

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

SiteID: OBS130-0002 **USGS Hydrologic Unit:** 051401040606
Stream Name: South Fork Blue River **County:** Washington
Description: Fredericksburg Road **Latitude:** 38 26 4.42412 **Longitude:** -86 11 0.23684
Drainage: 126.080 **Site Number:** 15T-001

SiteID: OBS130-0002 **Sample Date:** 11/12/2014 **IDEM Sample #:** AB19594
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	84.3 %		ASTM D888-09(C)
DO	10.04 mg/L		ASTM D888-09(C)
pH (Field)	7.4 SU		EPA 150.2
Specific Conductance (Field)	397 umho/cm		SM2510B
Temperature	7.77 °C		SM2550B(2)
Turbidity (Hach)	4.27 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Flow	15.8304 cf/sec		FM D5389-95/D3858
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID # 522225</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	164 mg/L	10	EPA 310.2
Chloride	14 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	194 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 4 mg/L	4	SM2540D
Solids, Total (TS)	247 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	236 mg/L	10	SM2540C
Sulfate	21 mg/L	5	EPA 375.2
Calcium (Total)	57.6 mg/L	0.2	EPA 200.7
Magnesium (Total)	9.58 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.3 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.025 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	3.1 mg/L	1	SM5310B

<u>Lab ID # AB19594</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	43.5 MPN/100mL	1	SM9223B

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

SiteID: OBS130-0002

Sample Date: 12/8/2014

IDEM Sample #: AB19637

Water Flow Type Eddy

Water Appearance Brown

Water Depth Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments: Flow was not taken due to dangerous conditions.

Lab ID #	Result	Reporting Limit	Method
% Sat	89.9 %		ASTM D888-09(C)
DO	10.98 mg/L		ASTM D888-09(C)
pH (Field)	7.54 SU		EPA 150.2
Specific Conductance (Field)	285 umho/cm		SM2510B
Temperature	6.75 °C		SM2550B(2)
Turbidity (Hach)	66.1 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 524384	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	102 mg/L	10	EPA 310.2
Chloride	7.8 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	127 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	142 mg/L	6	SM2540D
Solids, Total (TS)	322 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	178 mg/L	10	SM2540C
Sulfate	17 mg/L	5	EPA 375.2
Calcium (Total)	41.6 mg/L	0.2	EPA 200.7
Magnesium (Total)	6.37 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	2.6 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.129 mg/L	0.03	EPA 365.1
TKN	0.5 mg/L	0.3	EPA 351.2
TOC	2.8 mg/L	1	SM5310B

Lab ID # AB19637	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
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Surface Water Results Summary**

SiteID: OBS130-0002 Sample Date: 1/5/2015 IDEM Sample #: AB20111
 Water Flow Type Eddy Water Appearance Brown Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments: Streamflow not taken due to high flow event and extreme cold weather.

Lab ID #	Result	Reporting Limit	Method
% Sat	91.8 %		ASTM D888-09(C)
DO	11.82 mg/L		ASTM D888-09(C)
pH (Field)	7.46 SU		EPA 150.2
Specific Conductance (Field)	233 umho/cm		SM2510B
Temperature	4.71 °C		SM2550B(2)
Turbidity (Hach)	88.7 NTU		EPA 180.1
Air Temp	1 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 526622	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	78 mg/L	10	EPA 310.2
Chloride	5.4 mg/L	5	SM4500CI-E
Hardness (as CaCO3)	104 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	182 mg/L	6	SM2540D
Solids, Total (TS)	350 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	160 mg/L	10	SM2540C
Sulfate	15 mg/L	5	EPA 375.2
Calcium (Total)	34.7 mg/L	0.2	EPA 200.7
Magnesium (Total)	5.65 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.9 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.162 mg/L	0.03	EPA 365.1
TKN	0.8 mg/L	0.3	EPA 351.2
TOC	3.7 mg/L	1	SM5310B

Lab ID # AB20111	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	517.2 MPN/100mL	1	SM9223B

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

SiteID: OBS130-0002 Sample Date: 2/2/2015 IDEM Sample #: AB20344
 Water Flow Type Eddy Water Appearance Brown Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	92.4 %		ASTM D888-09(C)
DO	12.46 mg/L		ASTM D888-09(C)
pH (Field)	7.04 SU		EPA 150.2
Specific Conductance (Field)	335 umho/cm		SM2510B
Temperature	2.85 °C		SM2550B(2)
Turbidity (Hach)	33.2 NTU		EPA 180.1
Air Temp	1 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 528875	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	118 mg/L	10	EPA 310.2
Chloride	12 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	156 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	88 mg/L	6	SM2540D
Solids, Total (TS)	283 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	190 mg/L	10	SM2540C
Sulfate	24 mg/L	5	EPA 375.2
Calcium (Total)	48.6 mg/L	0.2	EPA 200.7
Magnesium (Total)	8.6 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	2 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.064 mg/L	0.03	EPA 365.1
TKN	0.3 mg/L	0.3	EPA 351.2
TOC	2.3 mg/L	1	SM5310B

Lab ID # AB20344	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
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Surface Water Results Summary**

SiteID: OBS130-0002 Sample Date: 3/2/2015 IDEM Sample #: AB20566
 Water Flow Type Riffle Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	98.7 %		ASTM D888-09(C)
DO	14.47 mg/L		ASTM D888-09(C)
pH (Field)	8.16 SU		EPA 150.2
Specific Conductance (Field)	350 umho/cm		SM2510B
Temperature	0 °C		SM2550B(2)
Turbidity (Hach)	3.85 NTU		EPA 180.1
Air Temp	1 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 531454	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	121 mg/L	10	EPA 310.2
Chloride	12 mg/L	5	SM4500CI-E
Hardness (as CaCO3)	158 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	208 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	192 mg/L	10	SM2540C
Sulfate	28 mg/L	5	EPA 375.2
Calcium (Total)	52.5 mg/L	0.2	EPA 200.7
Magnesium (Total)	9.18 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.7 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.016 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	< 1 mg/L	1	SM5310B

Lab ID # AB20566	Result	Reporting Limit	Method
Coliforms (Total)	461.1 MPN/100mL	1	SM9223B
E. coli	30.5 MPN/100mL	1	SM9223B

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

SiteID: OBS130-0002

Sample Date: 4/6/2015

IDEM Sample #: AB21026

Water Flow Type Eddy

Water Appearance Brown

Water Depth

Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments: Flow was not taken due to dangerous sampling conditions. High flow event.

Lab ID #	Result	Reporting Limit	Method
% Sat	91.5 %		ASTM D888-09(C)
DO	10.22 mg/L		ASTM D888-09(C)
pH (Field)	7.85 SU		EPA 150.2
Specific Conductance (Field)	248 umho/cm		SM2510B
Temperature	10.44 °C		SM2550B(2)
Turbidity (Hach)	46.8 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation
Lab ID # 534779	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	86 mg/L	10	EPA 310.2
Chloride	6.6 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	107 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	63 mg/L	6	SM2540D
Solids, Total (TS)	224 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	150 mg/L	10	SM2540C
Sulfate	17 mg/L	5	EPA 375.2
Calcium (Total)	36.6 mg/L	0.2	EPA 200.7
Magnesium (Total)	5.67 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	2.1 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.106 mg/L	0.03	EPA 365.1
TKN	0.5 mg/L	0.3	EPA 351.2
TOC	2.5 mg/L	1	SM5310B
Lab ID # AB21026	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	410.6 MPN/100mL	1	SM9223B

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

SiteID: OBS130-0002 Sample Date: 5/11/2015 IDEM Sample #: AB21456
 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	79.7 %		ASTM D888-09(C)
DO	7.22 mg/L		ASTM D888-09(C)
pH (Field)	7.67 SU		EPA 150.2
Specific Conductance (Field)	352 umho/cm		SM2510B
Temperature	20.1 °C		SM2550B(2)
Turbidity (Hach)	5.33 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Flow	28.269 cf/sec		TM D5389-95/D3858
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	3 Lookup		Observation

Lab ID # 537979	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	139 mg/L	10	EPA 310.2
Chloride	9.7 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	164 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	8 mg/L	6	SM2540D
Solids, Total (TS)	228 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	206 mg/L	10	SM2540C
Sulfate	22 mg/L	5	EPA 375.2
Calcium (Total)	51.8 mg/L	0.2	EPA 200.7
Magnesium (Total)	8.8 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.3 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.037 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	2.4 mg/L	1	SM5310B

Lab ID # AB21456	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	150 MPN/100mL	1	SM9223B

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

SiteID: OBS130-0002 Sample Date: 6/1/2015 IDEM Sample #: AB21758
 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	67.4 %		ASTM D888-09(C)
DO	6.37 mg/L		ASTM D888-09(C)
pH (Field)	7.83 SU		EPA 150.2
Specific Conductance (Field)	396 umho/cm		SM2510B
Temperature	17.97 °C		SM2550B(2)
Turbidity (Hach)	6.46 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Flow	13.2307 cf/sec		FM D5389-95/D3858
Sky Conditions	7 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	3 Lookup		Observation

Lab ID # 539831	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	157 mg/L	10	EPA 310.2
Chloride	12 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	168 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	11 mg/L	6	SM2540D
Solids, Total (TS)	253 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	232 mg/L	10	SM2540C
Sulfate	22 mg/L	5	EPA 375.2
Calcium (Total)	63.2 mg/L	0.2	EPA 200.7
Magnesium (Total)	11.2 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.3 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.07 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	2.1 mg/L	1	SM5310B

Lab ID # AB21758	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: OBS130-0002 Sample Date: 7/13/2015 IDEM Sample #: AB22416
 Water Flow Type Eddy Water Appearance Brown Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments: Flow was not taken due to dangerous conditions.

