:** 04/28/2014 **IDEM Sample #:** AB16483
Water Flow Type Eddy **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	9.3 mg/L		ASTM D888-09(C)
pH (Field)	7.67 SU		EPA 150.2
Specific Conductance (Field)	648 umho/cm		SM2510B
Temperature	11.01 °C		SM2550B(2)
Turbidity (Hach)	37.9 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	3 Lookup		Observation
Lab ID #: AB16483	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	980.4 MPN/100mL	1	SM9223B

SiteID: WMI-04-0008 **Sample Date:** 05/05/2014 **IDEM Sample #:** AB16802
Water Flow Type Eddy **Water Appearance** Clear **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments: Dead lamb still present. immediately upstream.

Lab ID #:	Result	Reporting Limit	Method
% Sat	86.7 %		ASTM D888-09(C)
DO	9.57 mg/L		ASTM D888-09(C)
pH (Field)	7.56 SU		EPA 150.2
Specific Conductance (Field)	692 umho/cm		SM2510B
Temperature	10.84 °C		SM2550B(2)
Turbidity (Hach)	15.7 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation
Lab ID #: AB16802	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1203.3 MPN/100mL	1	SM9223B

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SiteID: WMI-04-0008

Sample Date: 05/12/2014

IDEM Sample #: AB16935

Water Flow Type Glide

Water Appearance Brown

Water Depth Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	93.6 %		ASTM D888-09(C)
DO	8.71 mg/L		ASTM D888-09(C)
pH (Field)	7.53 SU		EPA 150.2
Specific Conductance (Field)	623 umho/cm		SM2510B
Temperature	18.79 °C		SM2550B(2)
Turbidity (Hach)	110 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 #: 3026759	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	230 mg/L	1	SM2320B
Chloride	34 mg/L	10	EPA 300.0
Solids, Suspended Total, (TSS)	98 mg/L	10	SM2540D
Solids, Total (TS)	440 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	330 mg/L	10	SM2540C
Sulfate	31 mg/L	25	EPA 300.0
Lab ID #: 3026760	Result	Reporting Limit	Method
Hardness (as CaCO3)	290 mg/L	0.66	SM2340B
Calcium (Total)	69 mg/L	0.1	EPA 200.7
Magnesium (Total)	30 mg/L	0.1	EPA 200.7
Lab ID #: 3026761	Result	Reporting Limit	Method
Nitrogen, Ammonia	0.1 mg/L	0.1	SM4500NH3-D
Lab ID #: 3026762	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	1.9 mg/L	0.1	EPA 353.2
Lab ID #: 3026763	Result	Reporting Limit	Method
Phosphorus, Total	0.29 mg/L	0.05	SM4500P-E
Lab ID #: 3026764	Result	Reporting Limit	Method
TOC	4.8 mg/L	0.5	SM5310C

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Lab ID #: AA17802	Result	Reporting Limit	Method
COD	< 10 mg/L	10	EPA 410.4
TKN	1.9 mg/L	0.3	SM4500N(Org)-B

Lab ID #: AB16935a	Result	Reporting Limit	Method
Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B
E. coli	19863 MPN/100mL	10	SM9223B

SiteID: WMI-04-0008 **Sample Date:** 06/09/2014 **IDEM Sample #:** AB17368
Water Flow Type Run **Water Appearance** Brown **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	82.9 %		ASTM D888-09(C)
DO	8.14 mg/L		ASTM D888-09(C)
pH (Field)	7.36 SU		EPA 150.2
Specific Conductance (Field)	519 umho/cm		SM2510B
Temperature	16.17 °C		SM2550B(2)
Turbidity (Hach)	81.4 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: 3042350	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	180 mg/L	1	SM2320B
Chloride	21 mg/L	2	EPA 300.0
Solids, Suspended Total, (TSS)	36 mg/L	10	SM2540D
Solids, Total (TS)	380 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	330 mg/L	10	SM2540C
Sulfate	20 mg/L	5	EPA 300.0

Lab ID #: 3042351	Result	Reporting Limit	Method
Hardness (as CaCO3)	250 mg/L	0.66	SM2340B
Calcium (Total)	61 mg/L	0.1	EPA 200.7
Magnesium (Total)	23 mg/L	0.1	EPA 200.7

Lab ID #: 3042352	Result	Reporting Limit	Method
Nitrogen, Ammonia	< 0.1 mg/L	0.1	SM4500NH3-D

Lab ID #: 3042353	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	8.7 mg/L	0.1	EPA 353.2

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Lab ID #: 3042354	Result	Reporting Limit	Method
Phosphorus, Total	0.27 mg/L	0.05	SM4500P-E
Lab ID #: 3042355	Result	Reporting Limit	Method
TOC	5.8 mg/L	0.5	SM5310C
Lab ID #: AA20576	Result	Reporting Limit	Method
COD	17 mg/L	10	EPA 410.4
TKN	0.86 mg/L	0.3	SM4500N(Org)-B
Lab ID #: AB17368	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	920.8 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	

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SiteID: WMI-02-0010 **USGS Hydrologic Unit:** 051201030204
Stream Name: Elkhorn Creek **County:** Randolph
Description: CR 500 N **Latitude:** 40 14 7.14176 **Longitude:** -85 9 35.64910
Drainage: **Site Number:** 14T-102

SiteID: WMI-02-0010 **Sample Date:** 04/14/2014 **IDEM Sample #:** AB16178
Water Flow Type: Glide **Water Appearance:** Murky **Water Depth:** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %:** 0-20%
Sampler Comments:

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	85.6 %		ASTM D888-09(C)
DO	9.95 mg/L		ASTM D888-09(C)
pH (Field)	7.79 SU		EPA 150.2
Specific Conductance (Field)	620 umho/cm		SM2510B
Temperature	13.32 °C		SM2550B(2)
Turbidity (Hach)	16.9 Ratio		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	5 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

<u>Lab ID #:</u> 3010705	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	240 mg/L	1	SM2320B
Chloride	26 mg/L	6	EPA 300.0
Fluoride	0.2 mg/L	0.1	SM4500F(-)-C
Solids, Suspended Total, (TSS)	< 10 mg/L	10	SM2540D
Solids, Total (TS)	360 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	320 mg/L	10	SM2540C
Sulfate	36 mg/L	15	EPA 300.0

<u>Lab ID #:</u> 3010706	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Hardness (as CaCO3)	310 mg/L	0.66	SM2340B
Calcium (Total)	74 mg/L	0.1	EPA 200.7
Magnesium (Total)	30 mg/L	0.1	EPA 200.7

<u>Lab ID #:</u> 3010707	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Nitrogen, Ammonia	< 0.1 mg/L	0.1	SM4500NH3-D

<u>Lab ID #:</u> 3010708	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Nitrogen, Nitrate+Nitrite	1.8 mg/L	0.1	EPA 353.2

<u>Lab ID #:</u> 3010709	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Phosphorus, Total	0.16 mg/L	0.05	SM4500P-E

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Lab ID #:		<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
3010710	TOC	4.5 mg/L	0.5	SM5310C
AA14496				
	COD	6.7 mg/L	10	EPA 410.4
	TKN	< 0.3 mg/L	0.3	SM4500N(Org)-B
AB16178				
	Coliforms (Total)	920.8 MPN/100mL	1	SM9223B
	E. coli	488.4 MPN/100mL	1	SM9223B

SiteID: WMI-02-0010 **Sample Date:** 04/21/2014 **IDEM Sample #:** AB16422
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	128.4 %		ASTM D888-09(C)
	DO	13.37 mg/L		ASTM D888-09(C)
	pH (Field)	7.95 SU		EPA 150.2
	Specific Conductance (Field)	691 umho/cm		SM2510B
	Temperature	13.47 °C		SM2550B(2)
	Turbidity (Hach)	6.69 NTU		EPA 180.1
	Air Temp	4 Lookup		Observation
	Sky Conditions	2 Lookup		Observation
	Wind Direction	27 Lookup		Observation
	Wind Strength	2 Lookup		Observation

Lab ID #:		<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
AB16422				
	Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
	E. coli	201.4 MPN/100mL	1	SM9223B

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SiteID: WMI-02-0010 Sample Date: 04/28/2014 IDEM Sample #: AB16494
 Water Flow Type Glide Water Appearance Brown Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	82 %		ASTM D888-09(C)
DO	8.95 mg/L		ASTM D888-09(C)
pH (Field)	7.68 SU		EPA 150.2
Specific Conductance (Field)	612 umho/cm		SM2510B
Temperature	11.32 °C		SM2550B(2)
Turbidity (Hach)	102 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	3 Lookup		Observation

Lab ID #: AB16494	Result	Reporting Limit	Method
E. coli	1732.9 MPN/100mL	1	SM9223B

Lab ID #: AB16494a	Result	Reporting Limit	Method
Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B

SiteID: WMI-02-0010 Sample Date: 05/05/2014 IDEM Sample #: AB16813
 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	114.6 %		ASTM D888-09(C)
DO	12.46 mg/L		ASTM D888-09(C)
pH (Field)	7.84 SU		EPA 150.2
Specific Conductance (Field)	695 umho/cm		SM2510B
Temperature	11.71 °C		SM2550B(2)
Turbidity (Hach)	6.48 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	3 Lookup		Observation

Lab ID #: AB16813	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	178.5 MPN/100mL	1	SM9223B

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SiteID: WMI-02-0010 **Sample Date:** 05/12/2014 **IDEM Sample #:** AB16946
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	102.8 %		ASTM D888-09(C)
DO	9.41 mg/L		ASTM D888-09(C)
pH (Field)	7.7 SU		EPA 150.2
Specific Conductance (Field)	731 umho/cm		SM2510B
Temperature	19.57 °C		SM2550B(2)
Turbidity (Hach)	10.3 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: 3026767	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	300 mg/L	1	SM2320B
Chloride	33 mg/L	10	EPA 300.0
Solids, Suspended Total, (TSS)	< 10 mg/L	10	SM2540D
Solids, Total (TS)	420 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	410 mg/L	10	SM2540C
Sulfate	50 mg/L	25	EPA 300.0

Lab ID #: 3026768	Result	Reporting Limit	Method
Hardness (as CaCO3)	350 mg/L	0.66	SM2340B
Calcium (Total)	79 mg/L	0.1	EPA 200.7
Magnesium (Total)	37 mg/L	0.1	EPA 200.7

Lab ID #: 3026769	Result	Reporting Limit	Method
Nitrogen, Ammonia	< 0.1 mg/L	0.1	SM4500NH3-D

Lab ID #: 3026770	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	0.4 mg/L	0.1	EPA 353.2

Lab ID #: 3026771	Result	Reporting Limit	Method
Phosphorus, Total	0.12 mg/L	0.05	SM4500P-E

Lab ID #: 3026772	Result	Reporting Limit	Method
TOC	4.1 mg/L	0.5	SM5310C

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Lab ID #: AA17803	Result	Reporting Limit	Method
COD	11 mg/L	10	EPA 410.4
TKN	0.43 mg/L	0.3	SM4500N(Org)-B
Lab ID #: AB16946	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1203.3 MPN/100mL	1	SM9223B

SiteID: WMI-02-0010 **Sample Date:** 06/09/2014 **IDEM Sample #:** AB17369
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	85.6 %		ASTM D888-09(C)
DO	8.33 mg/L		ASTM D888-09(C)
pH (Field)	7.45 SU		EPA 150.2
Specific Conductance (Field)	467 umho/cm		SM2510B
Temperature	16.6 °C		SM2550B(2)
Turbidity (Hach)	68.6 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: 3042358	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	160 mg/L	1	SM2320B
Chloride	19 mg/L	10	EPA 300.0
Solids, Suspended Total, (TSS)	24 mg/L	10	SM2540D
Solids, Total (TS)	350 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	320 mg/L	10	SM2540C
Sulfate	23 mg/L	10	EPA 300.0

Lab ID #: 3042361	Result	Reporting Limit	Method
Hardness (as CaCO3)	230 mg/L	0.66	SM2340B
Calcium (Total)	56 mg/L	0.1	EPA 200.7
Magnesium (Total)	21 mg/L	0.1	EPA 200.7

Lab ID #: 3042362	Result	Reporting Limit	Method
Nitrogen, Ammonia	0.1 mg/L	0.1	SM4500NH3-D

Lab ID #: 3042365	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	6.3 mg/L	1	EPA 353.2

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Lab ID #: 3042368	Result	Reporting Limit	Method
Phosphorus, Total	0.54 mg/L	0.1	SM4500P-E

Lab ID #: 3042371	Result	Reporting Limit	Method
TOC	8.4 mg/L	0.5	SM5310C

Lab ID #: AA20577	Result	Reporting Limit	Method
COD	21 mg/L	10	EPA 410.4
TKN	1.4 mg/L	0.3	SM4500N(Org)-B

Lab ID #: AB17369	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	770.1 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	

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SiteID: WMI-02-0011 **USGS Hydrologic Unit:** 051201030204
Stream Name: Tributary of Bush Creek **County:** Randolph
Description: CR 500 N **Latitude:** 40 14 7.73395 **Longitude:** -85 7 43.52362
Drainage: **Site Number:** 14T-103

SiteID: WMI-02-0011 **Sample Date:** 04/14/2014 **IDEM Sample #:** AB16189
Water Flow Type: Glide **Water Appearance:** Murky **Water Depth:** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %:** 0-20%
Sampler Comments:

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	% Sat	107.9 %	ASTM D888-09(C)
	DO	11.33 mg/L	ASTM D888-09(C)
	pH (Field)	8.02 SU	EPA 150.2
	Specific Conductance (Field)	646 umho/cm	SM2510B
	Temperature	13.03 °C	SM2550B(2)
	Turbidity (Hach)	17 NTU	EPA 180.1
	Air Temp	4 Lookup	Observation
	Sky Conditions	4 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	1 Lookup	Observation

<u>Lab ID #:</u> 3010713	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	Alkalinity (as CaCO3)	250 mg/L	1 SM2320B
	Chloride	29 mg/L	6 EPA 300.0
	Fluoride	0.3 mg/L	0.1 SM4500F(-)-C
	Solids, Suspended Total, (TSS)	11 mg/L	10 SM2540D
	Solids, Total (TS)	370 mg/L	10 SM2540B
	Solids, Total Dissolved (TDS)	340 mg/L	10 SM2540C
	Sulfate	32 mg/L	15 EPA 300.0

<u>Lab ID #:</u> 3010714	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	Hardness (as CaCO3)	320 mg/L	0.66 SM2340B
	Calcium (Total)	73 mg/L	0.1 EPA 200.7
	Magnesium (Total)	34 mg/L	0.1 EPA 200.7

<u>Lab ID #:</u> 3010715	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	Nitrogen, Ammonia	< 0.1 mg/L	0.1 SM4500NH3-D

<u>Lab ID #:</u> 3010716	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	Nitrogen, Nitrate+Nitrite	4.5 mg/L	0.1 EPA 353.2

<u>Lab ID #:</u> 3010717	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	Phosphorus, Total	0.12 mg/L	0.05 SM4500P-E

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Lab ID #:		<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
3010718	TOC	3.2 mg/L	0.5	SM5310C
AA14497				
	COD	< 10 mg/L	10	EPA 410.4
	TKN	0.49 mg/L	0.3	SM4500N(Org)-B
AB16189				
	Coliforms (Total)	1986.3 MPN/100mL	1	SM9223B
	E. coli	307.6 MPN/100mL	1	SM9223B

SiteID: WMI-02-0011 **Sample Date:** 04/21/2014 **IDEM Sample #:** AB16433
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	141.4 %		ASTM D888-09(C)
	DO	14.85 mg/L		ASTM D888-09(C)
	pH (Field)	8.17 SU		EPA 150.2
	Specific Conductance (Field)	665 umho/cm		SM2510B
	Temperature	13.01 °C		SM2550B(2)
	Turbidity (Hach)	NTU		EPA 180.1
	Air Temp	4 Lookup		Observation
	Sky Conditions	2 Lookup		Observation
	Wind Direction	27 Lookup		Observation
	Wind Strength	2 Lookup		Observation

Lab ID #:		<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
AB16433				
	Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
	E. coli	69.1 MPN/100mL	1	SM9223B

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

SiteID: WMI-02-0011 Sample Date: 04/28/2014 IDEM Sample #: AB16505
 Water Flow Type Run Water Appearance Brown Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	86 %		ASTM D888-09(C)
DO	9.71 mg/L		ASTM D888-09(C)
pH (Field)	7.65 SU		EPA 150.2
Specific Conductance (Field)	456 umho/cm		SM2510B
Temperature	9.93 °C		SM2550B(2)
Turbidity (Hach)	440 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	3 Lookup		Observation

Lab ID #: AB16505	Result	Reporting Limit	Method
E. coli	2419.6 MPN/100mL	1	SM9223B

Lab ID #: AB16505a	Result	Reporting Limit	Method
Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B

SiteID: WMI-02-0011 Sample Date: 05/05/2014 IDEM Sample #: AB16824
 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	112 %		ASTM D888-09(C)
DO	12.4 mg/L		ASTM D888-09(C)
pH (Field)	7.85 SU		EPA 150.2
Specific Conductance (Field)	678 umho/cm		SM2510B
Temperature	10.81 °C		SM2550B(2)
Turbidity (Hach)	5.55 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	3 Lookup		Observation

Lab ID #: AB16824	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	156.5 MPN/100mL	1	SM9223B

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

SiteID: WMI-02-0011 **Sample Date:** 05/12/2014 **IDEM Sample #:** AB16957
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	105.9 %		ASTM D888-09(C)
DO	9.64 mg/L		ASTM D888-09(C)
pH (Field)	7.81 SU		EPA 150.2
Specific Conductance (Field)	699 umho/cm		SM2510B
Temperature	19.87 °C		SM2550B(2)
Turbidity (Hach)	9.99 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 #: 3026775	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	280 mg/L	1	SM2320B
Chloride	29 mg/L	10	EPA 300.0
Solids, Suspended Total, (TSS)	< 10 mg/L	10	SM2540D
Solids, Total (TS)	400 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	380 mg/L	10	SM2540C
Sulfate	47 mg/L	25	EPA 300.0

Lab ID #: 3026776	Result	Reporting Limit	Method
Hardness (as CaCO3)	320 mg/L	0.66	SM2340B
Calcium (Total)	68 mg/L	0.1	EPA 200.7
Magnesium (Total)	37 mg/L	0.1	EPA 200.7

Lab ID #: 3026777	Result	Reporting Limit	Method
Nitrogen, Ammonia	< 0.1 mg/L	0.1	SM4500NH3-D

Lab ID #: 3026778	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	0.8 mg/L	0.1	EPA 353.2

Lab ID #: 3026779	Result	Reporting Limit	Method
Phosphorus, Total	0.06 mg/L	0.05	SM4500P-E

Lab ID #: 3026780	Result	Reporting Limit	Method
TOC	3.9 mg/L	0.5	SM5310C

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Lab ID #: AA17804	Result	Reporting Limit	Method
COD	9 mg/L	10	EPA 410.4
TKN	0.55 mg/L	0.3	SM4500N(Org)-B

Lab ID #: AB16957	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	613.1 MPN/100mL	1	SM9223B

SiteID: WMI-02-0011 **Sample Date:** 06/09/2014 **IDEM Sample #:** AB17370
Water Flow Type Riffle **Water Appearance** Murky **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	88.3 %		ASTM D888-09(C)
DO	8.6 mg/L		ASTM D888-09(C)
pH (Field)	7.55 SU		EPA 150.2
Specific Conductance (Field)	624 umho/cm		SM2510B
Temperature	16.23 °C		SM2550B(2)
Turbidity (Hach)	57.3 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: 3042380	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	190 mg/L	1	SM2320B
Chloride	24 mg/L	2	EPA 300.0
Solids, Suspended Total, (TSS)	27 mg/L	10	SM2540D
Solids, Total (TS)	430 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	440 mg/L	10	SM2540C
Sulfate	23 mg/L	5	EPA 300.0

Lab ID #: 3042381	Result	Reporting Limit	Method
Hardness (as CaCO3)	300 mg/L	0.66	SM2340B
Calcium (Total)	70 mg/L	0.1	EPA 200.7
Magnesium (Total)	29 mg/L	0.1	EPA 200.7

Lab ID #: 3042382	Result	Reporting Limit	Method
Nitrogen, Ammonia	0.6 mg/L	0.1	SM4500NH3-D

Lab ID #: 3042383	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	18 mg/L	1	EPA 353.2

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Lab ID #: 3042384	Result	Reporting Limit	Method
Phosphorus, Total	0.22 mg/L	0.05	SM4500P-E
Lab ID #: 3042385	Result	Reporting Limit	Method
TOC	5.4 mg/L	0.5	SM5310C
Lab ID #: AA20578	Result	Reporting Limit	Method
COD	16 mg/L	10	EPA 410.4
TKN	1.5 mg/L	0.3	SM4500N(Org)-B
Lab ID #: AB17370	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1732.9 MPN/100mL	1	SM9223B

Weather Code Definitions					
SC 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: WMI-02-0012 **USGS Hydrologic Unit:** 051201030202
Stream Name: Bear Creek **County:** Randolph
Description: CR 800 N **Latitude:** 40 16 45.83845 **Longitude:** -85 4 32.05725
Drainage: **Site Number:** 14T-104

SiteID: WMI-02-0012 **Sample Date:** 04/14/2014 **IDEM Sample #:** AB16196
Water Flow Type: Glide **Water Appearance:** Murky **Water Depth:** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %:** 0-20%
Sampler Comments:

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	93.8 %		ASTM D888-09(C)
DO	9.74 mg/L		ASTM D888-09(C)
pH (Field)	8.04 SU		EPA 150.2
Specific Conductance (Field)	579 umho/cm		SM2510B
Temperature	13.58 °C		SM2550B(2)
Turbidity (Hach)	60.6 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

<u>Lab ID #:</u> 3010721	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	220 mg/L	1	SM2320B
Chloride	18 mg/L	6	EPA 300.0
Fluoride	0.3 mg/L	0.1	SM4500F(-)-C
Solids, Suspended Total, (TSS)	34 mg/L	10	SM2540D
Solids, Total (TS)	380 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	320 mg/L	10	SM2540C
Sulfate	30 mg/L	15	EPA 300.0

<u>Lab ID #:</u> 3010722	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Hardness (as CaCO3)	300 mg/L	0.66	SM2340B
Calcium (Total)	72 mg/L	0.1	EPA 200.7
Magnesium (Total)	30 mg/L	0.1	EPA 200.7

<u>Lab ID #:</u> 3010723	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Nitrogen, Ammonia	< 0.1 mg/L	0.1	SM4500NH3-D

<u>Lab ID #:</u> 3010724	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Nitrogen, Nitrate+Nitrite	6.1 mg/L	0.1	EPA 353.2

<u>Lab ID #:</u> 3010725	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Phosphorus, Total	0.19 mg/L	0.05	SM4500P-E

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Lab ID #:	3010726	Result	Reporting Limit	Method
	TOC	4.4 mg/L	0.5	SM5310C

Lab ID #:	AA14498	Result	Reporting Limit	Method
	COD	5.6 mg/L	10	EPA 410.4
	TKN	0.78 mg/L	0.3	SM4500N(Org)-B

Lab ID #:	AB16196	Result	Reporting Limit	Method
	Coliforms (Total)	2419.6 MPN/100mL	1	SM9223B
	E. coli	1732.9 MPN/100mL	1	SM9223B

SiteID: WMI-02-0012 **Sample Date:** 04/21/2014 **IDEM Sample #:** AB16440
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	150.8 %		ASTM D888-09(C)
DO	15.62 mg/L		ASTM D888-09(C)
pH (Field)	8.52 SU		EPA 150.2
Specific Conductance (Field)	630 umho/cm		SM2510B
Temperature	13.78 °C		SM2550B(2)
Turbidity (Hach)	6.56 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #:	AB16440	Result	Reporting Limit	Method
	Coliforms (Total)	1986.3 MPN/100mL	1	SM9223B
	E. coli	307.6 MPN/100mL	1	SM9223B

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Surface Water Results Summary**

SiteID: WMI-02-0012 Sample Date: 04/28/2014 IDEM Sample #: AB16512
 Water Flow Type Run Water Appearance Brown Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	88.2 %		ASTM D888-09(C)
DO	9.87 mg/L		ASTM D888-09(C)
pH (Field)	7.71 SU		EPA 150.2
Specific Conductance (Field)	460 umho/cm		SM2510B
Temperature	10.27 °C		SM2550B(2)
Turbidity (Hach)	528 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	3 Lookup		Observation

Lab ID #: AB16512	Result	Reporting Limit	Method
E. coli	1986.3 MPN/100mL	1	SM9223B

Lab ID #: AB16512a	Result	Reporting Limit	Method
Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B

SiteID: WMI-02-0012 Sample Date: 05/05/2014 IDEM Sample #: AB16831
 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	124.5 %		ASTM D888-09(C)
DO	13.65 mg/L		ASTM D888-09(C)
pH (Field)	8.18 SU		EPA 150.2
Specific Conductance (Field)	648 umho/cm		SM2510B
Temperature	11.3 °C		SM2550B(2)
Turbidity (Hach)	5.88 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	3 Lookup		Observation

Lab ID #: AB16831	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	307.6 MPN/100mL	1	SM9223B

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

SiteID: WMI-02-0012 **Sample Date:** 05/12/2014 **IDEM Sample #:** AB16964
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	122.3 %		ASTM D888-09(C)
DO	10.98 mg/L		ASTM D888-09(C)
pH (Field)	8.09 SU		EPA 150.2
Specific Conductance (Field)	666 umho/cm		SM2510B
Temperature	20.53 °C		SM2550B(2)
Turbidity (Hach)	11.1 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: 3026783	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	270 mg/L	1	SM2320B
Chloride	25 mg/L	10	EPA 300.0
Solids, Suspended Total, (TSS)	< 10 mg/L	10	SM2540D
Solids, Total (TS)	380 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	350 mg/L	10	SM2540C
Sulfate	45 mg/L	25	EPA 300.0

Lab ID #: 3026784	Result	Reporting Limit	Method
Hardness (as CaCO3)	330 mg/L	0.66	SM2340B
Calcium (Total)	71 mg/L	0.1	EPA 200.7
Magnesium (Total)	36 mg/L	0.1	EPA 200.7

Lab ID #: 3026785	Result	Reporting Limit	Method
Nitrogen, Ammonia	< 0.1 mg/L	0.1	SM4500NH3-D

Lab ID #: 3026786	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	1.8 mg/L	0.1	EPA 353.2

Lab ID #: 3026787	Result	Reporting Limit	Method
Phosphorus, Total	0.08 mg/L	0.05	SM4500P-E

Lab ID #: 3026788	Result	Reporting Limit	Method
TOC	3.9 mg/L	0.5	SM5310C

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Lab ID #:	Result	Reporting Limit	Method	
AA17805	COD	8 mg/L	10	EPA 410.4
	TKN	0.75 mg/L	0.3	SM4500N(Org)-B
AB16964	Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
	E. coli	980.4 MPN/100mL	1	SM9223B

SiteID: WMI-02-0012 **Sample Date:** 06/09/2014 **IDEM Sample #:** AB17371
Water Flow Type Glide **Water Appearance** Brown **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
	% Sat	83.7 %	ASTM D888-09(C)
	DO	8.05 mg/L	ASTM D888-09(C)
	pH (Field)	7.48 SU	EPA 150.2
	Specific Conductance (Field)	593 umho/cm	SM2510B
	Temperature	17.15 °C	SM2550B(2)
	Turbidity (Hach)	98.8 NTU	EPA 180.1
	Air Temp	4 Lookup	Observation
	Sky Conditions	2 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	2 Lookup	Observation

Lab ID #:	Result	Reporting Limit	Method	
3042388	Alkalinity (as CaCO3)	140 mg/L	1	SM2320B
	Chloride	21 mg/L	2	EPA 300.0
	Solids, Suspended Total, (TSS)	44 mg/L	10	SM2540D
	Solids, Total (TS)	520 mg/L	10	SM2540B
	Solids, Total Dissolved (TDS)	480 mg/L	10	SM2540C
	Sulfate	18 mg/L	5	EPA 300.0

Lab ID #:	Result	Reporting Limit	Method	
3042389	Hardness (as CaCO3)	260 mg/L	0.66	SM2340B
	Calcium (Total)	66 mg/L	0.1	EPA 200.7
	Magnesium (Total)	25 mg/L	0.1	EPA 200.7

Lab ID #:	Result	Reporting Limit	Method	
3042390	Nitrogen, Ammonia	1 mg/L	0.1	SM4500NH3-D

Lab ID #:	Result	Reporting Limit	Method	
3042391	Nitrogen, Nitrate+Nitrite	24 mg/L	1	EPA 353.2

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Lab ID #: 3042392	Result	Reporting Limit	Method
Phosphorus, Total	0.4 mg/L	0.05	SM4500P-E
Lab ID #: 3042393	Result	Reporting Limit	Method
TOC	9 mg/L	0.5	SM5310C
Lab ID #: AA20579	Result	Reporting Limit	Method
COD	29 mg/L	10	EPA 410.4
TKN	2.6 mg/L	0.3	SM4500N(Org)-B
Lab ID #: AB17371	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B

Weather Code Definitions					
SC 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
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Surface Water Results Summary**

SiteID: WMI-02-0013 **USGS Hydrologic Unit:** 051201030203
Stream Name: Fetid Creek **County:** Randolph
Description: CR 800 N **Latitude:** 40 16 46.68304 **Longitude:** -85 1 36.12508
Drainage: **Site Number:** 14T-105

SiteID: WMI-02-0013 **Sample Date:** 04/14/2014 **IDEM Sample #:** AB16197
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	87 %	ASTM D888-09(C)
	DO	9.46 mg/L	ASTM D888-09(C)
	pH (Field)	7.84 SU	EPA 150.2
	Specific Conductance (Field)	585 umho/cm	SM2510B
	Temperature	11.53 °C	SM2550B(2)
	Turbidity (Hach)	130 NTU	EPA 180.1
	Air Temp	4 Lookup	Observation
	Sky Conditions	5 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	2 Lookup	Observation

Lab ID #: 3010729	Result	Reporting Limit	Method	
	Alkalinity (as CaCO3)	210 mg/L	1	SM2320B
	Chloride	19 mg/L	6	EPA 300.0
	Fluoride	0.2 mg/L	0.1	SM4500F(-)-C
	Solids, Suspended Total, (TSS)	62 mg/L	10	SM2540D
	Solids, Total (TS)	430 mg/L	10	SM2540B
	Solids, Total Dissolved (TDS)	320 mg/L	10	SM2540C
	Sulfate	29 mg/L	15	EPA 300.0

Lab ID #: 3010730	Result	Reporting Limit	Method	
	Hardness (as CaCO3)	300 mg/L	0.66	SM2340B
	Calcium (Total)	67 mg/L	0.1	EPA 200.7
	Magnesium (Total)	30 mg/L	0.1	EPA 200.7

Lab ID #: 3010731	Result	Reporting Limit	Method	
	Nitrogen, Ammonia	0.2 mg/L	0.1	SM4500NH3-D

Lab ID #: 3010732	Result	Reporting Limit	Method	
	Nitrogen, Nitrate+Nitrite	8.1 mg/L	0.1	EPA 353.2

Lab ID #: 3010733	Result	Reporting Limit	Method	
	Phosphorus, Total	0.47 mg/L	0.05	SM4500P-E

**Indiana Department of Environmental Management
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Lab ID #:		<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
3010734	TOC	5.5 mg/L	0.5	SM5310C
AA14499				
	COD	7 mg/L	10	EPA 410.4
	TKN	0.75 mg/L	0.3	SM4500N(Org)-B
AB16197				
	Coliforms (Total)	2098 MPN/100mL	10	SM9223B
	E. coli	344.8 MPN/100mL	1	SM9223B

SiteID: WMI-02-0013 **Sample Date:** 04/21/2014 **IDEM Sample #:** AB16441
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	93.1 %		ASTM D888-09(C)
	DO	9.94 mg/L		ASTM D888-09(C)
	pH (Field)	8.04 SU		EPA 150.2
	Specific Conductance (Field)	692 umho/cm		SM2510B
	Temperature	12.36 °C		SM2550B(2)
	Turbidity (Hach)	12.1 NTU		EPA 180.1
	Air Temp	4 Lookup		Observation
	Sky Conditions	2 Lookup		Observation
	Wind Direction	27 Lookup		Observation
	Wind Strength	2 Lookup		Observation

Lab ID #:		<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
AB16441				
	Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
	E. coli	201.4 MPN/100mL	1	SM9223B

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

SiteID: WMI-02-0013 Sample Date: 04/28/2014 IDEM Sample #: AB16513
 Water Flow Type Glide Water Appearance Brown Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	84.2 %		ASTM D888-09(C)
DO	9.56 mg/L		ASTM D888-09(C)
pH (Field)	7.79 SU		EPA 150.2
Specific Conductance (Field)	551 umho/cm		SM2510B
Temperature	9.66 °C		SM2550B(2)
Turbidity (Hach)	258 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	3 Lookup		Observation

Lab ID #: AB16513	Result	Reporting Limit	Method
E. coli	2419.6 MPN/100mL	1	SM9223B

Lab ID #: AB16513a	Result	Reporting Limit	Method
Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B

SiteID: WMI-02-0013 Sample Date: 05/05/2014 IDEM Sample #: AB16832
 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	98.7 %		ASTM D888-09(C)
DO	11.08 mg/L		ASTM D888-09(C)
pH (Field)	7.83 SU		EPA 150.2
Specific Conductance (Field)	714 umho/cm		SM2510B
Temperature	10.15 °C		SM2550B(2)
Turbidity (Hach)	10.1 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	3 Lookup		Observation

Lab ID #: AB16832	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	613.1 MPN/100mL	1	SM9223B

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

SiteID: WMI-02-0013 **Sample Date:** 05/12/2014 **IDEM Sample #:** AB16965
Water Flow Type Glide **Water Appearance** Brown **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	85.9 %		ASTM D888-09(C)
DO	8.07 mg/L		ASTM D888-09(C)
pH (Field)	7.67 SU		EPA 150.2
Specific Conductance (Field)	674 umho/cm		SM2510B
Temperature	18.26 °C		SM2550B(2)
Turbidity (Hach)	33.2 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: 3026791	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	250 mg/L	1	SM2320B
Chloride	23 mg/L	10	EPA 300.0
Solids, Suspended Total, (TSS)	18 mg/L	10	SM2540D
Solids, Total (TS)	400 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	370 mg/L	10	SM2540C
Sulfate	45 mg/L	25	EPA 300.0

Lab ID #: 3026792	Result	Reporting Limit	Method
Hardness (as CaCO3)	330 mg/L	0.66	SM2340B
Calcium (Total)	72 mg/L	0.1	EPA 200.7
Magnesium (Total)	36 mg/L	0.1	EPA 200.7

Lab ID #: 3026793	Result	Reporting Limit	Method
Nitrogen, Ammonia	0.2 mg/L	0.1	SM4500NH3-D

Lab ID #: 3026794	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	5.8 mg/L	0.1	EPA 353.2

Lab ID #: 3026795	Result	Reporting Limit	Method
Phosphorus, Total	0.15 mg/L	0.05	SM4500P-E

Lab ID #: 3026796	Result	Reporting Limit	Method
TOC	4.1 mg/L	0.5	SM5310C

**Indiana Department of Environmental Management
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Lab ID #: AA17806	Result	Reporting Limit	Method
COD	12 mg/L	10	EPA 410.4
TKN	1 mg/L	0.3	SM4500N(Org)-B