Lab ID #	Result	Reporting Limit	Method
% Sat	82.8 %		ASTM D888-09(C)
DO	7.32 mg/L		ASTM D888-09(C)
pH (Field)	7.42 SU		EPA 150.2
Specific Conductance (Field)	172 umho/cm		SM2510B
Temperature	21.42 °C		SM2550B(2)
Turbidity (Hach)	104 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 543514	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	49 mg/L	10	EPA 310.2
Chloride	< 5 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	78 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	102 mg/L	12	SM2540D
Solids, Total (TS)	247 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	129 mg/L	10	SM2540C
Sulfate	13 mg/L	5	EPA 375.2
Calcium (Total)	23.8 mg/L	0.2	EPA 200.7
Magnesium (Total)	4.38 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.1 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.133 mg/L	0.03	EPA 365.1
TKN	0.8 mg/L	0.3	EPA 351.2
TOC	6.1 mg/L	1	SM5310B

Lab ID # AB22416a	Result	Reporting Limit	Method
Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B
E. coli	3076 MPN/100mL	10	SM9223B

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

SiteID: OBS130-0002

Sample Date: 8/4/2015

IDEM Sample #: AB22787

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	75.6 %		ASTM D888-09(C)
DO	6.49 mg/L		ASTM D888-09(C)
pH (Field)	7.78 SU		EPA 150.2
Specific Conductance (Field)	347 umho/cm		SM2510B
Temperature	22.94 °C		SM2550B(2)
Turbidity (Hach)	9.17 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Flow	19.2592 cf/sec		ASTM D3858-95
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 545201	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	140 mg/L	10	EPA 310.2
Chloride	10 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	168 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	14 mg/L	6	SM2540D
Solids, Total (TS)	225 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	200 mg/L	10	SM2540C
Sulfate	19 mg/L	5	EPA 375.2
Calcium (Total)	52.1 mg/L	0.2	EPA 200.7
Magnesium (Total)	8.45 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.8 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.058 mg/L	0.03	EPA 365.1
TKN	0.5 mg/L	0.3	EPA 351.2
TOC	3.1 mg/L	1	SM5310B

Lab ID # AB22787	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	275.5 MPN/100mL	1	SM9223B

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

SiteID: OBS130-0002 Sample Date: 8/11/2015 IDEM Sample #: AB22901
 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	79.7 %		ASTM D888-09(C)
DO	6.88 mg/L		ASTM D888-09(C)
pH (Field)	7.89 SU		EPA 150.2
Specific Conductance (Field)	366 umho/cm		SM2510B
Temperature	22.55 °C		SM2550B(2)
Turbidity (Hach)	9.38 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # AB22901	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	410.6 MPN/100mL	1	SM9223B

SiteID: OBS130-0002 Sample Date: 8/18/2015 IDEM Sample #: AB22936
 Water Flow Type Run Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	80.1 %		ASTM D888-09(C)
DO	7.03 mg/L		ASTM D888-09(C)
pH (Field)	7.84 SU		EPA 150.2
Specific Conductance (Field)	381 umho/cm		SM2510B
Temperature	21.64 °C		SM2550B(2)
Turbidity (Hach)	9.36 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # AB22936	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	328.2 MPN/100mL	1	SM9223B

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

SiteID: OBS130-0002 Sample Date: 8/25/2015 IDEM Sample #: AB22999
 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	82.4 %		ASTM D888-09(C)
DO	7.54 mg/L		ASTM D888-09(C)
pH (Field)	7.99 SU		EPA 150.2
Specific Conductance (Field)	398 umho/cm		SM2510B
Temperature	19.6 °C		SM2550B(2)
Turbidity (Hach)	6.62 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
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	365.4 MPN/100mL	1	SM9223B

SiteID: OBS130-0002 Sample Date: 9/1/2015 IDEM Sample #: AB23033
 Water Flow Type Run Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	85 %		ASTM D888-09(C)
DO	7.4 mg/L		ASTM D888-09(C)
pH (Field)	7.78 SU		EPA 150.2
Specific Conductance (Field)	418 umho/cm		SM2510B
Temperature	22.17 °C		SM2550B(2)
Turbidity (Hach)	8.24 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Flow	3.2147 cf/sec		TM D5389-95/D3858
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

**Indiana Department of Environmental Management
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Lab ID # 547433	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	179 mg/L	10	EPA 310.2
Chloride	14 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	185 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	9 mg/L	6	SM2540D
Solids, Total (TS)	264 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	242 mg/L	10	SM2540C
Sulfate	26 mg/L	5	EPA 375.2
Calcium (Total)	58.1 mg/L	0.2	EPA 200.7
Magnesium (Total)	10.7 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.4 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.063 mg/L	0.03	EPA 365.1
TKN	0.3 mg/L	0.3	EPA 351.2
TOC	2.4 mg/L	1	SM5310B

Lab ID # AB23033	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	290.9 MPN/100mL	1	SM9223B

SiteID: OBS130-0002 **Sample Date:** 9/8/2015 **IDEM Sample #:** AB22384
Water Flow Type Pool **Water Appearance** Clear **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments: Turbidimeter forgotten that day- no turbidity available

Lab ID #	Result	Reporting Limit	Method
% Sat	76.2 %		ASTM D888-09(C)
DO	6.24 mg/L		ASTM D888-09(C)
pH (Field)	7.64 SU		EPA 150.2
Specific Conductance (Field)	402 umho/cm		SM2510B
Temperature	23.88 °C		SM2550B(2)
Air Temp	6 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

**Indiana Department of Environmental Management
Office of Water Quality-Watershed Assessment and Planning Branch
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SiteID: OBS130-0002 Sample Date: 9/8/2015 IDEM Sample #: AB22143
 Water Flow Type Pool Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	76.3 %		SM4500-OG
DO	6.25 mg/L		SM4500-OG
pH (Field)	7.51 SU		EPA 150.2
Specific Conductance (Field)	402 umho/cm		SM2510B
Temperature	23.96 °C		SM2550B(2)
Turbidity (Hach)	NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

SiteID: OBS130-0002 Sample Date: 10/5/2015 IDEM Sample #: AB23299
 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	74.7 %		ASTM D888-09(C)
DO	7.54 mg/L		ASTM D888-09(C)
pH (Field)	7.77 SU		EPA 150.2
Specific Conductance (Field)	437 umho/cm		SM2510B
Temperature	14.85 °C		SM2550B(2)
Turbidity (Hach)	5.76 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Flow	2.8849 cf/sec		TM D5389-95/D3858
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

**Indiana Department of Environmental Management
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Lab ID # 550208	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	183 mg/L	10	EPA 310.2
Chloride	15 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	190 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	267 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	250 mg/L	10	SM2540C
Sulfate	24 mg/L	5	EPA 375.2
Calcium (Total)	61.7 mg/L	0.2	EPA 200.7
Magnesium (Total)	12.5 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.8 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.086 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	2.5 mg/L	1	SM5310B

Lab ID # AB23299	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	307.6 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: OBS-06-0016 **USGS Hydrologic Unit:** 051401040606
Stream Name: South Fork Blue River **County:** Washington
Description: Palmyra Road **Latitude:** 38 26 54.46309 **Longitude:** -86 8 6.53233
Drainage: 94.742 **Site Number:** 15T-002

SiteID: OBS-06-0016 **Sample Date:** 4/6/2015 **IDEM Sample #:** AB21037
Water Flow Type Eddy **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	92.6 %		ASTM D888-09(C)
DO	10.36 mg/L		ASTM D888-09(C)
pH (Field)	7.36 SU		EPA 150.2
Specific Conductance (Field)	244 umho/cm		SM2510B
Temperature	10.38 °C		SM2550B(2)
Turbidity (Hach)	24 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

<u>Lab ID #</u> 534781	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	86 mg/L	10	EPA 310.2
Chloride	6.7 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	109 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	25 mg/L	6	SM2540D
Solids, Total (TS)	185 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	148 mg/L	10	SM2540C
Sulfate	17 mg/L	5	EPA 375.2
Calcium (Total)	37.2 mg/L	0.2	EPA 200.7
Magnesium (Total)	5.71 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	2 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.062 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	2.1 mg/L	1	SM5310B

<u>Lab ID #</u> AB21037	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	579.4 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0016 Sample Date: 5/11/2015 IDEM Sample #: AB21467
 Water Flow Type Riffle Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	82.8 %		ASTM D888-09(C)
DO	7.5 mg/L		ASTM D888-09(C)
pH (Field)	7.7 SU		EPA 150.2
Specific Conductance (Field)	334 umho/cm		SM2510B
Temperature	20.16 °C		SM2550B(2)
Turbidity (Hach)	4.22 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 537980	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	131 mg/L	10	EPA 310.2
Chloride	9 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	160 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	7 mg/L	6	SM2540D
Solids, Total (TS)	210 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	200 mg/L	10	SM2540C
Sulfate	21 mg/L	5	EPA 375.2
Calcium (Total)	48.9 mg/L	0.2	EPA 200.7
Magnesium (Total)	8.21 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.3 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.022 mg/L	0.03	EPA 365.1
TKN	0.3 mg/L	0.3	EPA 351.2
TOC	2.1 mg/L	1	SM5310B

Lab ID # AB21467	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1732.9 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0016 Sample Date: 6/1/2015 IDEM Sample #: AB21769
 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	65.7 %		ASTM D888-09(C)
DO	6.22 mg/L		ASTM D888-09(C)
pH (Field)	7.68 SU		EPA 150.2
Specific Conductance (Field)	374 umho/cm		SM2510B
Temperature	17.9 °C		SM2550B(2)
Turbidity (Hach)	6.12 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 539832	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	147 mg/L	10	EPA 310.2
Chloride	11 mg/L	5	SM4500CI-E
Hardness (as CaCO3)	161 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	9 mg/L	6	SM2540D
Solids, Total (TS)	239 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	220 mg/L	10	SM2540C
Sulfate	25 mg/L	5	EPA 375.2
Calcium (Total)	57 mg/L	0.2	EPA 200.7
Magnesium (Total)	9.97 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.039 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	2.1 mg/L	1	SM5310B