Lab ID #: AB16965	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	2419.6 MPN/100mL	1	SM9223B

SiteID: WMI-02-0013 **Sample Date:** 06/09/2014 **IDEM Sample #:** AB17372
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	83.9 %		ASTM D888-09(C)
DO	8.34 mg/L		ASTM D888-09(C)
pH (Field)	7.41 SU		EPA 150.2
Specific Conductance (Field)	707 umho/cm		SM2510B
Temperature	15.58 °C		SM2550B(2)
Turbidity (Hach)	52 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: 3042396	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	190 mg/L	1	SM2320B
Chloride	22 mg/L	2	EPA 300.0
Solids, Suspended Total, (TSS)	23 mg/L	10	SM2540D
Solids, Total (TS)	540 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	530 mg/L	10	SM2540C
Sulfate	23 mg/L	5	EPA 300.0

Lab ID #: 3042397	Result	Reporting Limit	Method
Hardness (as CaCO3)	340 mg/L	0.66	SM2340B
Calcium (Total)	80 mg/L	0.1	EPA 200.7
Magnesium (Total)	33 mg/L	0.1	EPA 200.7

Lab ID #: 3042398	Result	Reporting Limit	Method
Nitrogen, Ammonia	0.3 mg/L	0.1	SM4500NH3-D

Lab ID #: 3042399	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	28 mg/L	1	EPA 353.2

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

Lab ID #: 3042400	Result	Reporting Limit	Method
Phosphorus, Total	0.35 mg/L	0.05	SM4500P-E
Lab ID #: 3042401	Result	Reporting Limit	Method
TOC	6.6 mg/L	0.5	SM5310C
Lab ID #: AA20580	Result	Reporting Limit	Method
COD	21 mg/L	10	EPA 410.4
TKN	1.4 mg/L	0.3	SM4500N(Org)-B
Lab ID #: AB17372	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1046.2 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: WMI020-0002 **USGS Hydrologic Unit:** 051201030203
Stream Name: Mississinewa River **County:** Randolph
Description: CR 100 W, near Ridgeville **Latitude:** 40 16 48.00000 **Longitude:** -84 59 43.00000
Drainage: 133 **Site Number:** 14T-106

SiteID: WMI020-0002 **Sample Date:** 04/14/2014 **IDEM Sample #:** AB16198
Water Flow Type Glide **Water Appearance** Murky **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	% Sat	89.8 %	ASTM D888-09(C)
	DO	9.41 mg/L	ASTM D888-09(C)
	pH (Field)	7.98 SU	EPA 150.2
	Specific Conductance (Field)	620 umho/cm	SM2510B
	Temperature	13.2 °C	SM2550B(2)
	Turbidity (Hach)	41.9 NTU	EPA 180.1
	Air Temp	4 Lookup	Observation
	Sky Conditions	5 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	2 Lookup	Observation

<u>Lab ID #:</u> 3010737	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Alkalinity (as CaCO3)	230 mg/L	1	SM2320B
	Chloride	23 mg/L	6	EPA 300.0
	Fluoride	0.2 mg/L	0.1	SM4500F(-)-C
	Solids, Suspended Total, (TSS)	27 mg/L	10	SM2540D
	Solids, Total (TS)	390 mg/L	10	SM2540B
	Solids, Total Dissolved (TDS)	340 mg/L	10	SM2540C
	Sulfate	33 mg/L	15	EPA 300.0

<u>Lab ID #:</u> 3010738	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Hardness (as CaCO3)	310 mg/L	0.66	SM2340B
	Calcium (Total)	77 mg/L	0.1	EPA 200.7
	Magnesium (Total)	29 mg/L	0.1	EPA 200.7

<u>Lab ID #:</u> 3010739	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Nitrogen, Ammonia	0.2 mg/L	0.1	SM4500NH3-D

<u>Lab ID #:</u> 3010740	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Nitrogen, Nitrate+Nitrite	6.9 mg/L	0.1	EPA 353.2

<u>Lab ID #:</u> 3010741	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Phosphorus, Total	0.23 mg/L	0.05	SM4500P-E

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Surface Water Results Summary**

Lab ID #: 3010742	Result	Reporting Limit	Method
TOC	3.9 mg/L	0.5	SM5310C

Lab ID #: AA14500	Result	Reporting Limit	Method
COD	< 10 mg/L	10	EPA 410.4
TKN	0.91 mg/L	0.3	SM4500N(Org)-B

Lab ID #: AB16198	Result	Reporting Limit	Method
Coliforms (Total)	2419.6 MPN/100mL	1	SM9223B
E. coli	980.4 MPN/100mL	1	SM9223B

SiteID: WMI020-0002 **Sample Date:** 04/21/2014 **IDEM Sample #:** AB16442
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	141.8 %		ASTM D888-09(C)
DO	14.78 mg/L		ASTM D888-09(C)
pH (Field)	8.35 SU		EPA 150.2
Specific Conductance (Field)	651 umho/cm		SM2510B
Temperature	13.36 °C		SM2550B(2)
Turbidity (Hach)	5.78 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: AB16442	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	135.4 MPN/100mL	1	SM9223B

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

SiteID: WMI020-0002 Sample Date: 04/28/2014 IDEM Sample #: AB16514
 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	102.7 %		ASTM D888-09(C)
DO	11.16 mg/L		ASTM D888-09(C)
pH (Field)	8.04 SU		EPA 150.2
Specific Conductance (Field)	631 umho/cm		SM2510B
Temperature	11.58 °C		SM2550B(2)
Turbidity (Hach)	15.8 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	3 Lookup		Observation
Lab ID #: AB16514	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	579.4 MPN/100mL	1	SM9223B

SiteID: WMI020-0002 Sample Date: 05/05/2014 IDEM Sample #: AB16833
 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	134.4 %		ASTM D888-09(C)
DO	14.59 mg/L		ASTM D888-09(C)
pH (Field)	8.19 SU		EPA 150.2
Specific Conductance (Field)	639 umho/cm		SM2510B
Temperature	12.01 °C		SM2550B(2)
Turbidity (Hach)	4.66 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	3 Lookup		Observation
Lab ID #: AB16833	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	209.8 MPN/100mL	1	SM9223B

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

SitID: WMI020-0002

Sample Date: 05/12/2014

IDEM Sample #: AB16966

Water Flow Type Run

Water Appearance Brown

Water Depth Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	79 %		ASTM D888-09(C)
DO	7.37 mg/L		ASTM D888-09(C)
pH (Field)	7.77 SU		EPA 150.2
Specific Conductance (Field)	606 umho/cm		SM2510B
Temperature	18.55 °C		SM2550B(2)
Turbidity (Hach)	154 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation
Lab ID #: 3026799	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	210 mg/L	1	SM2320B
Chloride	28 mg/L	10	EPA 300.0
Solids, Suspended Total, (TSS)	89 mg/L	10	SM2540D
Solids, Total (TS)	450 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	340 mg/L	10	SM2540C
Sulfate	37 mg/L	25	EPA 300.0
Lab ID #: 3026800	Result	Reporting Limit	Method
Hardness (as CaCO3)	290 mg/L	0.66	SM2340B
Calcium (Total)	69 mg/L	0.1	EPA 200.7
Magnesium (Total)	30 mg/L	0.1	EPA 200.7
Lab ID #: 3026801	Result	Reporting Limit	Method
Nitrogen, Ammonia	0.2 mg/L	0.1	SM4500NH3-D
Lab ID #: 3026802	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	4.3 mg/L	0.1	EPA 353.2
Lab ID #: 3026803	Result	Reporting Limit	Method
Phosphorus, Total	0.43 mg/L	0.05	SM4500P-E
Lab ID #: 3026804	Result	Reporting Limit	Method
TOC	5.2 mg/L	0.5	SM5310C

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

Lab ID #: AA17807	Result	Reporting Limit	Method
COD	22 mg/L	10	EPA 410.4
TKN	2.2 mg/L	0.3	SM4500N(Org)-B

Lab ID #: AB16966a	Result	Reporting Limit	Method
Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B
E. coli	2603 MPN/100mL	10	SM9223B

SiteID: WMI020-0002 **Sample Date:** 06/09/2014 **IDEM Sample #:** AB17373
Water Flow Type Run **Water Appearance** Brown **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	87.8 %		ASTM D888-09(C)
DO	8.58 mg/L		ASTM D888-09(C)
pH (Field)	7.54 SU		EPA 150.2
Specific Conductance (Field)	564 umho/cm		SM2510B
Temperature	16.45 °C		SM2550B(2)
Turbidity (Hach)	148 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: 3042404	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	160 mg/L	1	SM2320B
Chloride	18 mg/L	2	EPA 300.0
Solids, Suspended Total, (TSS)	81 mg/L	10	SM2540D
Solids, Total (TS)	510 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	390 mg/L	10	SM2540C
Sulfate	21 mg/L	5	EPA 300.0

Lab ID #: 3042405	Result	Reporting Limit	Method
Hardness (as CaCO3)	280 mg/L	0.66	SM2340B
Calcium (Total)	71 mg/L	0.1	EPA 200.7
Magnesium (Total)	25 mg/L	0.1	EPA 200.7

Lab ID #: 3042406	Result	Reporting Limit	Method
Nitrogen, Ammonia	0.2 mg/L	0.1	SM4500NH3-D

Lab ID #: 3042407	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	18 mg/L	1	EPA 353.2

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Surface Water Results Summary**

Lab ID #: 3042408	Result	Reporting Limit	Method
Phosphorus, Total	0.67 mg/L	0.05	SM4500P-E
Lab ID #: 3042409	Result	Reporting Limit	Method
TOC	6.4 mg/L	0.5	SM5310C
Lab ID #: AA20581	Result	Reporting Limit	Method
COD	21 mg/L	10	EPA 410.4
TKN	1.1 mg/L	0.3	SM4500N(Org)-B
Lab ID #: AB17373a	Result	Reporting Limit	Method
Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B
E. coli	4884 MPN/100mL	10	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: WMI-02-0005 **USGS Hydrologic Unit:** 051201030201
Stream Name: Flesher Creek **County:** Jay
Description: CR 800 S **Latitude:** 40 19 22.35734 **Longitude:** -85 3 46.99468
Drainage: **Site Number:** 14T-108

SiteID: WMI-02-0005 **Sample Date:** 04/14/2014 **IDEM Sample #:** AB16199
Water Flow Type: Glide **Water Appearance:** Murky **Water Depth:** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %:** 0-20%
Sampler Comments:

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	% Sat	99.1 %	ASTM D888-09(C)
	DO	10.61 mg/L	ASTM D888-09(C)
	pH (Field)	7.87 SU	EPA 150.2
	Specific Conductance (Field)	605 umho/cm	SM2510B
	Temperature	12.15 °C	SM2550B(2)
	Turbidity (Hach)	14.3 NTU	EPA 180.1
	Air Temp	4 Lookup	Observation
	Sky Conditions	4 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	2 Lookup	Observation

<u>Lab ID #:</u> 3010780	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Alkalinity (as CaCO3)	240 mg/L	1	SM2320B
	Chloride	18 mg/L	6	EPA 300.0
	Fluoride	0.1 mg/L	0.1	SM4500F(-)-C
	Solids, Suspended Total, (TSS)	13 mg/L	10	SM2540D
	Solids, Total (TS)	370 mg/L	10	SM2540B
	Solids, Total Dissolved (TDS)	330 mg/L	10	SM2540C
	Sulfate	33 mg/L	15	EPA 300.0

<u>Lab ID #:</u> 3010781	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Hardness (as CaCO3)	310 mg/L	0.66	SM2340B
	Calcium (Total)	82 mg/L	0.1	EPA 200.7
	Magnesium (Total)	27 mg/L	0.1	EPA 200.7

<u>Lab ID #:</u> 3010782	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Nitrogen, Ammonia	< 0.1 mg/L	0.1	SM4500NH3-D

<u>Lab ID #:</u> 3010783	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Nitrogen, Nitrate+Nitrite	5.6 mg/L	0.1	EPA 353.2

<u>Lab ID #:</u> 3010784	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Phosphorus, Total	0.11 mg/L	0.05	SM4500P-E

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Lab ID #: 3010785	Result	Reporting Limit	Method
TOC	3.6 mg/L	0.5	SM5310C

Lab ID #: AA14501	Result	Reporting Limit	Method
COD	< 10 mg/L	10	EPA 410.4
TKN	0.66 mg/L	0.3	SM4500N(Org)-B

Lab ID #: AB16199	Result	Reporting Limit	Method
Coliforms (Total)	387.3 MPN/100mL	1	SM9223B
E. coli	66.3 MPN/100mL	1	SM9223B

SiteID: WMI-02-0005 **Sample Date:** 04/21/2014 **IDEM Sample #:** AB16443
Water Flow Type Stagnant **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	116 %		ASTM D888-09(C)
DO	12.53 mg/L		ASTM D888-09(C)
pH (Field)	8.08 SU		EPA 150.2
Specific Conductance (Field)	634 umho/cm		SM2510B
Temperature	11.88 °C		SM2550B(2)
Turbidity (Hach)	10.4 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: AB16443	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	135.4 MPN/100mL	1	SM9223B

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SiteID: WMI-02-0005 **Sample Date:** 04/28/2014 **IDEM Sample #:** AB16515
Water Flow Type Glide **Water Appearance** Brown **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments: Turbidity meter flashed 1000NTU, maxed out

Lab ID #:	Result	Reporting Limit	Method
% Sat	85 %		ASTM D888-09(C)
DO	9.56 mg/L		ASTM D888-09(C)
pH (Field)	7.85 SU		EPA 150.2
Specific Conductance (Field)	389 umho/cm		SM2510B
Temperature	10 °C		SM2550B(2)
Turbidity (Hach)	1000 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	3 Lookup		Observation

Lab ID #: AB16515a	Result	Reporting Limit	Method
E. coli	4106 MPN/100mL	10	SM9223B

Lab ID #: AB16515b	Result	Reporting Limit	Method
Coliforms (Total)	64880 MPN/100mL	100	SM9223B

SiteID: WMI-02-0005 **Sample Date:** 05/05/2014 **IDEM Sample #:** AB16834
Water Flow Type Pool **Water Appearance** Murky **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	90.8 %		ASTM D888-09(C)
DO	10.11 mg/L		ASTM D888-09(C)
pH (Field)	7.8 SU		EPA 150.2
Specific Conductance (Field)	624 umho/cm		SM2510B
Temperature	10.39 °C		SM2550B(2)
Turbidity (Hach)	10.2 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: AB16834	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	42 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management
Office of Water Quality-Watershed Assessment and Planning Branch
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SiteID: WMI-02-0005 **Sample Date:** 05/12/2014 **IDEM Sample #:** AB16967
Water Flow Type Glide **Water Appearance** Brown **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	89.4 %		ASTM D888-09(C)
DO	8.52 mg/L		ASTM D888-09(C)
pH (Field)	7.64 SU		EPA 150.2
Specific Conductance (Field)	527 umho/cm		SM2510B
Temperature	17.56 °C		SM2550B(2)
Turbidity (Hach)	105 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: 3026807	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	150 mg/L	1	SM2320B
Chloride	16 mg/L	10	EPA 300.0
Solids, Suspended Total, (TSS)	34 mg/L	10	SM2540D
Solids, Total (TS)	420 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	330 mg/L	10	SM2540C
Sulfate	23 mg/L	5	EPA 300.0

Lab ID #: 3026808	Result	Reporting Limit	Method
Hardness (as CaCO3)	240 mg/L	0.66	SM2340B
Calcium (Total)	65 mg/L	0.1	EPA 200.7
Magnesium (Total)	21 mg/L	0.1	EPA 200.7

Lab ID #: 3026809	Result	Reporting Limit	Method
Nitrogen, Ammonia	0.7 mg/L	0.1	SM4500NH3-D

Lab ID #: 3026810	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	14 mg/L	1	EPA 353.2

Lab ID #: 3026811	Result	Reporting Limit	Method
Phosphorus, Total	0.51 mg/L	0.05	SM4500P-E

Lab ID #: 3026812	Result	Reporting Limit	Method
TOC	10 mg/L	0.5	SM5310C

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Lab ID #: AA17808	Result	Reporting Limit	Method
COD	27 mg/L	10	EPA 410.4
TKN	4.3 mg/L	0.3	SM4500N(Org)-B

Lab ID #: AB16967a	Result	Reporting Limit	Method
Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B
E. coli	3873 MPN/100mL	10	SM9223B

SiteID: WMI-02-0005 **Sample Date:** 06/09/2014 **IDEM Sample #:** AB17374
Water Flow Type Run **Water Appearance** Brown **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	75.3 %		ASTM D888-09(C)
DO	7.12 mg/L		ASTM D888-09(C)
pH (Field)	7.33 SU		EPA 150.2
Specific Conductance (Field)	390 umho/cm		SM2510B
Temperature	17.53 °C		SM2550B(2)
Turbidity (Hach)	139 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: 3042412	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	110 mg/L	1	SM2320B
Chloride	8.9 mg/L	2	EPA 300.0
Solids, Suspended Total, (TSS)	44 mg/L	10	SM2540D
Solids, Total (TS)	370 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	320 mg/L	10	SM2540C
Sulfate	12 mg/L	5	EPA 300.0

Lab ID #: 3042413	Result	Reporting Limit	Method
Hardness (as CaCO3)	200 mg/L	0.66	SM2340B
Calcium (Total)	51 mg/L	0.1	EPA 200.7
Magnesium (Total)	16 mg/L	0.1	EPA 200.7

Lab ID #: 3042414	Result	Reporting Limit	Method
Nitrogen, Ammonia	0.2 mg/L	0.1	SM4500NH3-D

Lab ID #: 3042415	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	13 mg/L	1	EPA 353.2

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Lab ID #:		Result	Reporting Limit	Method
3042416	Phosphorus, Total	0.55 mg/L	0.05	SM4500P-E
3042417	TOC	7.1 mg/L	0.5	SM5310C
AA20582	COD	23 mg/L	10	EPA 410.4
	TKN	1.1 mg/L	0.3	SM4500N(Org)-B
AB17374	E. coli	214.3 MPN/100mL	1	SM9223B
AB17374a	Coliforms (Total)	> 24196 MPN/100mL	24196	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: WMI-02-0006 **USGS Hydrologic Unit:** 051201030201
Stream Name: Days Creek **County:** Randolph
Description: SR 28 **Latitude:** 40 17 29.43358 **Longitude:** -85 3 59.87262
Drainage: **Site Number:** 14T-109

SiteID: WMI-02-0006 **Sample Date:** 04/14/2014 **IDEM Sample #:** AB16200
Water Flow Type: Glide **Water Appearance:** Murky **Water Depth:** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %:** 0-20%
Sampler Comments:

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	77.3 %		ASTM D888-09(C)
DO	8.08 mg/L		ASTM D888-09(C)
pH (Field)	7.85 SU		EPA 150.2
Specific Conductance (Field)	598 umho/cm		SM2510B
Temperature	13.27 °C		SM2550B(2)
Turbidity (Hach)	27.8 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

<u>Lab ID #:</u> 3010788	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	230 mg/L	1	SM2320B
Chloride	17 mg/L	6	EPA 300.0
Fluoride	0.1 mg/L	0.1	SM4500F(-)-C
Solids, Suspended Total, (TSS)	19 mg/L	10	SM2540D
Solids, Total (TS)	380 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	320 mg/L	10	SM2540C
Sulfate	32 mg/L	15	EPA 300.0

<u>Lab ID #:</u> 3010789	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Hardness (as CaCO3)	310 mg/L	0.66	SM2340B
Calcium (Total)	80 mg/L	0.1	EPA 200.7
Magnesium (Total)	27 mg/L	0.1	EPA 200.7

<u>Lab ID #:</u> 3010790	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Nitrogen, Ammonia	< 0.1 mg/L	0.1	SM4500NH3-D

<u>Lab ID #:</u> 3010791	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Nitrogen, Nitrate+Nitrite	7.3 mg/L	0.5	EPA 353.2

<u>Lab ID #:</u> 3010792	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Phosphorus, Total	0.17 mg/L	0.05	SM4500P-E

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Lab ID #:		<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
3010793	TOC	3.5 mg/L	0.5	SM5310C
AA14502				
	COD	< 10 mg/L	10	EPA 410.4
	TKN	0.91 mg/L	0.3	SM4500N(Org)-B
AB16200				
	Coliforms (Total)	1299.7 MPN/100mL	1	SM9223B
	E. coli	517.2 MPN/100mL	1	SM9223B

SiteID: WMI-02-0006 **Sample Date:** 04/21/2014 **IDEM Sample #:** AB16444
Water Flow Type Pool **Water Appearance** Murky **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #:		<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	% Sat	90 %		ASTM D888-09(C)
	DO	9.35 mg/L		ASTM D888-09(C)
	pH (Field)	7.99 SU		EPA 150.2
	Specific Conductance (Field)	602 umho/cm		SM2510B
	Temperature	13.59 °C		SM2550B(2)
	Turbidity (Hach)	16.2 NTU		EPA 180.1
	Air Temp	4 Lookup		Observation
	Sky Conditions	2 Lookup		Observation
	Wind Direction	27 Lookup		Observation
	Wind Strength	2 Lookup		Observation

Lab ID #:		<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
AB16444				
	Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
	E. coli	178.9 MPN/100mL	1	SM9223B

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SiteID: WMI-02-0006 Sample Date: 04/28/2014 IDEM Sample #: AB16516
 Water Flow Type: Glide Water Appearance: Brown Water Depth: Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed %: 0-20%
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	81.4 %		ASTM D888-09(C)
DO	8.79 mg/L		ASTM D888-09(C)
pH (Field)	7.78 SU		EPA 150.2
Specific Conductance (Field)	586 umho/cm		SM2510B
Temperature	11.75 °C		SM2550B(2)
Turbidity (Hach)	64.4 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	3 Lookup		Observation
Lab ID #: AB16516	Result	Reporting Limit	Method
Coliforms (Total)	24196 MPN/100mL	10	SM9223B
E. coli	1607 MPN/100mL	10	SM9223B

SiteID: WMI-02-0006 Sample Date: 05/05/2014 IDEM Sample #: AB16835
 Water Flow Type: Pool Water Appearance: Murky Water Depth: Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed %: 0-20%
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	87.4 %		ASTM D888-09(C)
DO	9.42 mg/L		ASTM D888-09(C)
pH (Field)	7.72 SU		EPA 150.2
Specific Conductance (Field)	598 umho/cm		SM2510B
Temperature	11.81 °C		SM2550B(2)
Turbidity (Hach)	34.4 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation
Lab ID #: AB16835	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	95.9 MPN/100mL	1	SM9223B

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Surface Water Results Summary**

SiteID: WMI-02-0006

Sample Date: 05/12/2014

IDEM Sample #: AB16968

Water Flow Type Glide

Water Appearance Brown

Water Depth Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	74.4 %		ASTM D888-09(C)
DO	7.11 mg/L		ASTM D888-09(C)
pH (Field)	7.39 SU		EPA 150.2
Specific Conductance (Field)	396 umho/cm		SM2510B
Temperature	17.52 °C		SM2550B(2)
Turbidity (Hach)	292 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation
Lab ID #: 3026821	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	110 mg/L	1	SM2320B
Chloride	19 mg/L	10	EPA 300.0
Solids, Suspended Total, (TSS)	90 mg/L	10	SM2540D
Solids, Total (TS)	450 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	320 mg/L	10	SM2540C
Sulfate	20 mg/L	5	EPA 300.0
Lab ID #: 3026822	Result	Reporting Limit	Method
Hardness (as CaCO3)	190 mg/L	0.66	SM2340B
Calcium (Total)	47 mg/L	0.1	EPA 200.7
Magnesium (Total)	17 mg/L	0.1	EPA 200.7
Lab ID #: 3026823	Result	Reporting Limit	Method
Nitrogen, Ammonia	0.2 mg/L	0.1	SM4500NH3-D
Lab ID #: 3026824	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	5 mg/L	0.1	EPA 353.2
Lab ID #: 3026825	Result	Reporting Limit	Method
Phosphorus, Total	0.73 mg/L	0.05	SM4500P-E
Lab ID #: 3026826	Result	Reporting Limit	Method
TOC	12 mg/L	0.5	SM5310C

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Lab ID #: AA17810	Result	Reporting Limit	Method
COD	49 mg/L	10	EPA 410.4
TKN	3.8 mg/L	0.3	SM4500N(Org)-B

Lab ID #: AB16968a	Result	Reporting Limit	Method
Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B
E. coli	4352 MPN/100mL	10	SM9223B

SiteID: WMI-02-0006 **Sample Date:** 06/09/2014 **IDEM Sample #:** AB17375
Water Flow Type Glide **Water Appearance** Brown **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	76.2 %		ASTM D888-09(C)
DO	7.24 mg/L		ASTM D888-09(C)
pH (Field)	7.44 SU		EPA 150.2
Specific Conductance (Field)	430 umho/cm		SM2510B
Temperature	17.67 °C		SM2550B(2)
Turbidity (Hach)	167 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: 3042420	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	130 mg/L	1	SM2320B
Chloride	11 mg/L	2	EPA 300.0
Solids, Suspended Total, (TSS)	79 mg/L	10	SM2540D
Solids, Total (TS)	420 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	340 mg/L	10	SM2540C
Sulfate	15 mg/L	5	EPA 300.0

Lab ID #: 3042421	Result	Reporting Limit	Method
Hardness (as CaCO3)	210 mg/L	0.66	SM2340B
Calcium (Total)	56 mg/L	0.1	EPA 200.7
Magnesium (Total)	18 mg/L	0.1	EPA 200.7

Lab ID #: 3042422	Result	Reporting Limit	Method
Nitrogen, Ammonia	0.1 mg/L	0.1	SM4500NH3-D

Lab ID #: 3042423	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	13 mg/L	1	EPA 353.2

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Surface Water Results Summary**

Lab ID #:		Result	Reporting Limit	Method
3042424	Phosphorus, Total	0.38 mg/L	0.05	SM4500P-E
3042425	TOC	6.6 mg/L	0.5	SM5310C
AA20583	COD	14 mg/L	10	EPA 410.4
	TKN	0.86 mg/L	0.3	SM4500N(Org)-B
AB17375	E. coli	1413.6 MPN/100mL	1	SM9223B
AB17375a	Coliforms (Total)	> 24196 MPN/100mL	24196	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
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Surface Water Results Summary**

SiteID: WMI-02-0007 **USGS Hydrologic Unit:** 051201030203
Stream Name: Mississinewa River **County:** Randolph
Description: CR 600 W **Latitude:** 40 17 6.76540 **Longitude:** -85 5 33.82484
Drainage: **Site Number:** 14T-110

SiteID: WMI-02-0007 **Sample Date:** 04/14/2014 **IDEM Sample #:** AB16201
Water Flow Type: Glide **Water Appearance:** Murky **Water Depth:** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %:** 0-20%
Sampler Comments: FLOW - 217.71 cfs

Lab ID #:	Result	Reporting Limit	Method
	% Sat	86.7 %	ASTM D888-09(C)
	DO	9.06 mg/L	ASTM D888-09(C)
	pH (Field)	8.05 SU	EPA 150.2
	Specific Conductance (Field)	616 umho/cm	SM2510B
	Temperature	13.28 °C	SM2550B(2)
	Turbidity (Hach)	31.3 NTU	EPA 180.1
	Air Temp	4 Lookup	Observation
	Flow	217.71 cf/sec	TM D5389-95/D3858
	Sky Conditions	4 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	2 Lookup	Observation

Lab ID #: 3010796	Result	Reporting Limit	Method
	Alkalinity (as CaCO3)	230 mg/L	1
	Chloride	38 mg/L	6
	Fluoride	0.2 mg/L	0.1
	Solids, Suspended Total, (TSS)	29 mg/L	10
	Solids, Total (TS)	400 mg/L	10
	Solids, Total Dissolved (TDS)	340 mg/L	10
	Sulfate	34 mg/L	15

Lab ID #: 3010797	Result	Reporting Limit	Method
	Hardness (as CaCO3)	310 mg/L	0.66
	Calcium (Total)	78 mg/L	0.1
	Magnesium (Total)	30 mg/L	0.1

Lab ID #: 3010798	Result	Reporting Limit	Method
	Nitrogen, Ammonia	0.1 mg/L	0.1

Lab ID #: 3010799	Result	Reporting Limit	Method
	Nitrogen, Nitrate+Nitrite	6.9 mg/L	0.1

Lab ID #: 3010800	Result	Reporting Limit	Method
	Phosphorus, Total	0.23 mg/L	0.05

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Lab ID #:		<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
3010801	TOC	3.8 mg/L	0.5	SM5310C
AA14503				
	COD	< 10 mg/L	10	EPA 410.4
	TKN	0.64 mg/L	0.3	SM4500N(Org)-B
AB16201				
	Coliforms (Total)	648.8 MPN/100mL	1	SM9223B
	E. coli	160.7 MPN/100mL	1	SM9223B

SiteID: WMI-02-0007 **Sample Date:** 04/21/2014 **IDEM Sample #:** AB16445
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	106.8 %		ASTM D888-09(C)
	DO	10.83 mg/L		ASTM D888-09(C)
	pH (Field)	8.32 SU		EPA 150.2
	Specific Conductance (Field)	652 umho/cm		SM2510B
	Temperature	14.47 °C		SM2550B(2)
	Turbidity (Hach)	16.1 NTU		EPA 180.1
	Air Temp	4 Lookup		Observation
	Sky Conditions	2 Lookup		Observation
	Wind Direction	27 Lookup		Observation
	Wind Strength	2 Lookup		Observation

Lab ID #:		<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
AB16445				
	Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
	E. coli	115.3 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management
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SiteID: WMI-02-0007 Sample Date: 04/28/2014 IDEM Sample #: AB16517
 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	97.2 %		ASTM D888-09(C)
DO	10.19 mg/L		ASTM D888-09(C)
pH (Field)	8.16 SU		EPA 150.2
Specific Conductance (Field)	629 umho/cm		SM2510B
Temperature	13.15 °C		SM2550B(2)
Turbidity (Hach)	26.7 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	3 Lookup		Observation

Lab ID #: AB16517	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	325.5 MPN/100mL	1	SM9223B

SiteID: WMI-02-0007 Sample Date: 05/05/2014 IDEM Sample #: AB16836
 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	113.4 %		ASTM D888-09(C)
DO	11.98 mg/L		ASTM D888-09(C)
pH (Field)	8.27 SU		EPA 150.2
Specific Conductance (Field)	638 umho/cm		SM2510B
Temperature	12.82 °C		SM2550B(2)
Turbidity (Hach)	14.3 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: AB16836	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	117.8 MPN/100mL	1	SM9223B

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

SiteID: WMI-02-0007

Sample Date: 05/12/2014

IDEM Sample #: AB16969

Water Flow Type Run

Water Appearance Brown

Water Depth Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	78.2 %		ASTM D888-09(C)
DO	7.09 mg/L		ASTM D888-09(C)
pH (Field)	7.86 SU		EPA 150.2
Specific Conductance (Field)	630 umho/cm		SM2510B
Temperature	20 °C		SM2550B(2)
Turbidity (Hach)	39.8 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Flow	225 cf/sec		TM D5389-95/D3858
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: 3026871	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	240 mg/L	1	SM2320B
Chloride	24 mg/L	10	EPA 300.0
Solids, Suspended Total, (TSS)	49 mg/L	10	SM2540D
Solids, Total (TS)	410 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	350 mg/L	10	SM2540C
Sulfate	47 mg/L	25	EPA 300.0

Lab ID #: 3026874	Result	Reporting Limit	Method
Hardness (as CaCO3)	300 mg/L	0.66	SM2340B
Calcium (Total)	70 mg/L	0.1	EPA 200.7
Magnesium (Total)	30 mg/L	0.1	EPA 200.7

Lab ID #: 3026875	Result	Reporting Limit	Method
Nitrogen, Ammonia	< 0.1 mg/L	0.1	SM4500NH3-D

Lab ID #: 3026878	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	5.8 mg/L	1	EPA 353.2

Lab ID #: 3026881	Result	Reporting Limit	Method
Phosphorus, Total	0.21 mg/L	0.05	SM4500P-E

Lab ID #: 3026884	Result	Reporting Limit	Method
TOC	4 mg/L	0.5	SM5310C

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Lab ID #:	Result	Reporting Limit	Method
AA17812	COD	8 mg/L	EPA 410.4
	TKN	1.3 mg/L	SM4500N(Org)-B
AB16969	Coliforms (Total)	> 2419.6 MPN/100mL	SM9223B
	E. coli	1413.6 MPN/100mL	SM9223B

SiteID: WMI-02-0007 **Sample Date:** 06/09/2014 **IDEM Sample #:** AB17363
Water Flow Type Run **Water Appearance** Brown **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
	% Sat	81.4 %	ASTM D888-09(C)
	DO	7.69 mg/L	ASTM D888-09(C)
	pH (Field)	7.57 SU	EPA 150.2
	Specific Conductance (Field)	269 umho/cm	SM2510B
	Temperature	17.91 °C	SM2550B(2)
	Turbidity (Hach)	222 NTU	EPA 180.1
	Air Temp	4 Lookup	Observation
	Flow	444.79 cf/sec	TM D5389-95/D3858
	Sky Conditions	2 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	2 Lookup	Observation

Lab ID #:	Result	Reporting Limit	Method
3042428	Alkalinity (as CaCO3)	140 mg/L	SM2320B
	Chloride	18 mg/L	EPA 300.0
	Solids, Suspended Total, (TSS)	110 mg/L	SM2540D
	Solids, Total (TS)	500 mg/L	SM2540B
	Solids, Total Dissolved (TDS)	350 mg/L	SM2540C
	Sulfate	21 mg/L	EPA 300.0

Lab ID #:	Result	Reporting Limit	Method
3042429	Hardness (as CaCO3)	240 mg/L	SM2340B
	Calcium (Total)	60 mg/L	EPA 200.7
	Magnesium (Total)	22 mg/L	EPA 200.7

Lab ID #:	Result	Reporting Limit	Method
3042430	Nitrogen, Ammonia	0.2 mg/L	SM4500NH3-D

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

Lab ID #:	Result	Reporting Limit	Method
3042431	Nitrogen, Nitrate+Nitrite 16 mg/L	1	EPA 353.2
3042432	Phosphorus, Total 0.42 mg/L	0.05	SM4500P-E
3042433	TOC 7.1 mg/L	0.5	SM5310C
AA20584	COD 21 mg/L	10	EPA 410.4
	TKN 1.5 mg/L	0.3	SM4500N(Org)-B
AB17363a	Coliforms (Total) > 24196 MPN/100mL	24196	SM9223B
	E. coli 4106 MPN/100mL	10	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
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Surface Water Results Summary**

SiteID: WMI-02-0009 **USGS Hydrologic Unit:** 051201030204
Stream Name: Bush Creek **County:** Randolph
Description: CR 750 N **Latitude:** 40 16 17.70312 **Longitude:** -85 8 42.17699
Drainage: **Site Number:** 14T-112

SiteID: WMI-02-0009 **Sample Date:** 04/14/2014 **IDEM Sample #:** AB16168
Water Flow Type: Glide **Water Appearance:** Murky **Water Depth:** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %:** 0-20%
Sampler Comments: FLOW - 15.5193 cfs