Lab ID # AB21769	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	866.4 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0016 Sample Date: 7/13/2015 IDEM Sample #: AB22427
 Water Flow Type Eddy 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	84.5 %		ASTM D888-09(C)
DO	7.44 mg/L		ASTM D888-09(C)
pH (Field)	7.51 SU		EPA 150.2
Specific Conductance (Field)	174 umho/cm		SM2510B
Temperature	21.58 °C		SM2550B(2)
Turbidity (Hach)	50.6 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 543515	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	54 mg/L	10	EPA 310.2
Chloride	< 5 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	81 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	34 mg/L	12	SM2540D
Solids, Total (TS)	183 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	129 mg/L	10	SM2540C
Sulfate	15 mg/L	5	EPA 375.2
Calcium (Total)	24.8 mg/L	0.2	EPA 200.7
Magnesium (Total)	4.51 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.3 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.071 mg/L	0.03	EPA 365.1
TKN	0.6 mg/L	0.3	EPA 351.2
TOC	5.2 mg/L	1	SM5310B

Lab ID # AB22427a	Result	Reporting Limit	Method
Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B
E. coli	4611 MPN/100mL	10	SM9223B

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

SiteID: OBS-06-0016 Sample Date: 8/4/2015 IDEM Sample #: AB22789
 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	70.1 %		ASTM D888-09(C)
DO	6.03 mg/L		ASTM D888-09(C)
pH (Field)	7.82 SU		EPA 150.2
Specific Conductance (Field)	332 umho/cm		SM2510B
Temperature	22.89 °C		SM2550B(2)
Turbidity (Hach)	8.67 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 545202	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	135 mg/L	10	EPA 310.2
Chloride	9 mg/L	5	SM4500CI-E
Hardness (as CaCO3)	160 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	9 mg/L	6	SM2540D
Solids, Total (TS)	216 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	194 mg/L	10	SM2540C
Sulfate	17 mg/L	5	EPA 375.2
Calcium (Total)	48.9 mg/L	0.2	EPA 200.7
Magnesium (Total)	8.03 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.7 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.044 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	3.1 mg/L	1	SM5310B

Lab ID # AB22789	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
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Surface Water Results Summary**

SiteID: OBS-06-0016 Sample Date: 8/11/2015 IDEM Sample #: AB22912
 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	71.6 %		ASTM D888-09(C)
DO	6.18 mg/L		ASTM D888-09(C)
pH (Field)	7.85 SU		EPA 150.2
Specific Conductance (Field)	341 umho/cm		SM2510B
Temperature	22.57 °C		SM2550B(2)
Turbidity (Hach)	8.49 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation
Lab ID # AB22912	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	2419.6 MPN/100mL	1	SM9223B

SiteID: OBS-06-0016 Sample Date: 8/18/2015 IDEM Sample #: AB22947
 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	58.6 %		ASTM D888-09(C)
DO	5.15 mg/L		ASTM D888-09(C)
pH (Field)	7.68 SU		EPA 150.2
Specific Conductance (Field)	370 umho/cm		SM2510B
Temperature	21.51 °C		SM2550B(2)
Turbidity (Hach)	10.1 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation
Lab ID # AB22947	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1553.1 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0016 Sample Date: 8/25/2015 IDEM Sample #: AB23010
 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	62.9 %		ASTM D888-09(C)
DO	5.78 mg/L		ASTM D888-09(C)
pH (Field)	7.76 SU		EPA 150.2
Specific Conductance (Field)	383 umho/cm		SM2510B
Temperature	19.31 °C		SM2550B(2)
Turbidity (Hach)	8.7 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 # AB23010	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	579.4 MPN/100mL	1	SM9223B

SiteID: OBS-06-0016 Sample Date: 9/1/2015 IDEM Sample #: AB23044
 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	50.5 %		ASTM D888-09(C)
DO	4.51 mg/L		ASTM D888-09(C)
pH (Field)	7.53 SU		EPA 150.2
Specific Conductance (Field)	399 umho/cm		SM2510B
Temperature	21.05 °C		SM2550B(2)
Turbidity (Hach)	5.9 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

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

Lab ID # 547434	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	177 mg/L	10	EPA 310.2
Chloride	12 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	191 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	248 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	234 mg/L	10	SM2540C
Sulfate	24 mg/L	5	EPA 375.2
Calcium (Total)	56.2 mg/L	0.2	EPA 200.7
Magnesium (Total)	9.95 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.051 mg/L	0.03	EPA 365.1
TKN	0.5 mg/L	0.3	EPA 351.2
TOC	2.7 mg/L	1	SM5310B

Lab ID # AB23044	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	290.9 MPN/100mL	1	SM9223B

SiteID: OBS-06-0016 **Sample Date:** 9/8/2015 **IDEM Sample #:** AB22385
Water Flow Type Run **Water Appearance** Clear **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments: Forgot turbidimeter-no turbidity available

Lab ID #	Result	Reporting Limit	Method
% Sat	41.9 %		ASTM D888-09(C)
% Sat	41.1 %		SM4500-OG
DO	3.4 mg/L		ASTM D888-09(C)
DO	3.39 mg/L		SM4500-OG
pH (Field)	7.4 SU		EPA 150.2
pH (Field)	7.31 SU		EPA 150.2
Specific Conductance (Field)	389 umho/cm		SM2510B
Specific Conductance (Field)	387 umho/cm		SM2510B
Temperature	23.55 °C		SM2550B(2)
Temperature	23.53 °C		SM2550B(2)
Turbidity (Hach)	NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Air Temp	6 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation
Wind Strength	1 Lookup		Observation

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

SiteID: OBS-06-0016 Sample Date: 10/5/2015 IDEM Sample #: AB23310
 Water Flow Type Pool Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments: Strong manure odor; Beaver dam downstream; leaf litter beginning to accumulate on stream bottom

Lab ID #	Result	Reporting Limit	Method
% Sat	52.5 %		ASTM D888-09(C)
DO	5.35 mg/L		ASTM D888-09(C)
pH (Field)	7.69 SU		EPA 150.2
Specific Conductance (Field)	428 umho/cm		SM2510B
Temperature	14.38 °C		SM2550B(2)
Turbidity (Hach)	4.71 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 550209	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	180 mg/L	10	EPA 310.2
Chloride	13 mg/L	5	SM4500CI-E
Hardness (as CaCO3)	198 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	260 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	246 mg/L	10	SM2540C
Sulfate	26 mg/L	5	EPA 375.2
Calcium (Total)	61.5 mg/L	0.2	EPA 200.7
Magnesium (Total)	12 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.5 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.042 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	2.3 mg/L	1	SM5310B

Lab ID # AB23310	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	123.6 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
2 - Scattered	9 - Snow	9 - East (90 Degrees)	1 - Light
3 - Partly	10 - Sleet	18 - South (180 Degrees)	2 - Mod./Light
4 - Cloudy		27 - West (270 Degrees)	3 - Moderate
5 - Mist			4 - Mod./Strong
6 - Fog			5 - Strong
7 - Shower			6 - > 86

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

SiteID: OBS-06-0015 **USGS Hydrologic Unit:** 051401040606
Stream Name: Licking Creek **County:** Washington
Description: Palmyra Rd **Latitude:** 38 26 14.49694 **Longitude:** -86 7 46.50929
Drainage: 8.697 **Site Number:** 15T-003

SiteID: OBS-06-0015 **Sample Date:** 4/6/2015 **IDEM Sample #:** AB21040
Water Flow Type Eddy **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	99.1 %		ASTM D888-09(C)
DO	10.85 mg/L		ASTM D888-09(C)
pH (Field)	7.93 SU		EPA 150.2
Specific Conductance (Field)	215 umho/cm		SM2510B
Temperature	11.28 °C		SM2550B(2)
Turbidity (Hach)	86.1 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #</u> 534782	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	68 mg/L	10	EPA 310.2
Chloride	7 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	97 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	36 mg/L	12	SM2540D
Solids, Total (TS)	209 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	156 mg/L	10	SM2540C
Sulfate	12 mg/L	5	EPA 375.2
Calcium (Total)	32.8 mg/L	0.2	EPA 200.7
Magnesium (Total)	5.56 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	2 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.23 mg/L	0.03	EPA 365.1
TKN	0.7 mg/L	0.3	EPA 351.2
TOC	4.8 mg/L	1	SM5310B

<u>Lab ID #</u> AB21040	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	360.9 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0015 Sample Date: 5/11/2015 IDEM Sample #: AB21470
 Water Flow Type Pool Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	99.4 %		ASTM D888-09(C)
DO	9.22 mg/L		ASTM D888-09(C)
pH (Field)	8.13 SU		EPA 150.2
Specific Conductance (Field)	406 umho/cm		SM2510B
Temperature	18.89 °C		SM2550B(2)
Turbidity (Hach)	4.71 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 537981	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	167 mg/L	10	EPA 310.2
Chloride	10 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	206 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	8 mg/L	6	SM2540D
Solids, Total (TS)	262 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	245 mg/L	10	SM2540C
Sulfate	23 mg/L	5	EPA 375.2
Calcium (Total)	60.1 mg/L	0.2	EPA 200.7
Magnesium (Total)	11.6 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.9 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.056 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	2.6 mg/L	1	SM5310B