Lab ID #:	Result	Reporting Limit	Method
	% Sat	105.1 %	ASTM D888-09(C)
	DO	10.97 mg/L	ASTM D888-09(C)
	pH (Field)	8.13 SU	EPA 150.2
	Specific Conductance (Field)	597 umho/cm	SM2510B
	Temperature	13.36 °C	SM2550B(2)
	Turbidity (Hach)	18.3 NTU	EPA 180.1
	Air Temp	3 Lookup	Observation
	Flow	15.5193 cf/sec	TM D5389-95/D3858
	Sky Conditions	4 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	2 Lookup	Observation

Lab ID #: 3010804	Result	Reporting Limit	Method	
	Alkalinity (as CaCO3)	230 mg/L	1	SM2320B
	Chloride	22 mg/L	6	EPA 300.0
	Fluoride	0.2 mg/L	0.1	SM4500F(-)-C
	Solids, Suspended Total, (TSS)	10 mg/L	10	SM2540D
	Solids, Total (TS)	370 mg/L	10	SM2540B
	Solids, Total Dissolved (TDS)	340 mg/L	10	SM2540C
	Sulfate	38 mg/L	15	EPA 300.0

Lab ID #: 3010805	Result	Reporting Limit	Method	
	Hardness (as CaCO3)	310 mg/L	0.66	SM2340B
	Calcium (Total)	71 mg/L	0.1	EPA 200.7
	Magnesium (Total)	30 mg/L	0.1	EPA 200.7

Lab ID #: 3010806	Result	Reporting Limit	Method	
	Nitrogen, Ammonia	< 0.1 mg/L	0.1	SM4500NH3-D

Lab ID #: 3010807	Result	Reporting Limit	Method	
	Nitrogen, Nitrate+Nitrite	3.1 mg/L	0.1	EPA 353.2

Lab ID #: 3010808	Result	Reporting Limit	Method	
	Phosphorus, Total	0.18 mg/L	0.05	SM4500P-E

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Lab ID #: 3010809	Result	Reporting Limit	Method
TOC	4.3 mg/L	0.5	SM5310C

Lab ID #: AA14504	Result	Reporting Limit	Method
COD	< 10 mg/L	10	EPA 410.4
TKN	0.66 mg/L	0.3	SM4500N(Org)-B

Lab ID #: AB16168	Result	Reporting Limit	Method
Coliforms (Total)	1299.7 MPN/100mL	1	SM9223B
E. coli	325.5 MPN/100mL	1	SM9223B

SiteID: WMI-02-0009 **Sample Date:** 04/21/2014 **IDEM Sample #:** AB16412
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	184.7 %		ASTM D888-09(C)
DO	19.58 mg/L		ASTM D888-09(C)
pH (Field)	8.65 SU		EPA 150.2
Specific Conductance (Field)	616 umho/cm		SM2510B
Temperature	15.09 °C		SM2550B(2)
Turbidity (Hach)	7.29 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: AB16412	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	59.1 MPN/100mL	1	SM9223B

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Surface Water Results Summary**

SiteID: WMI-02-0009 **Sample Date:** 04/28/2014 **IDEM Sample #:** AB16484
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	106.5 %		ASTM D888-09(C)
DO	11.51 mg/L		ASTM D888-09(C)
pH (Field)	8.16 SU		EPA 150.2
Specific Conductance (Field)	630 umho/cm		SM2510B
Temperature	11.84 °C		SM2550B(2)
Turbidity (Hach)	20.6 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	3 Lookup		Observation
Lab ID #: AB16484			
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1119.9 MPN/100mL	1	SM9223B

SiteID: WMI-02-0009 **Sample Date:** 05/05/2014 **IDEM Sample #:** AB16803
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	155.4 %		ASTM D888-09(C)
DO	16.46 mg/L		ASTM D888-09(C)
pH (Field)	8.27 SU		EPA 150.2
Specific Conductance (Field)	652 umho/cm		SM2510B
Temperature	12.78 °C		SM2550B(2)
Turbidity (Hach)	4.43 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation
Lab ID #: AB16803			
Coliforms (Total)	1986.3 MPN/100mL	1	SM9223B
E. coli	108.1 MPN/100mL	1	SM9223B

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

SiteID: WMI-02-0009

Sample Date: 05/12/2014

IDEM Sample #: AB16936

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	118.8 %		ASTM D888-09(C)
DO	10.6 mg/L		ASTM D888-09(C)
pH (Field)	7.88 SU		EPA 150.2
Specific Conductance (Field)	634 umho/cm		SM2510B
Temperature	20.89 °C		SM2550B(2)
Turbidity (Hach)	28.7 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Flow	8.5895 cf/sec		TM D5389-95/D3858
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: 3026967	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	230 mg/L	1	SM2320B
Chloride	28 mg/L	10	EPA 300.0
Solids, Suspended Total, (TSS)	17 mg/L	10	SM2540D
Solids, Total (TS)	380 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	350 mg/L	10	SM2540C
Sulfate	42 mg/L	25	EPA 300.0

Lab ID #: 3026968	Result	Reporting Limit	Method
Hardness (as CaCO3)	310 mg/L	0.66	SM2340B
Calcium (Total)	71 mg/L	0.1	EPA 200.7
Magnesium (Total)	32 mg/L	0.1	EPA 200.7

Lab ID #: 3026969	Result	Reporting Limit	Method
Nitrogen, Ammonia	0.2 mg/L	0.1	SM4500NH3-D

Lab ID #: 3026970	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	6.5 mg/L	0.1	EPA 353.2

Lab ID #: 3026971	Result	Reporting Limit	Method
Phosphorus, Total	0.34 mg/L	0.05	SM4500P-E

Lab ID #: 3026972	Result	Reporting Limit	Method
TOC	6.4 mg/L	0.5	SM5310C

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Lab ID #: AA17813	Result	Reporting Limit	Method
COD	23 mg/L	10	EPA 410.4
TKN	1.3 mg/L	0.3	SM4500N(Org)-B

Lab ID #: AB16936	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	727 MPN/100mL	1	SM9223B

SiteID: WMI-02-0009 **Sample Date:** 06/09/2014 **IDEM Sample #:** AB17364
Water Flow Type Glide **Water Appearance** Brown **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	89.2 %		ASTM D888-09(C)
DO	8.49 mg/L		ASTM D888-09(C)
pH (Field)	7.55 SU		EPA 150.2
Specific Conductance (Field)	492 umho/cm		SM2510B
Temperature	17.56 °C		SM2550B(2)
Turbidity (Hach)	91.2 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Flow	26.7082 cf/sec		TM D5389-95/D3858
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: 3042436	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	160 mg/L	1	SM2320B
Chloride	16 mg/L	2	EPA 300.0
Solids, Suspended Total, (TSS)	43 mg/L	10	SM2540D
Solids, Total (TS)	380 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	310 mg/L	10	SM2540C
Sulfate	20 mg/L	5	EPA 300.0

Lab ID #: 3042437	Result	Reporting Limit	Method
Hardness (as CaCO3)	230 mg/L	0.66	SM2340B
Calcium (Total)	58 mg/L	0.1	EPA 200.7
Magnesium (Total)	22 mg/L	0.1	EPA 200.7

Lab ID #: 3042438	Result	Reporting Limit	Method
Nitrogen, Ammonia	0.4 mg/L	0.1	SM4500NH3-D

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Lab ID #:	Result	Reporting Limit	Method
3042439	Nitrogen, Nitrate+Nitrite 11 mg/L	1	EPA 353.2
3042440	Phosphorus, Total 0.32 mg/L	0.05	SM4500P-E
3042441	TOC 7.3 mg/L	0.5	SM5310C
AA20585	COD 16 mg/L	10	EPA 410.4
	TKN 1.6 mg/L	0.3	SM4500N(Org)-B
AB17364	E. coli 1553.1 MPN/100mL	1	SM9223B
AB17364a	Coliforms (Total) > 24196 MPN/100mL	24196	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
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Surface Water Results Summary**

SiteID: WMI-02-0015 **USGS Hydrologic Unit:** 051201030206
Stream Name: Dinner Creek **County:** Randolph
Description: SR 28 **Latitude:** 40 17 36.19877 **Longitude:** -85 8 36.39743
Drainage: **Site Number:** 14T-113

SiteID: WMI-02-0015 **Sample Date:** 04/14/2014 **IDEM Sample #:** AB16169
Water Flow Type: Glide **Water Appearance:** Murky **Water Depth:** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %:** 0-20%
Sampler Comments:

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	89.1 %		ASTM D888-09(C)
DO	9.41 mg/L		ASTM D888-09(C)
pH (Field)	7.9 SU		EPA 150.2
Specific Conductance (Field)	630 umho/cm		SM2510B
Temperature	12.81 °C		SM2550B(2)
Turbidity (Hach)	25.4 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

<u>Lab ID #:</u> 3010812	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	240 mg/L	1	SM2320B
Chloride	19 mg/L	6	EPA 300.0
Fluoride	0.2 mg/L	0.1	SM4500F(-)-C
Solids, Suspended Total, (TSS)	23 mg/L	10	SM2540D
Solids, Total (TS)	400 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	340 mg/L	10	SM2540C
Sulfate	33 mg/L	15	EPA 300.0

<u>Lab ID #:</u> 3010813	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Hardness (as CaCO3)	330 mg/L	0.66	SM2340B
Calcium (Total)	81 mg/L	0.1	EPA 200.7
Magnesium (Total)	30 mg/L	0.1	EPA 200.7

<u>Lab ID #:</u> 3010814	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Nitrogen, Ammonia	< 0.1 mg/L	0.1	SM4500NH3-D

<u>Lab ID #:</u> 3010815	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Nitrogen, Nitrate+Nitrite	6.6 mg/L	0.1	EPA 353.2

<u>Lab ID #:</u> 3010816	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Phosphorus, Total	0.19 mg/L	0.05	SM4500P-E

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Lab ID #: 3010817	Result	Reporting Limit	Method
TOC	3.3 mg/L	0.5	SM5310C

Lab ID #: AA14505	Result	Reporting Limit	Method
COD	6.2 mg/L	10	EPA 410.4
TKN	0.49 mg/L	0.3	SM4500N(Org)-B

Lab ID #: AB16169	Result	Reporting Limit	Method
Coliforms (Total)	1046.2 MPN/100mL	1	SM9223B
E. coli	156.5 MPN/100mL	1	SM9223B

SiteID: WMI-02-0015 **Sample Date:** 04/21/2014 **IDEM Sample #:** AB16413
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	121.5 %		ASTM D888-09(C)
DO	12.79 mg/L		ASTM D888-09(C)
pH (Field)	8.17 SU		EPA 150.2
Specific Conductance (Field)	642 umho/cm		SM2510B
Temperature	13.24 °C		SM2550B(2)
Turbidity (Hach)	6.2 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: AB16413	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	290.9 MPN/100mL	1	SM9223B

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SiteID: WMI-02-0015 **Sample Date:** 04/28/2014 **IDEM Sample #:** AB16485
Water Flow Type Riffle **Water Appearance** Brown **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	89.6 %		ASTM D888-09(C)
DO	9.88 mg/L		ASTM D888-09(C)
pH (Field)	7.85 SU		EPA 150.2
Specific Conductance (Field)	541 umho/cm		SM2510B
Temperature	10.94 °C		SM2550B(2)
Turbidity (Hach)	72.6 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	3 Lookup		Observation
Lab ID #: AB16485a			
Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B
E. coli	2282 MPN/100mL	10	SM9223B

SiteID: WMI-02-0015 **Sample Date:** 05/05/2014 **IDEM Sample #:** AB16804
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	111.1 %		ASTM D888-09(C)
DO	12.26 mg/L		ASTM D888-09(C)
pH (Field)	7.86 SU		EPA 150.2
Specific Conductance (Field)	663 umho/cm		SM2510B
Temperature	10.95 °C		SM2550B(2)
Turbidity (Hach)	4.53 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation
Lab ID #: AB16804			
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	686.7 MPN/100mL	1	SM9223B

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

SiteID: WMI-02-0015

Sample Date: 05/12/2014

IDEM Sample #: AB16937

Water Flow Type Glide

Water Appearance Brown

Water Depth

Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	94.6 %		ASTM D888-09(C)
DO	8.43 mg/L		ASTM D888-09(C)
pH (Field)	7.93 SU		EPA 150.2
Specific Conductance (Field)	572 umho/cm		SM2510B
Temperature	20.97 °C		SM2550B(2)
Turbidity (Hach)	70.8 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation
Lab ID #: 3026975	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	160 mg/L	1	SM2320B
Chloride	27 mg/L	10	EPA 300.0
Solids, Suspended Total, (TSS)	26 mg/L	10	SM2540D
Solids, Total (TS)	390 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	350 mg/L	10	SM2540C
Sulfate	32 mg/L	25	EPA 300.0
Lab ID #: 3026976	Result	Reporting Limit	Method
Hardness (as CaCO3)	260 mg/L	0.66	SM2340B
Calcium (Total)	65 mg/L	0.1	EPA 200.7
Magnesium (Total)	24 mg/L	0.1	EPA 200.7
Lab ID #: 3026977	Result	Reporting Limit	Method
Nitrogen, Ammonia	1 mg/L	0.1	SM4500NH3-D
Lab ID #: 3026978	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	9.2 mg/L	0.1	EPA 353.2
Lab ID #: 3026979	Result	Reporting Limit	Method
Phosphorus, Total	0.24 mg/L	0.05	SM4500P-E
Lab ID #: 3026980	Result	Reporting Limit	Method
TOC	8.2 mg/L	0.5	SM5310C

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Lab ID #:	Result	Reporting Limit	Method
AA17814	COD	21 mg/L	EPA 410.4
	TKN	2.9 mg/L	SM4500N(Org)-B
AB16937	E. coli	2419.6 MPN/100mL	1
			SM9223B
AB16937a	Coliforms (Total)	> 24196 MPN/100mL	24196
			SM9223B

SiteID: WMI-02-0015 **Sample Date:** 06/09/2014 **IDEM Sample #:** AB17365
Water Flow Type Glide **Water Appearance** Brown **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
	% Sat	91 %	ASTM D888-09(C)
	DO	8.7 mg/L	ASTM D888-09(C)
	pH (Field)	7.54 SU	EPA 150.2
	Specific Conductance (Field)	533 umho/cm	SM2510B
	Temperature	17.61 °C	SM2550B(2)
	Turbidity (Hach)	56.7 NTU	EPA 180.1
	Air Temp	4 Lookup	Observation
	Sky Conditions	2 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	2 Lookup	Observation

Lab ID #:	Result	Reporting Limit	Method
3042444	Alkalinity (as CaCO3)	180 mg/L	1
	Chloride	16 mg/L	2
	Solids, Suspended Total, (TSS)	30 mg/L	10
	Solids, Total (TS)	390 mg/L	10
	Solids, Total Dissolved (TDS)	380 mg/L	10
	Sulfate	21 mg/L	5

Lab ID #:	Result	Reporting Limit	Method
3042445	Hardness (as CaCO3)	270 mg/L	0.66
	Calcium (Total)	69 mg/L	0.1
	Magnesium (Total)	24 mg/L	0.1

Lab ID #:	Result	Reporting Limit	Method
3042446	Nitrogen, Ammonia	< 0.1 mg/L	0.1
			SM4500NH3-D

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Lab ID #:	Result	Reporting Limit	Method
3042447	Nitrogen, Nitrate+Nitrite 14 mg/L	1	EPA 353.2
3042448	Phosphorus, Total 0.38 mg/L	0.05	SM4500P-E
3042449	TOC 6.1 mg/L	0.5	SM5310C
AA20586	COD 19 mg/L	10	EPA 410.4
	TKN 0.93 mg/L	0.3	SM4500N(Org)-B
AB17365	Coliforms (Total) > 2419.6 MPN/100mL	2419.6	SM9223B
	E. coli 461.1 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
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Surface Water Results Summary**

SiteID: WMI-02-0016 **USGS Hydrologic Unit:** 051201030205
Stream Name: Halfway Creek **County:** Jay
Description: CR 1000 W **Latitude:** 40 20 22.25610 **Longitude:** -85 10 6.34308
Drainage: **Site Number:** 14T-114

SiteID: WMI-02-0016 **Sample Date:** 04/14/2014 **IDEM Sample #:** AB16170
Water Flow Type: Glide **Water Appearance:** Brown **Water Depth:** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %:** 0-20%
Sampler Comments:

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	% Sat	108.9 %	ASTM D888-09(C)
	DO	11.72 mg/L	ASTM D888-09(C)
	pH (Field)	8.04 SU	EPA 150.2
	Specific Conductance (Field)	616 umho/cm	SM2510B
	Temperature	12.03 °C	SM2550B(2)
	Turbidity (Hach)	36.5 NTU	EPA 180.1
	Air Temp	3 Lookup	Observation
	Sky Conditions	4 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	2 Lookup	Observation

<u>Lab ID #:</u> 3010820	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Alkalinity (as CaCO3)	230 mg/L	1	SM2320B
	Chloride	28 mg/L	6	EPA 300.0
	Fluoride	0.2 mg/L	0.1	SM4500F(-)-C
	Solids, Suspended Total, (TSS)	27 mg/L	10	SM2540D
	Solids, Total (TS)	400 mg/L	10	SM2540B
	Solids, Total Dissolved (TDS)	350 mg/L	10	SM2540C
	Sulfate	34 mg/L	15	EPA 300.0

<u>Lab ID #:</u> 3010821	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Hardness (as CaCO3)	300 mg/L	0.66	SM2340B
	Calcium (Total)	74 mg/L	0.1	EPA 200.7
	Magnesium (Total)	26 mg/L	0.1	EPA 200.7

<u>Lab ID #:</u> 3010822	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Nitrogen, Ammonia	< 0.1 mg/L	0.1	SM4500NH3-D

<u>Lab ID #:</u> 3010823	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Nitrogen, Nitrate+Nitrite	3.3 mg/L	0.1	EPA 353.2

<u>Lab ID #:</u> 3010824	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Phosphorus, Total	0.34 mg/L	0.05	SM4500P-E

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Lab ID #:		<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
3010825	TOC	4.3 mg/L	0.5	SM5310C
AA14506				
	COD	< 10 mg/L	10	EPA 410.4
	TKN	0.64 mg/L	0.3	SM4500N(Org)-B
AB16170				
	Coliforms (Total)	1986.3 MPN/100mL	1	SM9223B
	E. coli	547.5 MPN/100mL	1	SM9223B

SiteID: WMI-02-0016 **Sample Date:** 04/21/2014 **IDEM Sample #:** AB16414
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	204.4 %		ASTM D888-09(C)
	DO	20.25 mg/L		ASTM D888-09(C)
	pH (Field)	8.64 SU		EPA 150.2
	Specific Conductance (Field)	674 umho/cm		SM2510B
	Temperature	16.63 °C		SM2550B(2)
	Turbidity (Hach)	10.5 NTU		EPA 180.1
	Air Temp	4 Lookup		Observation
	Sky Conditions	2 Lookup		Observation
	Wind Direction	27 Lookup		Observation
	Wind Strength	2 Lookup		Observation

Lab ID #:		<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
AB16414				
	Coliforms (Total)	2419.6 MPN/100mL	1	SM9223B
	E. coli	35 MPN/100mL	1	SM9223B

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SiteID: WMI-02-0016 Sample Date: 04/28/2014 IDEM Sample #: AB16486
 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	113.8 %		ASTM D888-09(C)
DO	12.3 mg/L		ASTM D888-09(C)
pH (Field)	8 SU		EPA 150.2
Specific Conductance (Field)	626 umho/cm		SM2510B
Temperature	11.83 °C		SM2550B(2)
Turbidity (Hach)	36.1 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	4 Lookup		Observation
Lab ID #: AB16486	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B

SiteID: WMI-02-0016 Sample Date: 05/05/2014 IDEM Sample #: AB16805
 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	158.7 %		ASTM D888-09(C)
DO	16.56 mg/L		ASTM D888-09(C)
pH (Field)	8.22 SU		EPA 150.2
Specific Conductance (Field)	686 umho/cm		SM2510B
Temperature	13.44 °C		SM2550B(2)
Turbidity (Hach)	10.5 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	3 Lookup		Observation
Lab ID #: AB16805	Result	Reporting Limit	Method
Coliforms (Total)	2419.6 MPN/100mL	1	SM9223B
E. coli	52.9 MPN/100mL	1	SM9223B

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

SiteID: WMI-02-0016

Sample Date: 05/12/2014

IDEM Sample #: AB16938

Water Flow Type Glide

Water Appearance Brown

Water Depth

Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	151.7 %		ASTM D888-09(C)
DO	12.65 mg/L		ASTM D888-09(C)
pH (Field)	8.29 SU		EPA 150.2
Specific Conductance (Field)	600 umho/cm		SM2510B
Temperature	24.39 °C		SM2550B(2)
Turbidity (Hach)	53 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	3 Lookup		Observation
Lab ID #: 3026983	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	200 mg/L	1	SM2320B
Chloride	34 mg/L	10	EPA 300.0
Solids, Suspended Total, (TSS)	49 mg/L	10	SM2540D
Solids, Total (TS)	400 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	360 mg/L	10	SM2540C
Sulfate	32 mg/L	25	EPA 300.0
Lab ID #: 3026984	Result	Reporting Limit	Method
Hardness (as CaCO3)	260 mg/L	0.66	SM2340B
Calcium (Total)	64 mg/L	0.1	EPA 200.7
Magnesium (Total)	24 mg/L	0.1	EPA 200.7
Lab ID #: 3026985	Result	Reporting Limit	Method
Nitrogen, Ammonia	0.1 mg/L	0.1	SM4500NH3-D
Lab ID #: 3026986	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	5.1 mg/L	0.1	EPA 353.2
Lab ID #: 3026987	Result	Reporting Limit	Method
Phosphorus, Total	0.49 mg/L	0.05	SM4500P-E
Lab ID #: 3026988	Result	Reporting Limit	Method
TOC	6.6 mg/L	0.5	SM5310C

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Lab ID #:	Result	Reporting Limit	Method
AA17815			
COD	23 mg/L	10	EPA 410.4
TKN	1.8 mg/L	0.3	SM4500N(Org)-B
AB16938a			
Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B
E. coli	5794 MPN/100mL	10	SM9223B

SiteID: WMI-02-0016 **Sample Date:** 06/09/2014 **IDEM Sample #:** AB17366
Water Flow Type Glide **Water Appearance** Brown **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	82.3 %		ASTM D888-09(C)
DO	7.63 mg/L		ASTM D888-09(C)
pH (Field)	7.4 SU		EPA 150.2
Specific Conductance (Field)	433 umho/cm		SM2510B
Temperature	18.89 °C		SM2550B(2)
Turbidity (Hach)	158 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #:	Result	Reporting Limit	Method
3042452			
Alkalinity (as CaCO3)	150 mg/L	1	SM2320B
Chloride	18 mg/L	2	EPA 300.0
Solids, Suspended Total, (TSS)	74 mg/L	10	SM2540D
Solids, Total (TS)	370 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	290 mg/L	10	SM2540C
Sulfate	18 mg/L	5	EPA 300.0

Lab ID #:	Result	Reporting Limit	Method
3042453			
Hardness (as CaCO3)	200 mg/L	0.66	SM2340B
Calcium (Total)	54 mg/L	0.1	EPA 200.7
Magnesium (Total)	18 mg/L	0.1	EPA 200.7

Lab ID #:	Result	Reporting Limit	Method
3042454			
Nitrogen, Ammonia	0.1 mg/L	0.1	SM4500NH3-D

Lab ID #:	Result	Reporting Limit	Method
3042455			
Nitrogen, Nitrate+Nitrite	6.2 mg/L	0.1	EPA 353.2

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Lab ID #:		Result	Reporting Limit	Method
3042456	Phosphorus, Total	0.43 mg/L	0.05	SM4500P-E
3042457	TOC	6.8 mg/L	0.5	SM5310C
AA20587	COD	19 mg/L	10	EPA 410.4
	TKN	0.9 mg/L	0.3	SM4500N(Org)-B
AB17366	E. coli	1986.3 MPN/100mL	1	SM9223B
AB17366a	Coliforms (Total)	> 24196 MPN/100mL	24196	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
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Surface Water Results Summary**

SiteID: WMI-02-0017 **USGS Hydrologic Unit:** 051201030205
Stream Name: Halfway Creek **County:** Delaware
Description: Water Street **Latitude:** 40 17 52.10025 **Longitude:** -85 14 13.45069
Drainage: **Site Number:** 14T-116

SiteID: WMI-02-0017 **Sample Date:** 04/14/2014 **IDEM Sample #:** AB16171
Water Flow Type: Glide **Water Appearance:** Murky **Water Depth:** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %:** 0-20%
Sampler Comments: FLOW - 21.2592 cfs

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	94.1 %		ASTM D888-09(C)
DO	10 mg/L		ASTM D888-09(C)
pH (Field)	8 SU		EPA 150.2
Specific Conductance (Field)	609 umho/cm		SM2510B
Temperature	12.56 °C		SM2550B(2)
Turbidity (Hach)	24.1 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Flow	21.2592 cf/sec		TM D5389-95/D3858
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #:</u> 3010828	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	230 mg/L	1	SM2320B
Chloride	27 mg/L	6	EPA 300.0
Fluoride	0.1 mg/L	0.1	SM4500F(-)-C
Solids, Suspended Total, (TSS)	19 mg/L	10	SM2540D
Solids, Total (TS)	370 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	350 mg/L	10	SM2540C
Sulfate	32 mg/L	15	EPA 300.0

<u>Lab ID #:</u> 3010829	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Hardness (as CaCO3)	300 mg/L	0.66	SM2340B
Calcium (Total)	77 mg/L	0.1	EPA 200.7
Magnesium (Total)	26 mg/L	0.1	EPA 200.7

<u>Lab ID #:</u> 3010830	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Nitrogen, Ammonia	< 0.1 mg/L	0.1	SM4500NH3-D

<u>Lab ID #:</u> 3010831	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Nitrogen, Nitrate+Nitrite	2.6 mg/L	0.1	EPA 353.2

<u>Lab ID #:</u> 3010832	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Phosphorus, Total	0.23 mg/L	0.05	SM4500P-E

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Lab ID #:		<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
3010833	TOC	4.3 mg/L	0.5	SM5310C
AA14507				
	COD	7.2 mg/L	10	EPA 410.4
	TKN	0.41 mg/L	0.3	SM4500N(Org)-B
AB16171				
	Coliforms (Total)	2419.6 MPN/100mL	1	SM9223B
	E. coli	461.1 MPN/100mL	1	SM9223B

SiteID: WMI-02-0017 **Sample Date:** 04/21/2014 **IDEM Sample #:** AB16415
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	169.7 %		ASTM D888-09(C)
	DO	16.82 mg/L		ASTM D888-09(C)
	pH (Field)	8.57 SU		EPA 150.2
	Specific Conductance (Field)	575 umho/cm		SM2510B
	Temperature	15.49 °C		SM2550B(2)
	Turbidity (Hach)	14.8 NTU		EPA 180.1
	Air Temp	4 Lookup		Observation
	Sky Conditions	2 Lookup		Observation
	Wind Direction	27 Lookup		Observation
	Wind Strength	2 Lookup		Observation

Lab ID #:		<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
AB16415				
	Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
	E. coli	547.5 MPN/100mL	1	SM9223B

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SiteID: WMI-02-0017 Sample Date: 04/28/2014 IDEM Sample #: AB16487
 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	103.1 %		ASTM D888-09(C)
DO	10.92 mg/L		ASTM D888-09(C)
pH (Field)	8.09 SU		EPA 150.2
Specific Conductance (Field)	557 umho/cm		SM2510B
Temperature	12.68 °C		SM2550B(2)
Turbidity (Hach)	30.8 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	3 Lookup		Observation
Lab ID #: AB16487	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1986.3 MPN/100mL	1	SM9223B

SiteID: WMI-02-0017 Sample Date: 05/05/2014 IDEM Sample #: AB16806
 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	161.3 %		ASTM D888-09(C)
DO	16.53 mg/L		ASTM D888-09(C)
pH (Field)	8.4 SU		EPA 150.2
Specific Conductance (Field)	610 umho/cm		SM2510B
Temperature	14.31 °C		SM2550B(2)
Turbidity (Hach)	9.76 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	2 Lookup		Observation
Lab ID #: AB16806	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	203.5 MPN/100mL	1	SM9223B

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

SiteID: WMI-02-0017

Sample Date: 05/12/2014

IDEM Sample #: AB16939

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	100.4 %		ASTM D888-09(C)
DO	8.78 mg/L		ASTM D888-09(C)
pH (Field)	7.89 SU		EPA 150.2
Specific Conductance (Field)	678 umho/cm		SM2510B
Temperature	21.93 °C		SM2550B(2)
Turbidity (Hach)	24 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Flow	17.4944 cf/sec		TM D5389-95/D3858
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: 3026991	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	240 mg/L	1	SM2320B
Chloride	37 mg/L	10	EPA 300.0
Solids, Suspended Total, (TSS)	22 mg/L	10	SM2540D
Solids, Total (TS)	410 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	390 mg/L	10	SM2540C
Sulfate	45 mg/L	25	EPA 300.0

Lab ID #: 3026992	Result	Reporting Limit	Method
Hardness (as CaCO3)	310 mg/L	0.66	SM2340B
Calcium (Total)	77 mg/L	0.1	EPA 200.7
Magnesium (Total)	28 mg/L	0.1	EPA 200.7

Lab ID #: 3026993	Result	Reporting Limit	Method
Nitrogen, Ammonia	0.1 mg/L	0.1	SM4500NH3-D

Lab ID #: 3026994	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	1.4 mg/L	0.1	EPA 353.2

Lab ID #: 3026995	Result	Reporting Limit	Method
Phosphorus, Total	0.2 mg/L	0.05	SM4500P-E

Lab ID #: 3026996	Result	Reporting Limit	Method
TOC	4.8 mg/L	0.5	SM5310C

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Lab ID #:	Result	Reporting Limit	Method
AA17816	COD	15 mg/L	EPA 410.4
	TKN	1.1 mg/L	SM4500N(Org)-B
AB16939	Coliforms (Total)	> 2419.6 MPN/100mL	SM9223B
	E. coli	1203.3 MPN/100mL	SM9223B

SiteID: WMI-02-0017 **Sample Date:** 06/09/2014 **IDEM Sample #:** AB17367
Water Flow Type Run **Water Appearance** Brown **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
	% Sat	77.8 %	ASTM D888-09(C)
	DO	7.31 mg/L	ASTM D888-09(C)
	pH (Field)	7.36 SU	EPA 150.2
	Specific Conductance (Field)	417 umho/cm	SM2510B
	Temperature	18.27 °C	SM2550B(2)
	Turbidity (Hach)	137 NTU	EPA 180.1
	Air Temp	4 Lookup	Observation
	Flow	102.8663 cf/sec	TM D5389-95/D3858
	Sky Conditions	2 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	2 Lookup	Observation

Lab ID #:	Result	Reporting Limit	Method
3042460	Alkalinity (as CaCO3)	140 mg/L	SM2320B
	Chloride	16 mg/L	EPA 300.0
	Solids, Suspended Total, (TSS)	59 mg/L	SM2540D
	Solids, Total (TS)	340 mg/L	SM2540B
	Solids, Total Dissolved (TDS)	280 mg/L	SM2540C
	Sulfate	17 mg/L	EPA 300.0

Lab ID #:	Result	Reporting Limit	Method
3042461	Hardness (as CaCO3)	200 mg/L	SM2340B
	Calcium (Total)	53 mg/L	EPA 200.7
	Magnesium (Total)	17 mg/L	EPA 200.7

Lab ID #:	Result	Reporting Limit	Method
3042462	Nitrogen, Ammonia	< 0.1 mg/L	SM4500NH3-D

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Lab ID #:	Result	Reporting Limit	Method	
3042463	Nitrogen, Nitrate+Nitrite	6.1 mg/L	0.1	EPA 353.2
3042464	Phosphorus, Total	0.6 mg/L	0.05	SM4500P-E
3042465	TOC	6.8 mg/L	0.5	SM5310C
AA20588	COD	18 mg/L	10	EPA 410.4
	TKN	0.71 mg/L	0.3	SM4500N(Org)-B
AB17367	E. coli	2419.6 MPN/100mL	1	SM9223B
AB17367a	Coliforms (Total)	> 24196 MPN/100mL	24196	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: WMI-02-0018 **USGS Hydrologic Unit:** 051201030206
Stream Name: Mississinewa River **County:** Delaware
Description: Strong Road **Latitude:** 40 17 30.21709 **Longitude:** -85 14 14.83787
Drainage: **Site Number:** 14T-117

SiteID: WMI-02-0018 **Sample Date:** 04/15/2014 **IDEM Sample #:** AB16172
Water Flow Type Run **Water Appearance** Murky **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	% Sat	84.6 %	ASTM D888-09(C)
	DO	9.65 mg/L	ASTM D888-09(C)
	pH (Field)	8.09 SU	EPA 150.2
	Specific Conductance (Field)	607 umho/cm	SM2510B
	Temperature	9.45 °C	SM2550B(2)
	Turbidity (Hach)	43.1 NTU	EPA 180.1
	Air Temp	1 Lookup	Observation
	Sky Conditions	2 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	2 Lookup	Observation

<u>Lab ID #:</u> 3010836	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Alkalinity (as CaCO3)	230 mg/L	1	SM2320B
	Chloride	23 mg/L	6	EPA 300.0
	Fluoride	0.2 mg/L	0.1	SM4500F(-)-C
	Solids, Suspended Total, (TSS)	35 mg/L	10	SM2540D
	Solids, Total (TS)	400 mg/L	10	SM2540B
	Solids, Total Dissolved (TDS)	350 mg/L	10	SM2540C
	Sulfate	34 mg/L	15	EPA 300.0

<u>Lab ID #:</u> 3010837	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Hardness (as CaCO3)	310 mg/L	0.66	SM2340B
	Calcium (Total)	76 mg/L	0.1	EPA 200.7
	Magnesium (Total)	30 mg/L	0.1	EPA 200.7

<u>Lab ID #:</u> 3010838	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Nitrogen, Ammonia	< 0.1 mg/L	0.1	SM4500NH3-D

<u>Lab ID #:</u> 3010839	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Nitrogen, Nitrate+Nitrite	5.7 mg/L	0.1	EPA 353.2

<u>Lab ID #:</u> 3010840	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Phosphorus, Total	0.27 mg/L	0.05	SM4500P-E

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Lab ID #:		<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
3010841	TOC	3.8 mg/L	0.5	SM5310C
AA14508				
	COD	< 10 mg/L	10	EPA 410.4
	TKN	0.59 mg/L	0.3	SM4500N(Org)-B
AB16172				
	Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
	E. coli	228.2 MPN/100mL	1	SM9223B

SiteID: WMI-02-0018 **Sample Date:** 04/22/2014 **IDEM Sample #:** AB16416
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 #:		<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	% Sat	89.4 %		ASTM D888-09(C)
	DO	9.15 mg/L		ASTM D888-09(C)
	pH (Field)	8.11 SU		EPA 150.2
	Specific Conductance (Field)	656 umho/cm		SM2510B
	Temperature	14.25 °C		SM2550B(2)
	Turbidity (Hach)	15.1 NTU		EPA 180.1
	Air Temp	4 Lookup		Observation
	Sky Conditions	2 Lookup		Observation
	Wind Direction	27 Lookup		Observation
	Wind Strength	2 Lookup		Observation

Lab ID #:		<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
AB16416				
	Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
	E. coli	81.3 MPN/100mL	1	SM9223B

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

SiteID: WMI-02-0018 Sample Date: 04/29/2014 IDEM Sample #: AB16488
 Water Flow Type Run Water Appearance Brown Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments: Flooded

Lab ID #:	Result	Reporting Limit	Method
% Sat	80.6 %		ASTM D888-09(C)
DO	8.63 mg/L		ASTM D888-09(C)
pH (Field)	7.83 SU		EPA 150.2
Specific Conductance (Field)	460 umho/cm		SM2510B
Temperature	12.18 °C		SM2550B(2)
Turbidity (Hach)	524 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	2 Lookup		Observation
Lab ID #: AB16488a	Result	Reporting Limit	Method
Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B
E. coli	3255 MPN/100mL	10	SM9223B

SiteID: WMI-02-0018 Sample Date: 05/06/2014 IDEM Sample #: AB16807
 Water Flow Type Run Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	101.2 %		ASTM D888-09(C)
DO	10.71 mg/L		ASTM D888-09(C)
pH (Field)	8.15 SU		EPA 150.2
Specific Conductance (Field)	633 umho/cm		SM2510B
Temperature	12.71 °C		SM2550B(2)
Turbidity (Hach)	10.4 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation
Lab ID #: AB16807	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	115.3 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management
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SiteID: WMI-02-0018

Sample Date: 05/13/2014

IDEM Sample #: AB16940

Water Flow Type Run

Water Appearance Brown

Water Depth Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	73.1 %		ASTM D888-09(C)
DO	6.71 mg/L		ASTM D888-09(C)
pH (Field)	7.82 SU		EPA 150.2
Specific Conductance (Field)	615 umho/cm		SM2510B
Temperature	19.44 °C		SM2550B(2)
Turbidity (Hach)	48.1 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation
Lab ID #: 3026999	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	230 mg/L	1	SM2320B
Chloride	26 mg/L	10	EPA 300.0
Solids, Suspended Total, (TSS)	42 mg/L	10	SM2540D
Solids, Total (TS)	390 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	350 mg/L	10	SM2540C
Sulfate	37 mg/L	25	EPA 300.0
Lab ID #: 3027000	Result	Reporting Limit	Method
Hardness (as CaCO3)	310 mg/L	0.66	SM2340B
Calcium (Total)	71 mg/L	0.1	EPA 200.7
Magnesium (Total)	31 mg/L	0.1	EPA 200.7
Lab ID #: 3027001	Result	Reporting Limit	Method
Nitrogen, Ammonia	0.1 mg/L	0.1	SM4500NH3-D
Lab ID #: 3027002	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	3.1 mg/L	0.1	EPA 353.2
Lab ID #: 3027003	Result	Reporting Limit	Method
Phosphorus, Total	0.2 mg/L	0.05	SM4500P-E
Lab ID #: 3027004	Result	Reporting Limit	Method
TOC	4.9 mg/L	0.5	SM5310C

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Lab ID #: AA17817	Result	Reporting Limit	Method
COD	14 mg/L	10	EPA 410.4
TKN	1 mg/L	0.3	SM4500N(Org)-B

Lab ID #: AB16940	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	307.6 MPN/100mL	1	SM9223B

SiteID: WMI-02-0018 **Sample Date:** 06/10/2014 **IDEM Sample #:** AB17378
Water Flow Type Run **Water Appearance** Brown **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	83.5 %		ASTM D888-09(C)
DO	8.02 mg/L		ASTM D888-09(C)
pH (Field)	7.65 SU		EPA 150.2
Specific Conductance (Field)	557 umho/cm		SM2510B
Temperature	17.21 °C		SM2550B(2)
Turbidity (Hach)	130 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	5 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: 3042477	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	170 mg/L	1	SM2320B
Chloride	20 mg/L	2	EPA 300.0
Solids, Suspended Total, (TSS)	79 mg/L	10	SM2540D
Solids, Total (TS)	460 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	390 mg/L	10	SM2540C
Sulfate	24 mg/L	5	EPA 300.0

Lab ID #: 3042478	Result	Reporting Limit	Method
Hardness (as CaCO3)	270 mg/L	0.66	SM2340B
Calcium (Total)	68 mg/L	0.1	EPA 200.7
Magnesium (Total)	24 mg/L	0.1	EPA 200.7

Lab ID #: 3042479	Result	Reporting Limit	Method
Nitrogen, Ammonia	0.1 mg/L	0.1	SM4500NH3-D

Lab ID #: 3042480	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	16 mg/L	1	EPA 353.2

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Lab ID #:	Result	Reporting Limit	Method	
3042481	Phosphorus, Total	0.73 mg/L	0.05	SM4500P-E
3042482	TOC	6 mg/L	0.5	SM5310C
AA20550	COD	19 mg/L	10	EPA 410.4
	TKN	1.1 mg/L	0.3	SM4500N(Org)-B
AB17378	E. coli	1732.9 MPN/100mL	1	SM9223B
AB17378a	Coliforms (Total)	> 24196 MPN/100mL	24196	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
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Surface Water Results Summary**

SiteID: WMI-02-0019 **USGS Hydrologic Unit:** 051201030206
Stream Name: Mud Creek **County:** Delaware
Description: Edgewater Road **Latitude:** 40 17 14.77447 **Longitude:** -85 14 9.32404
Drainage: **Site Number:** 14T-118

SiteID: WMI-02-0019 **Sample Date:** 04/15/2014 **IDEM Sample #:** AB16173
Water Flow Type: Glide **Water Appearance:** Murky **Water Depth:** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %:** 0-20%
Sampler Comments: High volume of foam buildup

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	% Sat	84.4 %	ASTM D888-09(C)
	DO	10.54 mg/L	ASTM D888-09(C)
	pH (Field)	8.03 SU	EPA 150.2
	Specific Conductance (Field)	589 umho/cm	SM2510B
	Temperature	5.76 °C	SM2550B(2)
	Turbidity (Hach)	17 NTU	EPA 180.1
	Air Temp	1 Lookup	Observation
	Sky Conditions	2 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	2 Lookup	Observation

<u>Lab ID #:</u> 3010844	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Alkalinity (as CaCO3)	250 mg/L	1	SM2320B
	Chloride	17 mg/L	6	EPA 300.0
	Fluoride	0.1 mg/L	0.1	SM4500F(-)-C
	Solids, Suspended Total, (TSS)	14 mg/L	10	SM2540D
	Solids, Total (TS)	350 mg/L	10	SM2540B
	Solids, Total Dissolved (TDS)	330 mg/L	10	SM2540C
	Sulfate	25 mg/L	15	EPA 300.0

<u>Lab ID #:</u> 3010845	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Hardness (as CaCO3)	320 mg/L	0.66	SM2340B
	Calcium (Total)	75 mg/L	0.1	EPA 200.7
	Magnesium (Total)	31 mg/L	0.1	EPA 200.7

<u>Lab ID #:</u> 3010846	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Nitrogen, Ammonia	0.1 mg/L	0.1	SM4500NH3-D

<u>Lab ID #:</u> 3010847	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Nitrogen, Nitrate+Nitrite	3.2 mg/L	0.1	EPA 353.2

<u>Lab ID #:</u> 3010848	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Phosphorus, Total	0.2 mg/L	0.05	SM4500P-E

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Lab ID #:		<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
3010849	TOC	4 mg/L	0.5	SM5310C
AA14509				
	COD	5.4 mg/L	10	EPA 410.4
	TKN	0.4 mg/L	0.3	SM4500N(Org)-B
AB16173				
	Coliforms (Total)	1732.9 MPN/100mL	1	SM9223B
	E. coli	579.4 MPN/100mL	1	SM9223B

SiteID: WMI-02-0019 **Sample Date:** 04/22/2014 **IDEM Sample #:** AB16417
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	98.7 %		ASTM D888-09(C)
	DO	10.25 mg/L		ASTM D888-09(C)
	pH (Field)	7.99 SU		EPA 150.2
	Specific Conductance (Field)	599 umho/cm		SM2510B
	Temperature	13.58 °C		SM2550B(2)
	Turbidity (Hach)	7.69 NTU		EPA 180.1
	Air Temp	4 Lookup		Observation
	Sky Conditions	2 Lookup		Observation
	Wind Direction	27 Lookup		Observation
	Wind Strength	2 Lookup		Observation

Lab ID #:		<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
AB16417				
	Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
	E. coli	91.1 MPN/100mL	1	SM9223B

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

SiteID: WMI-02-0019 **Sample Date:** 04/29/2014 **IDEM Sample #:** AB16489
Water Flow Type Glide **Water Appearance** Brown **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
	% Sat	78.3 %	ASTM D888-09(C)
	DO	8.56 mg/L	ASTM D888-09(C)
	pH (Field)	7.66 SU	EPA 150.2
	Specific Conductance (Field)	490 umho/cm	SM2510B
	Temperature	11.33 °C	SM2550B(2)
	Turbidity (Hach)	102 NTU	EPA 180.1
	Air Temp	4 Lookup	Observation
	Sky Conditions	1 Lookup	Observation
	Wind Direction	18 Lookup	Observation
	Wind Strength	2 Lookup	Observation
Lab ID #: AB16489a			
	Coliforms (Total)	17329 MPN/100mL	10 SM9223B
	E. coli	2909 MPN/100mL	10 SM9223B

SiteID: WMI-02-0019 **Sample Date:** 05/06/2014 **IDEM Sample #:** AB16808
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	94.1 %	ASTM D888-09(C)
	DO	10.24 mg/L	ASTM D888-09(C)
	pH (Field)	7.85 SU	EPA 150.2
	Specific Conductance (Field)	650 umho/cm	SM2510B
	Temperature	11.51 °C	SM2550B(2)
	Turbidity (Hach)	4.89 NTU	EPA 180.1
	Air Temp	3 Lookup	Observation
	Sky Conditions	3 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	2 Lookup	Observation
Lab ID #: AB16808			
	Coliforms (Total)	> 2419.6 MPN/100mL	2419.6 SM9223B
	E. coli	56.1 MPN/100mL	1 SM9223B

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

SiteID: WMI-02-0019

Sample Date: 05/13/2014

IDEM Sample #: AB16941

Water Flow Type Glide

Water Appearance Brown

Water Depth Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	68.5 %		ASTM D888-09(C)
DO	6.54 mg/L		ASTM D888-09(C)
pH (Field)	7.63 SU		EPA 150.2
Specific Conductance (Field)	552 umho/cm		SM2510B
Temperature	17.5 °C		SM2550B(2)
Turbidity (Hach)	34.7 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 #: 3027007	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	210 mg/L	1	SM2320B
Chloride	20 mg/L	10	EPA 300.0
Solids, Suspended Total, (TSS)	15 mg/L	10	SM2540D
Solids, Total (TS)	350 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	350 mg/L	10	SM2540C
Sulfate	20 mg/L	5	EPA 300.0
Lab ID #: 3027008	Result	Reporting Limit	Method
Hardness (as CaCO3)	270 mg/L	0.66	SM2340B
Calcium (Total)	65 mg/L	0.1	EPA 200.7
Magnesium (Total)	26 mg/L	0.1	EPA 200.7
Lab ID #: 3027009	Result	Reporting Limit	Method
Nitrogen, Ammonia	0.2 mg/L	0.1	SM4500NH3-D
Lab ID #: 3027010	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	5 mg/L	0.1	EPA 353.2
Lab ID #: 3027011	Result	Reporting Limit	Method
Phosphorus, Total	0.27 mg/L	0.05	SM4500P-E
Lab ID #: 3027012	Result	Reporting Limit	Method
TOC	7.7 mg/L	0.5	SM5310C

**Indiana Department of Environmental Management
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Lab ID #: AA17818	Result	Reporting Limit	Method
COD	23 mg/L	10	EPA 410.4
TKN	1.1 mg/L	0.3	SM4500N(Org)-B

Lab ID #: AB16941	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1203.3 MPN/100mL	1	SM9223B

SiteID: WMI-02-0019 **Sample Date:** 06/10/2014 **IDEM Sample #:** AB17389
Water Flow Type Glide **Water Appearance** Brown **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	85.4 %		ASTM D888-09(C)
DO	8.32 mg/L		ASTM D888-09(C)
pH (Field)	7.58 SU		EPA 150.2
Specific Conductance (Field)	518 umho/cm		SM2510B
Temperature	16.2 °C		SM2550B(2)
Turbidity (Hach)	41.3 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	5 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: 3042485	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	200 mg/L	1	SM2320B
Chloride	16 mg/L	2	EPA 300.0
Solids, Suspended Total, (TSS)	23 mg/L	10	SM2540D
Solids, Total (TS)	330 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	320 mg/L	10	SM2540C
Sulfate	16 mg/L	5	EPA 300.0

Lab ID #: 3042486	Result	Reporting Limit	Method
Hardness (as CaCO3)	260 mg/L	0.66	SM2340B
Calcium (Total)	64 mg/L	0.1	EPA 200.7
Magnesium (Total)	25 mg/L	0.1	EPA 200.7

Lab ID #: 3042487	Result	Reporting Limit	Method
Nitrogen, Ammonia	< 0.1 mg/L	0.1	SM4500NH3-D

Lab ID #: 3042488	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	6.5 mg/L	0.1	EPA 353.2

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Lab ID #: 3042489	Result	Reporting Limit	Method
Phosphorus, Total	0.32 mg/L	0.05	SM4500P-E
Lab ID #: 3042490	Result	Reporting Limit	Method
TOC	5.5 mg/L	0.5	SM5310C
Lab ID #: AA20551	Result	Reporting Limit	Method
COD	17 mg/L	10	EPA 410.4
TKN	0.93 mg/L	0.3	SM4500N(Org)-B
Lab ID #: AB17389	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	238.2 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: WMI-04-0013 **USGS Hydrologic Unit:** 051201030402
Stream Name: Mississinewa River **County:** Delaware
Description: Dowden Avenue **Latitude:** 40 17 39.61263 **Longitude:** -85 14 54.42148
Drainage: **Site Number:** 14T-119

SiteID: WMI-04-0013 **Sample Date:** 04/15/2014 **IDEM Sample #:** AB16174
Water Flow Type Glide **Water Appearance** Brown **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	% Sat	84.2 %	ASTM D888-09(C)
	DO	9.66 mg/L	ASTM D888-09(C)
	pH (Field)	8.12 SU	EPA 150.2
	Specific Conductance (Field)	620 umho/cm	SM2510B
	Temperature	9.22 °C	SM2550B(2)
	Turbidity (Hach)	39 NTU	EPA 180.1
	Air Temp	1 Lookup	Observation
	Sky Conditions	2 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	2 Lookup	Observation

<u>Lab ID #:</u> 3010852	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	Alkalinity (as CaCO3)	230 mg/L	1
	Chloride	25 mg/L	6
	Fluoride	0.2 mg/L	0.1
	Solids, Suspended Total, (TSS)	31 mg/L	10
	Solids, Total (TS)	400 mg/L	10
	Solids, Total Dissolved (TDS)	370 mg/L	10
	Sulfate	34 mg/L	15

<u>Lab ID #:</u> 3010853	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	Hardness (as CaCO3)	310 mg/L	0.66
	Calcium (Total)	78 mg/L	0.1
	Magnesium (Total)	30 mg/L	0.1

<u>Lab ID #:</u> 3010854	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	Nitrogen, Ammonia	< 0.1 mg/L	0.1

<u>Lab ID #:</u> 3010855	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	Nitrogen, Nitrate+Nitrite	5.5 mg/L	0.1

<u>Lab ID #:</u> 3010856	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	Phosphorus, Total	0.24 mg/L	0.05

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Lab ID #: 3010857	Result	Reporting Limit	Method
TOC	3.8 mg/L	0.5	SM5310C

Lab ID #: AA14510	Result	Reporting Limit	Method
COD	< 10 mg/L	10	EPA 410.4
TKN	0.81 mg/L	0.3	SM4500N(Org)-B

Lab ID #: AB16174	Result	Reporting Limit	Method
Coliforms (Total)	2419.6 MPN/100mL	1	SM9223B
E. coli	325.5 MPN/100mL	1	SM9223B

SiteID: WMI-04-0013 **Sample Date:** 04/22/2014 **IDEM Sample #:** AB16418
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	89.8 %		ASTM D888-09(C)
DO	9.17 mg/L		ASTM D888-09(C)
pH (Field)	8.15 SU		EPA 150.2
Specific Conductance (Field)	689 umho/cm		SM2510B
Temperature	14.3 °C		SM2550B(2)
Turbidity (Hach)	16.6 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: AB16418	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	90.8 MPN/100mL	1	SM9223B

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

SiteID: WMI-04-0013 Sample Date: 04/29/2014 IDEM Sample #: AB16490
 Water Flow Type Glide Water Appearance Brown Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	81.6 %		ASTM D888-09(C)
DO	8.73 mg/L		ASTM D888-09(C)
pH (Field)	7.94 SU		EPA 150.2
Specific Conductance (Field)	463 umho/cm		SM2510B
Temperature	12.26 °C		SM2550B(2)
Turbidity (Hach)	412 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	2 Lookup		Observation
Lab ID #: AB16490a	Result	Reporting Limit	Method
Coliforms (Total)	19863 MPN/100mL	10	SM9223B
E. coli	3255 MPN/100mL	10	SM9223B

SiteID: WMI-04-0013 Sample Date: 05/06/2014 IDEM Sample #: AB16809
 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	106.8 %		ASTM D888-09(C)
DO	11.23 mg/L		ASTM D888-09(C)
pH (Field)	8.18 SU		EPA 150.2
Specific Conductance (Field)	662 umho/cm		SM2510B
Temperature	12.99 °C		SM2550B(2)
Turbidity (Hach)	11 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation
Lab ID #: AB16809	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	137.4 MPN/100mL	1	SM9223B

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

SiteID: WMI-04-0013

Sample Date: 05/13/2014

IDEM Sample #: AB16942

Water Flow Type Run

Water Appearance Brown

Water Depth Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	72.3 %		ASTM D888-09(C)
DO	6.61 mg/L		ASTM D888-09(C)
pH (Field)	7.8 SU		EPA 150.2
Specific Conductance (Field)	632 umho/cm		SM2510B
Temperature	19.63 °C		SM2550B(2)
Turbidity (Hach)	39.6 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 #: 3027015	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	230 mg/L	1	SM2320B
Chloride	31 mg/L	6	EPA 300.0
Solids, Suspended Total, (TSS)	33 mg/L	10	SM2540D
Solids, Total (TS)	400 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	360 mg/L	10	SM2540C
Sulfate	38 mg/L	15	EPA 300.0
Lab ID #: 3027016	Result	Reporting Limit	Method
Hardness (as CaCO3)	300 mg/L	0.66	SM2340B
Calcium (Total)	70 mg/L	0.1	EPA 200.7
Magnesium (Total)	30 mg/L	0.1	EPA 200.7
Lab ID #: 3027017	Result	Reporting Limit	Method
Nitrogen, Ammonia	0.1 mg/L	0.1	SM4500NH3-D
Lab ID #: 3027018	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	3.5 mg/L	0.1	EPA 353.2
Lab ID #: 3027019	Result	Reporting Limit	Method
Phosphorus, Total	0.24 mg/L	0.05	SM4500P-E
Lab ID #: 3027020	Result	Reporting Limit	Method
TOC	5.2 mg/L	0.5	SM5310C

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Lab ID #:	Result	Reporting Limit	Method
AA17819	COD	14 mg/L	EPA 410.4
	TKN	1.6 mg/L	SM4500N(Org)-B

Lab ID #:	Result	Reporting Limit	Method
AB16942	Coliforms (Total)	> 2419.6 MPN/100mL	SM9223B
	E. coli	410.6 MPN/100mL	SM9223B

SiteID: WMI-04-0013 **Sample Date:** 06/10/2014 **IDEM Sample #:** AB17392
Water Flow Type Run **Water Appearance** Brown **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
	% Sat	86.8 %	ASTM D888-09(C)
	DO	7.89 mg/L	ASTM D888-09(C)
	pH (Field)	7.6 SU	EPA 150.2
	Specific Conductance (Field)	562 umho/cm	SM2510B
	Temperature	17.03 °C	SM2550B(2)
	Turbidity (Hach)	125 NTU	EPA 180.1
	Air Temp	4 Lookup	Observation
	Sky Conditions	5 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	2 Lookup	Observation

Lab ID #:	Result	Reporting Limit	Method
3042493	Alkalinity (as CaCO3)	180 mg/L	SM2320B
	Chloride	18 mg/L	EPA 300.0
	Solids, Suspended Total, (TSS)	73 mg/L	SM2540D
	Solids, Total (TS)	440 mg/L	SM2540B
	Solids, Total Dissolved (TDS)	390 mg/L	SM2540C
	Sulfate	20 mg/L	EPA 300.0

Lab ID #:	Result	Reporting Limit	Method
3042494	Hardness (as CaCO3)	270 mg/L	SM2340B
	Calcium (Total)	67 mg/L	EPA 200.7
	Magnesium (Total)	24 mg/L	EPA 200.7

Lab ID #:	Result	Reporting Limit	Method
3042495	Nitrogen, Ammonia	0.1 mg/L	SM4500NH3-D

Lab ID #:	Result	Reporting Limit	Method
3042496	Nitrogen, Nitrate+Nitrite	13 mg/L	EPA 353.2

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Lab ID #:		Result	Reporting Limit	Method
3042497	Phosphorus, Total	0.68 mg/L	0.05	SM4500P-E
3042498	TOC	5.9 mg/L	0.5	SM5310C
AA20552	COD	22 mg/L	10	EPA 410.4
	TKN	0.86 mg/L	0.3	SM4500N(Org)-B
AB17392	E. coli	1413.6 MPN/100mL	1	SM9223B
AB17392a	Coliforms (Total)	> 24196 MPN/100mL	24196	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
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Surface Water Results Summary**

SiteID: WMI-04-0014 **USGS Hydrologic Unit:** 051201030401
Stream Name: Campbell Creek **County:** Delaware
Description: Schindel Road **Latitude:** 40 15 39.93262 **Longitude:** -85 17 21.55540
Drainage: **Site Number:** 14T-120

SiteID: WMI-04-0014 **Sample Date:** 04/14/2014 **IDEM Sample #:** AB16175
Water Flow Type Riffle **Water Appearance** Murky **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments: FLOW - 18.3992 cfs

Lab ID #:	Result	Reporting Limit	Method
	% Sat	84.6 %	ASTM D888-09(C)
	DO	8.77 mg/L	ASTM D888-09(C)
	pH (Field)	7.67 SU	EPA 150.2
	Specific Conductance (Field)	590 umho/cm	SM2510B
	Temperature	13.69 °C	SM2550B(2)
	Turbidity (Hach)	33.3 NTU	EPA 180.1
	Air Temp	4 Lookup	Observation
	Flow	18.3992 cf/sec	TM D5389-95/D3858
	Sky Conditions	5 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	1 Lookup	Observation

Lab ID #: 3010996	Result	Reporting Limit	Method
	Alkalinity (as CaCO3)	230 mg/L	1 SM2320B
	Chloride	21 mg/L	6 EPA 300.0
	Fluoride	0.2 mg/L	0.1 SM4500F(-)-C
	Solids, Suspended Total, (TSS)	28 mg/L	10 SM2540D
	Solids, Total (TS)	370 mg/L	10 SM2540B
	Solids, Total Dissolved (TDS)	340 mg/L	10 SM2540C
	Sulfate	29 mg/L	15 EPA 300.0

Lab ID #: 3010997	Result	Reporting Limit	Method
	Hardness (as CaCO3)	310 mg/L	0.66 SM2340B
	Calcium (Total)	75 mg/L	0.1 EPA 200.7
	Magnesium (Total)	29 mg/L	0.1 EPA 200.7

Lab ID #: 3010998	Result	Reporting Limit	Method
	Nitrogen, Ammonia	< 0.1 mg/L	0.1 SM4500NH3-D

Lab ID #: 3010999	Result	Reporting Limit	Method
	Nitrogen, Nitrate+Nitrite	2.8 mg/L	0.1 EPA 353.2

Lab ID #: 3011000	Result	Reporting Limit	Method
	Phosphorus, Total	0.26 mg/L	0.05 SM4500P-E

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Lab ID #: 3011001	Result	Reporting Limit	Method
TOC	3.7 mg/L	0.5	SM5310C

Lab ID #: AA14515	Result	Reporting Limit	Method
COD	< 10 mg/L	10	EPA 410.4
TKN	0.66 mg/L	0.3	SM4500N(Org)-B

Lab ID #: AB16175	Result	Reporting Limit	Method
Coliforms (Total)	1299.7 MPN/100mL	1	SM9223B
E. coli	410.6 MPN/100mL	1	SM9223B

SiteID: WMI-04-0014 **Sample Date:** 04/21/2014 **IDEM Sample #:** AB16419
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	113.3 %		ASTM D888-09(C)
DO	11.73 mg/L		ASTM D888-09(C)
pH (Field)	7.98 SU		EPA 150.2
Specific Conductance (Field)	612 umho/cm		SM2510B
Temperature	13.5 °C		SM2550B(2)
Turbidity (Hach)	16.7 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: AB16419	Result	Reporting Limit	Method
Coliforms (Total)	2419.6 MPN/100mL	1	SM9223B
E. coli	172.5 MPN/100mL	1	SM9223B

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

SiteID: WMI-04-0014 Sample Date: 04/28/2014 IDEM Sample #: AB16491
 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 %		ASTM D888-09(C)
DO	8.91 mg/L		ASTM D888-09(C)
pH (Field)	7.74 SU		EPA 150.2
Specific Conductance (Field)	627 umho/cm		SM2510B
Temperature	12.62 °C		SM2550B(2)
Turbidity (Hach)	21.7 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	3 Lookup		Observation
Lab ID #: AB16491	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1119.9 MPN/100mL	1	SM9223B

SiteID: WMI-04-0014 Sample Date: 05/05/2014 IDEM Sample #: AB16810
 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	91.5 %		ASTM D888-09(C)
DO	9.84 mg/L		ASTM D888-09(C)
pH (Field)	7.66 SU		EPA 150.2
Specific Conductance (Field)	640 umho/cm		SM2510B
Temperature	12 °C		SM2550B(2)
Turbidity (Hach)	8.93 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation
Lab ID #: AB16810	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	155.3 MPN/100mL	1	SM9223B

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

SiteID: WMI-04-0014

Sample Date: 05/12/2014

IDEM Sample #: AB16943

Water Flow Type Run

Water Appearance Brown

Water Depth Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	68.7 %		ASTM D888-09(C)
DO	6.52 mg/L		ASTM D888-09(C)
pH (Field)	7.54 SU		EPA 150.2
Specific Conductance (Field)	551 umho/cm		SM2510B
Temperature	17.81 °C		SM2550B(2)
Turbidity (Hach)	71.9 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Flow	9.1577 cf/sec		TM D5389-95/D3858
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: 3026751	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	210 mg/L	1	SM2320B
Chloride	22 mg/L	10	EPA 300.0
Solids, Suspended Total, (TSS)	38 mg/L	10	SM2540D
Solids, Total (TS)	360 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	310 mg/L	10	SM2540C
Sulfate	29 mg/L	25	EPA 300.0

Lab ID #: 3026752	Result	Reporting Limit	Method
Hardness (as CaCO3)	270 mg/L	0.66	SM2340B
Calcium (Total)	62 mg/L	0.1	EPA 200.7
Magnesium (Total)	27 mg/L	0.1	EPA 200.7

Lab ID #: 3026753	Result	Reporting Limit	Method
Nitrogen, Ammonia	0.1 mg/L	0.1	SM4500NH3-D

Lab ID #: 3026754	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	1.3 mg/L	0.1	EPA 353.2

Lab ID #: 3026755	Result	Reporting Limit	Method
Phosphorus, Total	0.22 mg/L	0.05	SM4500P-E

Lab ID #: 3026756	Result	Reporting Limit	Method
TOC	8.2 mg/L	0.5	SM5310C

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Office of Water Quality-Watershed Assessment and Planning Branch
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Lab ID #:	Result	Reporting Limit	Method
AA17801	COD	26 mg/L	EPA 410.4
	TKN	1.3 mg/L	SM4500N(Org)-B
AB16943	E. coli	1732.9 MPN/100mL	1
			SM9223B
AB16943a	Coliforms (Total)	> 24196 MPN/100mL	24196
			SM9223B

SiteID: WMI-04-0014 **Sample Date:** 06/09/2014 **IDEM Sample #:** AB17362
Water Flow Type Riffle **Water Appearance** Brown **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
	% Sat	80.9 %	ASTM D888-09(C)
	DO	7.71 mg/L	ASTM D888-09(C)
	pH (Field)	7.28 SU	EPA 150.2
	Specific Conductance (Field)	404 umho/cm	SM2510B
	Temperature	17.62 °C	SM2550B(2)
	Turbidity (Hach)	167 NTU	EPA 180.1
	Air Temp	4 Lookup	Observation
	Flow	53.9521 cf/sec	TM D5389-95/D3858
	Sky Conditions	4 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	1 Lookup	Observation

Lab ID #:	Result	Reporting Limit	Method
3042334	Alkalinity (as CaCO3)	120 mg/L	1
	Chloride	16 mg/L	2
	Solids, Suspended Total, (TSS)	72 mg/L	10
	Solids, Total (TS)	390 mg/L	10
	Solids, Total Dissolved (TDS)	320 mg/L	10
	Sulfate	17 mg/L	5

Lab ID #:	Result	Reporting Limit	Method
3042335	Hardness (as CaCO3)	190 mg/L	0.66
	Calcium (Total)	48 mg/L	0.1
	Magnesium (Total)	17 mg/L	0.1

Lab ID #:	Result	Reporting Limit	Method
3042336	Nitrogen, Ammonia	0.2 mg/L	0.1
			SM4500NH3-D

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

Lab ID #:	Result	Reporting Limit	Method
3042337	Nitrogen, Nitrate+Nitrite 8.5 mg/L	0.1	EPA 353.2
3042338	Phosphorus, Total 0.8 mg/L	0.05	SM4500P-E
3042339	TOC 8 mg/L	0.5	SM5310C
AA20574	COD 26 mg/L TKN 0.97 mg/L	10 0.3	EPA 410.4 SM4500N(Org)-B
AB17362	E. coli 1986.3 MPN/100mL	1	SM9223B
AB17362a	Coliforms (Total) > 24196 MPN/100mL	24196	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: WMI-04-0015 **USGS Hydrologic Unit:** 051201030402
Stream Name: Rees Ditch **County:** Jay
Description: Layne Drive **Latitude:** 40 22 0.53292 **Longitude:** -85 13 9.68814
Drainage: **Site Number:** 14T-121

SiteID: WMI-04-0015 **Sample Date:** 04/15/2014 **IDEM Sample #:** AB16176
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	137.2 %		ASTM D888-09(C)
DO	17.04 mg/L		ASTM D888-09(C)
pH (Field)	8.16 SU		EPA 150.2
Specific Conductance (Field)	718 umho/cm		SM2510B
Temperature	6.03 °C		SM2550B(2)
Turbidity (Hach)	14.2 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

<u>Lab ID #:</u> 3010860	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	250 mg/L	1	SM2320B
Chloride	62 mg/L	10	EPA 300.0
Fluoride	0.1 mg/L	0.1	SM4500F(-)-C
Solids, Suspended Total, (TSS)	12 mg/L	10	SM2540D
Solids, Total (TS)	410 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	410 mg/L	10	SM2540C
Sulfate	27 mg/L	15	EPA 300.0

<u>Lab ID #:</u> 3010861	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Hardness (as CaCO3)	320 mg/L	0.66	SM2340B
Calcium (Total)	81 mg/L	0.1	EPA 200.7
Magnesium (Total)	30 mg/L	0.1	EPA 200.7

<u>Lab ID #:</u> 3010862	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Nitrogen, Ammonia	< 0.1 mg/L	0.1	SM4500NH3-D

<u>Lab ID #:</u> 3010863	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Nitrogen, Nitrate+Nitrite	2.8 mg/L	0.1	EPA 353.2

<u>Lab ID #:</u> 3010864	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Phosphorus, Total	0.17 mg/L	0.05	SM4500P-E

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

Lab ID #:		<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
3010865	TOC	4.1 mg/L	0.5	SM5310C
AA14511				
	COD	< 10 mg/L	10	EPA 410.4
	TKN	0.57 mg/L	0.3	SM4500N(Org)-B
AB16176				
	Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
	E. coli	579.4 MPN/100mL	1	SM9223B

SiteID: WMI-04-0015 **Sample Date:** 04/22/2014 **IDEM Sample #:** AB16420
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	104.4 %		ASTM D888-09(C)
	DO	11.83 mg/L		ASTM D888-09(C)
	pH (Field)	7.92 SU		EPA 150.2
	Specific Conductance (Field)	781 umho/cm		SM2510B
	Temperature	9.83 °C		SM2550B(2)
	Turbidity (Hach)	4.55 NTU		EPA 180.1
	Air Temp	4 Lookup		Observation
	Sky Conditions	2 Lookup		Observation
	Wind Direction	27 Lookup		Observation
	Wind Strength	2 Lookup		Observation

Lab ID #:		<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
AB16420				
	Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
	E. coli	920.8 MPN/100mL	1	SM9223B

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

SiteID: WMI-04-0015 Sample Date: 04/29/2014 IDEM Sample #: AB16492
 Water Flow Type: Glide Water Appearance: Brown Water Depth: Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed %: 0-20%
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	95.4 %		ASTM D888-09(C)
DO	10.21 mg/L		ASTM D888-09(C)
pH (Field)	7.51 SU		EPA 150.2
Specific Conductance (Field)	527 umho/cm		SM2510B
Temperature	12.22 °C		SM2550B(2)
Turbidity (Hach)	101 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: AB16492	Result	Reporting Limit	Method
E. coli	1553.1 MPN/100mL	1	SM9223B

Lab ID #: AB16492a	Result	Reporting Limit	Method
Coliforms (Total)	24196 MPN/100mL	10	SM9223B

SiteID: WMI-04-0015 Sample Date: 05/06/2014 IDEM Sample #: AB16811
 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	97.8 %		ASTM D888-09(C)
DO	11.28 mg/L		ASTM D888-09(C)
pH (Field)	7.75 SU		EPA 150.2
Specific Conductance (Field)	842 umho/cm		SM2510B
Temperature	9.06 °C		SM2550B(2)
Turbidity (Hach)	3.74 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: AB16811	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	2419.6 MPN/100mL	1	SM9223B

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

SiteID: WMI-04-0015 **Sample Date:** 05/13/2014 **IDEM Sample #:** AB16944
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	101.8 %		ASTM D888-09(C)
DO	10.54 mg/L		ASTM D888-09(C)
pH (Field)	7.44 SU		EPA 150.2
Specific Conductance (Field)	726 umho/cm		SM2510B
Temperature	13.36 °C		SM2550B(2)
Turbidity (Hach)	7.17 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: 3027023	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	270 mg/L	1	SM2320B
Chloride	50 mg/L	6	EPA 300.0
Solids, Suspended Total, (TSS)	< 10 mg/L	10	SM2540D
Solids, Total (TS)	420 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	420 mg/L	10	SM2540C
Sulfate	24 mg/L	15	EPA 300.0

Lab ID #: 3027024	Result	Reporting Limit	Method
Hardness (as CaCO3)	330 mg/L	0.66	SM2340B
Calcium (Total)	86 mg/L	0.1	EPA 200.7
Magnesium (Total)	30 mg/L	0.1	EPA 200.7

Lab ID #: 3027025	Result	Reporting Limit	Method
Nitrogen, Ammonia	0.1 mg/L	0.1	SM4500NH3-D

Lab ID #: 3027026	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	3.5 mg/L	0.1	EPA 353.2