Lab ID # AB21470	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	150 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0015 Sample Date: 6/1/2015 IDEM Sample #: AB21772
 Water Flow Type Pool Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	90.1 %		ASTM D888-09(C)
DO	9.06 mg/L		ASTM D888-09(C)
pH (Field)	8.21 SU		EPA 150.2
Specific Conductance (Field)	428 umho/cm		SM2510B
Temperature	15.18 °C		SM2550B(2)
Turbidity (Hach)	5.14 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	7 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 539833	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	177 mg/L	10	EPA 310.2
Chloride	11 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	195 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	6 mg/L	6	SM2540D
Solids, Total (TS)	269 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	254 mg/L	10	SM2540C
Sulfate	22 mg/L	5	EPA 375.2
Calcium (Total)	71.3 mg/L	0.2	EPA 200.7
Magnesium (Total)	14.4 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.4 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.069 mg/L	0.03	EPA 365.1
TKN	0.3 mg/L	0.3	EPA 351.2
TOC	2.4 mg/L	1	SM5310B

Lab ID # AB21772	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	435.2 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0015 Sample Date: 7/13/2015 IDEM Sample #: AB22430
 Water Flow Type Eddy Water Appearance Brown Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	96.7 %		ASTM D888-09(C)
DO	8.89 mg/L		ASTM D888-09(C)
pH (Field)	8.02 SU		EPA 150.2
Specific Conductance (Field)	270 umho/cm		SM2510B
Temperature	19.42 °C		SM2550B(2)
Turbidity (Hach)	20.4 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 543516	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	96 mg/L	10	EPA 310.2
Chloride	9.5 mg/L	5	SM4500CI-E
Hardness (as CaCO3)	134 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	12 mg/L	6	SM2540D
Solids, Total (TS)	205 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	178 mg/L	10	SM2540C
Sulfate	8.9 mg/L	5	EPA 375.2
Calcium (Total)	39.4 mg/L	0.2	EPA 200.7
Magnesium (Total)	6.45 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	2.2 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.219 mg/L	0.03	EPA 365.1
TKN	0.8 mg/L	0.3	EPA 351.2
TOC	6.7 mg/L	1	SM5310B

Lab ID # AB22430	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	193.5 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0015 Sample Date: 7/27/2015 IDEM Sample #: AB22157
 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	88.7 %		SM4500-OG
DO	7.51 mg/L		SM4500-OG
pH (Field)	8.02 SU		EPA 150.2
Specific Conductance (Field)	291 umho/cm		SM2510B
Temperature	21.98 °C		SM2550B(2)
Turbidity (Hach)	11.1 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

SiteID: OBS-06-0015 Sample Date: 8/4/2015 IDEM Sample #: AB22786
 Water Flow Type Pool Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	98.8 %		ASTM D888-09(C)
DO	8.82 mg/L		ASTM D888-09(C)
pH (Field)	8.34 SU		EPA 150.2
Specific Conductance (Field)	412 umho/cm		SM2510B
Temperature	20.88 °C		SM2550B(2)
Turbidity (Hach)	5.46 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

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

Lab ID # 545203	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	180 mg/L	10	EPA 310.2
Chloride	12 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	208 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	257 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	258 mg/L	10	SM2540C
Sulfate	17 mg/L	5	EPA 375.2
Calcium (Total)	61.1 mg/L	0.2	EPA 200.7
Magnesium (Total)	11.6 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	2 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.058 mg/L	0.03	EPA 365.1
TKN	0.3 mg/L	0.3	EPA 351.2
TOC	2.8 mg/L	1	SM5310B

Lab ID # AB22786	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	272.3 MPN/100mL	1	SM9223B

SiteID: OBS-06-0015 **Sample Date:** 8/11/2015 **IDEM Sample #:** AB22915
Water Flow Type Run **Water Appearance** Clear **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	95 %		ASTM D888-09(C)
DO	8.53 mg/L		ASTM D888-09(C)
pH (Field)	8.34 SU		EPA 150.2
Specific Conductance (Field)	433 umho/cm		SM2510B
Temperature	20.6 °C		SM2550B(2)
Turbidity (Hach)	6.83 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # AB22915	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	214.3 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0015 Sample Date: 8/18/2015 IDEM Sample #: AB22950
 Water Flow Type Run Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	98.2 %		ASTM D888-09(C)
DO	9 mg/L		ASTM D888-09(C)
pH (Field)	8.33 SU		EPA 150.2
Specific Conductance (Field)	432 umho/cm		SM2510B
Temperature	19.56 °C		SM2550B(2)
Turbidity (Hach)	5.41 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	151 MPN/100mL	1	SM9223B

SiteID: OBS-06-0015 Sample Date: 8/25/2015 IDEM Sample #: AB23013
 Water Flow Type Run Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	98.3 %		ASTM D888-09(C)
DO	9.65 mg/L		ASTM D888-09(C)
pH (Field)	8.74 SU		EPA 150.2
Specific Conductance (Field)	430 umho/cm		SM2510B
Temperature	16.23 °C		SM2550B(2)
Turbidity (Hach)	4.38 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
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	866.4 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0015 Sample Date: 9/1/2015 IDEM Sample #: AB23047
 Water Flow Type Run Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	100.4 %		ASTM D888-09(C)
DO	9.19 mg/L		ASTM D888-09(C)
pH (Field)	8.3 SU		EPA 150.2
Specific Conductance (Field)	426 umho/cm		SM2510B
Temperature	19.61 °C		SM2550B(2)
Turbidity (Hach)	4.87 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 547435	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	187 mg/L	10	EPA 310.2
Chloride	12 mg/L	5	SM4500CI-E
Hardness (as CaCO3)	207 mg/L	75	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	266 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	251 mg/L	10	SM2540C
Sulfate	25 mg/L	5	EPA 375.2
Calcium (Total)	61.4 mg/L	0.2	EPA 200.7
Magnesium (Total)	13.4 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.1 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.047 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	2.5 mg/L	1	SM5310B

Lab ID # AB23047	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	275.5 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0015 Sample Date: 9/9/2015 IDEM Sample #: AB22386
 Water Flow Type Run Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	83.1 %		ASTM D888-09(C)
DO	7.35 mg/L		ASTM D888-09(C)
pH (Field)	7.76 SU		EPA 150.2
Specific Conductance (Field)	405 umho/cm		SM2510B
Temperature	20.53 °C		SM2550B(2)
Turbidity (Hach)	6.51 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

SiteID: OBS-06-0015 Sample Date: 10/5/2015 IDEM Sample #: AB23313
 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	87.9 %		ASTM D888-09(C)
DO	8.97 mg/L		ASTM D888-09(C)
pH (Field)	8.06 SU		EPA 150.2
Specific Conductance (Field)	457 umho/cm		SM2510B
Temperature	14.52 °C		SM2550B(2)
Turbidity (Hach)	3.05 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

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

Lab ID # 550210	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	197 mg/L	10	EPA 310.2
Chloride	13 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	223 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	277 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	261 mg/L	10	SM2540C
Sulfate	26 mg/L	5	EPA 375.2
Calcium (Total)	65.8 mg/L	0.2	EPA 200.7
Magnesium (Total)	14.8 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.7 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.034 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	2.5 mg/L	1	SM5310B

Lab ID # AB23313	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	191.8 MPN/100mL	1	SM9223B

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

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

SiteID: OBS-06-0021 **USGS Hydrologic Unit:** 051401040603
Stream Name: Bear Creek **County:** Washington
Description: Wetzel Rd **Latitude:** 38 25 39.54055 **Longitude:** -86 3 3.19825
Drainage: 5.927 **Site Number:** 15T-004

SiteID: OBS-06-0021 **Sample Date:** 4/6/2015 **IDEM Sample #:** AB21041
Water Flow Type Eddy **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	104 %		ASTM D888-09(C)
DO	11.42 mg/L		ASTM D888-09(C)
pH (Field)	8.01 SU		EPA 150.2
Specific Conductance (Field)	290 umho/cm		SM2510B
Temperature	11.12 °C		SM2550B(2)
Turbidity (Hach)	25 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

<u>Lab ID # 534783</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	111 mg/L	10	EPA 310.2
Chloride	7.8 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	133 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	13 mg/L	6	SM2540D
Solids, Total (TS)	198 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	174 mg/L	10	SM2540C
Sulfate	14 mg/L	5	EPA 375.2
Calcium (Total)	45.1 mg/L	0.2	EPA 200.7
Magnesium (Total)	6.69 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	2.1 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.054 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	2 mg/L	1	SM5310B

<u>Lab ID # AB21041</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	248.9 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0021

Sample Date: 5/11/2015

IDEM Sample #: AB21471

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	129.5 %		ASTM D888-09(C)
DO	11.36 mg/L		ASTM D888-09(C)
pH (Field)	8.38 SU		EPA 150.2
Specific Conductance (Field)	405 umho/cm		SM2510B
Temperature	21.75 °C		SM2550B(2)
Turbidity (Hach)	3.14 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 537982	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	161 mg/L	10	EPA 310.2
Chloride	12 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	201 mg/L	75	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	259 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	245 mg/L	10	SM2540C
Sulfate	25 mg/L	5	EPA 375.2
Calcium (Total)	59 mg/L	0.2	EPA 200.7
Magnesium (Total)	10 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	2 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.025 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	2.1 mg/L	1	SM5310B

Lab ID # AB21471	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	214.2 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0021 Sample Date: 6/1/2015 IDEM Sample #: AB21773
 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	101.9 %		ASTM D888-09(C)
DO	10.2 mg/L		ASTM D888-09(C)
pH (Field)	8.28 SU		EPA 150.2
Specific Conductance (Field)	440 umho/cm		SM2510B
Temperature	15.3 °C		SM2550B(2)
Turbidity (Hach)	2.68 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	7 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 539834	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	176 mg/L	10	EPA 310.2
Chloride	13 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	215 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	274 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	265 mg/L	10	SM2540C
Sulfate	25 mg/L	5	EPA 375.2
Calcium (Total)	67.7 mg/L	0.2	EPA 200.7
Magnesium (Total)	11.9 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.9 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.017 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	1.3 mg/L	1	SM5310B

Lab ID # AB21773	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	344.8 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0021 Sample Date: 6/29/2015 IDEM Sample #: AB22158
 Water Flow Type Riffle Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	107.1 %		SM4500-OG
DO	9.95 mg/L		SM4500-OG
pH (Field)	7.95 SU		EPA 150.2
Specific Conductance (Field)	321 umho/cm		SM2510B
Temperature	17.66 °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	0 Lookup		Observation

SiteID: OBS-06-0021 Sample Date: 7/13/2015 IDEM Sample #: AB22431
 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	114.2 %		ASTM D888-09(C)
DO	10.73 mg/L		ASTM D888-09(C)
pH (Field)	8.04 SU		EPA 150.2
Specific Conductance (Field)	365 umho/cm		SM2510B
Temperature	18.33 °C		SM2550B(2)
Turbidity (Hach)	9.35 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

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

Lab ID # 543517	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	144 mg/L	10	EPA 310.2
Chloride	9.6 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	170 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 12 mg/L	12	SM2540D
Solids, Total (TS)	242 mg/L	20	SM2540B
Solids, Total Dissolved (TDS)	216 mg/L	20	SM2540C
Sulfate	15 mg/L	5	EPA 375.2
Calcium (Total)	56 mg/L	0.2	EPA 200.7
Magnesium (Total)	8.3 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	2.9 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.024 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	2 mg/L	1	SM5310B

Lab ID # AB22431	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	686.7 MPN/100mL	1	SM9223B

SiteID: OBS-06-0021 **Sample Date:** 8/4/2015 **IDEM Sample #:** AB22785
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	113.8 %		ASTM D888-09(C)
DO	10 mg/L		ASTM D888-09(C)
pH (Field)	8.42 SU		EPA 150.2
Specific Conductance (Field)	437 umho/cm		SM2510B
Temperature	21.7 °C		SM2550B(2)
Turbidity (Hach)	4.24 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

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

Lab ID # 545204	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	179 mg/L	10	EPA 310.2
Chloride	14 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	223 mg/L	75	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	288 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	257 mg/L	10	SM2540C
Sulfate	22 mg/L	5	EPA 375.2
Calcium (Total)	65.4 mg/L	0.2	EPA 200.7
Magnesium (Total)	10.9 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	2.9 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.01 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	2.1 mg/L	1	SM5310B

Lab ID # AB22785	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	261.3 MPN/100mL	1	SM9223B

SiteID: OBS-06-0021 **Sample Date:** 8/11/2015 **IDEM Sample #:** AB22916
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	111.8 %		ASTM D888-09(C)
DO	9.8 mg/L		ASTM D888-09(C)
pH (Field)	8.34 SU		EPA 150.2
Specific Conductance (Field)	451 umho/cm		SM2510B
Temperature	21.82 °C		SM2550B(2)
Turbidity (Hach)	5.92 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID # AB22916	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: OBS-06-0021 Sample Date: 8/18/2015 IDEM Sample #: AB22951
 Water Flow Type Run Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	109.3 %		ASTM D888-09(C)
DO	9.91 mg/L		ASTM D888-09(C)
pH (Field)	8.36 SU		EPA 150.2
Specific Conductance (Field)	452 umho/cm		SM2510B
Temperature	20.1 °C		SM2550B(2)
Turbidity (Hach)	6.4 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

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

SiteID: OBS-06-0021 Sample Date: 8/25/2015 IDEM Sample #: AB23014
 Water Flow Type Riffle Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	115 %		ASTM D888-09(C)
DO	10.73 mg/L		ASTM D888-09(C)
pH (Field)	8.39 SU		EPA 150.2
Specific Conductance (Field)	450 umho/cm		SM2510B
Temperature	18.57 °C		SM2550B(2)
Turbidity (Hach)	5.2 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 #	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: OBS-06-0021 Sample Date: 9/1/2015 IDEM Sample #: AB23048
 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	122.8 %		ASTM D888-09(C)
DO	10.67 mg/L		ASTM D888-09(C)
pH (Field)	8.34 SU		EPA 150.2
Specific Conductance (Field)	446 umho/cm		SM2510B
Temperature	22.17 °C		SM2550B(2)
Turbidity (Hach)	4.37 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 547436	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	147 mg/L	10	EPA 310.2
Chloride	13 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	230 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	284 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	266 mg/L	10	SM2540C
Sulfate	30 mg/L	5	EPA 375.2
Calcium (Total)	66.5 mg/L	0.2	EPA 200.7
Magnesium (Total)	12.2 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	2.1 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.019 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	1.7 mg/L	1	SM5310B

Lab ID # AB23048	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	275.5 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0021 Sample Date: 9/9/2015 IDEM Sample #: AB22387
 Water Flow Type Run Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	94.9 %		ASTM D888-09(C)
DO	8.24 mg/L		ASTM D888-09(C)
pH (Field)	7.8 SU		EPA 150.2
Specific Conductance (Field)	409 umho/cm		SM2510B
Temperature	20.91 °C		SM2550B(2)
Turbidity (Hach)	6.55 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

SiteID: OBS-06-0021 Sample Date: 10/5/2015 IDEM Sample #: AB23314
 Water Flow Type Run Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	100.6 %		ASTM D888-09(C)
DO	9.62 mg/L		ASTM D888-09(C)
pH (Field)	8.16 SU		EPA 150.2
Specific Conductance (Field)	457 umho/cm		SM2510B
Temperature	17.44 °C		SM2550B(2)
Turbidity (Hach)	3.71 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

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

Lab ID # 550211	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	186 mg/L	10	EPA 310.2
Chloride	13 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	204 mg/L	75	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	282 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	265 mg/L	10	SM2540C
Sulfate	30 mg/L	5	EPA 375.2
Calcium (Total)	66.3 mg/L	0.2	EPA 200.7
Magnesium (Total)	12.4 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.2 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.016 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	2.1 mg/L	1	SM5310B

Lab ID # AB23314	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	105 MPN/100mL	1	SM9223B

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

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

SiteID: OBS-06-0014 **USGS Hydrologic Unit:** 051401040603
Stream Name: Bear Creek **County:** Washington
Description: Martinsburg Fire Rd **Latitude:** 38 26 25.42764 **Longitude:** -86 3 26.83188
Drainage: 10.019 **Site Number:** 15T-005

SiteID: OBS-06-0014 **Sample Date:** 4/6/2015 **IDEM Sample #:** AB21042
Water Flow Type Eddy **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	103.2 %		ASTM D888-09(C)
DO	11.42 mg/L		ASTM D888-09(C)
pH (Field)	8.09 SU		EPA 150.2
Specific Conductance (Field)	313 umho/cm		SM2510B
Temperature	10.87 °C		SM2550B(2)
Turbidity (Hach)	22.3 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #</u> 534784	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	124 mg/L	10	EPA 310.2
Chloride	7 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	147 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	14 mg/L	6	SM2540D
Solids, Total (TS)	209 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	186 mg/L	10	SM2540C
Sulfate	16 mg/L	5	EPA 375.2
Calcium (Total)	49 mg/L	0.2	EPA 200.7
Magnesium (Total)	6.99 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.9 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.044 mg/L	0.03	EPA 365.1
TKN	0.3 mg/L	0.3	EPA 351.2
TOC	1.6 mg/L	1	SM5310B

<u>Lab ID #</u> AB21042	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	365.4 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0014 Sample Date: 5/11/2015 IDEM Sample #: AB21472
 Water Flow Type Run Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	104.3 %		ASTM D888-09(C)
DO	9.5 mg/L		ASTM D888-09(C)
pH (Field)	8.08 SU		EPA 150.2
Specific Conductance (Field)	425 umho/cm		SM2510B
Temperature	19.75 °C		SM2550B(2)
Turbidity (Hach)	2.49 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	8 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	3 Lookup		Observation

Lab ID # 537983	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	172 mg/L	10	EPA 310.2
Chloride	10 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	216 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	271 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	255 mg/L	10	SM2540C
Sulfate	26 mg/L	5	EPA 375.2
Calcium (Total)	65.6 mg/L	0.2	EPA 200.7
Magnesium (Total)	10.4 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.6 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.014 mg/L	0.03	EPA 365.1
TKN	0.3 mg/L	0.3	EPA 351.2
TOC	2.2 mg/L	1	SM5310B

Lab ID # AB21472	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	116.9 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0014

Sample Date: 6/1/2015

IDEM Sample #: AB21774

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	90.4 %		ASTM D888-09(C)
DO	8.95 mg/L		ASTM D888-09(C)
pH (Field)	8.11 SU		EPA 150.2
Specific Conductance (Field)	442 umho/cm		SM2510B
Temperature	15.84 °C		SM2550B(2)
Turbidity (Hach)	3.46 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	7 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 539835	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	179 mg/L	10	EPA 310.2
Chloride	12 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	221 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	279 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	260 mg/L	10	SM2540C
Sulfate	28 mg/L	5	EPA 375.2
Calcium (Total)	75.4 mg/L	0.2	EPA 200.7
Magnesium (Total)	12.9 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.5 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.016 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	1.5 mg/L	1	SM5310B

Lab ID # AB21774	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: OBS-06-0014 Sample Date: 6/29/2015 IDEM Sample #: AB22159
 Water Flow Type Pool Water Appearance Murky Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	104.8 %		SM4500-OG
DO	9.47 mg/L		SM4500-OG
pH (Field)	8.02 SU		EPA 150.2
Specific Conductance (Field)	323 umho/cm		SM2510B
Temperature	19.16 °C		SM2550B(2)
Turbidity (Hach)	29 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