Lab ID #: 3027027	Result	Reporting Limit	Method
Phosphorus, Total	0.13 mg/L	0.05	SM4500P-E

Lab ID #: 3027028	Result	Reporting Limit	Method
TOC	2.8 mg/L	0.5	SM5310C

**Indiana Department of Environmental Management
Office of Water Quality-Watershed Assessment and Planning Branch
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Lab ID #:	Result	Reporting Limit	Method
AA17820	COD	5 mg/L	EPA 410.4
	TKN	0.94 mg/L	SM4500N(Org)-B
AB16944	E. coli	1986.3 MPN/100mL	1
			SM9223B
AB16944a	Coliforms (Total)	24196 MPN/100mL	10
			SM9223B

SiteID: WMI-04-0015 **Sample Date:** 06/10/2014 **IDEM Sample #:** AB17393
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	84.7 %	ASTM D888-09(C)
	DO	8.36 mg/L	ASTM D888-09(C)
	pH (Field)	7.32 SU	EPA 150.2
	Specific Conductance (Field)	564 umho/cm	SM2510B
	Temperature	15.91 °C	SM2550B(2)
	Turbidity (Hach)	45.1 NTU	EPA 180.1
	Air Temp	4 Lookup	Observation
	Sky Conditions	8 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	2 Lookup	Observation

Lab ID #:	Result	Reporting Limit	Method
3042501	Alkalinity (as CaCO3)	200 mg/L	1
	Chloride	28 mg/L	2
	Solids, Suspended Total, (TSS)	18 mg/L	10
	Solids, Total (TS)	370 mg/L	10
	Solids, Total Dissolved (TDS)	360 mg/L	10
	Sulfate	16 mg/L	5

Lab ID #:	Result	Reporting Limit	Method
3042502	Hardness (as CaCO3)	260 mg/L	0.66
	Calcium (Total)	67 mg/L	0.1
	Magnesium (Total)	23 mg/L	0.1

Lab ID #:	Result	Reporting Limit	Method
3042503	Nitrogen, Ammonia	< 0.1 mg/L	0.1
			SM4500NH3-D

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

Lab ID #:	Result	Reporting Limit	Method	
3042504	Nitrogen, Nitrate+Nitrite	9.3 mg/L	0.1	EPA 353.2
3042505	Phosphorus, Total	0.23 mg/L	0.05	SM4500P-E
3042506	TOC	4.7 mg/L	0.5	SM5310C
AA20553	COD	17 mg/L	10	EPA 410.4
	TKN	0.77 mg/L	0.3	SM4500N(Org)-B
AB17393	Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
	E. coli	435.2 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: WMI-03-0003 **USGS Hydrologic Unit:** 051201030301
Stream Name: Big Lick Creek **County:** Blackford
Description: CR 700 E **Latitude:** 40 23 12.09502 **Longitude:** -85 14 20.46627
Drainage: **Site Number:** 14T-122

SiteID: WMI-03-0003 **Sample Date:** 04/15/2014 **IDEM Sample #:** AB16177
Water Flow Type: Glide **Water Appearance:** Brown **Water Depth:** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %:** 0-20%
Sampler Comments:

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	% Sat	105.7 %	ASTM D888-09(C)
	DO	12.93 mg/L	ASTM D888-09(C)
	pH (Field)	8.01 SU	EPA 150.2
	Specific Conductance (Field)	773 umho/cm	SM2510B
	Temperature	6.61 °C	SM2550B(2)
	Turbidity (Hach)	51.1 NTU	EPA 180.1
	Air Temp	2 Lookup	Observation
	Sky Conditions	2 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	2 Lookup	Observation

<u>Lab ID #:</u> 3010876	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Alkalinity (as CaCO3)	210 mg/L	1	SM2320B
	Chloride	81 mg/L	10	EPA 300.0
	Fluoride	0.3 mg/L	0.1	SM4500F(-)-C
	Solids, Suspended Total, (TSS)	15 mg/L	10	SM2540D
	Solids, Total (TS)	490 mg/L	10	SM2540B
	Solids, Total Dissolved (TDS)	460 mg/L	10	SM2540C
	Sulfate	55 mg/L	15	EPA 300.0

<u>Lab ID #:</u> 3010877	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Hardness (as CaCO3)	290 mg/L	0.66	SM2340B
	Calcium (Total)	71 mg/L	0.1	EPA 200.7
	Magnesium (Total)	27 mg/L	0.1	EPA 200.7

<u>Lab ID #:</u> 3010878	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Nitrogen, Ammonia	< 0.1 mg/L	0.1	SM4500NH3-D

<u>Lab ID #:</u> 3010879	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Nitrogen, Nitrate+Nitrite	2.6 mg/L	0.1	EPA 353.2

<u>Lab ID #:</u> 3010880	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Phosphorus, Total	0.43 mg/L	0.05	SM4500P-E

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

Lab ID #: 3010881	Result	Reporting Limit	Method
TOC	7.3 mg/L	0.5	SM5310C

Lab ID #: AA14513	Result	Reporting Limit	Method
COD	12 mg/L	10	EPA 410.4
TKN	0.75 mg/L	0.3	SM4500N(Org)-B

Lab ID #: AB16177	Result	Reporting Limit	Method
Coliforms (Total)	4106 MPN/100mL	10	SM9223B
E. coli	1553.1 MPN/100mL	1	SM9223B

SiteID: WMI-03-0003 **Sample Date:** 04/22/2014 **IDEM Sample #:** AB16421
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	120.7 %		ASTM D888-09(C)
DO	12.44 mg/L		ASTM D888-09(C)
pH (Field)	8.01 SU		EPA 150.2
Specific Conductance (Field)	1259 umho/cm		SM2510B
Temperature	13.84 °C		SM2550B(2)
Turbidity (Hach)	9.97 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: AB16421	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	686.7 MPN/100mL	1	SM9223B

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

SiteID: WMI-03-0003 Sample Date: 04/29/2014 IDEM Sample #: AB16493
 Water Flow Type: Glide Water Appearance: Brown Water Depth: Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed %: 0-20%
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	85.5 %		ASTM D888-09(C)
DO	8.76 mg/L		ASTM D888-09(C)
pH (Field)	7.63 SU		EPA 150.2
Specific Conductance (Field)	450 umho/cm		SM2510B
Temperature	14.21 °C		SM2550B(2)
Turbidity (Hach)	234 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	3 Lookup		Observation
Lab ID #: AB16493a	Result	Reporting Limit	Method
Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B
E. coli	8164 MPN/100mL	10	SM9223B

SiteID: WMI-03-0003 Sample Date: 05/06/2014 IDEM Sample #: AB16812
 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	150 %		ASTM D888-09(C)
DO	16.18 mg/L		ASTM D888-09(C)
pH (Field)	7.95 SU		EPA 150.2
Specific Conductance (Field)	1317 umho/cm		SM2510B
Temperature	11.86 °C		SM2550B(2)
Turbidity (Hach)	9.42 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation
Lab ID #: AB16812	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	461.1 MPN/100mL	1	SM9223B

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

SiteID: WMI-03-0003

Sample Date: 05/13/2014

IDEM Sample #: AB16945

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	96.9 %		ASTM D888-09(C)
DO	8.7 mg/L		ASTM D888-09(C)
pH (Field)	7.78 SU		EPA 150.2
Specific Conductance (Field)	1002 umho/cm		SM2510B
Temperature	20.45 °C		SM2550B(2)
Turbidity (Hach)	25 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation
Lab ID #: 3027071	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	230 mg/L	1	SM2320B
Chloride	110 mg/L	20	EPA 300.0
Solids, Suspended Total, (TSS)	17 mg/L	10	SM2540D
Solids, Total (TS)	630 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	610 mg/L	10	SM2540C
Sulfate	98 mg/L	15	EPA 300.0
Lab ID #: 3027072	Result	Reporting Limit	Method
Hardness (as CaCO3)	330 mg/L	0.66	SM2340B
Calcium (Total)	82 mg/L	0.1	EPA 200.7
Magnesium (Total)	32 mg/L	0.1	EPA 200.7
Lab ID #: 3027073	Result	Reporting Limit	Method
Nitrogen, Ammonia	0.4 mg/L	0.1	SM4500NH3-D
Lab ID #: 3027074	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	5.8 mg/L	0.1	EPA 353.2
Lab ID #: 3027075	Result	Reporting Limit	Method
Phosphorus, Total	0.46 mg/L	0.05	SM4500P-E
Lab ID #: 3027076	Result	Reporting Limit	Method
TOC	8.2 mg/L	0.5	SM5310C

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Lab ID #:	Result	Reporting Limit	Method
AA17821	COD	24 mg/L	10 EPA 410.4
	TKN	2.3 mg/L	0.3 SM4500N(Org)-B
AB16945	Coliforms (Total)	> 2419.6 MPN/100mL	2419.6 SM9223B
	E. coli	1732.9 MPN/100mL	1 SM9223B

SiteID: WMI-03-0003 **Sample Date:** 06/10/2014 **IDEM Sample #:** AB17394
Water Flow Type Glide **Water Appearance** Brown **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
	% Sat	81.2 %	ASTM D888-09(C)
	DO	7.76 mg/L	ASTM D888-09(C)
	pH (Field)	7.52 SU	EPA 150.2
	Specific Conductance (Field)	583 umho/cm	SM2510B
	Temperature	17.42 °C	SM2550B(2)
	Turbidity (Hach)	84.3 NTU	EPA 180.1
	Air Temp	4 Lookup	Observation
	Sky Conditions	8 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	2 Lookup	Observation

Lab ID #:	Result	Reporting Limit	Method
3042509	Alkalinity (as CaCO3)	160 mg/L	1 SM2320B
	Chloride	42 mg/L	10 EPA 300.0
	Solids, Suspended Total, (TSS)	41 mg/L	10 SM2540D
	Solids, Total (TS)	400 mg/L	10 SM2540B
	Solids, Total Dissolved (TDS)	360 mg/L	10 SM2540C
	Sulfate	41 mg/L	25 EPA 300.0

Lab ID #:	Result	Reporting Limit	Method
3042510	Hardness (as CaCO3)	230 mg/L	0.66 SM2340B
	Calcium (Total)	59 mg/L	0.1 EPA 200.7
	Magnesium (Total)	20 mg/L	0.1 EPA 200.7

Lab ID #:	Result	Reporting Limit	Method
3042511	Nitrogen, Ammonia	0.1 mg/L	0.1 SM4500NH3-D

Lab ID #:	Result	Reporting Limit	Method
3042512	Nitrogen, Nitrate+Nitrite	5.5 mg/L	0.1 EPA 353.2

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Lab ID #: 3042513	Result	Reporting Limit	Method
Phosphorus, Total	0.5 mg/L	0.05	SM4500P-E
Lab ID #: 3042514	Result	Reporting Limit	Method
TOC	6.3 mg/L	0.5	SM5310C
Lab ID #: AA20554	Result	Reporting Limit	Method
COD	24 mg/L	10	EPA 410.4
TKN	0.9 mg/L	0.3	SM4500N(Org)-B
Lab ID #: AB17394	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	980.4 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: WMI-04-0018 **USGS Hydrologic Unit:** 051201030402
Stream Name: Rees Ditch **County:** Delaware
Description: CR 350 E **Latitude:** 40 20 8.40445 **Longitude:** -85 19 24.36091
Drainage: **Site Number:** 14T-123

SiteID: WMI-04-0018 **Sample Date:** 04/15/2014 **IDEM Sample #:** AB16179
Water Flow Type Glide **Water Appearance** Murky **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	% Sat	90.8 %	ASTM D888-09(C)
	DO	11.14 mg/L	ASTM D888-09(C)
	pH (Field)	7.79 SU	EPA 150.2
	Specific Conductance (Field)	622 umho/cm	SM2510B
	Temperature	6.47 °C	SM2550B(2)
	Turbidity (Hach)	21 NTU	EPA 180.1
	Air Temp	2 Lookup	Observation
	Sky Conditions	2 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	2 Lookup	Observation

<u>Lab ID #:</u> 3010921	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Alkalinity (as CaCO3)	250 mg/L	1	SM2320B
	Chloride	24 mg/L	6	EPA 300.0
	Fluoride	0.2 mg/L	0.1	SM4500F(-)-C
	Solids, Suspended Total, (TSS)	14 mg/L	10	SM2540D
	Solids, Total (TS)	370 mg/L	10	SM2540B
	Solids, Total Dissolved (TDS)	370 mg/L	10	SM2540C
	Sulfate	39 mg/L	15	EPA 300.0

<u>Lab ID #:</u> 3010924	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Hardness (as CaCO3)	320 mg/L	0.66	SM2340B
	Calcium (Total)	83 mg/L	0.1	EPA 200.7
	Magnesium (Total)	27 mg/L	0.1	EPA 200.7

<u>Lab ID #:</u> 3010925	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Nitrogen, Ammonia	< 0.1 mg/L	0.1	SM4500NH3-D

<u>Lab ID #:</u> 3010928	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Nitrogen, Nitrate+Nitrite	1.6 mg/L	0.1	EPA 353.2

<u>Lab ID #:</u> 3010931	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Phosphorus, Total	0.16 mg/L	0.05	SM4500P-E

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Lab ID #: 3010934	Result	Reporting Limit	Method
TOC	4.2 mg/L	0.5	SM5310C

Lab ID #: AA14514	Result	Reporting Limit	Method
COD	5.4 mg/L	10	EPA 410.4
TKN	0.55 mg/L	0.3	SM4500N(Org)-B

Lab ID #: AB16179	Result	Reporting Limit	Method
Coliforms (Total)	1553.1 MPN/100mL	1	SM9223B
E. coli	129.6 MPN/100mL	1	SM9223B

SiteID: WMI-04-0018 **Sample Date:** 04/22/2014 **IDEM Sample #:** AB16423
Water Flow Type Glide **Water Appearance** Murky **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments: Nesting geese directly upstream

Lab ID #:	Result	Reporting Limit	Method
% Sat	98 %		ASTM D888-09(C)
DO	10.29 mg/L		ASTM D888-09(C)
pH (Field)	7.84 SU		EPA 150.2
Specific Conductance (Field)	696 umho/cm		SM2510B
Temperature	13.03 °C		SM2550B(2)
Turbidity (Hach)	12.7 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: AB16423	Result	Reporting Limit	Method
Coliforms (Total)	1986.3 MPN/100mL	1	SM9223B
E. coli	275.5 MPN/100mL	1	SM9223B

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

SiteID: WMI-04-0018 Sample Date: 04/29/2014 IDEM Sample #: AB16495
 Water Flow Type Run Water Appearance Brown Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	78 %		ASTM D888-09(C)
DO	8.14 mg/L		ASTM D888-09(C)
pH (Field)	7.63 SU		EPA 150.2
Specific Conductance (Field)	382 umho/cm		SM2510B
Temperature	13.35 °C		SM2550B(2)
Turbidity (Hach)	208 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	3 Lookup		Observation
Lab ID #: AB16495a	Result	Reporting Limit	Method
Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B
E. coli	2142 MPN/100mL	10	SM9223B

SiteID: WMI-04-0018 Sample Date: 05/06/2014 IDEM Sample #: AB16814
 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	100.7 %		ASTM D888-09(C)
DO	10.96 mg/L		ASTM D888-09(C)
pH (Field)	7.64 SU		EPA 150.2
Specific Conductance (Field)	712 umho/cm		SM2510B
Temperature	11.45 °C		SM2550B(2)
Turbidity (Hach)	8.18 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation
Lab ID #: AB16814	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	88.6 MPN/100mL	1	SM9223B

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

SiteID: WMI-04-0018

Sample Date: 05/13/2014

IDEM Sample #: AB16947

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	64.7 %		ASTM D888-09(C)
DO	5.99 mg/L		ASTM D888-09(C)
pH (Field)	7.46 SU		EPA 150.2
Specific Conductance (Field)	690 umho/cm		SM2510B
Temperature	18.99 °C		SM2550B(2)
Turbidity (Hach)	6.91 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation
Lab ID #: 3027079	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	270 mg/L	1	SM2320B
Chloride	39 mg/L	6	EPA 300.0
Solids, Suspended Total, (TSS)	< 10 mg/L	10	SM2540D
Solids, Total (TS)	400 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	400 mg/L	10	SM2540C
Sulfate	44 mg/L	15	EPA 300.0
Lab ID #: 3027080	Result	Reporting Limit	Method
Hardness (as CaCO3)	320 mg/L	0.66	SM2340B
Calcium (Total)	81 mg/L	0.1	EPA 200.7
Magnesium (Total)	28 mg/L	0.1	EPA 200.7
Lab ID #: 3027081	Result	Reporting Limit	Method
Nitrogen, Ammonia	< 0.1 mg/L	0.1	SM4500NH3-D
Lab ID #: 3027082	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	1.6 mg/L	0.1	EPA 353.2
Lab ID #: 3027083	Result	Reporting Limit	Method
Phosphorus, Total	0.1 mg/L	0.05	SM4500P-E
Lab ID #: 3027084	Result	Reporting Limit	Method
TOC	4.7 mg/L	0.5	SM5310C

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Surface Water Results Summary**

Lab ID #:	Result	Reporting Limit	Method
AA17822	COD	12 mg/L	EPA 410.4
	TKN	0.98 mg/L	SM4500N(Org)-B
AB16947	Coliforms (Total)	> 2419.6 MPN/100mL	SM9223B
	E. coli	193.5 MPN/100mL	SM9223B

SiteID: WMI-04-0018 **Sample Date:** 06/10/2014 **IDEM Sample #:** AB17395
Water Flow Type Run **Water Appearance** Brown **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
	% Sat	68.2 %	ASTM D888-09(C)
	DO	6.62 mg/L	ASTM D888-09(C)
	pH (Field)	7.24 SU	EPA 150.2
	Specific Conductance (Field)	545 umho/cm	SM2510B
	Temperature	16.32 °C	SM2550B(2)
	Turbidity (Hach)	53.1 NTU	EPA 180.1
	Air Temp	4 Lookup	Observation
	Sky Conditions	8 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	2 Lookup	Observation

Lab ID #:	Result	Reporting Limit	Method
3042517	Alkalinity (as CaCO3)	190 mg/L	SM2320B
	Chloride	16 mg/L	EPA 300.0
	Solids, Suspended Total, (TSS)	28 mg/L	SM2540D
	Solids, Total (TS)	370 mg/L	SM2540B
	Solids, Total Dissolved (TDS)	310 mg/L	SM2540C
	Sulfate	27 mg/L	EPA 300.0

Lab ID #:	Result	Reporting Limit	Method
3042518	Hardness (as CaCO3)	260 mg/L	SM2340B
	Calcium (Total)	68 mg/L	EPA 200.7
	Magnesium (Total)	21 mg/L	EPA 200.7

Lab ID #:	Result	Reporting Limit	Method
3042519	Nitrogen, Ammonia	0.1 mg/L	SM4500NH3-D

Lab ID #:	Result	Reporting Limit	Method
3042520	Nitrogen, Nitrate+Nitrite	5.4 mg/L	EPA 353.2

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Lab ID #: 3042521	Result	Reporting Limit	Method
Phosphorus, Total	0.3 mg/L	0.05	SM4500P-E
Lab ID #: 3042522	Result	Reporting Limit	Method
TOC	5.9 mg/L	0.5	SM5310C
Lab ID #: AA20555	Result	Reporting Limit	Method
COD	22 mg/L	10	EPA 410.4
TKN	0.9 mg/L	0.3	SM4500N(Org)-B
Lab ID #: AB17395	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	579.4 MPN/100mL	1	SM9223B

Weather Code Definitions					
SC 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
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Surface Water Results Summary**

SiteID: WMI-04-0016 **USGS Hydrologic Unit:** 051201030402
Stream Name: Bosman Ditch **County:** Delaware
Description: CR 900 N **Latitude:** 40 19 14.01383 **Longitude:** -85 18 6.72481
Drainage: **Site Number:** 14T-124

SiteID: WMI-04-0016 **Sample Date:** 04/15/2014 **IDEM Sample #:** AB16180
Water Flow Type Run **Water Appearance** Clear **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	% Sat	101.8 %	ASTM D888-09(C)
	DO	12.48 mg/L	ASTM D888-09(C)
	pH (Field)	7.96 SU	EPA 150.2
	Specific Conductance (Field)	586 umho/cm	SM2510B
	Temperature	6.54 °C	SM2550B(2)
	Turbidity (Hach)	17 NTU	EPA 180.1
	Air Temp	2 Lookup	Observation
	Sky Conditions	2 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	2 Lookup	Observation

<u>Lab ID #:</u> 3011012	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	Alkalinity (as CaCO3)	240 mg/L	1 SM2320B
	Chloride	22 mg/L	6 EPA 300.0
	Fluoride	0.2 mg/L	0.1 SM4500F(-)-C
	Solids, Suspended Total, (TSS)	13 mg/L	10 SM2540D
	Solids, Total (TS)	350 mg/L	10 SM2540B
	Solids, Total Dissolved (TDS)	330 mg/L	10 SM2540C
	Sulfate	33 mg/L	15 EPA 300.0

<u>Lab ID #:</u> 3011013	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	Hardness (as CaCO3)	310 mg/L	0.66 SM2340B
	Calcium (Total)	79 mg/L	0.1 EPA 200.7
	Magnesium (Total)	26 mg/L	0.1 EPA 200.7

<u>Lab ID #:</u> 3011014	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	Nitrogen, Ammonia	< 0.1 mg/L	0.1 SM4500NH3-D

<u>Lab ID #:</u> 3011015	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	Nitrogen, Nitrate+Nitrite	1.9 mg/L	0.1 EPA 353.2

<u>Lab ID #:</u> 3011016	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	Phosphorus, Total	0.14 mg/L	0.05 SM4500P-E

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Lab ID #:		<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
3011017	TOC	4.1 mg/L	0.5	SM5310C
AA14517				
	COD	< 10 mg/L	10	EPA 410.4
	TKN	0.37 mg/L	0.3	SM4500N(Org)-B
AB16180				
	Coliforms (Total)	1732.9 MPN/100mL	1	SM9223B
	E. coli	461.1 MPN/100mL	1	SM9223B

SiteID: WMI-04-0016 **Sample Date:** 04/22/2014 **IDEM Sample #:** AB16424
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	116.1 %		ASTM D888-09(C)
	DO	12.17 mg/L		ASTM D888-09(C)
	pH (Field)	8.04 SU		EPA 150.2
	Specific Conductance (Field)	625 umho/cm		SM2510B
	Temperature	13.24 °C		SM2550B(2)
	Turbidity (Hach)	6.33 NTU		EPA 180.1
	Air Temp	4 Lookup		Observation
	Sky Conditions	2 Lookup		Observation
	Wind Direction	27 Lookup		Observation
	Wind Strength	2 Lookup		Observation

Lab ID #:		<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
AB16424				
	Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
	E. coli	124.6 MPN/100mL	1	SM9223B

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

SiteID: WMI-04-0016 Sample Date: 04/29/2014 IDEM Sample #: AB16496
 Water Flow Type: Glide Water Appearance: Brown Water Depth: Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed %: 0-20%
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	88.4 %		ASTM D888-09(C)
DO	9.14 mg/L		ASTM D888-09(C)
pH (Field)	7.68 SU		EPA 150.2
Specific Conductance (Field)	427 umho/cm		SM2510B
Temperature	13.77 °C		SM2550B(2)
Turbidity (Hach)	158 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	3 Lookup		Observation
Lab ID #: AB16496a	Result	Reporting Limit	Method
Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B
E. coli	2382 MPN/100mL	10	SM9223B

SiteID: WMI-04-0016 Sample Date: 05/06/2014 IDEM Sample #: AB16815
 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	126.6 %		ASTM D888-09(C)
DO	13.72 mg/L		ASTM D888-09(C)
pH (Field)	7.9 SU		EPA 150.2
Specific Conductance (Field)	625 umho/cm		SM2510B
Temperature	11.71 °C		SM2550B(2)
Turbidity (Hach)	4.74 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	3 Lookup		Observation
Lab ID #: AB16815	Result	Reporting Limit	Method
Coliforms (Total)	2419.6 MPN/100mL	1	SM9223B
E. coli	52 MPN/100mL	1	SM9223B

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

SiteID: WMI-04-0016

Sample Date: 05/13/2014

IDEM Sample #: AB16948

Water Flow Type Run

Water Appearance Clear

Water Depth Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	99 %		ASTM D888-09(C)
DO	9.02 mg/L		ASTM D888-09(C)
pH (Field)	7.75 SU		EPA 150.2
Specific Conductance (Field)	607 umho/cm		SM2510B
Temperature	19.85 °C		SM2550B(2)
Turbidity (Hach)	7.94 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation
Lab ID #: 3027087	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	250 mg/L	1	SM2320B
Chloride	24 mg/L	6	EPA 300.0
Solids, Suspended Total, (TSS)	< 10 mg/L	10	SM2540D
Solids, Total (TS)	360 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	360 mg/L	10	SM2540C
Sulfate	33 mg/L	15	EPA 300.0
Lab ID #: 3027088	Result	Reporting Limit	Method
Hardness (as CaCO3)	300 mg/L	0.66	SM2340B
Calcium (Total)	74 mg/L	0.1	EPA 200.7
Magnesium (Total)	26 mg/L	0.1	EPA 200.7
Lab ID #: 3027089	Result	Reporting Limit	Method
Nitrogen, Ammonia	< 0.1 mg/L	0.1	SM4500NH3-D
Lab ID #: 3027090	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	1.5 mg/L	0.1	EPA 353.2
Lab ID #: 3027091	Result	Reporting Limit	Method
Phosphorus, Total	0.06 mg/L	0.05	SM4500P-E
Lab ID #: 3027092	Result	Reporting Limit	Method
TOC	4.1 mg/L	0.5	SM5310C

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Lab ID #:	Result	Reporting Limit	Method	
AA17823	COD	5 mg/L	10	EPA 410.4
	TKN	0.94 mg/L	0.3	SM4500N(Org)-B
AB16948	Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
	E. coli	344.8 MPN/100mL	1	SM9223B

SiteID: WMI-04-0016 **Sample Date:** 06/10/2014 **IDEM Sample #:** AB17396
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	81.2 %	ASTM D888-09(C)
	DO	7.94 mg/L	ASTM D888-09(C)
	pH (Field)	7.46 SU	EPA 150.2
	Specific Conductance (Field)	450 umho/cm	SM2510B
	Temperature	16.33 °C	SM2550B(2)
	Turbidity (Hach)	58.3 NTU	EPA 180.1
	Air Temp	4 Lookup	Observation
	Sky Conditions	4 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	2 Lookup	Observation

Lab ID #:	Result	Reporting Limit	Method	
3042525	Alkalinity (as CaCO3)	170 mg/L	1	SM2320B
	Chloride	18 mg/L	2	EPA 300.0
	Solids, Suspended Total, (TSS)	29 mg/L	10	SM2540D
	Solids, Total (TS)	330 mg/L	10	SM2540B
	Solids, Total Dissolved (TDS)	270 mg/L	10	SM2540C
	Sulfate	22 mg/L	5	EPA 300.0

Lab ID #:	Result	Reporting Limit	Method	
3042526	Hardness (as CaCO3)	230 mg/L	0.66	SM2340B
	Calcium (Total)	59 mg/L	0.1	EPA 200.7
	Magnesium (Total)	19 mg/L	0.1	EPA 200.7

Lab ID #:	Result	Reporting Limit	Method	
3042527	Nitrogen, Ammonia	< 0.1 mg/L	0.1	SM4500NH3-D

Lab ID #:	Result	Reporting Limit	Method	
3042528	Nitrogen, Nitrate+Nitrite	4.1 mg/L	0.1	EPA 353.2

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Lab ID #: 3042529	Result	Reporting Limit	Method
Phosphorus, Total	0.27 mg/L	0.05	SM4500P-E
Lab ID #: 3042530	Result	Reporting Limit	Method
TOC	6.7 mg/L	0.5	SM5310C
Lab ID #: AA20556	Result	Reporting Limit	Method
COD	21 mg/L	10	EPA 410.4
TKN	0.8 mg/L	0.3	SM4500N(Org)-B
Lab ID #: AB17396	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	770.1 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: WMI-04-0017 **USGS Hydrologic Unit:** 051201030402
Stream Name: Mississinewa River **County:** Delaware
Description: CR 371 E **Latitude:** 40 19 7.85842 **Longitude:** -85 19 10.26693
Drainage: **Site Number:** 14T-125

SiteID: WMI-04-0017 **Sample Date:** 04/15/2014 **IDEM Sample #:** AB16181
Water Flow Type: Glide **Water Appearance:** Murky **Water Depth:** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %:** 0-20%
Sampler Comments:

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	% Sat	88.8 %	ASTM D888-09(C)
	DO	10.11 mg/L	ASTM D888-09(C)
	pH (Field)	8.16 SU	EPA 150.2
	Specific Conductance (Field)	608 umho/cm	SM2510B
	Temperature	9.5 °C	SM2550B(2)
	Turbidity (Hach)	38.3 NTU	EPA 180.1
	Air Temp	2 Lookup	Observation
	Sky Conditions	2 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	2 Lookup	Observation

<u>Lab ID #:</u> 3011020	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Alkalinity (as CaCO3)	240 mg/L	1	SM2320B
	Chloride	22 mg/L	6	EPA 300.0
	Fluoride	0.2 mg/L	0.1	SM4500F(-)-C
	Solids, Suspended Total, (TSS)	30 mg/L	10	SM2540D
	Solids, Total (TS)	390 mg/L	10	SM2540B
	Solids, Total Dissolved (TDS)	350 mg/L	10	SM2540C
	Sulfate	31 mg/L	15	EPA 300.0

<u>Lab ID #:</u> 3011021	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Hardness (as CaCO3)	320 mg/L	0.66	SM2340B
	Calcium (Total)	79 mg/L	0.1	EPA 200.7
	Magnesium (Total)	30 mg/L	0.1	EPA 200.7

<u>Lab ID #:</u> 3011022	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Nitrogen, Ammonia	0.1 mg/L	0.1	SM4500NH3-D

<u>Lab ID #:</u> 3011023	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Nitrogen, Nitrate+Nitrite	5.5 mg/L	0.1	EPA 353.2

<u>Lab ID #:</u> 3011024	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Phosphorus, Total	0.27 mg/L	0.05	SM4500P-E

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Lab ID #: 3011025	Result	Reporting Limit	Method
TOC	3.8 mg/L	0.5	SM5310C

Lab ID #: AA14518	Result	Reporting Limit	Method
COD	< 10 mg/L	10	EPA 410.4
TKN	< 0.3 mg/L	0.3	SM4500N(Org)-B

Lab ID #: AB16181	Result	Reporting Limit	Method
Coliforms (Total)	1299.7 MPN/100mL	1	SM9223B
E. coli	99 MPN/100mL	1	SM9223B

SiteID: WMI-04-0017 **Sample Date:** 04/22/2014 **IDEM Sample #:** AB16425
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	99.4 %		ASTM D888-09(C)
DO	10.06 mg/L		ASTM D888-09(C)
pH (Field)	8.3 SU		EPA 150.2
Specific Conductance (Field)	656 umho/cm		SM2510B
Temperature	14.75 °C		SM2550B(2)
Turbidity (Hach)	14.9 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: AB16425	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	59.4 MPN/100mL	1	SM9223B

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

SiteID: WMI-04-0017 Sample Date: 04/29/2014 IDEM Sample #: AB16497
 Water Flow Type Run Water Appearance Brown Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	90.6 %		ASTM D888-09(C)
DO	9.33 mg/L		ASTM D888-09(C)
pH (Field)	8.14 SU		EPA 150.2
Specific Conductance (Field)	587 umho/cm		SM2510B
Temperature	13.96 °C		SM2550B(2)
Turbidity (Hach)	85.6 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	3 Lookup		Observation

Lab ID #: AB16497	Result	Reporting Limit	Method
E. coli	1046.2 MPN/100mL	1	SM9223B

Lab ID #: AB16497a	Result	Reporting Limit	Method
Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B

SiteID: WMI-04-0017 Sample Date: 05/06/2014 IDEM Sample #: AB16816
 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	116.6 %		ASTM D888-09(C)
DO	12.1 mg/L		ASTM D888-09(C)
pH (Field)	8.34 SU		EPA 150.2
Specific Conductance (Field)	642 umho/cm		SM2510B
Temperature	13.78 °C		SM2550B(2)
Turbidity (Hach)	10 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: AB16816	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	46.4 MPN/100mL	1	SM9223B

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

SiteID: WMI-04-0017 **Sample Date:** 05/13/2014 **IDEM Sample #:** AB16949
Water Flow Type Run **Water Appearance** Brown **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	82.3 %		ASTM D888-09(C)
DO	7.28 mg/L		ASTM D888-09(C)
pH (Field)	7.96 SU		EPA 150.2
Specific Conductance (Field)	631 umho/cm		SM2510B
Temperature	21.31 °C		SM2550B(2)
Turbidity (Hach)	35.4 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: 3027095	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	240 mg/L	1	SM2320B
Chloride	29 mg/L	6	EPA 300.0
Solids, Suspended Total, (TSS)	27 mg/L	10	SM2540D
Solids, Total (TS)	370 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	350 mg/L	10	SM2540C
Sulfate	41 mg/L	15	EPA 300.0

Lab ID #: 3027096	Result	Reporting Limit	Method
Hardness (as CaCO3)	310 mg/L	0.66	SM2340B
Calcium (Total)	71 mg/L	0.1	EPA 200.7
Magnesium (Total)	31 mg/L	0.1	EPA 200.7

Lab ID #: 3027097	Result	Reporting Limit	Method
Nitrogen, Ammonia	< 0.1 mg/L	0.1	SM4500NH3-D

Lab ID #: 3027098	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	3.1 mg/L	0.1	EPA 353.2

Lab ID #: 3027099	Result	Reporting Limit	Method
Phosphorus, Total	0.2 mg/L	0.05	SM4500P-E

Lab ID #: 3027100	Result	Reporting Limit	Method
TOC	5 mg/L	0.5	SM5310C

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Lab ID #: AA17824	Result	Reporting Limit	Method
COD	14 mg/L	10	EPA 410.4
TKN	1.3 mg/L	0.3	SM4500N(Org)-B

Lab ID #: AB16949	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	488.4 MPN/100mL	1	SM9223B

SiteID: WMI-04-0017 **Sample Date:** 06/10/2014 **IDEM Sample #:** AB17397
Water Flow Type Riffle **Water Appearance** Brown **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	79.8 %		ASTM D888-09(C)
DO	7.57 mg/L		ASTM D888-09(C)
pH (Field)	7.57 SU		EPA 150.2
Specific Conductance (Field)	510 umho/cm		SM2510B
Temperature	17.76 °C		SM2550B(2)
Turbidity (Hach)	166 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: 3042533	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	160 mg/L	1	SM2320B
Chloride	18 mg/L	2	EPA 300.0
Solids, Suspended Total, (TSS)	100 mg/L	10	SM2540D
Solids, Total (TS)	500 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	310 mg/L	10	SM2540C
Sulfate	19 mg/L	5	EPA 300.0

Lab ID #: 3042534	Result	Reporting Limit	Method
Hardness (as CaCO3)	240 mg/L	0.66	SM2340B
Calcium (Total)	61 mg/L	0.1	EPA 200.7
Magnesium (Total)	22 mg/L	0.1	EPA 200.7

Lab ID #: 3042535	Result	Reporting Limit	Method
Nitrogen, Ammonia	0.1 mg/L	0.1	SM4500NH3-D