SiteID: OBS-06-0014 Sample Date: 7/13/2015 IDEM Sample #: AB22432
 Water Flow Type Eddy Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	107.2 %		ASTM D888-09(C)
DO	9.98 mg/L		ASTM D888-09(C)
pH (Field)	8.2 SU		EPA 150.2
Specific Conductance (Field)	385 umho/cm		SM2510B
Temperature	18.74 °C		SM2550B(2)
Turbidity (Hach)	7.04 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

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

Lab ID # 543518	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	158 mg/L	10	EPA 310.2
Chloride	8.6 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	185 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	255 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	233 mg/L	10	SM2540C
Sulfate	15 mg/L	5	EPA 375.2
Calcium (Total)	62.6 mg/L	0.2	EPA 200.7
Magnesium (Total)	8.89 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	2.8 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.02 mg/L	0.03	EPA 365.1
TKN	0.3 mg/L	0.3	EPA 351.2
TOC	2 mg/L	1	SM5310B

Lab ID # AB22432	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	648.8 MPN/100mL	1	SM9223B

SiteID: OBS-06-0014 **Sample Date:** 8/4/2015 **IDEM Sample #:** AB22783
Water Flow Type Riffle **Water Appearance** Clear **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	95.8 %		ASTM D888-09(C)
DO	8.4 mg/L		ASTM D888-09(C)
pH (Field)	8.17 SU		EPA 150.2
Specific Conductance (Field)	451 umho/cm		SM2510B
Temperature	21.76 °C		SM2550B(2)
Turbidity (Hach)	4.54 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

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

Lab ID # 545205	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	187 mg/L	10	EPA 310.2
Chloride	13 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	222 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	282 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	267 mg/L	10	SM2540C
Sulfate	26 mg/L	5	EPA 375.2
Calcium (Total)	66.9 mg/L	0.2	EPA 200.7
Magnesium (Total)	11 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	2.7 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.011 mg/L	0.03	EPA 365.1
TKN	0.3 mg/L	0.3	EPA 351.2
TOC	2 mg/L	1	SM5310B

Lab ID # AB22783	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	727 MPN/100mL	1	SM9223B

SiteID: OBS-06-0014 **Sample Date:** 8/11/2015 **IDEM Sample #:** AB22917
Water Flow Type Run **Water Appearance** Clear **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	89.5 %		ASTM D888-09(C)
DO	7.9 mg/L		ASTM D888-09(C)
pH (Field)	8.11 SU		EPA 150.2
Specific Conductance (Field)	456 umho/cm		SM2510B
Temperature	21.42 °C		SM2550B(2)
Turbidity (Hach)	6.9 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID # AB22917	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	579.4 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0014 Sample Date: 8/18/2015 IDEM Sample #: AB22952
 Water Flow Type Run Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	89 %		ASTM D888-09(C)
DO	7.98 mg/L		ASTM D888-09(C)
pH (Field)	8.07 SU		EPA 150.2
Specific Conductance (Field)	449 umho/cm		SM2510B
Temperature	20.63 °C		SM2550B(2)
Turbidity (Hach)	9.21 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1986.3 MPN/100mL	1	SM9223B

SiteID: OBS-06-0014 Sample Date: 8/25/2015 IDEM Sample #: AB23015
 Water Flow Type Run Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	92.1 %		ASTM D888-09(C)
DO	8.62 mg/L		ASTM D888-09(C)
pH (Field)	8.13 SU		EPA 150.2
Specific Conductance (Field)	436 umho/cm		SM2510B
Temperature	18.46 °C		SM2550B(2)
Turbidity (Hach)	9.23 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
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	727 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0014 Sample Date: 9/1/2015 IDEM Sample #: AB23049
 Water Flow Type Run Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	92.3 %		ASTM D888-09(C)
DO	8.03 mg/L		ASTM D888-09(C)
pH (Field)	8.01 SU		EPA 150.2
Specific Conductance (Field)	430 umho/cm		SM2510B
Temperature	22.17 °C		SM2550B(2)
Turbidity (Hach)	8.92 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 # 547437	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	145 mg/L	10	EPA 310.2
Chloride	13 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	213 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	8 mg/L	6	SM2540D
Solids, Total (TS)	276 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	256 mg/L	10	SM2540C
Sulfate	28 mg/L	5	EPA 375.2
Calcium (Total)	61 mg/L	0.2	EPA 200.7
Magnesium (Total)	11.7 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.6 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.02 mg/L	0.03	EPA 365.1
TKN	0.3 mg/L	0.3	EPA 351.2
TOC	2.1 mg/L	1	SM5310B

Lab ID # AB23049	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	980.4 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0014 Sample Date: 9/9/2015 IDEM Sample #: AB22388
 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	77.8 %		ASTM D888-09(C)
DO	6.49 mg/L		ASTM D888-09(C)
pH (Field)	7.63 SU		EPA 150.2
Specific Conductance (Field)	417 umho/cm		SM2510B
Temperature	22.97 °C		SM2550B(2)
Turbidity (Hach)	14.8 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

SiteID: OBS-06-0014 Sample Date: 10/5/2015 IDEM Sample #: AB23315
 Water Flow Type Run Water Appearance Murky Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments: Beaver dam upstream

Lab ID #	Result	Reporting Limit	Method
% Sat	80.8 %		ASTM D888-09(C)
DO	7.98 mg/L		ASTM D888-09(C)
pH (Field)	7.97 SU		EPA 150.2
Specific Conductance (Field)	452 umho/cm		SM2510B
Temperature	16.03 °C		SM2550B(2)
Turbidity (Hach)	10.7 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

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

Lab ID # 550212	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	180 mg/L	10	EPA 310.2
Chloride	15 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	213 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	7 mg/L	6	SM2540D
Solids, Total (TS)	284 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	266 mg/L	10	SM2540C
Sulfate	31 mg/L	5	EPA 375.2
Calcium (Total)	66.6 mg/L	0.2	EPA 200.7
Magnesium (Total)	12.6 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.8 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.024 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	2.4 mg/L	1	SM5310B

Lab ID # AB23315	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	275.5 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
Office of Water Quality-Watershed Assessment and Planning Branch
Surface Water Results Summary**

SiteID: OBS-06-0013 **USGS Hydrologic Unit:** 051401040603
Stream Name: Bear Creek **County:** Washington
Description: State Road 135 **Latitude:** 38 27 41.22938 **Longitude:** -86 4 54.74415
Drainage: 13.198 **Site Number:** 15T-006

SiteID: OBS-06-0013 **Sample Date:** 11/12/2014 **IDEM Sample #:** AB19595
Water Flow Type Run **Water Appearance** Clear **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	95.3 %		ASTM D888-09(C)
DO	11.41 mg/L		ASTM D888-09(C)
pH (Field)	7.82 SU		EPA 150.2
Specific Conductance (Field)	492 umho/cm		SM2510B
Temperature	7.51 °C		SM2550B(2)
Turbidity (Hach)	2.18 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Flow	2.3542 cf/sec		FM D5389-95/D3858
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID # 522226	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	221 mg/L	10	EPA 310.2
Chloride	12 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	304 mg/L	75	EPA 130.1
Solids, Suspended Total, (TSS)	5 mg/L	4	SM2540D
Solids, Total (TS)	307 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	296 mg/L	10	SM2540C
Sulfate	26 mg/L	5	EPA 375.2
Calcium (Total)	80 mg/L	0.2	EPA 200.7
Magnesium (Total)	12.6 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.6 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.014 mg/L	0.03	EPA 365.1
TKN	0.3 mg/L	0.3	EPA 351.2
TOC	2 mg/L	1	SM5310B

Lab ID # AB19595	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	129.6 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0013 Sample Date: 12/8/2014 IDEM Sample #: AB19638
 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	99.9 %		ASTM D888-09(C)
DO	11.94 mg/L		ASTM D888-09(C)
pH (Field)	7.87 SU		EPA 150.2
Specific Conductance (Field)	387 umho/cm		SM2510B
Temperature	7.57 °C		SM2550B(2)
Turbidity (Hach)	25.1 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Flow	34.1362 cf/sec		FM D5389-95/D3858
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	3 Lookup		Observation

Lab ID # 524386	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	160 mg/L	10	EPA 310.2
Chloride	7.6 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	188 mg/L	75	EPA 130.1
Solids, Suspended Total, (TSS)	7 mg/L	6	SM2540D
Solids, Total (TS)	248 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	224 mg/L	10	SM2540C
Sulfate	16 mg/L	5	EPA 375.2
Calcium (Total)	60.1 mg/L	0.2	EPA 200.7
Magnesium (Total)	8.3 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	3.1 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.037 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	1.8 mg/L	1	SM5310B

Lab ID # AB19638	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	325.5 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0013

Sample Date: 1/5/2015

IDEM Sample #: AB20112

Water Flow Type Eddy

Water Appearance Brown

Water Depth

Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments: Streamflow not taken due to high flow event and extreme cold weather.