Lab ID #: 3042536	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	12 mg/L	1	EPA 353.2

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Lab ID #:		Result	Reporting Limit	Method
3042537	Phosphorus, Total	0.74 mg/L	0.05	SM4500P-E
3042538	TOC	6.6 mg/L	0.5	SM5310C
AA20557	COD	20 mg/L	10	EPA 410.4
	TKN	0.49 mg/L	0.3	SM4500N(Org)-B
AB17397	E. coli	727 MPN/100mL	1	SM9223B
AB17397a	Coliforms (Total)	> 24196 MPN/100mL	24196	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
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Surface Water Results Summary**

SiteID: WMI-04-0019 **USGS Hydrologic Unit:** 051201030404
Stream Name: Mississinewa River **County:** Delaware
Description: Romy Street **Latitude:** 40 20 18.34946 **Longitude:** -85 21 17.07164
Drainage: **Site Number:** 14T-126

SiteID: WMI-04-0019 **Sample Date:** 04/15/2014 **IDEM Sample #:** AB16182
Water Flow Type Run **Water Appearance** Murky **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments: FLOW NOT TAKEN DUE TO FLOODING

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	% Sat	91.8 %	ASTM D888-09(C)
	DO	10.42 mg/L	ASTM D888-09(C)
	pH (Field)	8.14 SU	EPA 150.2
	Specific Conductance (Field)	598 umho/cm	SM2510B
	Temperature	9.5 °C	SM2550B(2)
	Turbidity (Hach)	39.1 NTU	EPA 180.1
	Air Temp	2 Lookup	Observation
	Sky Conditions	2 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	3 Lookup	Observation

<u>Lab ID #:</u> 3011028	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Alkalinity (as CaCO3)	230 mg/L	1	SM2320B
	Chloride	23 mg/L	6	EPA 300.0
	Fluoride	0.2 mg/L	0.1	SM4500F(-)-C
	Solids, Suspended Total, (TSS)	31 mg/L	10	SM2540D
	Solids, Total (TS)	400 mg/L	10	SM2540B
	Solids, Total Dissolved (TDS)	330 mg/L	10	SM2540C
	Sulfate	31 mg/L	15	EPA 300.0

<u>Lab ID #:</u> 3011029	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Hardness (as CaCO3)	310 mg/L	0.66	SM2340B
	Calcium (Total)	77 mg/L	0.1	EPA 200.7
	Magnesium (Total)	29 mg/L	0.1	EPA 200.7

<u>Lab ID #:</u> 3011030	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Nitrogen, Ammonia	< 0.1 mg/L	0.1	SM4500NH3-D

<u>Lab ID #:</u> 3011031	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Nitrogen, Nitrate+Nitrite	5.1 mg/L	0.1	EPA 353.2

<u>Lab ID #:</u> 3011032	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Phosphorus, Total	0.27 mg/L	0.05	SM4500P-E

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Lab ID #:		<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
3011033	TOC	3.8 mg/L	0.5	SM5310C
AA14519				
	COD	< 10 mg/L	10	EPA 410.4
	TKN	0.41 mg/L	0.3	SM4500N(Org)-B
AB16182				
	Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
	E. coli	125.9 MPN/100mL	1	SM9223B

SiteID: WMI-04-0019 **Sample Date:** 04/22/2014 **IDEM Sample #:** AB16426
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	105.4 %		ASTM D888-09(C)
	DO	10.62 mg/L		ASTM D888-09(C)
	pH (Field)	8.38 SU		EPA 150.2
	Specific Conductance (Field)	655 umho/cm		SM2510B
	Temperature	14.99 °C		SM2550B(2)
	Turbidity (Hach)	15.6 NTU		EPA 180.1
	Air Temp	4 Lookup		Observation
	Sky Conditions	2 Lookup		Observation
	Wind Direction	27 Lookup		Observation
	Wind Strength	2 Lookup		Observation

Lab ID #:		<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
AB16426				
	Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
	E. coli	50.4 MPN/100mL	1	SM9223B

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

SiteID: WMI-04-0019 Sample Date: 04/29/2014 IDEM Sample #: AB16498
 Water Flow Type Riffle Water Appearance Brown Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	97.4 %		ASTM D888-09(C)
DO	9.96 mg/L		ASTM D888-09(C)
pH (Field)	8.26 SU		EPA 150.2
Specific Conductance (Field)	600 umho/cm		SM2510B
Temperature	14.24 °C		SM2550B(2)
Turbidity (Hach)	56.9 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	3 Lookup		Observation

Lab ID #: AB16498	Result	Reporting Limit	Method
E. coli	770.1 MPN/100mL	1	SM9223B

Lab ID #: AB16498a	Result	Reporting Limit	Method
Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B

SiteID: WMI-04-0019 Sample Date: 05/06/2014 IDEM Sample #: AB16817
 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	117.9 %		ASTM D888-09(C)
DO	12.2 mg/L		ASTM D888-09(C)
pH (Field)	8.37 SU		EPA 150.2
Specific Conductance (Field)	640 umho/cm		SM2510B
Temperature	13.72 °C		SM2550B(2)
Turbidity (Hach)	10.4 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: AB16817	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	64.4 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management
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SiteID: WMI-04-0019 **Sample Date:** 05/13/2014 **IDEM Sample #:** AB16950
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	91.7 %		ASTM D888-09(C)
DO	8.03 mg/L		ASTM D888-09(C)
pH (Field)	8.01 SU		EPA 150.2
Specific Conductance (Field)	645 umho/cm		SM2510B
Temperature	21.84 °C		SM2550B(2)
Turbidity (Hach)	18.4 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: 3027103	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	250 mg/L	1	SM2320B
Chloride	31 mg/L	6	EPA 300.0
Solids, Suspended Total, (TSS)	25 mg/L	10	SM2540D
Solids, Total (TS)	400 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	380 mg/L	10	SM2540C
Sulfate	42 mg/L	15	EPA 300.0

Lab ID #: 3027104	Result	Reporting Limit	Method
Hardness (as CaCO3)	310 mg/L	0.66	SM2340B
Calcium (Total)	73 mg/L	0.1	EPA 200.7
Magnesium (Total)	32 mg/L	0.1	EPA 200.7

Lab ID #: 3027105	Result	Reporting Limit	Method
Nitrogen, Ammonia	< 0.1 mg/L	0.1	SM4500NH3-D

Lab ID #: 3027106	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	2.4 mg/L	0.1	EPA 353.2

Lab ID #: 3027107	Result	Reporting Limit	Method
Phosphorus, Total	0.2 mg/L	0.05	SM4500P-E

Lab ID #: 3027108	Result	Reporting Limit	Method
TOC	4.5 mg/L	0.5	SM5310C

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Lab ID #: AA17825	Result	Reporting Limit	Method
COD	14 mg/L	10	EPA 410.4
TKN	1.2 mg/L	0.3	SM4500N(Org)-B

Lab ID #: AB16950	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	435.2 MPN/100mL	1	SM9223B

SiteID: WMI-04-0019 **Sample Date:** 06/10/2014 **IDEM Sample #:** AB17398
Water Flow Type Run **Water Appearance** Brown **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	84 %		ASTM D888-09(C)
DO	7.95 mg/L		ASTM D888-09(C)
pH (Field)	7.62 SU		EPA 150.2
Specific Conductance (Field)	496 umho/cm		SM2510B
Temperature	17.92 °C		SM2550B(2)
Turbidity (Hach)	187 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: 3042541	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	150 mg/L	1	SM2320B
Chloride	17 mg/L	2	EPA 300.0
Solids, Suspended Total, (TSS)	100 mg/L	10	SM2540D
Solids, Total (TS)	490 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	300 mg/L	10	SM2540C
Sulfate	19 mg/L	5	EPA 300.0

Lab ID #: 3042542	Result	Reporting Limit	Method
Hardness (as CaCO3)	240 mg/L	0.66	SM2340B
Calcium (Total)	61 mg/L	0.1	EPA 200.7
Magnesium (Total)	22 mg/L	0.1	EPA 200.7

Lab ID #: 3042543	Result	Reporting Limit	Method
Nitrogen, Ammonia	0.1 mg/L	0.1	SM4500NH3-D

Lab ID #: 3042544	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	12 mg/L	1	EPA 353.2

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Lab ID #:		Result	Reporting Limit	Method
3042545	Phosphorus, Total	0.48 mg/L	0.05	SM4500P-E
3042546	TOC	6.8 mg/L	0.5	SM5310C
AA20558	COD	22 mg/L	10	EPA 410.4
	TKN	1 mg/L	0.3	SM4500N(Org)-B
AB17398	E. coli	1299.7 MPN/100mL	1	SM9223B
AB17398a	Coliforms (Total)	> 24196 MPN/100mL	24196	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
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Surface Water Results Summary**

SiteID: WMI-04-0009 **USGS Hydrologic Unit:** 051201030404
Stream Name: Dodge Creek **County:** Delaware
Description: Eaton-Wheeling Pike **Latitude:** 40 20 59.12624 **Longitude:** -85 24 58.56710
Drainage: **Site Number:** 14T-128

SiteID: WMI-04-0009 **Sample Date:** 04/15/2014 **IDEM Sample #:** AB16183
Water Flow Type: Glide **Water Appearance:** Murky **Water Depth:** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %:** 0-20%
Sampler Comments:

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	% Sat	120.6 %	ASTM D888-09(C)
	DO	14.79 mg/L	ASTM D888-09(C)
	pH (Field)	8.32 SU	EPA 150.2
	Specific Conductance (Field)	537 umho/cm	SM2510B
	Temperature	6.64 °C	SM2550B(2)
	Turbidity (Hach)	17.4 NTU	EPA 180.1
	Air Temp	2 Lookup	Observation
	Sky Conditions	2 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	2 Lookup	Observation

<u>Lab ID #:</u> 3011036	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Alkalinity (as CaCO3)	210 mg/L	1	SM2320B
	Chloride	29 mg/L	6	EPA 300.0
	Fluoride	0.1 mg/L	0.1	SM4500F(-)-C
	Solids, Suspended Total, (TSS)	14 mg/L	10	SM2540D
	Solids, Total (TS)	320 mg/L	10	SM2540B
	Solids, Total Dissolved (TDS)	300 mg/L	10	SM2540C
	Sulfate	15 mg/L	15	EPA 300.0

<u>Lab ID #:</u> 3011037	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Hardness (as CaCO3)	260 mg/L	0.66	SM2340B
	Calcium (Total)	65 mg/L	0.1	EPA 200.7
	Magnesium (Total)	23 mg/L	0.1	EPA 200.7

<u>Lab ID #:</u> 3011038	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Nitrogen, Ammonia	< 0.1 mg/L	0.1	SM4500NH3-D

<u>Lab ID #:</u> 3011039	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Nitrogen, Nitrate+Nitrite	1.8 mg/L	0.1	EPA 353.2

<u>Lab ID #:</u> 3011040	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Phosphorus, Total	0.14 mg/L	0.05	SM4500P-E

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Lab ID #:		<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
3011041	TOC	5.7 mg/L	0.5	SM5310C
AA14520				
	COD	5 mg/L	10	EPA 410.4
	TKN	0.47 mg/L	0.3	SM4500N(Org)-B
AB16183				
	Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
	E. coli	770.1 MPN/100mL	1	SM9223B

SiteID: WMI-04-0009 **Sample Date:** 04/22/2014 **IDEM Sample #:** AB16427
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	124.4 %		ASTM D888-09(C)
	DO	12.52 mg/L		ASTM D888-09(C)
	pH (Field)	8.23 SU		EPA 150.2
	Specific Conductance (Field)	620 umho/cm		SM2510B
	Temperature	15.13 °C		SM2550B(2)
	Turbidity (Hach)	4.46 NTU		EPA 180.1
	Air Temp	4 Lookup		Observation
	Sky Conditions	2 Lookup		Observation
	Wind Direction	27 Lookup		Observation
	Wind Strength	2 Lookup		Observation

Lab ID #:		<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
AB16427				
	Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
	E. coli	2419.6 MPN/100mL	1	SM9223B

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

SiteID: WMI-04-0009 Sample Date: 04/29/2014 IDEM Sample #: AB16499
 Water Flow Type Glide Water Appearance Brown Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	102.1 %		ASTM D888-09(C)
DO	10.2 mg/L		ASTM D888-09(C)
pH (Field)	7.92 SU		EPA 150.2
Specific Conductance (Field)	456 umho/cm		SM2510B
Temperature	15.35 °C		SM2550B(2)
Turbidity (Hach)	76.5 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	4 Lookup		Observation

Lab ID #: AB16499	Result	Reporting Limit	Method
E. coli	1732.9 MPN/100mL	1	SM9223B

Lab ID #: AB16499a	Result	Reporting Limit	Method
Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B

SiteID: WMI-04-0009 Sample Date: 05/06/2014 IDEM Sample #: AB16818
 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	137.2 %		ASTM D888-09(C)
DO	14.25 mg/L		ASTM D888-09(C)
pH (Field)	8.13 SU		EPA 150.2
Specific Conductance (Field)	596 umho/cm		SM2510B
Temperature	13.49 °C		SM2550B(2)
Turbidity (Hach)	5.37 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: AB16818	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	816.4 MPN/100mL	1	SM9223B

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

SiteID: WMI-04-0009 **Sample Date:** 05/13/2014 **IDEM Sample #:** AB16951
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	139.2 %		ASTM D888-09(C)
DO	12.05 mg/L		ASTM D888-09(C)
pH (Field)	8.09 SU		EPA 150.2
Specific Conductance (Field)	591 umho/cm		SM2510B
Temperature	22.44 °C		SM2550B(2)
Turbidity (Hach)	8.01 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: 3027111	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	250 mg/L	1	SM2320B
Chloride	27 mg/L	4	EPA 300.0
Solids, Suspended Total, (TSS)	< 10 mg/L	10	SM2540D
Solids, Total (TS)	360 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	330 mg/L	10	SM2540C
Sulfate	16 mg/L	10	EPA 300.0

Lab ID #: 3027112	Result	Reporting Limit	Method
Hardness (as CaCO3)	280 mg/L	0.66	SM2340B
Calcium (Total)	71 mg/L	0.1	EPA 200.7
Magnesium (Total)	25 mg/L	0.1	EPA 200.7

Lab ID #: 3027113	Result	Reporting Limit	Method
Nitrogen, Ammonia	< 0.1 mg/L	0.1	SM4500NH3-D

Lab ID #: 3027114	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	2.7 mg/L	0.1	EPA 353.2

Lab ID #: 3027115	Result	Reporting Limit	Method
Phosphorus, Total	0.11 mg/L	0.05	SM4500P-E

Lab ID #: 3027116	Result	Reporting Limit	Method
TOC	5.9 mg/L	0.5	SM5310C

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Lab ID #: AA17826	Result	Reporting Limit	Method
COD	12 mg/L	10	EPA 410.4
TKN	1.3 mg/L	0.3	SM4500N(Org)-B
Lab ID #: AB16951	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	648.8 MPN/100mL	1	SM9223B

SiteID: WMI-04-0009 **Sample Date:** 06/10/2014 **IDEM Sample #:** AB17379
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	97.3 %		ASTM D888-09(C)
DO	9.35 mg/L		ASTM D888-09(C)
pH (Field)	7.76 SU		EPA 150.2
Specific Conductance (Field)	563 umho/cm		SM2510B
Temperature	17.24 °C		SM2550B(2)
Turbidity (Hach)	18.1 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: 3042549	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	230 mg/L	1	SM2320B
Chloride	20 mg/L	2	EPA 300.0
Solids, Suspended Total, (TSS)	12 mg/L	10	SM2540D
Solids, Total (TS)	360 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	340 mg/L	10	SM2540C
Sulfate	12 mg/L	5	EPA 300.0

Lab ID #: 3042550	Result	Reporting Limit	Method
Hardness (as CaCO3)	280 mg/L	0.66	SM2340B
Calcium (Total)	73 mg/L	0.1	EPA 200.7
Magnesium (Total)	24 mg/L	0.1	EPA 200.7

Lab ID #: 3042551	Result	Reporting Limit	Method
Nitrogen, Ammonia	< 0.1 mg/L	0.1	SM4500NH3-D

Lab ID #: 3042552	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	6.3 mg/L	0.1	EPA 353.2

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Lab ID #: 3042553	Result	Reporting Limit	Method
Phosphorus, Total	0.15 mg/L	0.05	SM4500P-E
Lab ID #: 3042554	Result	Reporting Limit	Method
TOC	3.6 mg/L	0.5	SM5310C
Lab ID #: AA20559	Result	Reporting Limit	Method
COD	9 mg/L	10	EPA 410.4
TKN	0.56 mg/L	0.3	SM4500N(Org)-B
Lab ID #: AB17379	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1203.3 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
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Surface Water Results Summary**

SiteID: WMI-04-0010 **USGS Hydrologic Unit:** 051201030403
Stream Name: Hedgeland Ditch **County:** Delaware
Description: CR 1070 N **Latitude:** 40 20 43.29423 **Longitude:** -85 27 50.81799
Drainage: **Site Number:** 14T-129

SiteID: WMI-04-0010 **Sample Date:** 04/15/2014 **IDEM Sample #:** AB16184
Water Flow Type Run **Water Appearance** Brown **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	% Sat	123.6 %	ASTM D888-09(C)
	DO	15.08 mg/L	ASTM D888-09(C)
	pH (Field)	8.08 SU	EPA 150.2
	Specific Conductance (Field)	592 umho/cm	SM2510B
	Temperature	6.78 °C	SM2550B(2)
	Turbidity (Hach)	5.99 NTU	EPA 180.1
	Air Temp	2 Lookup	Observation
	Sky Conditions	9 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	2 Lookup	Observation

<u>Lab ID #:</u> 3011044	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Alkalinity (as CaCO3)	240 mg/L	1	SM2320B
	Chloride	23 mg/L	6	EPA 300.0
	Fluoride	0.2 mg/L	0.1	SM4500F(-)-C
	Solids, Suspended Total, (TSS)	< 10 mg/L	10	SM2540D
	Solids, Total (TS)	370 mg/L	10	SM2540B
	Solids, Total Dissolved (TDS)	340 mg/L	10	SM2540C
	Sulfate	22 mg/L	15	EPA 300.0

<u>Lab ID #:</u> 3011045	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Hardness (as CaCO3)	310 mg/L	0.66	SM2340B
	Calcium (Total)	84 mg/L	0.1	EPA 200.7
	Magnesium (Total)	26 mg/L	0.1	EPA 200.7

<u>Lab ID #:</u> 3011046	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Nitrogen, Ammonia	< 0.1 mg/L	0.1	SM4500NH3-D

<u>Lab ID #:</u> 3011047	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Nitrogen, Nitrate+Nitrite	3.8 mg/L	0.1	EPA 353.2

<u>Lab ID #:</u> 3011048	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Phosphorus, Total	0.14 mg/L	0.05	SM4500P-E

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Lab ID #: 3011049	Result	Reporting Limit	Method
TOC	6.9 mg/L	0.5	SM5310C

Lab ID #: AA14521	Result	Reporting Limit	Method
COD	7 mg/L	10	EPA 410.4
TKN	0.87 mg/L	0.3	SM4500N(Org)-B

Lab ID #: AB16184	Result	Reporting Limit	Method
Coliforms (Total)	2419.6 MPN/100mL	1	SM9223B
E. coli	129.6 MPN/100mL	1	SM9223B

SiteID: WMI-04-0010 **Sample Date:** 04/22/2014 **IDEM Sample #:** AB16428
Water Flow Type Glide **Water Appearance** Clear **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments: Excessive Algae

Lab ID #:	Result	Reporting Limit	Method
% Sat	133.1 %		ASTM D888-09(C)
DO	14.22 mg/L		ASTM D888-09(C)
pH (Field)	8.17 SU		EPA 150.2
Specific Conductance (Field)	641 umho/cm		SM2510B
Temperature	13.09 °C		SM2550B(2)
Turbidity (Hach)	3.67 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: AB16428	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	119.8 MPN/100mL	1	SM9223B

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

SiteID: WMI-04-0010 Sample Date: 04/29/2014 IDEM Sample #: AB16500
 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	114.6 %		ASTM D888-09(C)
DO	11.93 mg/L		ASTM D888-09(C)
pH (Field)	7.71 SU		EPA 150.2
Specific Conductance (Field)	601 umho/cm		SM2510B
Temperature	13.49 °C		SM2550B(2)
Turbidity (Hach)	25.9 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	3 Lookup		Observation
Lab ID #: AB16500	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	980.4 MPN/100mL	1	SM9223B

SiteID: WMI-04-0010 Sample Date: 05/06/2014 IDEM Sample #: AB16819
 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	128.8 %		ASTM D888-09(C)
DO	13.96 mg/L		ASTM D888-09(C)
pH (Field)	7.9 SU		EPA 150.2
Specific Conductance (Field)	684 umho/cm		SM2510B
Temperature	11.83 °C		SM2550B(2)
Turbidity (Hach)	3.52 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation
Lab ID #: AB16819	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	61.3 MPN/100mL	1	SM9223B

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

SiteID: WMI-04-0010

Sample Date: 05/13/2014

IDEM Sample #: AB16952

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	120.2 %		ASTM D888-09(C)
DO	10.96 mg/L		ASTM D888-09(C)
pH (Field)	7.78 SU		EPA 150.2
Specific Conductance (Field)	682 umho/cm		SM2510B
Temperature	19.99 °C		SM2550B(2)
Turbidity (Hach)	3.8 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation
Lab ID #: 3027119	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	300 mg/L	1	SM2320B
Chloride	27 mg/L	6	EPA 300.0
Solids, Suspended Total, (TSS)	< 10 mg/L	10	SM2540D
Solids, Total (TS)	410 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	390 mg/L	10	SM2540C
Sulfate	25 mg/L	15	EPA 300.0
Lab ID #: 3027120	Result	Reporting Limit	Method
Hardness (as CaCO3)	360 mg/L	0.66	SM2340B
Calcium (Total)	96 mg/L	0.1	EPA 200.7
Magnesium (Total)	30 mg/L	0.1	EPA 200.7
Lab ID #: 3027121	Result	Reporting Limit	Method
Nitrogen, Ammonia	< 0.1 mg/L	0.1	SM4500NH3-D
Lab ID #: 3027122	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	2.2 mg/L	0.1	EPA 353.2
Lab ID #: 3027123	Result	Reporting Limit	Method
Phosphorus, Total	0.13 mg/L	0.05	SM4500P-E
Lab ID #: 3027124	Result	Reporting Limit	Method
TOC	7.1 mg/L	0.5	SM5310C

**Indiana Department of Environmental Management
Office of Water Quality-Watershed Assessment and Planning Branch
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Lab ID #: AA17827	Result	Reporting Limit	Method
COD	13 mg/L	10	EPA 410.4
TKN	1.2 mg/L	0.3	SM4500N(Org)-B

Lab ID #: AB16952	Result	Reporting Limit	Method
Coliforms (Total)	2419.6 MPN/100mL	1	SM9223B
E. coli	59.1 MPN/100mL	1	SM9223B

SiteID: WMI-04-0010 **Sample Date:** 06/10/2014 **IDEM Sample #:** AB17380
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	71.8 %		ASTM D888-09(C)
DO	6.95 mg/L		ASTM D888-09(C)
pH (Field)	7.32 SU		EPA 150.2
Specific Conductance (Field)	561 umho/cm		SM2510B
Temperature	16.89 °C		SM2550B(2)
Turbidity (Hach)	16.7 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: 3042557	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	210 mg/L	1	SM2320B
Chloride	22 mg/L	2	EPA 300.0
Solids, Suspended Total, (TSS)	10 mg/L	10	SM2540D
Solids, Total (TS)	380 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	350 mg/L	10	SM2540C
Sulfate	18 mg/L	5	EPA 300.0

Lab ID #: 3042558	Result	Reporting Limit	Method
Hardness (as CaCO3)	280 mg/L	0.66	SM2340B
Calcium (Total)	78 mg/L	0.1	EPA 200.7
Magnesium (Total)	22 mg/L	0.1	EPA 200.7

Lab ID #: 3042559	Result	Reporting Limit	Method
Nitrogen, Ammonia	< 0.1 mg/L	0.1	SM4500NH3-D

Lab ID #: 3042560	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	8.1 mg/L	0.1	EPA 353.2

**Indiana Department of Environmental Management
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Lab ID #: 3042561	Result	Reporting Limit	Method
Phosphorus, Total	0.22 mg/L	0.05	SM4500P-E
Lab ID #: 3042562	Result	Reporting Limit	Method
TOC	7.2 mg/L	0.5	SM5310C
Lab ID #: AA20560	Result	Reporting Limit	Method
COD	21 mg/L	10	EPA 410.4
TKN	0.9 mg/L	0.3	SM4500N(Org)-B
Lab ID #: AB17380	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	238.2 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: WMI-04-0011 **USGS Hydrologic Unit:** 051201030403
Stream Name: Pike Creek **County:** Delaware
Description: Eaton-Wheeling Pike **Latitude:** 40 21 47.35793 **Longitude:** -85 27 25.75107
Drainage: **Site Number:** 14T-130

SiteID: WMI-04-0011 **Sample Date:** 04/15/2014 **IDEM Sample #:** AB16185
Water Flow Type Riffle **Water Appearance** Clear **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments: FLOW - 25.1287 cfs

Lab ID #:	Result	Reporting Limit	Method
	% Sat	110.6 %	ASTM D888-09(C)
	DO	13.26 mg/L	ASTM D888-09(C)
	pH (Field)	8.15 SU	EPA 150.2
	Specific Conductance (Field)	594 umho/cm	SM2510B
	Temperature	7.42 °C	SM2550B(2)
	Turbidity (Hach)	15.4 NTU	EPA 180.1
	Air Temp	2 Lookup	Observation
	Flow	25.1287 cf/sec	TM D5389-95/D3858
	Sky Conditions	4 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	3 Lookup	Observation

Lab ID #: 3011052	Result	Reporting Limit	Method	
	Alkalinity (as CaCO3)	240 mg/L	1	SM2320B
	Chloride	21 mg/L	6	EPA 300.0
	Fluoride	0.2 mg/L	0.1	SM4500F(-)-C
	Solids, Suspended Total, (TSS)	11 mg/L	10	SM2540D
	Solids, Total (TS)	380 mg/L	10	SM2540B
	Solids, Total Dissolved (TDS)	360 mg/L	10	SM2540C
	Sulfate	30 mg/L	15	EPA 300.0

Lab ID #: 3011053	Result	Reporting Limit	Method	
	Hardness (as CaCO3)	320 mg/L	0.66	SM2340B
	Calcium (Total)	83 mg/L	0.1	EPA 200.7
	Magnesium (Total)	26 mg/L	0.1	EPA 200.7

Lab ID #: 3011054	Result	Reporting Limit	Method	
	Nitrogen, Ammonia	< 0.1 mg/L	0.1	SM4500NH3-D

Lab ID #: 3011055	Result	Reporting Limit	Method	
	Nitrogen, Nitrate+Nitrite	4.4 mg/L	0.1	EPA 353.2

Lab ID #: 3011056	Result	Reporting Limit	Method	
	Phosphorus, Total	0.14 mg/L	0.05	SM4500P-E

**Indiana Department of Environmental Management
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Lab ID #:		<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
3011057	TOC	3.9 mg/L	0.5	SM5310C
AA14522				
	COD	12 mg/L	10	EPA 410.4
	TKN	0.66 mg/L	0.3	SM4500N(Org)-B
AB16185				
	Coliforms (Total)	1986.3 MPN/100mL	1	SM9223B
	E. coli	228.2 MPN/100mL	1	SM9223B

SiteID: WMI-04-0011 **Sample Date:** 04/22/2014 **IDEM Sample #:** AB16429
Water Flow Type Riffle **Water Appearance** Murky **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #:		<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	% Sat	134 %		ASTM D888-09(C)
	DO	13.95 mg/L		ASTM D888-09(C)
	pH (Field)	8.36 SU		EPA 150.2
	Specific Conductance (Field)	602 umho/cm		SM2510B
	Temperature	13.84 °C		SM2550B(2)
	Turbidity (Hach)	11.3 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 #:		<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
AB16429				
	Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
	E. coli	686.7 MPN/100mL	1	SM9223B

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

SiteID: WMI-04-0011 Sample Date: 04/29/2014 IDEM Sample #: AB16501
 Water Flow Type Riffle Water Appearance Murky Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	111.2 %		ASTM D888-09(C)
DO	11.6 mg/L		ASTM D888-09(C)
pH (Field)	7.9 SU		EPA 150.2
Specific Conductance (Field)	611 umho/cm		SM2510B
Temperature	13.5 °C		SM2550B(2)
Turbidity (Hach)	36.3 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	3 Lookup		Observation

Lab ID #: AB16501	Result	Reporting Limit	Method
E. coli	648.8 MPN/100mL	1	SM9223B

Lab ID #: AB16501a	Result	Reporting Limit	Method
Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B

SiteID: WMI-04-0011 Sample Date: 05/06/2014 IDEM Sample #: AB16820
 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	126.9 %		ASTM D888-09(C)
DO	13.65 mg/L		ASTM D888-09(C)
pH (Field)	8.14 SU		EPA 150.2
Specific Conductance (Field)	626 umho/cm		SM2510B
Temperature	12.2 °C		SM2550B(2)
Turbidity (Hach)	5.56 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: AB16820	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	387.3 MPN/100mL	1	SM9223B

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

SiteID: WMI-04-0011 **Sample Date:** 05/13/2014 **IDEM Sample #:** AB16953
Water Flow Type Riffle **Water Appearance** Clear **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	104.4 %		ASTM D888-09(C)
DO	9.5 mg/L		ASTM D888-09(C)
pH (Field)	7.79 SU		EPA 150.2
Specific Conductance (Field)	644 umho/cm		SM2510B
Temperature	19.81 °C		SM2550B(2)
Turbidity (Hach)	7.48 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Flow	11.7993 cf/sec		TM D5389-95/D3858
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: 3027127	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	270 mg/L	1	SM2320B
Chloride	25 mg/L	6	EPA 300.0
Solids, Suspended Total, (TSS)	< 10 mg/L	10	SM2540D
Solids, Total (TS)	360 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	370 mg/L	10	SM2540C
Sulfate	38 mg/L	15	EPA 300.0

Lab ID #: 3027130	Result	Reporting Limit	Method
Hardness (as CaCO3)	340 mg/L	0.66	SM2340B
Calcium (Total)	86 mg/L	0.1	EPA 200.7
Magnesium (Total)	28 mg/L	0.1	EPA 200.7

Lab ID #: 3027131	Result	Reporting Limit	Method
Nitrogen, Ammonia	< 0.1 mg/L	0.1	SM4500NH3-D

Lab ID #: 3027134	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	1.5 mg/L	0.1	EPA 353.2

Lab ID #: 3027137	Result	Reporting Limit	Method
Phosphorus, Total	0.12 mg/L	0.05	SM4500P-E

Lab ID #: 3027140	Result	Reporting Limit	Method
TOC	5 mg/L	0.5	SM5310C

**Indiana Department of Environmental Management
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Lab ID #: AA17828	Result	Reporting Limit	Method
COD	14 mg/L	10	EPA 410.4
TKN	1.1 mg/L	0.3	SM4500N(Org)-B

Lab ID #: AB16953	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	579.4 MPN/100mL	1	SM9223B

SiteID: WMI-04-0011 **Sample Date:** 06/10/2014 **IDEM Sample #:** AB17381
Water Flow Type Riffle **Water Appearance** Murky **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	88.1 %		ASTM D888-09(C)
DO	8.57 mg/L		ASTM D888-09(C)
pH (Field)	7.6 SU		EPA 150.2
Specific Conductance (Field)	577 umho/cm		SM2510B
Temperature	16.64 °C		SM2550B(2)
Turbidity (Hach)	24.3 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Flow	59.7762 cf/sec		TM D5389-95/D3858
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: 3042565	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	210 mg/L	1	SM2320B
Chloride	20 mg/L	2	EPA 300.0
Solids, Suspended Total, (TSS)	20 mg/L	10	SM2540D
Solids, Total (TS)	400 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	330 mg/L	10	SM2540C
Sulfate	24 mg/L	5	EPA 300.0

Lab ID #: 3042566	Result	Reporting Limit	Method
Hardness (as CaCO3)	280 mg/L	0.66	SM2340B
Calcium (Total)	77 mg/L	0.1	EPA 200.7
Magnesium (Total)	23 mg/L	0.1	EPA 200.7

Lab ID #: 3042567	Result	Reporting Limit	Method
Nitrogen, Ammonia	0.1 mg/L	0.1	SM4500NH3-D

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Lab ID #:		Result	Reporting Limit	Method
3042568	Nitrogen, Nitrate+Nitrite	9.1 mg/L	0.1	EPA 353.2
3042569	Phosphorus, Total	0.28 mg/L	0.05	SM4500P-E
3042570	TOC	5 mg/L	0.5	SM5310C
AA20561	COD	22 mg/L	10	EPA 410.4
	TKN	0.93 mg/L	0.3	SM4500N(Org)-B
AB17381	Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
	E. coli	325.5 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
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Surface Water Results Summary**

SiteID: WMI-04-0012 **USGS Hydrologic Unit:** 051201030404
Stream Name: Mississinewa River **County:** Delaware
Description: CR 364 W **Latitude:** 40 22 20.85967 **Longitude:** -85 27 23.16790
Drainage: **Site Number:** 14T-131

SiteID: WMI-04-0012 **Sample Date:** 04/15/2014 **IDEM Sample #:** AB16186
Water Flow Type: Glide **Water Appearance:** Murky **Water Depth:** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %:** 0-20%
Sampler Comments: FLOW - 471.66 cfs

Lab ID #:	Result	Reporting Limit	Method
	% Sat	95.5 %	ASTM D888-09(C)
	DO	10.77 mg/L	ASTM D888-09(C)
	pH (Field)	8.25 SU	EPA 150.2
	Specific Conductance (Field)	605 umho/cm	SM2510B
	Temperature	9.94 °C	SM2550B(2)
	Turbidity (Hach)	38 NTU	EPA 180.1
	Air Temp	2 Lookup	Observation
	Flow	471.66 cf/sec	TM D5389-95/D3858
	Sky Conditions	2 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	2 Lookup	Observation

Lab ID #: 3011060	Result	Reporting Limit	Method	
	Alkalinity (as CaCO3)	220 mg/L	1	SM2320B
	Chloride	26 mg/L	6	EPA 300.0
	Fluoride	0.2 mg/L	0.1	SM4500F(-)-C
	Solids, Suspended Total, (TSS)	30 mg/L	10	SM2540D
	Solids, Total (TS)	390 mg/L	10	SM2540B
	Solids, Total Dissolved (TDS)	350 mg/L	10	SM2540C
	Sulfate	33 mg/L	15	EPA 300.0

Lab ID #: 3011061	Result	Reporting Limit	Method	
	Hardness (as CaCO3)	320 mg/L	0.66	SM2340B
	Calcium (Total)	79 mg/L	0.1	EPA 200.7
	Magnesium (Total)	29 mg/L	0.1	EPA 200.7

Lab ID #: 3011062	Result	Reporting Limit	Method	
	Nitrogen, Ammonia	< 0.1 mg/L	0.1	SM4500NH3-D

Lab ID #: 3011063	Result	Reporting Limit	Method	
	Nitrogen, Nitrate+Nitrite	4.6 mg/L	0.1	EPA 353.2

Lab ID #: 3011064	Result	Reporting Limit	Method	
	Phosphorus, Total	0.26 mg/L	0.05	SM4500P-E