Lab ID #	Result	Reporting Limit	Method
% Sat	98.6 %		ASTM D888-09(C)
DO	12.77 mg/L		ASTM D888-09(C)
pH (Field)	7.95 SU		EPA 150.2
Specific Conductance (Field)	346 umho/cm		SM2510B
Temperature	4.41 °C		SM2550B(2)
Turbidity (Hach)	23.1 NTU		EPA 180.1
Air Temp	1 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 526623	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	140 mg/L	10	EPA 310.2
Chloride	5.7 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	187 mg/L	75	EPA 130.1
Solids, Suspended Total, (TSS)	11 mg/L	6	SM2540D
Solids, Total (TS)	237 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	215 mg/L	10	SM2540C
Sulfate	15 mg/L	5	EPA 375.2
Calcium (Total)	57 mg/L	0.2	EPA 200.7
Magnesium (Total)	7.9 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	2.5 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.046 mg/L	0.03	EPA 365.1
TKN	0.5 mg/L	0.3	EPA 351.2
TOC	2.2 mg/L	1	SM5310B

Lab ID # AB20112	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	547.5 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0013

Sample Date: 2/2/2015

IDEM Sample #: AB20345

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	99.6 %		ASTM D888-09(C)
DO	13.27 mg/L		ASTM D888-09(C)
pH (Field)	8.27 SU		EPA 150.2
Specific Conductance (Field)	426 umho/cm		SM2510B
Temperature	3.27 °C		SM2550B(2)
Turbidity (Hach)	18.4 NTU		EPA 180.1
Air Temp	1 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID # 528876	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	169 mg/L	10	EPA 310.2
Chloride	12 mg/L	5	SM4500CI-E
Hardness (as CaCO3)	197 mg/L	75	EPA 130.1
Solids, Suspended Total, (TSS)	7 mg/L	6	SM2540D
Solids, Total (TS)	271 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	249 mg/L	10	SM2540C
Sulfate	21 mg/L	5	EPA 375.2
Calcium (Total)	65.8 mg/L	0.2	EPA 200.7
Magnesium (Total)	10.1 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	3.1 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.027 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	2.5 mg/L	1	SM5310B

Lab ID # AB20345	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: OBS-06-0013 Sample Date: 3/2/2015 IDEM Sample #: AB20567
 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	104.6 %		ASTM D888-09(C)
DO	14.93 mg/L		ASTM D888-09(C)
pH (Field)	8.54 SU		EPA 150.2
Specific Conductance (Field)	387 umho/cm		SM2510B
Temperature	0.8 °C		SM2550B(2)
Turbidity (Hach)	3.21 NTU		EPA 180.1
Air Temp	1 Lookup		Observation
Flow	4.7316 cf/sec		FM D5389-95/D3858
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID # 531455	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	185 mg/L	10	EPA 310.2
Chloride	14 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	244 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	275 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	264 mg/L	10	SM2540C
Sulfate	28 mg/L	5	EPA 375.2
Calcium (Total)	72.8 mg/L	0.2	EPA 200.7
Magnesium (Total)	11.1 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	2 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.011 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	< 1 mg/L	1	SM5310B

Lab ID # AB20567	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	9.7 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0013 Sample Date: 4/6/2015 IDEM Sample #: AB21043
 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	103.5 %		ASTM D888-09(C)
DO	11.44 mg/L		ASTM D888-09(C)
pH (Field)	8.2 SU		EPA 150.2
Specific Conductance (Field)	317 umho/cm		SM2510B
Temperature	10.85 °C		SM2550B(2)
Turbidity (Hach)	23 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Flow	49.4249 cf/sec		FM D5389-95/D3858
Sky Conditions	4 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID # 534785	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	127 mg/L	10	EPA 310.2
Chloride	7 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	156 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	11 mg/L	6	SM2540D
Solids, Total (TS)	219 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	189 mg/L	10	SM2540C
Sulfate	16 mg/L	5	EPA 375.2
Calcium (Total)	51.8 mg/L	0.2	EPA 200.7
Magnesium (Total)	7.38 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	2.2 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.053 mg/L	0.03	EPA 365.1
TKN	0.3 mg/L	0.3	EPA 351.2
TOC	1.9 mg/L	1	SM5310B

Lab ID # AB21043	Result	Reporting Limit	Method
Coliforms (Total)	2419.6 MPN/100mL	1	SM9223B
E. coli	238.2 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0013

Sample Date: 5/11/2015

IDEM Sample #: AB21473

Water Flow Type Run

Water Appearance Clear

Water Depth Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	116.6 %		ASTM D888-09(C)
DO	10.41 mg/L		ASTM D888-09(C)
pH (Field)	8.14 SU		EPA 150.2
Specific Conductance (Field)	416 umho/cm		SM2510B
Temperature	20.91 °C		SM2550B(2)
Turbidity (Hach)	2.88 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Flow	4.6602 cf/sec		TM D5389-95/D3858
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	3 Lookup		Observation

Lab ID # 537984	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	171 mg/L	10	EPA 310.2
Chloride	9.6 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	210 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	254 mg/L	20	SM2540B
Solids, Total Dissolved (TDS)	250 mg/L	10	SM2540C
Sulfate	26 mg/L	5	EPA 375.2
Calcium (Total)	62.2 mg/L	0.2	EPA 200.7
Magnesium (Total)	10.3 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.8 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.012 mg/L	0.03	EPA 365.1
TKN	0.3 mg/L	0.3	EPA 351.2
TOC	2 mg/L	1	SM5310B

Lab ID # AB21473	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	62 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0013 Sample Date: 6/1/2015 IDEM Sample #: AB21775
 Water Flow Type Run Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	95.2 %		ASTM D888-09(C)
DO	9.32 mg/L		ASTM D888-09(C)
pH (Field)	8.15 SU		EPA 150.2
Specific Conductance (Field)	421 umho/cm		SM2510B
Temperature	16.35 °C		SM2550B(2)
Turbidity (Hach)	2.65 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Flow	2.7381 cf/sec		FM D5389-95/D3858
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID # 539836	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	170 mg/L	10	EPA 310.2
Chloride	11 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	203 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	268 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	252 mg/L	10	SM2540C
Sulfate	25 mg/L	5	EPA 375.2
Calcium (Total)	73.6 mg/L	0.2	EPA 200.7
Magnesium (Total)	13.3 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.6 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.016 mg/L	0.03	EPA 365.1
TKN	0.3 mg/L	0.3	EPA 351.2
TOC	1.7 mg/L	1	SM5310B

Lab ID # AB21775	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	198.9 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0013 Sample Date: 6/30/2015 IDEM Sample #: AB22160
 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	94.7 %		SM4500-OG
DO	8.72 mg/L		SM4500-OG
pH (Field)	7.9 SU		EPA 150.2
Specific Conductance (Field)	345 umho/cm		SM2510B
Temperature	17.74 °C		SM2550B(2)
Turbidity (Hach)	13.1 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

SiteID: OBS-06-0013 Sample Date: 7/13/2015 IDEM Sample #: AB22433
 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	113.2 %		ASTM D888-09(C)
DO	10.49 mg/L		ASTM D888-09(C)
pH (Field)	8.24 SU		EPA 150.2
Specific Conductance (Field)	399 umho/cm		SM2510B
Temperature	19.05 °C		SM2550B(2)
Turbidity (Hach)	8.04 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Flow	18.644 cf/sec		TM D5389-95/D3858
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

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

Lab ID # 543519	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	159 mg/L	10	EPA 310.2
Chloride	8.4 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	202 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	258 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	236 mg/L	10	SM2540C
Sulfate	17 mg/L	5	EPA 375.2
Calcium (Total)	64 mg/L	0.2	EPA 200.7
Magnesium (Total)	9.16 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	3.4 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.018 mg/L	0.03	EPA 365.1
TKN	0.3 mg/L	0.3	EPA 351.2
TOC	2.1 mg/L	1	SM5310B

Lab ID # AB22433	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	686.7 MPN/100mL	1	SM9223B

SiteID: OBS-06-0013 **Sample Date:** 8/4/2015 **IDEM Sample #:** AB22784
Water Flow Type Run **Water Appearance** Clear **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	116.5 %		ASTM D888-09(C)
DO	10.04 mg/L		ASTM D888-09(C)
pH (Field)	8.28 SU		EPA 150.2
Specific Conductance (Field)	438 umho/cm		SM2510B
Temperature	22.73 °C		SM2550B(2)
Turbidity (Hach)	4.46 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Flow	2.8218 cf/sec		ASTM D3858-95
Sky Conditions	3 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

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

Lab ID # 545206	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	181 mg/L	10	EPA 310.2
Chloride	12 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	218 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	275 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	255 mg/L	10	SM2540C
Sulfate	22 mg/L	5	EPA 375.2
Calcium (Total)	65.1 mg/L	0.2	EPA 200.7
Magnesium (Total)	11.3 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	3.1 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.009 mg/L	0.03	EPA 365.1
TKN	0.3 mg/L	0.3	EPA 351.2
TOC	2.2 mg/L	1	SM5310B

Lab ID # AB22784	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	816.4 MPN/100mL	1	SM9223B

SiteID: OBS-06-0013 **Sample Date:** 8/11/2015 **IDEM Sample #:** AB22918
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	118.2 %		ASTM D888-09(C)
DO	9.98 mg/L		ASTM D888-09(C)
pH (Field)	8.25 SU		EPA 150.2
Specific Conductance (Field)	437 umho/cm		SM2510B
Temperature	23.9 °C		SM2550B(2)
Turbidity (Hach)	2.29 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID # AB22918	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	547.5 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0013 Sample Date: 8/18/2015 IDEM Sample #: AB22953
 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	118.6 %		ASTM D888-09(C)
DO	10.3 mg/L		ASTM D888-09(C)
pH (Field)	8.25 SU		EPA 150.2
Specific Conductance (Field)	443 umho/cm		SM2510B
Temperature	22.27 °C		SM2550B(2)
Turbidity (Hach)	6.1 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