**Indiana Department of Environmental Management
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Lab ID #:		<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
3011065	TOC	4.3 mg/L	0.5	SM5310C
AA14523				
	COD	17 mg/L	10	EPA 410.4
	TKN	0.64 mg/L	0.3	SM4500N(Org)-B
AB16186				
	Coliforms (Total)	1986.3 MPN/100mL	1	SM9223B
	E. coli	172.3 MPN/100mL	1	SM9223B

SiteID: WMI-04-0012 **Sample Date:** 04/22/2014 **IDEM Sample #:** AB16430
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	119 %		ASTM D888-09(C)
	DO	11.95 mg/L		ASTM D888-09(C)
	pH (Field)	8.41 SU		EPA 150.2
	Specific Conductance (Field)	661 umho/cm		SM2510B
	Temperature	15.17 °C		SM2550B(2)
	Turbidity (Hach)	12.5 NTU		EPA 180.1
	Air Temp	4 Lookup		Observation
	Sky Conditions	1 Lookup		Observation
	Wind Direction	27 Lookup		Observation
	Wind Strength	2 Lookup		Observation

Lab ID #:		<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
AB16430				
	Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
	E. coli	115.3 MPN/100mL	1	SM9223B

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

SiteID: WMI-04-0012 Sample Date: 04/29/2014 IDEM Sample #: AB16502
 Water Flow Type Run Water Appearance Brown Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	94.3 %		ASTM D888-09(C)
DO	9.58 mg/L		ASTM D888-09(C)
pH (Field)	8.12 SU		EPA 150.2
Specific Conductance (Field)	522 umho/cm		SM2510B
Temperature	14.61 °C		SM2550B(2)
Turbidity (Hach)	120 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	4 Lookup		Observation

Lab ID #: AB16502	Result	Reporting Limit	Method
E. coli	1986.3 MPN/100mL	1	SM9223B

Lab ID #: AB16502a	Result	Reporting Limit	Method
Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B

SiteID: WMI-04-0012 Sample Date: 05/06/2014 IDEM Sample #: AB16821
 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	134.4 %		ASTM D888-09(C)
DO	13.88 mg/L		ASTM D888-09(C)
pH (Field)	8.38 SU		EPA 150.2
Specific Conductance (Field)	649 umho/cm		SM2510B
Temperature	13.85 °C		SM2550B(2)
Turbidity (Hach)	8.27 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: AB16821	Result	Reporting Limit	Method
Coliforms (Total)	1413.6 MPN/100mL	1	SM9223B
E. coli	224.7 MPN/100mL	1	SM9223B

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

SiteID: WMI-04-0012 **Sample Date:** 05/13/2014 **IDEM Sample #:** AB16954
Water Flow Type Run **Water Appearance** Brown **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	109.5 %		ASTM D888-09(C)
DO	9.53 mg/L		ASTM D888-09(C)
pH (Field)	8.16 SU		EPA 150.2
Specific Conductance (Field)	631 umho/cm		SM2510B
Temperature	22.58 °C		SM2550B(2)
Turbidity (Hach)	14.7 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Flow	362.33 cf/sec		TM D5389-95/D3858
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: 3027149	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	240 mg/L	1	SM2320B
Chloride	31 mg/L	6	EPA 300.0
Solids, Suspended Total, (TSS)	19 mg/L	10	SM2540D
Solids, Total (TS)	380 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	380 mg/L	10	SM2540C
Sulfate	42 mg/L	15	EPA 300.0

Lab ID #: 3027150	Result	Reporting Limit	Method
Hardness (as CaCO3)	310 mg/L	0.66	SM2340B
Calcium (Total)	71 mg/L	0.1	EPA 200.7
Magnesium (Total)	30 mg/L	0.1	EPA 200.7

Lab ID #: 3027151	Result	Reporting Limit	Method
Nitrogen, Ammonia	< 0.1 mg/L	0.1	SM4500NH3-D

Lab ID #: 3027152	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	1.8 mg/L	0.1	EPA 353.2

Lab ID #: 3027153	Result	Reporting Limit	Method
Phosphorus, Total	0.17 mg/L	0.05	SM4500P-E

Lab ID #: 3027154	Result	Reporting Limit	Method
TOC	5.3 mg/L	0.5	SM5310C

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

Lab ID #: AA17829	Result	Reporting Limit	Method
COD	18 mg/L	10	EPA 410.4
TKN	0.98 mg/L	0.3	SM4500N(Org)-B
Lab ID #: AB16954	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	410.6 MPN/100mL	1	SM9223B

SiteID: WMI-04-0012 **Sample Date:** 06/10/2014 **IDEM Sample #:** AB17382
Water Flow Type Run **Water Appearance** Brown **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	88.5 %		ASTM D888-09(C)
DO	8.21 mg/L		ASTM D888-09(C)
pH (Field)	7.74 SU		EPA 150.2
Specific Conductance (Field)	476 umho/cm		SM2510B
Temperature	18.87 °C		SM2550B(2)
Turbidity (Hach)	184 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Flow	774.79 cf/sec		TM D5389-95/D3858
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: 3042573	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	150 mg/L	1	SM2320B
Chloride	19 mg/L	2	EPA 300.0
Solids, Suspended Total, (TSS)	95 mg/L	10	SM2540D
Solids, Total (TS)	460 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	290 mg/L	10	SM2540C
Sulfate	21 mg/L	5	EPA 300.0

Lab ID #: 3042574	Result	Reporting Limit	Method
Hardness (as CaCO3)	230 mg/L	0.66	SM2340B
Calcium (Total)	59 mg/L	0.1	EPA 200.7
Magnesium (Total)	20 mg/L	0.1	EPA 200.7

Lab ID #: 3042575	Result	Reporting Limit	Method
Nitrogen, Ammonia	0.1 mg/L	0.1	SM4500NH3-D

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

Lab ID #:	Result	Reporting Limit	Method	
3042576	Nitrogen, Nitrate+Nitrite	11 mg/L	1	EPA 353.2
3042577	Phosphorus, Total	0.63 mg/L	0.05	SM4500P-E
3042578	TOC	7.1 mg/L	0.5	SM5310C
AA20562	COD	30 mg/L	10	EPA 410.4
	TKN	1.1 mg/L	0.3	SM4500N(Org)-B
AB17382	E. coli	1119.9 MPN/100mL	1	SM9223B
AB17382a	Coliforms (Total)	> 24196 MPN/100mL	24196	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: WMI-03-0009 **USGS Hydrologic Unit:** 051201030302
Stream Name: Big Lick Creek **County:** Delaware
Description: CR 1275 N **Latitude:** 40 22 37.62475 **Longitude:** -85 26 52.32484
Drainage: **Site Number:** 14T-132

SiteID: WMI-03-0009 **Sample Date:** 04/16/2014 **IDEM Sample #:** AB16187
Water Flow Type: Glide **Water Appearance:** Murky **Water Depth:** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %:** 0-20%
Sampler Comments: FLOW - 49.2288 cfs

Lab ID #:	Result	Reporting Limit	Method
% Sat	84.1 %		ASTM D888-09(C)
DO	10.86 mg/L		ASTM D888-09(C)
pH (Field)	7.71 SU		EPA 150.2
Specific Conductance (Field)	624 umho/cm		SM2510B
Temperature	4.42 °C		SM2550B(2)
Turbidity (Hach)	23.5 NTU		EPA 180.1
Air Temp	1 Lookup		Observation
Flow	49.2288 cf/sec		TM D5389-95/D3858
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: 3011068	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	220 mg/L	1	SM2320B
Chloride	32 mg/L	6	EPA 300.0
Fluoride	< 0.1 mg/L	0.1	SM4500F(-)-C
Solids, Suspended Total, (TSS)	16 mg/L	10	SM2540D
Solids, Total (TS)	390 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	360 mg/L	10	SM2540C
Sulfate	43 mg/L	15	EPA 300.0

Lab ID #: 3011069	Result	Reporting Limit	Method
Hardness (as CaCO3)	290 mg/L	0.66	SM2340B
Calcium (Total)	77 mg/L	0.1	EPA 200.7
Magnesium (Total)	24 mg/L	0.1	EPA 200.7

Lab ID #: 3011070	Result	Reporting Limit	Method
Nitrogen, Ammonia	< 0.1 mg/L	0.1	SM4500NH3-D

Lab ID #: 3011071	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	2.2 mg/L	0.1	EPA 353.2

Lab ID #: 3011072	Result	Reporting Limit	Method
Phosphorus, Total	0.24 mg/L	0.05	SM4500P-E

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

Lab ID #:		<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
3011073	TOC	6.3 mg/L	0.5	SM5310C
AA14524				
	COD	20 mg/L	10	EPA 410.4
	TKN	0.87 mg/L	0.3	SM4500N(Org)-B
AB16187				
	Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
	E. coli	344.8 MPN/100mL	1	SM9223B

SiteID: WMI-03-0009 **Sample Date:** 04/23/2014 **IDEM Sample #:** AB16431
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	74.8 %		ASTM D888-09(C)
	DO	8.42 mg/L		ASTM D888-09(C)
	pH (Field)	7.71 SU		EPA 150.2
	Specific Conductance (Field)	765 umho/cm		SM2510B
	Temperature	9.3 °C		SM2550B(2)
	Turbidity (Hach)	7.03 NTU		EPA 180.1
	Air Temp	2 Lookup		Observation
	Sky Conditions	1 Lookup		Observation
	Wind Direction	27 Lookup		Observation
	Wind Strength	1 Lookup		Observation

Lab ID #:		<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
AB16431				
	Coliforms (Total)	1553.1 MPN/100mL	1	SM9223B
	E. coli	148.3 MPN/100mL	1	SM9223B

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

SiteID: WMI-03-0009 **Sample Date:** 04/30/2014 **IDEM Sample #:** AB16503
Water Flow Type Run **Water Appearance** Brown **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	73.4 %		ASTM D888-09(C)
DO	7.78 mg/L		ASTM D888-09(C)
pH (Field)	7.76 SU		EPA 150.2
Specific Conductance (Field)	508 umho/cm		SM2510B
Temperature	12.67 °C		SM2550B(2)
Turbidity (Hach)	80.7 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation
Lab ID #: AB16503a			
Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B
E. coli	9208 MPN/100mL	10	SM9223B

SiteID: WMI-03-0009 **Sample Date:** 05/07/2014 **IDEM Sample #:** AB16822
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	62.8 %		ASTM D888-09(C)
DO	6.59 mg/L		ASTM D888-09(C)
pH (Field)	7.43 SU		EPA 150.2
Specific Conductance (Field)	809 umho/cm		SM2510B
Temperature	13.04 °C		SM2550B(2)
Turbidity (Hach)	5.29 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation
Lab ID #: AB16822			
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	162.4 MPN/100mL	1	SM9223B

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

SiteID: WMI-03-0009

Sample Date: 05/14/2014

IDEM Sample #: AB16955

Water Flow Type Run

Water Appearance Brown

Water Depth Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	69.2 %		ASTM D888-09(C)
DO	6.71 mg/L		ASTM D888-09(C)
pH (Field)	7.54 SU		EPA 150.2
Specific Conductance (Field)	460 umho/cm		SM2510B
Temperature	16.77 °C		SM2550B(2)
Turbidity (Hach)	282 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation
Lab ID #: 3027157	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	130 mg/L	1	SM2320B
Chloride	30 mg/L	6	EPA 300.0
Solids, Suspended Total, (TSS)	160 mg/L	10	SM2540D
Solids, Total (TS)	500 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	340 mg/L	10	SM2540C
Sulfate	31 mg/L	15	EPA 300.0
Lab ID #: 3027158	Result	Reporting Limit	Method
Hardness (as CaCO3)	210 mg/L	0.66	SM2340B
Calcium (Total)	56 mg/L	0.1	EPA 200.7
Magnesium (Total)	17 mg/L	0.1	EPA 200.7
Lab ID #: 3027159	Result	Reporting Limit	Method
Nitrogen, Ammonia	0.5 mg/L	0.1	SM4500NH3-D
Lab ID #: 3027160	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	4.7 mg/L	0.1	EPA 353.2
Lab ID #: 3027161	Result	Reporting Limit	Method
Phosphorus, Total	0.98 mg/L	0.25	SM4500P-E
Lab ID #: 3027162	Result	Reporting Limit	Method
TOC	13 mg/L	0.5	SM5310C

**Indiana Department of Environmental Management
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Lab ID #:	Result	Reporting Limit	Method
AA17830			
COD	46 mg/L	10	EPA 410.4
TKN	3 mg/L	0.3	SM4500N(Org)-B
AB16955a			
Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B
E. coli	17329 MPN/100mL	10	SM9223B

SiteID: WMI-03-0009 **Sample Date:** 06/11/2014 **IDEM Sample #:** AB17383
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	75.5 %		ASTM D888-09(C)
DO	7.12 mg/L		ASTM D888-09(C)
pH (Field)	7.57 SU		EPA 150.2
Specific Conductance (Field)	556 umho/cm		SM2510B
Temperature	18.11 °C		SM2550B(2)
Turbidity (Hach)	50.6 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Flow	76.3146 cf/sec		TM D5389-95/D3858
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #:	Result	Reporting Limit	Method
3042581			
Alkalinity (as CaCO3)	180 mg/L	1	SM2320B
Chloride	27 mg/L	2	EPA 300.0
Solids, Suspended Total, (TSS)	40 mg/L	10	SM2540D
Solids, Total (TS)	390 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	330 mg/L	10	SM2540C
Sulfate	35 mg/L	5	EPA 300.0

Lab ID #:	Result	Reporting Limit	Method
3042582			
Hardness (as CaCO3)	250 mg/L	0.66	SM2340B
Calcium (Total)	68 mg/L	0.1	EPA 200.7
Magnesium (Total)	19 mg/L	0.1	EPA 200.7

Lab ID #:	Result	Reporting Limit	Method
3042583			
Nitrogen, Ammonia	0.1 mg/L	0.1	SM4500NH3-D

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

Lab ID #:		Result	Reporting Limit	Method
3042584	Nitrogen, Nitrate+Nitrite	5.9 mg/L	0.1	EPA 353.2
3042585	Phosphorus, Total	0.34 mg/L	0.05	SM4500P-E
3042586	TOC	7.4 mg/L	0.5	SM5310C
AA20563	COD	30 mg/L	10	EPA 410.4
	TKN	1.1 mg/L	0.3	SM4500N(Org)-B
AB17383a	Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B
	E. coli	9208 MPN/100mL	10	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: WMI-03-0005 **USGS Hydrologic Unit:** 051201030302
Stream Name: Townsend Lucas Ditch **County:** Blackford
Description: CR 300 S **Latitude:** 40 24 26.80611 **Longitude:** -85 25 15.24705
Drainage: **Site Number:** 14T-134

SiteID: WMI-03-0005 **Sample Date:** 04/16/2014 **IDEM Sample #:** AB16188
Water Flow Type Run **Water Appearance** Murky **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	% Sat	93.2 %	ASTM D888-09(C)
	DO	12.11 mg/L	ASTM D888-09(C)
	pH (Field)	8.18 SU	EPA 150.2
	Specific Conductance (Field)	528 umho/cm	SM2510B
	Temperature	4.31 °C	SM2550B(2)
	Turbidity (Hach)	12.9 NTU	EPA 180.1
	Air Temp	2 Lookup	Observation
	Sky Conditions	1 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	1 Lookup	Observation

<u>Lab ID #:</u> 3011101	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Alkalinity (as CaCO3)	200 mg/L	1	SM2320B
	Chloride	19 mg/L	6	EPA 300.0
	Fluoride	< 0.1 mg/L	0.1	SM4500F(-)-C
	Solids, Suspended Total, (TSS)	< 10 mg/L	10	SM2540D
	Solids, Total (TS)	340 mg/L	10	SM2540B
	Solids, Total Dissolved (TDS)	300 mg/L	10	SM2540C
	Sulfate	28 mg/L	15	EPA 300.0

<u>Lab ID #:</u> 3011102	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Hardness (as CaCO3)	260 mg/L	0.66	SM2340B
	Calcium (Total)	70 mg/L	0.1	EPA 200.7
	Magnesium (Total)	22 mg/L	0.1	EPA 200.7

<u>Lab ID #:</u> 3011103	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Nitrogen, Ammonia	< 0.1 mg/L	0.1	SM4500NH3-D

<u>Lab ID #:</u> 3011104	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Nitrogen, Nitrate+Nitrite	3.6 mg/L	0.1	EPA 353.2

<u>Lab ID #:</u> 3011105	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Phosphorus, Total	0.09 mg/L	0.05	SM4500P-E

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

Lab ID #: 3011106	Result	Reporting Limit	Method
TOC	4.6 mg/L	0.5	SM5310C

Lab ID #: AA14525	Result	Reporting Limit	Method
COD	< 10 mg/L	10	EPA 410.4
TKN	0.98 mg/L	0.3	SM4500N(Org)-B

Lab ID #: AB16188	Result	Reporting Limit	Method
Coliforms (Total)	2419.6 MPN/100mL	1	SM9223B
E. coli	64.5 MPN/100mL	1	SM9223B

SiteID: WMI-03-0005 **Sample Date:** 04/23/2014 **IDEM Sample #:** AB16432
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 %		ASTM D888-09(C)
DO	9.34 mg/L		ASTM D888-09(C)
pH (Field)	8.09 SU		EPA 150.2
Specific Conductance (Field)	585 umho/cm		SM2510B
Temperature	10.42 °C		SM2550B(2)
Turbidity (Hach)	6.11 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: AB16432	Result	Reporting Limit	Method
Coliforms (Total)	2419.6 MPN/100mL	1	SM9223B
E. coli	145 MPN/100mL	1	SM9223B

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

SiteID: WMI-03-0005 Sample Date: 04/30/2014 IDEM Sample #: AB16504
 Water Flow Type Riffle Water Appearance Murky Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	89.1 %		ASTM D888-09(C)
DO	9.73 mg/L		ASTM D888-09(C)
pH (Field)	7.99 SU		EPA 150.2
Specific Conductance (Field)	513 umho/cm		SM2510B
Temperature	11.32 °C		SM2550B(2)
Turbidity (Hach)	24.7 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation
Lab ID #: AB16504	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	435.2 MPN/100mL	1	SM9223B

SiteID: WMI-03-0005 Sample Date: 05/07/2014 IDEM Sample #: AB16823
 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	84.2 %		ASTM D888-09(C)
DO	8.82 mg/L		ASTM D888-09(C)
pH (Field)	7.83 SU		EPA 150.2
Specific Conductance (Field)	557 umho/cm		SM2510B
Temperature	13.17 °C		SM2550B(2)
Turbidity (Hach)	5.55 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation
Lab ID #: AB16823	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	165.8 MPN/100mL	1	SM9223B

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

SiteID: WMI-03-0005

Sample Date: 05/14/2014

IDEM Sample #: AB16956

Water Flow Type Run

Water Appearance Brown

Water Depth

Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	83.2 %		ASTM D888-09(C)
DO	8.54 mg/L		ASTM D888-09(C)
pH (Field)	7.48 SU		EPA 150.2
Specific Conductance (Field)	473 umho/cm		SM2510B
Temperature	14.02 °C		SM2550B(2)
Turbidity (Hach)	141 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation
Lab ID #: 3027165	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	140 mg/L	1	SM2320B
Chloride	23 mg/L	6	EPA 300.0
Solids, Suspended Total, (TSS)	68 mg/L	10	SM2540D
Solids, Total (TS)	430 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	340 mg/L	10	SM2540C
Sulfate	27 mg/L	15	EPA 300.0
Lab ID #: 3027166	Result	Reporting Limit	Method
Hardness (as CaCO3)	230 mg/L	0.66	SM2340B
Calcium (Total)	65 mg/L	0.1	EPA 200.7
Magnesium (Total)	18 mg/L	0.1	EPA 200.7
Lab ID #: 3027167	Result	Reporting Limit	Method
Nitrogen, Ammonia	0.3 mg/L	0.1	SM4500NH3-D
Lab ID #: 3027168	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	7.6 mg/L	0.1	EPA 353.2
Lab ID #: 3027169	Result	Reporting Limit	Method
Phosphorus, Total	0.71 mg/L	0.05	SM4500P-E
Lab ID #: 3027170	Result	Reporting Limit	Method
TOC	12 mg/L	0.5	SM5310C

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Lab ID #: AA17831	Result	Reporting Limit	Method
COD	47 mg/L	10	EPA 410.4
TKN	2.3 mg/L	0.3	SM4500N(Org)-B

Lab ID #: AB16956a	Result	Reporting Limit	Method
Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B
E. coli	3448 MPN/100mL	10	SM9223B

SiteID: WMI-03-0005 **Sample Date:** 06/11/2014 **IDEM Sample #:** AB17384
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	89.5 %		ASTM D888-09(C)
DO	8.4 mg/L		ASTM D888-09(C)
pH (Field)	7.85 SU		EPA 150.2
Specific Conductance (Field)	482 umho/cm		SM2510B
Temperature	18.59 °C		SM2550B(2)
Turbidity (Hach)	35.3 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 #: 3042589	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	190 mg/L	1	SM2320B
Chloride	15 mg/L	2	EPA 300.0
Solids, Suspended Total, (TSS)	21 mg/L	10	SM2540D
Solids, Total (TS)	360 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	300 mg/L	10	SM2540C
Sulfate	21 mg/L	5	EPA 300.0

Lab ID #: 3042590	Result	Reporting Limit	Method
Hardness (as CaCO3)	260 mg/L	0.66	SM2340B
Calcium (Total)	74 mg/L	0.1	EPA 200.7
Magnesium (Total)	20 mg/L	0.1	EPA 200.7

Lab ID #: 3042591	Result	Reporting Limit	Method
Nitrogen, Ammonia	0.1 mg/L	0.1	SM4500NH3-D

Lab ID #: 3042592	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	10 mg/L	1	EPA 353.2

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Lab ID #: 3042593	Result	Reporting Limit	Method
Phosphorus, Total	0.26 mg/L	0.05	SM4500P-E
Lab ID #: 3042594	Result	Reporting Limit	Method
TOC	7.2 mg/L	0.5	SM5310C
Lab ID #: AA20564	Result	Reporting Limit	Method
COD	18 mg/L	10	EPA 410.4
TKN	1.1 mg/L	0.3	SM4500N(Org)-B
Lab ID #: AB17384	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	272.3 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: WMI-03-0010 **USGS Hydrologic Unit:** 051201030302
Stream Name: Little Joe Creek **County:** Blackford
Description: CR 300 S **Latitude:** 40 24 25.60028 **Longitude:** -85 23 35.97738
Drainage: **Site Number:** 14T-135

SiteID: WMI-03-0010 **Sample Date:** 04/16/2014 **IDEM Sample #:** AB16190
Water Flow Type: Glide **Water Appearance:** Murky **Water Depth:** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %:** 0-20%
Sampler Comments:

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	% Sat	97.9 %	ASTM D888-09(C)
	DO	13.05 mg/L	ASTM D888-09(C)
	pH (Field)	7.98 SU	EPA 150.2
	Specific Conductance (Field)	579 umho/cm	SM2510B
	Temperature	3.34 °C	SM2550B(2)
	Turbidity (Hach)	21.9 NTU	EPA 180.1
	Air Temp	2 Lookup	Observation
	Sky Conditions	1 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	1 Lookup	Observation

<u>Lab ID #:</u> 3011109	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Alkalinity (as CaCO3)	230 mg/L	1	SM2320B
	Chloride	25 mg/L	6	EPA 300.0
	Fluoride	0.2 mg/L	0.1	SM4500F(-)-C
	Solids, Suspended Total, (TSS)	14 mg/L	10	SM2540D
	Solids, Total (TS)	360 mg/L	10	SM2540B
	Solids, Total Dissolved (TDS)	320 mg/L	10	SM2540C
	Sulfate	21 mg/L	15	EPA 300.0

<u>Lab ID #:</u> 3011110	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Hardness (as CaCO3)	290 mg/L	0.66	SM2340B
	Calcium (Total)	76 mg/L	0.1	EPA 200.7
	Magnesium (Total)	25 mg/L	0.1	EPA 200.7

<u>Lab ID #:</u> 3011111	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Nitrogen, Ammonia	< 0.1 mg/L	0.1	SM4500NH3-D

<u>Lab ID #:</u> 3011112	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Nitrogen, Nitrate+Nitrite	1.5 mg/L	0.1	EPA 353.2

<u>Lab ID #:</u> 3011113	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Phosphorus, Total	0.14 mg/L	0.05	SM4500P-E

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Lab ID #:		<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
3011114	TOC	4.8 mg/L	0.5	SM5310C
AA14526				
	COD	20 mg/L	10	EPA 410.4
	TKN	0.78 mg/L	0.3	SM4500N(Org)-B
AB16190				
	Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
	E. coli	235.9 MPN/100mL	1	SM9223B

SiteID: WMI-03-0010 **Sample Date:** 04/23/2014 **IDEM Sample #:** AB16434
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	87.2 %		ASTM D888-09(C)
	DO	10.24 mg/L		ASTM D888-09(C)
	pH (Field)	7.94 SU		EPA 150.2
	Specific Conductance (Field)	595 umho/cm		SM2510B
	Temperature	8.2 °C		SM2550B(2)
	Turbidity (Hach)	8.21 NTU		EPA 180.1
	Air Temp	2 Lookup		Observation
	Sky Conditions	1 Lookup		Observation
	Wind Direction	27 Lookup		Observation
	Wind Strength	1 Lookup		Observation

Lab ID #:		<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
AB16434				
	Coliforms (Total)	1413.6 MPN/100mL	1	SM9223B
	E. coli	115.3 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management
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SiteID: WMI-03-0010 **Sample Date:** 04/30/2014 **IDEM Sample #:** AB16506
Water Flow Type Riffle **Water Appearance** Murky **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	90.4 %		ASTM D888-09(C)
DO	10.1 mg/L		ASTM D888-09(C)
pH (Field)	7.85 SU		EPA 150.2
Specific Conductance (Field)	572 umho/cm		SM2510B
Temperature	10.36 °C		SM2550B(2)
Turbidity (Hach)	26.1 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation
Lab ID #: AB16506	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	222.4 MPN/100mL	1	SM9223B

SiteID: WMI-03-0010 **Sample Date:** 05/07/2014 **IDEM Sample #:** AB16825
Water Flow Type Riffle **Water Appearance** Clear **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	90.2 %		ASTM D888-09(C)
DO	9.71 mg/L		ASTM D888-09(C)
pH (Field)	7.63 SU		EPA 150.2
Specific Conductance (Field)	619 umho/cm		SM2510B
Temperature	11.9 °C		SM2550B(2)
Turbidity (Hach)	7.25 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 #: AB16825	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	142.1 MPN/100mL	1	SM9223B

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

SiteID: WMI-03-0010

Sample Date: 05/14/2014

IDEM Sample #: AB16958

Water Flow Type Run

Water Appearance Brown

Water Depth Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	82.1 %		ASTM D888-09(C)
DO	8.45 mg/L		ASTM D888-09(C)
pH (Field)	7.42 SU		EPA 150.2
Specific Conductance (Field)	472 umho/cm		SM2510B
Temperature	14.03 °C		SM2550B(2)
Turbidity (Hach)	131 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation
Lab ID #: 3027173	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	130 mg/L	1	SM2320B
Chloride	29 mg/L	6	EPA 300.0
Solids, Suspended Total, (TSS)	73 mg/L	10	SM2540D
Solids, Total (TS)	420 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	340 mg/L	10	SM2540C
Sulfate	16 mg/L	15	EPA 300.0
Lab ID #: 3027174	Result	Reporting Limit	Method
Hardness (as CaCO3)	210 mg/L	0.66	SM2340B
Calcium (Total)	56 mg/L	0.1	EPA 200.7
Magnesium (Total)	16 mg/L	0.1	EPA 200.7
Lab ID #: 3027175	Result	Reporting Limit	Method
Nitrogen, Ammonia	0.7 mg/L	0.1	SM4500NH3-D
Lab ID #: 3027176	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	9.8 mg/L	0.1	EPA 353.2
Lab ID #: 3027177	Result	Reporting Limit	Method
Phosphorus, Total	0.6 mg/L	0.05	SM4500P-E
Lab ID #: 3027178	Result	Reporting Limit	Method
TOC	13 mg/L	0.5	SM5310C

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Lab ID #: AA17832	Result	Reporting Limit	Method
COD	38 mg/L	10	EPA 410.4
TKN	2.5 mg/L	0.3	SM4500N(Org)-B

Lab ID #: AB16958a	Result	Reporting Limit	Method
Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B
E. coli	8664 MPN/100mL	10	SM9223B

SiteID: WMI-03-0010 **Sample Date:** 06/11/2014 **IDEM Sample #:** AB17385
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 %		ASTM D888-09(C)
DO	8.44 mg/L		ASTM D888-09(C)
pH (Field)	7.74 SU		EPA 150.2
Specific Conductance (Field)	597 umho/cm		SM2510B
Temperature	16.7 °C		SM2550B(2)
Turbidity (Hach)	25.3 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 #: 3042597	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	220 mg/L	1	SM2320B
Chloride	26 mg/L	2	EPA 300.0
Solids, Suspended Total, (TSS)	15 mg/L	10	SM2540D
Solids, Total (TS)	380 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	330 mg/L	10	SM2540C
Sulfate	16 mg/L	5	EPA 300.0

Lab ID #: 3042598	Result	Reporting Limit	Method
Hardness (as CaCO3)	300 mg/L	0.66	SM2340B
Calcium (Total)	79 mg/L	0.1	EPA 200.7
Magnesium (Total)	24 mg/L	0.1	EPA 200.7

Lab ID #: 3042599	Result	Reporting Limit	Method
Nitrogen, Ammonia	0.1 mg/L	0.1	SM4500NH3-D

Lab ID #: 3042600	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	8.7 mg/L	0.1	EPA 353.2

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Lab ID #: 3042601	Result	Reporting Limit	Method
Phosphorus, Total	0.2 mg/L	0.05	SM4500P-E
Lab ID #: 3042602	Result	Reporting Limit	Method
TOC	6.1 mg/L	0.5	SM5310C
Lab ID #: AA20565	Result	Reporting Limit	Method
COD	14 mg/L	10	EPA 410.4
TKN	0.65 mg/L	0.3	SM4500N(Org)-B
Lab ID #: AB17385	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	770.1 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
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Surface Water Results Summary**

SiteID: WMI-03-0006 **USGS Hydrologic Unit:** 051201030302
Stream Name: Big Lick Creek **County:** Blackford
Description: CR 100 W **Latitude:** 40 25 47.28229 **Longitude:** -85 23 20.95801
Drainage: **Site Number:** 14T-136

SiteID: WMI-03-0006 **Sample Date:** 04/16/2014 **IDEM Sample #:** AB16191
Water Flow Type: Glide **Water Appearance:** Murky **Water Depth:** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %:** 0-20%
Sampler Comments: FLOW - 33.3414 cfs

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	92.4 %		ASTM D888-09(C)
DO	11.8 mg/L		ASTM D888-09(C)
pH (Field)	7.89 SU		EPA 150.2
Specific Conductance (Field)	685 umho/cm		SM2510B
Temperature	4.91 °C		SM2550B(2)
Turbidity (Hach)	23.1 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Flow	33.3414 cf/sec		TM D5389-95/D3858
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #:</u> 3011117	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	220 mg/L	1	SM2320B
Chloride	47 mg/L	6	EPA 300.0
Fluoride	0.2 mg/L	0.1	SM4500F(-)-C
Solids, Suspended Total, (TSS)	13 mg/L	10	SM2540D
Solids, Total (TS)	450 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	400 mg/L	10	SM2540C
Sulfate	50 mg/L	15	EPA 300.0

<u>Lab ID #:</u> 3011118	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Hardness (as CaCO3)	290 mg/L	0.66	SM2340B
Calcium (Total)	77 mg/L	0.1	EPA 200.7
Magnesium (Total)	24 mg/L	0.1	EPA 200.7

<u>Lab ID #:</u> 3011119	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Nitrogen, Ammonia	< 0.1 mg/L	0.1	SM4500NH3-D

<u>Lab ID #:</u> 3011120	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Nitrogen, Nitrate+Nitrite	2.1 mg/L	0.1	EPA 353.2

<u>Lab ID #:</u> 3011121	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Phosphorus, Total	0.23 mg/L	0.05	SM4500P-E

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Lab ID #:		<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
3011122	TOC	6.8 mg/L	0.5	SM5310C
AA14527				
	COD	25 mg/L	10	EPA 410.4
	TKN	1.2 mg/L	0.3	SM4500N(Org)-B
AB16191				
	Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
	E. coli	416 MPN/100mL	1	SM9223B

SiteID: WMI-03-0006 **Sample Date:** 04/23/2014 **IDEM Sample #:** AB16435
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	90 %		ASTM D888-09(C)
	DO	10.24 mg/L		ASTM D888-09(C)
	pH (Field)	7.91 SU		EPA 150.2
	Specific Conductance (Field)	825 umho/cm		SM2510B
	Temperature	9.61 °C		SM2550B(2)
	Turbidity (Hach)	8.9 NTU		EPA 180.1
	Air Temp	2 Lookup		Observation
	Sky Conditions	1 Lookup		Observation
	Wind Direction	27 Lookup		Observation
	Wind Strength	1 Lookup		Observation

Lab ID #:		<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
AB16435				
	Coliforms (Total)	1553.1 MPN/100mL	1	SM9223B
	E. coli	209.8 MPN/100mL	1	SM9223B

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

SiteID: WMI-03-0006 Sample Date: 04/30/2014 IDEM Sample #: AB16507
 Water Flow Type Run Water Appearance Brown Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	81.1 %		ASTM D888-09(C)
DO	8.7 mg/L		ASTM D888-09(C)
pH (Field)	7.71 SU		EPA 150.2
Specific Conductance (Field)	548 umho/cm		SM2510B
Temperature	12.08 °C		SM2550B(2)
Turbidity (Hach)	65.4 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation
Lab ID #: AB16507a	Result	Reporting Limit	Method
Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B
E. coli	6131 MPN/100mL	10	SM9223B

SiteID: WMI-03-0006 Sample Date: 05/07/2014 IDEM Sample #: AB16826
 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	9.37 mg/L		ASTM D888-09(C)
pH (Field)	7.64 SU		EPA 150.2
Specific Conductance (Field)	861 umho/cm		SM2510B
Temperature	12.43 °C		SM2550B(2)
Turbidity (Hach)	7.34 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 #: AB16826	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	108.6 MPN/100mL	1	SM9223B

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

SiteID: WMI-03-0006

Sample Date: 05/14/2014

IDEM Sample #: AB16959

Water Flow Type Run

Water Appearance Brown

Water Depth Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	73.7 %		ASTM D888-09(C)
DO	7.34 mg/L		ASTM D888-09(C)
pH (Field)	7.31 SU		EPA 150.2
Specific Conductance (Field)	440 umho/cm		SM2510B
Temperature	15.5 °C		SM2550B(2)
Turbidity (Hach)	251 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation
Lab ID #: 3027181	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	110 mg/L	1	SM2320B
Chloride	32 mg/L	6	EPA 300.0
Solids, Suspended Total, (TSS)	160 mg/L	10	SM2540D
Solids, Total (TS)	460 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	330 mg/L	10	SM2540C
Sulfate	29 mg/L	15	EPA 300.0
Lab ID #: 3027182	Result	Reporting Limit	Method
Hardness (as CaCO3)	190 mg/L	0.66	SM2340B
Calcium (Total)	51 mg/L	0.1	EPA 200.7
Magnesium (Total)	15 mg/L	0.1	EPA 200.7
Lab ID #: 3027183	Result	Reporting Limit	Method
Nitrogen, Ammonia	0.7 mg/L	0.1	SM4500NH3-D
Lab ID #: 3027184	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	6.9 mg/L	0.1	EPA 353.2
Lab ID #: 3027185	Result	Reporting Limit	Method
Phosphorus, Total	0.98 mg/L	0.05	SM4500P-E
Lab ID #: 3027186	Result	Reporting Limit	Method
TOC	16 mg/L	0.5	SM5310C

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Office of Water Quality-Watershed Assessment and Planning Branch
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Lab ID #: AA17833	Result	Reporting Limit	Method
COD	62 mg/L	10	EPA 410.4
TKN	3.2 mg/L	0.3	SM4500N(Org)-B

Lab ID #: AB16959a	Result	Reporting Limit	Method
Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B
E. coli	> 24196 MPN/100mL	24196	SM9223B

SiteID: WMI-03-0006 **Sample Date:** 06/11/2014 **IDEM Sample #:** AB17386
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	80.8 %		ASTM D888-09(C)
DO	7.62 mg/L		ASTM D888-09(C)
pH (Field)	7.6 SU		EPA 150.2
Specific Conductance (Field)	579 umho/cm		SM2510B
Temperature	18.1 °C		SM2550B(2)
Turbidity (Hach)	49.7 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Flow	51.154 cf/sec		TM D5389-95/D3858
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: 3042605	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	180 mg/L	1	SM2320B
Chloride	31 mg/L	2	EPA 300.0
Solids, Suspended Total, (TSS)	16 mg/L	10	SM2540D
Solids, Total (TS)	380 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	340 mg/L	10	SM2540C
Sulfate	38 mg/L	5	EPA 300.0

Lab ID #: 3042606	Result	Reporting Limit	Method
Hardness (as CaCO3)	250 mg/L	0.66	SM2340B
Calcium (Total)	68 mg/L	0.1	EPA 200.7
Magnesium (Total)	19 mg/L	0.1	EPA 200.7

Lab ID #: 3042607	Result	Reporting Limit	Method
Nitrogen, Ammonia	0.2 mg/L	0.1	SM4500NH3-D

**Indiana Department of Environmental Management
Office of Water Quality-Watershed Assessment and Planning Branch
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Lab ID #:		Result	Reporting Limit	Method
3042608	Nitrogen, Nitrate+Nitrite	5.1 mg/L	0.1	EPA 353.2
3042609	Phosphorus, Total	0.39 mg/L	0.05	SM4500P-E
3042610	TOC	8.1 mg/L	0.5	SM5310C
AA20566	COD	17 mg/L	10	EPA 410.4
	TKN	0.86 mg/L	0.3	SM4500N(Org)-B
AB17386a	Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B
	E. coli	7701 MPN/100mL	10	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: WMI-03-0007 **USGS Hydrologic Unit:** 051201030302
Stream Name: Moore Prong **County:** Blackford
Description: CR 100 W **Latitude:** 40 26 30.45634 **Longitude:** -85 23 21.03347
Drainage: **Site Number:** 14T-137

SiteID: WMI-03-0007 **Sample Date:** 04/16/2014 **IDEM Sample #:** AB16192
Water Flow Type Riffle **Water Appearance** Murky **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	% Sat	102.8 %	ASTM D888-09(C)
	DO	13.45 mg/L	ASTM D888-09(C)
	pH (Field)	8.18 SU	EPA 150.2
	Specific Conductance (Field)	572 umho/cm	SM2510B
	Temperature	3.97 °C	SM2550B(2)
	Turbidity (Hach)	12.4 NTU	EPA 180.1
	Air Temp	2 Lookup	Observation
	Sky Conditions	1 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	1 Lookup	Observation

<u>Lab ID #:</u> 3011125	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Alkalinity (as CaCO3)	210 mg/L	1	SM2320B
	Chloride	31 mg/L	6	EPA 300.0
	Fluoride	0.2 mg/L	0.1	SM4500F(-)-C
	Solids, Suspended Total, (TSS)	< 10 mg/L	10	SM2540D
	Solids, Total (TS)	350 mg/L	10	SM2540B
	Solids, Total Dissolved (TDS)	330 mg/L	10	SM2540C
	Sulfate	31 mg/L	15	EPA 300.0

<u>Lab ID #:</u> 3011126	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Hardness (as CaCO3)	270 mg/L	0.66	SM2340B
	Calcium (Total)	72 mg/L	0.1	EPA 200.7
	Magnesium (Total)	22 mg/L	0.1	EPA 200.7

<u>Lab ID #:</u> 3011127	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Nitrogen, Ammonia	< 0.1 mg/L	0.1	SM4500NH3-D

<u>Lab ID #:</u> 3011128	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Nitrogen, Nitrate+Nitrite	1.2 mg/L	0.1	EPA 353.2

<u>Lab ID #:</u> 3011129	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>	
	Phosphorus, Total	0.1 mg/L	0.05	SM4500P-E

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Lab ID #: 3011130	Result	Reporting Limit	Method
TOC	4 mg/L	0.5	SM5310C

Lab ID #: AA14528	Result	Reporting Limit	Method
COD	15 mg/L	10	EPA 410.4
TKN	0.59 mg/L	0.3	SM4500N(Org)-B

Lab ID #: AB16192	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	206.4 MPN/100mL	1	SM9223B

SiteID: WMI-03-0007 **Sample Date:** 04/23/2014 **IDEM Sample #:** AB16436
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	81.8 %		ASTM D888-09(C)
DO	10.68 mg/L		ASTM D888-09(C)
pH (Field)	8.08 SU		EPA 150.2
Specific Conductance (Field)	670 umho/cm		SM2510B
Temperature	7.69 °C		SM2550B(2)
Turbidity (Hach)	7.14 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: AB16436	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	290.9 MPN/100mL	1	SM9223B

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

SiteID: WMI-03-0007 Sample Date: 04/30/2014 IDEM Sample #: AB16508
 Water Flow Type Run Water Appearance Murky Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	95.3 %		ASTM D888-09(C)
DO	10.62 mg/L		ASTM D888-09(C)
pH (Field)	7.93 SU		EPA 150.2
Specific Conductance (Field)	594 umho/cm		SM2510B
Temperature	10.48 °C		SM2550B(2)
Turbidity (Hach)	15.3 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation
Lab ID #: AB16508	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	579.4 MPN/100mL	1	SM9223B

SiteID: WMI-03-0007 Sample Date: 05/07/2014 IDEM Sample #: AB16827
 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	88.1 %		ASTM D888-09(C)
DO	9.48 mg/L		ASTM D888-09(C)
pH (Field)	7.83 SU		EPA 150.2
Specific Conductance (Field)	680 umho/cm		SM2510B
Temperature	11.96 °C		SM2550B(2)
Turbidity (Hach)	6.3 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation
Lab ID #: AB16827	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	461.1 MPN/100mL	1	SM9223B

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

SiteID: WMI-03-0007

Sample Date: 05/14/2014

IDEM Sample #: AB16960

Water Flow Type Run

Water Appearance Brown

Water Depth Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	79.9 %		ASTM D888-09(C)
DO	8.3 mg/L		ASTM D888-09(C)
pH (Field)	7.35 SU		EPA 150.2
Specific Conductance (Field)	449 umho/cm		SM2510B
Temperature	13.55 °C		SM2550B(2)
Turbidity (Hach)	113 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation
Lab ID #: 3027189	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	120 mg/L	1	SM2320B
Chloride	32 mg/L	6	EPA 300.0
Solids, Suspended Total, (TSS)	68 mg/L	10	SM2540D
Solids, Total (TS)	380 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	340 mg/L	10	SM2540C
Sulfate	26 mg/L	15	EPA 300.0
Lab ID #: 3027190	Result	Reporting Limit	Method
Hardness (as CaCO3)	200 mg/L	0.66	SM2340B
Calcium (Total)	56 mg/L	0.1	EPA 200.7
Magnesium (Total)	14 mg/L	0.1	EPA 200.7
Lab ID #: 3027191	Result	Reporting Limit	Method
Nitrogen, Ammonia	0.4 mg/L	0.1	SM4500NH3-D
Lab ID #: 3027192	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	6.7 mg/L	0.1	EPA 353.2
Lab ID #: 3027193	Result	Reporting Limit	Method
Phosphorus, Total	0.85 mg/L	0.05	SM4500P-E
Lab ID #: 3027194	Result	Reporting Limit	Method
TOC	15 mg/L	0.5	SM5310C

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Lab ID #:	Result	Reporting Limit	Method	
AA17834	COD	56 mg/L	10	EPA 410.4
	TKN	2.4 mg/L	0.3	SM4500N(Org)-B
AB16960a	Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B
	E. coli	2247 MPN/100mL	10	SM9223B

SiteID: WMI-03-0007 **Sample Date:** 06/11/2014 **IDEM Sample #:** AB17387
Water Flow Type Riffle **Water Appearance** Murky **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
	% Sat	92.7 %	ASTM D888-09(C)
	DO	8.89 mg/L	ASTM D888-09(C)
	pH (Field)	7.88 SU	EPA 150.2
	Specific Conductance (Field)	602 umho/cm	SM2510B
	Temperature	17.3 °C	SM2550B(2)
	Turbidity (Hach)	18.2 NTU	EPA 180.1
	Air Temp	4 Lookup	Observation
	Sky Conditions	4 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	2 Lookup	Observation

Lab ID #:	Result	Reporting Limit	Method	
3042613	Alkalinity (as CaCO3)	220 mg/L	1	SM2320B
	Chloride	29 mg/L	2	EPA 300.0
	Solids, Suspended Total, (TSS)	11 mg/L	10	SM2540D
	Solids, Total (TS)	340 mg/L	10	SM2540B
	Solids, Total Dissolved (TDS)	340 mg/L	10	SM2540C
	Sulfate	26 mg/L	5	EPA 300.0

Lab ID #:	Result	Reporting Limit	Method	
3042614	Hardness (as CaCO3)	290 mg/L	0.66	SM2340B
	Calcium (Total)	79 mg/L	0.1	EPA 200.7
	Magnesium (Total)	22 mg/L	0.1	EPA 200.7

Lab ID #:	Result	Reporting Limit	Method	
3042615	Nitrogen, Ammonia	0.1 mg/L	0.1	SM4500NH3-D

Lab ID #:	Result	Reporting Limit	Method	
3042616	Nitrogen, Nitrate+Nitrite	5.2 mg/L	0.1	EPA 353.2

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Lab ID #: 3042617	Result	Reporting Limit	Method
Phosphorus, Total	0.15 mg/L	0.05	SM4500P-E
Lab ID #: 3042618	Result	Reporting Limit	Method
TOC	4 mg/L	0.5	SM5310C
Lab ID #: AA20567	Result	Reporting Limit	Method
COD	< 10 mg/L	10	EPA 410.4
TKN	0.83 mg/L	0.3	SM4500N(Org)-B
Lab ID #: AB17387	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1553.1 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: WMI040-0003 **USGS Hydrologic Unit:** 051201030301
Stream Name: Little Lick Creek **County:** Blackford
Description: SR 3, S of Hartford City **Latitude:** 40 26 32.11331 **Longitude:** -85 22 12.26957
Drainage: 117 **Site Number:** 14T-138

SiteID: WMI040-0003 **Sample Date:** 04/16/2014 **IDEM Sample #:** AB16193
Water Flow Type: Glide **Water Appearance:** Murky **Water Depth:** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %:** 0-20%
Sampler Comments:

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	% Sat	82.8 %	ASTM D888-09(C)
	DO	10.41 mg/L	ASTM D888-09(C)
	pH (Field)	7.71 SU	EPA 150.2
	Specific Conductance (Field)	495 umho/cm	SM2510B
	Temperature	5.58 °C	SM2550B(2)
	Turbidity (Hach)	33.3 NTU	EPA 180.1
	Air Temp	2 Lookup	Observation
	Sky Conditions	1 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	2 Lookup	Observation

<u>Lab ID #:</u> 3011133	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	Alkalinity (as CaCO3)	170 mg/L	1 SM2320B
	Chloride	25 mg/L	6 EPA 300.0
	Fluoride	0.1 mg/L	0.1 SM4500F(-)-C
	Solids, Suspended Total, (TSS)	16 mg/L	10 SM2540D
	Solids, Total (TS)	330 mg/L	10 SM2540B
	Solids, Total Dissolved (TDS)	300 mg/L	10 SM2540C
	Sulfate	34 mg/L	15 EPA 300.0

<u>Lab ID #:</u> 3011134	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	Hardness (as CaCO3)	230 mg/L	0.66 SM2340B
	Calcium (Total)	64 mg/L	0.1 EPA 200.7
	Magnesium (Total)	17 mg/L	0.1 EPA 200.7

<u>Lab ID #:</u> 3011135	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	Nitrogen, Ammonia	< 0.1 mg/L	0.1 SM4500NH3-D

<u>Lab ID #:</u> 3011136	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	Nitrogen, Nitrate+Nitrite	0.9 mg/L	0.1 EPA 353.2

<u>Lab ID #:</u> 3011137	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	Phosphorus, Total	0.21 mg/L	0.05 SM4500P-E

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Lab ID #: 3011138	Result	Reporting Limit	Method
TOC	8.7 mg/L	0.5	SM5310C

Lab ID #: AA14529	Result	Reporting Limit	Method
COD	27 mg/L	10	EPA 410.4
TKN	0.91 mg/L	0.3	SM4500N(Org)-B

Lab ID #: AB16193	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	686.7 MPN/100mL	1	SM9223B

SiteID: WMI040-0003 **Sample Date:** 04/23/2014 **IDEM Sample #:** AB16437
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	94.8 %		ASTM D888-09(C)
DO	10.07 mg/L		ASTM D888-09(C)
pH (Field)	7.9 SU		EPA 150.2
Specific Conductance (Field)	535 umho/cm		SM2510B
Temperature	12.14 °C		SM2550B(2)
Turbidity (Hach)	23.1 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: AB16437	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	686.7 MPN/100mL	1	SM9223B

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

SiteID: WMI040-0003 Sample Date: 04/30/2014 IDEM Sample #: AB16509
 Water Flow Type: Glide Water Appearance: Brown Water Depth: Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed %: 0-20%
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	71.7 %		ASTM D888-09(C)
DO	7.75 mg/L		ASTM D888-09(C)
pH (Field)	7.47 SU		EPA 150.2
Specific Conductance (Field)	434 umho/cm		SM2510B
Temperature	11.8 °C		SM2550B(2)
Turbidity (Hach)	84.4 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: AB16509	Result	Reporting Limit	Method
E. coli	1413.6 MPN/100mL	1	SM9223B

Lab ID #: AB16509a	Result	Reporting Limit	Method
Coliforms (Total)	19863 MPN/100mL	10	SM9223B

SiteID: WMI040-0003 Sample Date: 05/07/2014 IDEM Sample #: AB16828
 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	91.7 %		ASTM D888-09(C)
DO	9.24 mg/L		ASTM D888-09(C)
pH (Field)	7.65 SU		EPA 150.2
Specific Conductance (Field)	612 umho/cm		SM2510B
Temperature	14.9 °C		SM2550B(2)
Turbidity (Hach)	54 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 #: AB16828	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	816.4 MPN/100mL	1	SM9223B

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

SiteID: WMI040-0003 **Sample Date:** 05/14/2014 **IDEM Sample #:** AB16961
Water Flow Type Glide **Water Appearance** Brown **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	68.6 %		ASTM D888-09(C)
DO	6.92 mg/L		ASTM D888-09(C)
pH (Field)	7.17 SU		EPA 150.2
Specific Conductance (Field)	405 umho/cm		SM2510B
Temperature	15.1 °C		SM2550B(2)
Turbidity (Hach)	260 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID #: 3027239	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	89 mg/L	1	SM2320B
Chloride	31 mg/L	6	EPA 300.0
Solids, Suspended Total, (TSS)	120 mg/L	10	SM2540D
Solids, Total (TS)	470 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	330 mg/L	10	SM2540C
Sulfate	28 mg/L	15	EPA 300.0

Lab ID #: 3027240	Result	Reporting Limit	Method
Hardness (as CaCO3)	180 mg/L	0.66	SM2340B
Calcium (Total)	49 mg/L	0.1	EPA 200.7
Magnesium (Total)	13 mg/L	0.1	EPA 200.7

Lab ID #: 3027241	Result	Reporting Limit	Method
Nitrogen, Ammonia	0.8 mg/L	0.1	SM4500NH3-D

Lab ID #: 3027242	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	7.1 mg/L	0.1	EPA 353.2

Lab ID #: 3027243	Result	Reporting Limit	Method
Phosphorus, Total	0.88 mg/L	0.05	SM4500P-E

Lab ID #: 3027244	Result	Reporting Limit	Method
TOC	17 mg/L	0.5	SM5310C

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Lab ID #:	Result	Reporting Limit	Method
AA17835	COD	64 mg/L	EPA 410.4
	TKN	3.8 mg/L	SM4500N(Org)-B
AB16961a	Coliforms (Total)	> 24196 MPN/100mL	SM9223B
	E. coli	> 24196 MPN/100mL	SM9223B

SiteID: WMI040-0003 **Sample Date:** 06/11/2014 **IDEM Sample #:** AB17388
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	65.7 %	ASTM D888-09(C)
	DO	6.15 mg/L	ASTM D888-09(C)
	pH (Field)	7.25 SU	EPA 150.2
	Specific Conductance (Field)	438 umho/cm	SM2510B
	Temperature	18.52 °C	SM2550B(2)
	Turbidity (Hach)	58.9 NTU	EPA 180.1
	Air Temp	4 Lookup	Observation
	Sky Conditions	8 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	2 Lookup	Observation

Lab ID #:	Result	Reporting Limit	Method
3042621	Alkalinity (as CaCO3)	130 mg/L	SM2320B
	Chloride	20 mg/L	EPA 300.0
	Solids, Suspended Total, (TSS)	29 mg/L	SM2540D
	Solids, Total (TS)	330 mg/L	SM2540B
	Solids, Total Dissolved (TDS)	270 mg/L	SM2540C
	Sulfate	30 mg/L	EPA 300.0

Lab ID #:	Result	Reporting Limit	Method
3042624	Hardness (as CaCO3)	200 mg/L	SM2340B
	Calcium (Total)	56 mg/L	EPA 200.7
	Magnesium (Total)	14 mg/L	EPA 200.7

Lab ID #:	Result	Reporting Limit	Method
3042625	Nitrogen, Ammonia	0.3 mg/L	SM4500NH3-D

Lab ID #:	Result	Reporting Limit	Method
3042628	Nitrogen, Nitrate+Nitrite	5.8 mg/L	EPA 353.2

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Lab ID #: 3042631	Result	Reporting Limit	Method
Phosphorus, Total	0.31 mg/L	0.05	SM4500P-E
Lab ID #: 3042634	Result	Reporting Limit	Method
TOC	12 mg/L	0.5	SM5310C
Lab ID #: AA20568	Result	Reporting Limit	Method
COD	36 mg/L	10	EPA 410.4
TKN	0.33 mg/L	0.3	SM4500N(Org)-B
Lab ID #: AB17388	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1732.9 MPN/100mL	1	SM9223B

Weather Code Definitions					
SC 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: WMI040-0009 **USGS Hydrologic Unit:** 051201030301
Stream Name: Big Lick Creek **County:** Blackford
Description: SR 3 South of Hartford City **Latitude:** 40 25 53.50547 **Longitude:** -85 22 12.61135
Drainage: **Site Number:** 14T-139

SiteID: WMI040-0009 **Sample Date:** 04/16/2014 **IDEM Sample #:** AB16194
Water Flow Type: Glide **Water Appearance:** Murky **Water Depth:** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %:** 0-20%
Sampler Comments:

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	102.8 %		ASTM D888-09(C)
DO	12.79 mg/L		ASTM D888-09(C)
pH (Field)	8.12 SU		EPA 150.2
Specific Conductance (Field)	650 umho/cm		SM2510B
Temperature	5.92 °C		SM2550B(2)
Turbidity (Hach)	23.7 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #:</u> 3011178	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	220 mg/L	1	SM2320B
Chloride	42 mg/L	10	EPA 300.0
Fluoride	0.3 mg/L	0.1	SM4500F(-)-C
Solids, Suspended Total, (TSS)	12 mg/L	10	SM2540D
Solids, Total (TS)	420 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	380 mg/L	10	SM2540C
Sulfate	53 mg/L	15	EPA 300.0

<u>Lab ID #:</u> 3011181	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Hardness (as CaCO3)	290 mg/L	0.66	SM2340B
Calcium (Total)	78 mg/L	0.1	EPA 200.7
Magnesium (Total)	25 mg/L	0.1	EPA 200.7

<u>Lab ID #:</u> 3011182	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Nitrogen, Ammonia	< 0.1 mg/L	0.1	SM4500NH3-D

<u>Lab ID #:</u> 3011185	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Nitrogen, Nitrate+Nitrite	1.9 mg/L	0.1	EPA 353.2

<u>Lab ID #:</u> 3011188	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Phosphorus, Total	0.18 mg/L	0.05	SM4500P-E

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Lab ID #: 3011191		<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	TOC	5.6 mg/L	0.5	SM5310C
Lab ID #: AA14530				
	COD	13 mg/L	10	EPA 410.4
	TKN	0.75 mg/L	0.3	SM4500N(Org)-B
Lab ID #: AB16194				
	Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
	E. coli	209.8 MPN/100mL	1	SM9223B

SiteID: WMI040-0009 **Sample Date:** 04/23/2014 **IDEM Sample #:** AB16438
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	122.6 %		ASTM D888-09(C)
	DO	13.64 mg/L		ASTM D888-09(C)
	pH (Field)	8.31 SU		EPA 150.2
	Specific Conductance (Field)	738 umho/cm		SM2510B
	Temperature	10.54 °C		SM2550B(2)
	Turbidity (Hach)	4.63 NTU		EPA 180.1
	Air Temp	2 Lookup		Observation
	Sky Conditions	1 Lookup		Observation
	Wind Direction	27 Lookup		Observation
	Wind Strength	1 Lookup		Observation

Lab ID #: AB16438		<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	Coliforms (Total)	1413.6 MPN/100mL	1	SM9223B
	E. coli	104.6 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management
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SiteID: WMI040-0009 Sample Date: 04/30/2014 IDEM Sample #: AB16510
 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	87.9 %		ASTM D888-09(C)
DO	9.34 mg/L		ASTM D888-09(C)
pH (Field)	7.83 SU		EPA 150.2
Specific Conductance (Field)	513 umho/cm		SM2510B
Temperature	12.5 °C		SM2550B(2)
Turbidity (Hach)	61.4 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: AB16510	Result	Reporting Limit	Method
E. coli	1299.7 MPN/100mL	1	SM9223B

Lab ID #: AB16510a	Result	Reporting Limit	Method
Coliforms (Total)	19863 MPN/100mL	10	SM9223B

SiteID: WMI040-0009 Sample Date: 05/07/2014 IDEM Sample #: AB16829
 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	119.6 %		ASTM D888-09(C)
DO	12.28 mg/L		ASTM D888-09(C)
pH (Field)	8.04 SU		EPA 150.2
Specific Conductance (Field)	726 umho/cm		SM2510B
Temperature	14.11 °C		SM2550B(2)
Turbidity (Hach)	4.94 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 #: AB16829	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	85.7 MPN/100mL	1	SM9223B

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

SiteID: WMI040-0009 **Sample Date:** 05/14/2014 **IDEM Sample #:** AB16962
Water Flow Type Glide **Water Appearance** **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	76 %		ASTM D888-09(C)
DO	7.56 mg/L		ASTM D888-09(C)
pH (Field)	7.34 SU		EPA 150.2
Specific Conductance (Field)	417 umho/cm		SM2510B
Temperature	15.61 °C		SM2550B(2)
Turbidity (Hach)	293 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID #: 3027247	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	110 mg/L	1	SM2320B
Chloride	29 mg/L	6	EPA 300.0
Solids, Suspended Total, (TSS)	180 mg/L	10	SM2540D
Solids, Total (TS)	510 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	330 mg/L	10	SM2540C
Sulfate	26 mg/L	15	EPA 300.0

Lab ID #: 3027248	Result	Reporting Limit	Method
Hardness (as CaCO3)	190 mg/L	0.66	SM2340B
Calcium (Total)	50 mg/L	0.1	EPA 200.7
Magnesium (Total)	16 mg/L	0.1	EPA 200.7

Lab ID #: 3027249	Result	Reporting Limit	Method
Nitrogen, Ammonia	0.7 mg/L	0.1	SM4500NH3-D

Lab ID #: 3027250	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	6.4 mg/L	0.1	EPA 353.2

Lab ID #: 3027251	Result	Reporting Limit	Method
Phosphorus, Total	0.98 mg/L	0.25	SM4500P-E

Lab ID #: 3027252	Result	Reporting Limit	Method
TOC	16 mg/L	0.5	SM5310C

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Lab ID #:	Result	Reporting Limit	Method	
AA17836	COD	59 mg/L	10	EPA 410.4
	TKN	3 mg/L	0.3	SM4500N(Org)-B
AB16962a	Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B
	E. coli	7701 MPN/100mL	10	SM9223B

SiteID: WMI040-0009 **Sample Date:** 06/11/2014 **IDEM Sample #:** AB17390
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	89.7 %	ASTM D888-09(C)
	DO	8.47 mg/L	ASTM D888-09(C)
	pH (Field)	7.74 SU	EPA 150.2
	Specific Conductance (Field)	526 umho/cm	SM2510B
	Temperature	18.09 °C	SM2550B(2)
	Turbidity (Hach)	54.4 NTU	EPA 180.1
	Air Temp	4 Lookup	Observation
	Sky Conditions	8 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	2 Lookup	Observation

Lab ID #:	Result	Reporting Limit	Method	
3042649	Alkalinity (as CaCO3)	180 mg/L	1	SM2320B
	Chloride	20 mg/L	2	EPA 300.0
	Solids, Suspended Total, (TSS)	28 mg/L	10	SM2540D
	Solids, Total (TS)	360 mg/L	10	SM2540B
	Solids, Total Dissolved (TDS)	300 mg/L	10	SM2540C
	Sulfate	33 mg/L	5	EPA 300.0

Lab ID #:	Result	Reporting Limit	Method	
3042650	Hardness (as CaCO3)	250 mg/L	0.66	SM2340B
	Calcium (Total)	67 mg/L	0.1	EPA 200.7
	Magnesium (Total)	20 mg/L	0.1	EPA 200.7

Lab ID #:	Result	Reporting Limit	Method	
3042651	Nitrogen, Ammonia	< 0.1 mg/L	0.1	SM4500NH3-D

Lab ID #:	Result	Reporting Limit	Method	
3042652	Nitrogen, Nitrate+Nitrite	4.5 mg/L	0.1	EPA 353.2

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Lab ID #: 3042653	Result	Reporting Limit	Method
Phosphorus, Total	0.3 mg/L	0.05	SM4500P-E
Lab ID #: 3042654	Result	Reporting Limit	Method
TOC	5.8 mg/L	0.5	SM5310C
Lab ID #: AA20570	Result	Reporting Limit	Method
COD	15 mg/L	10	EPA 410.4
TKN	0.86 mg/L	0.3	SM4500N(Org)-B
Lab ID #: AB17390	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1119.9 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
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Surface Water Results Summary**

SiteID: WMI-03-0008 **USGS Hydrologic Unit:** 051201030301
Stream Name: Little Lick Creek **County:** Blackford
Description: CR 75 E **Latitude:** 40 26 57.22707 **Longitude:** -85 21 20.65245
Drainage: **Site Number:** 14T-140

SiteID: WMI-03-0008 **Sample Date:** 04/16/2014 **IDEM Sample #:** AB16195
Water Flow Type: Glide **Water Appearance:** Murky **Water Depth:** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %:** 0-20%
Sampler Comments:

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	% Sat	92.5 %	ASTM D888-09(C)
	DO	11.59 mg/L	ASTM D888-09(C)
	pH (Field)	7.67 SU	EPA 150.2
	Specific Conductance (Field)	513 umho/cm	SM2510B
	Temperature	5.65 °C	SM2550B(2)
	Turbidity (Hach)	32.1 NTU	EPA 180.1
	Air Temp	2 Lookup	Observation
	Sky Conditions	1 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	2 Lookup	Observation

<u>Lab ID #:</u> 3011200	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	Alkalinity (as CaCO3)	170 mg/L	1 SM2320B
	Chloride	27 mg/L	6 EPA 300.0
	Fluoride	0.2 mg/L	0.1 SM4500F(-)-C
	Solids, Suspended Total, (TSS)	20 mg/L	10 SM2540D
	Solids, Total (TS)	340 mg/L	10 SM2540B
	Solids, Total Dissolved (TDS)	310 mg/L	10 SM2540C
	Sulfate	37 mg/L	15 EPA 300.0

<u>Lab ID #:</u> 3011201	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	Hardness (as CaCO3)	230 mg/L	0.66 SM2340B
	Calcium (Total)	65 mg/L	0.1 EPA 200.7
	Magnesium (Total)	18 mg/L	0.1 EPA 200.7

<u>Lab ID #:</u> 3011202	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	Nitrogen, Ammonia	0.3 mg/L	0.1 SM4500NH3-D

<u>Lab ID #:</u> 3011203	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	Nitrogen, Nitrate+Nitrite	1 mg/L	0.1 EPA 353.2

<u>Lab ID #:</u> 3011204	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
	Phosphorus, Total	0.24 mg/L	0.05 SM4500P-E

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Lab ID #: 3011205	Result	Reporting Limit	Method
TOC	9 mg/L	0.5	SM5310C

Lab ID #: AA14531	Result	Reporting Limit	Method
COD	35 mg/L	10	EPA 410.4
TKN	1.5 mg/L	0.3	SM4500N(Org)-B

Lab ID #: AB16195	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B

SiteID: WMI-03-0008 **Sample Date:** 04/23/2014 **IDEM Sample #:** AB16439
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	83.5 %		ASTM D888-09(C)
DO	9.58 mg/L		ASTM D888-09(C)
pH (Field)	7.67 SU		EPA 150.2
Specific Conductance (Field)	543 umho/cm		SM2510B
Temperature	8.35 °C		SM2550B(2)
Turbidity (Hach)	15 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: AB16439	Result	Reporting Limit	Method
Coliforms (Total)	5475 MPN/100mL	10	SM9223B
E. coli	160.7 MPN/100mL	1	SM9223B

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

SiteID: WMI-03-0008 Sample Date: 04/30/2014 IDEM Sample #: AB16511
 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	79.1 %		ASTM D888-09(C)
DO	8.6 mg/L		ASTM D888-09(C)
pH (Field)	7.49 SU		EPA 150.2
Specific Conductance (Field)	438 umho/cm		SM2510B
Temperature	11.36 °C		SM2550B(2)
Turbidity (Hach)	76.8 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: AB16511	Result	Reporting Limit	Method
E. coli	1203.3 MPN/100mL	1	SM9223B

Lab ID #: AB16511a	Result	Reporting Limit	Method
Coliforms (Total)	19863 MPN/100mL	10	SM9223B

SiteID: WMI-03-0008 Sample Date: 05/07/2014 IDEM Sample #: AB16830
 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	72.8 %		ASTM D888-09(C)
DO	7.76 mg/L		ASTM D888-09(C)
pH (Field)	7.48 SU		EPA 150.2
Specific Conductance (Field)	610 umho/cm		SM2510B
Temperature	12.28 °C		SM2550B(2)
Turbidity (Hach)	16.1 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 #: AB16830	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	148.3 MPN/100mL	1	SM9223B

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

SiteID: WMI-03-0008 **Sample Date:** 05/14/2014 **IDEM Sample #:** AB16963
Water Flow Type Glide **Water Appearance** Brown **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	68.9 %		ASTM D888-09(C)
DO	7 mg/L		ASTM D888-09(C)
pH (Field)	7.08 SU		EPA 150.2
Specific Conductance (Field)	382 umho/cm		SM2510B
Temperature	14.64 °C		SM2550B(2)
Turbidity (Hach)	205 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID #: 3027269	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	92 mg/L	1	SM2320B
Chloride	22 mg/L	6	EPA 300.0
Solids, Suspended Total, (TSS)	89 mg/L	10	SM2540D
Solids, Total (TS)	420 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	300 mg/L	10	SM2540C
Sulfate	30 mg/L	15	EPA 300.0

Lab ID #: 3027270	Result	Reporting Limit	Method
Hardness (as CaCO3)	170 mg/L	0.66	SM2340B
Calcium (Total)	48 mg/L	0.1	EPA 200.7
Magnesium (Total)	12 mg/L	0.1	EPA 200.7

Lab ID #: 3027271	Result	Reporting Limit	Method
Nitrogen, Ammonia	0.8 mg/L	0.1	SM4500NH3-D

Lab ID #: 3027272	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	6 mg/L	0.1	EPA 353.2

Lab ID #: 3027273	Result	Reporting Limit	Method
Phosphorus, Total	0.73 mg/L	0.05	SM4500P-E

Lab ID #: 3027274	Result	Reporting Limit	Method
TOC	18 mg/L	0.5	SM5310C

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Lab ID #: AA17839	Result	Reporting Limit	Method
COD	68 mg/L	10	EPA 410.4
TKN	2.4 mg/L	0.3	SM4500N(Org)-B
Lab ID #: AB16963a	Result	Reporting Limit	Method
Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B
E. coli	> 24196 MPN/100mL	24196	SM9223B

SiteID: WMI-03-0008 **Sample Date:** 06/11/2014 **IDEM Sample #:** AB17391
Water Flow Type Run **Water Appearance** Brown **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	71.5 %		ASTM D888-09(C)
DO	6.7 mg/L		ASTM D888-09(C)
pH (Field)	7.19 SU		EPA 150.2
Specific Conductance (Field)	425 umho/cm		SM2510B
Temperature	18.25 °C		SM2550B(2)
Turbidity (Hach)	56.5 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	8 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: 3042665	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	140 mg/L	1	SM2320B
Chloride	20 mg/L	2	EPA 300.0
Solids, Suspended Total, (TSS)	28 mg/L	10	SM2540D
Solids, Total (TS)	330 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	300 mg/L	10	SM2540C
Sulfate	31 mg/L	5	EPA 300.0

Lab ID #: 3042666	Result	Reporting Limit	Method
Hardness (as CaCO3)	210 mg/L	0.66	SM2340B
Calcium (Total)	59 mg/L	0.1	EPA 200.7
Magnesium (Total)	15 mg/L	0.1	EPA 200.7

Lab ID #: 3042667	Result	Reporting Limit	Method
Nitrogen, Ammonia	0.4 mg/L	0.1	SM4500NH3-D

Lab ID #: 3042668	Result	Reporting Limit	Method
Nitrogen, Nitrate+Nitrite	5.8 mg/L	0.1	EPA 353.2

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Lab ID #:		Result	Reporting Limit	Method
3042669	Phosphorus, Total	0.3 mg/L	0.05	SM4500P-E
3042670	TOC	11 mg/L	0.5	SM5310C
AA20572	COD	22 mg/L	10	EPA 410.4
	TKN	2 mg/L	0.3	SM4500N(Org)-B
AB17391	E. coli	866.4 MPN/100mL	1	SM9223B
AB17391a	Coliforms (Total)	> 24196 MPN/100mL	24196	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	