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

SiteID: OBS-06-0013 Sample Date: 8/25/2015 IDEM Sample #: AB23016
 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	111.6 %		ASTM D888-09(C)
DO	10.29 mg/L		ASTM D888-09(C)
pH (Field)	8.3 SU		EPA 150.2
Specific Conductance (Field)	443 umho/cm		SM2510B
Temperature	19.27 °C		SM2550B(2)
Turbidity (Hach)	5.01 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 #	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	980.4 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0013 Sample Date: 9/1/2015 IDEM Sample #: AB23050
 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	122.5 %		ASTM D888-09(C)
DO	10.32 mg/L		ASTM D888-09(C)
pH (Field)	8.15 SU		EPA 150.2
Specific Conductance (Field)	422 umho/cm		SM2510B
Temperature	23.88 °C		SM2550B(2)
Turbidity (Hach)	7.2 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Flow	0.7479 cf/sec		TM D5389-95/D3858
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 547438	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	154 mg/L	10	EPA 310.2
Chloride	12 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	212 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	6 mg/L	6	SM2540D
Solids, Total (TS)	278 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	272 mg/L	10	SM2540C
Sulfate	32 mg/L	5	EPA 375.2
Calcium (Total)	60.6 mg/L	0.2	EPA 200.7
Magnesium (Total)	12.1 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	2.1 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.02 mg/L	0.03	EPA 365.1
TKN	0.3 mg/L	0.3	EPA 351.2
TOC	1.9 mg/L	1	SM5310B

Lab ID # AB23050	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1046.2 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0013 Sample Date: 9/9/2015 IDEM Sample #: AB22389
 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	8.39 mg/L		ASTM D888-09(C)
pH (Field)	7.77 SU		EPA 150.2
Specific Conductance (Field)	407 umho/cm		SM2510B
Temperature	23.55 °C		SM2550B(2)
Turbidity (Hach)	5.71 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

SiteID: OBS-06-0013 Sample Date: 10/5/2015 IDEM Sample #: AB23316
 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	102.3 %		ASTM D888-09(C)
DO	9.65 mg/L		ASTM D888-09(C)
pH (Field)	8.09 SU		EPA 150.2
Specific Conductance (Field)	447 umho/cm		SM2510B
Temperature	18.17 °C		SM2550B(2)
Turbidity (Hach)	2.47 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Flow	0.9754 cf/sec		TM D5389-95/D3858
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

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

Lab ID # 550213	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	181 mg/L	10	EPA 310.2
Chloride	14 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	212 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	279 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	262 mg/L	10	SM2540C
Sulfate	34 mg/L	5	EPA 375.2
Calcium (Total)	63.2 mg/L	0.2	EPA 200.7
Magnesium (Total)	13 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.1 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.019 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	2.6 mg/L	1	SM5310B

Lab ID # AB23316	Result	Reporting Limit	Method
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
Office of Water Quality-Watershed Assessment and Planning Branch
Surface Water Results Summary**

SiteID: OBS-06-0007 **USGS Hydrologic Unit:** 051401040604
Stream Name: Dutch Creek **County:** Washington
Description: Dutch Creek Rd **Latitude:** 38 27 50.01220 **Longitude:** -86 3 57.77931
Drainage: 5.005 **Site Number:** 15T-007

SiteID: OBS-06-0007 **Sample Date:** 4/6/2015 **IDEM Sample #:** AB21044
Water Flow Type Eddy **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	110.9 %		ASTM D888-09(C)
DO	12.23 mg/L		ASTM D888-09(C)
pH (Field)	8.39 SU		EPA 150.2
Specific Conductance (Field)	393 umho/cm		SM2510B
Temperature	10.94 °C		SM2550B(2)
Turbidity (Hach)	8.92 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID # 534786</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	168 mg/L	10	EPA 310.2
Chloride	8.6 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	204 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	7 mg/L	6	SM2540D
Solids, Total (TS)	248 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	231 mg/L	10	SM2540C
Sulfate	18 mg/L	5	EPA 375.2
Calcium (Total)	75.1 mg/L	0.2	EPA 200.7
Magnesium (Total)	6.48 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	2.6 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.032 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	1.2 mg/L	1	SM5310B

<u>Lab ID # AB21044</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	139.6 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0007 Sample Date: 5/11/2015 IDEM Sample #: AB21474
 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	134.8 %		ASTM D888-09(C)
DO	11.69 mg/L		ASTM D888-09(C)
pH (Field)	8.3 SU		EPA 150.2
Specific Conductance (Field)	417 umho/cm		SM2510B
Temperature	22.38 °C		SM2550B(2)
Turbidity (Hach)	2.82 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 # 537985	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	178 mg/L	10	EPA 310.2
Chloride	9.9 mg/L	5	SM4500CI-E
Hardness (as CaCO3)	205 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	265 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	251 mg/L	10	SM2540C
Sulfate	21 mg/L	5	EPA 375.2
Calcium (Total)	70.1 mg/L	0.2	EPA 200.7
Magnesium (Total)	7.61 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.2 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.015 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	2.4 mg/L	1	SM5310B

Lab ID # AB21474	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	60.5 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0007 Sample Date: 6/1/2015 IDEM Sample #: AB21776
 Water Flow Type Pool Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	99.6 %		ASTM D888-09(C)
DO	9.92 mg/L		ASTM D888-09(C)
pH (Field)	8.13 SU		EPA 150.2
Specific Conductance (Field)	442 umho/cm		SM2510B
Temperature	15.48 °C		SM2550B(2)
Turbidity (Hach)	2.28 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 539837	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	192 mg/L	10	EPA 310.2
Chloride	12 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	208 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	6 mg/L	6	SM2540D
Solids, Total (TS)	279 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	264 mg/L	10	SM2540C
Sulfate	17 mg/L	5	EPA 375.2
Calcium (Total)	82.5 mg/L	0.2	EPA 200.7
Magnesium (Total)	9.45 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.8 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.013 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	2.1 mg/L	1	SM5310B

Lab ID # AB21776	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: OBS-06-0007 Sample Date: 6/29/2015 IDEM Sample #: AB22161
 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	117.5 %		SM4500-OG
DO	10.13 mg/L		SM4500-OG
pH (Field)	8.16 SU		EPA 150.2
Specific Conductance (Field)	370 umho/cm		SM2510B
Temperature	20.84 °C		SM2550B(2)
Turbidity (Hach)	13.9 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

SiteID: OBS-06-0007 Sample Date: 7/13/2015 IDEM Sample #: AB22434
 Water Flow Type Eddy Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	124.7 %		ASTM D888-09(C)
DO	10.9 mg/L		ASTM D888-09(C)
pH (Field)	8.27 SU		EPA 150.2
Specific Conductance (Field)	471 umho/cm		SM2510B
Temperature	21.9 °C		SM2550B(2)
Turbidity (Hach)	3.19 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

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

Lab ID # 543520	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	204 mg/L	10	EPA 310.2
Chloride	10 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	239 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	301 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	278 mg/L	10	SM2540C
Sulfate	17 mg/L	5	EPA 375.2
Calcium (Total)	81.7 mg/L	0.2	EPA 200.7
Magnesium (Total)	7.66 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	3.1 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.012 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	1.8 mg/L	1	SM5310B

Lab ID # AB22434	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	410.6 MPN/100mL	1	SM9223B

SiteID: OBS-06-0007 **Sample Date:** 8/4/2015 **IDEM Sample #:** AB22782
Water Flow Type Pool **Water Appearance** Clear **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	161.5 %		ASTM D888-09(C)
DO	13.44 mg/L		ASTM D888-09(C)
pH (Field)	8.35 SU		EPA 150.2
Specific Conductance (Field)	430 umho/cm		SM2510B
Temperature	24.63 °C		SM2550B(2)
Turbidity (Hach)	2.35 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

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

Lab ID # 545207	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	185 mg/L	10	EPA 310.2
Chloride	14 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	212 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	261 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	247 mg/L	10	SM2540C
Sulfate	17 mg/L	5	EPA 375.2
Calcium (Total)	67.5 mg/L	0.2	EPA 200.7
Magnesium (Total)	8.53 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.3 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.01 mg/L	0.03	EPA 365.1
TKN	0.3 mg/L	0.3	EPA 351.2
TOC	2 mg/L	1	SM5310B

Lab ID # AB22782	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	74.9 MPN/100mL	1	SM9223B

SiteID: OBS-06-0007 **Sample Date:** 8/11/2015 **IDEM Sample #:** AB22919
Water Flow Type Pool **Water Appearance** Clear **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	154.7 %		ASTM D888-09(C)
DO	12.51 mg/L		ASTM D888-09(C)
pH (Field)	8.33 SU		EPA 150.2
Specific Conductance (Field)	445 umho/cm		SM2510B
Temperature	26.04 °C		SM2550B(2)
Turbidity (Hach)	1.79 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID # AB22919	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	39.9 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0007 Sample Date: 8/18/2015 IDEM Sample #: AB22954
 Water Flow Type Run Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	136.2 %		ASTM D888-09(C)
DO	11.85 mg/L		ASTM D888-09(C)
pH (Field)	8.14 SU		EPA 150.2
Specific Conductance (Field)	439 umho/cm		SM2510B
Temperature	22.5 °C		SM2550B(2)
Turbidity (Hach)	6.69 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # AB22954	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	53.7 MPN/100mL	1	SM9223B

SiteID: OBS-06-0007 Sample Date: 8/25/2015 IDEM Sample #: AB23017
 Water Flow Type Pool Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	111.4 %		ASTM D888-09(C)
DO	10.24 mg/L		ASTM D888-09(C)
pH (Field)	7.99 SU		EPA 150.2
Specific Conductance (Field)	452 umho/cm		SM2510B
Temperature	19.36 °C		SM2550B(2)
Turbidity (Hach)	3.47 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 # AB23017	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	20.1 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0007 Sample Date: 9/1/2015 IDEM Sample #: AB23051
 Water Flow Type Pool Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	116.3 %		ASTM D888-09(C)
DO	9.57 mg/L		ASTM D888-09(C)
pH (Field)	7.77 SU		EPA 150.2
Specific Conductance (Field)	513 umho/cm		SM2510B
Temperature	25.15 °C		SM2550B(2)
Turbidity (Hach)	4.14 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 547439	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	144 mg/L	10	EPA 310.2
Chloride	33 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	226 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	9 mg/L	6	SM2540D
Solids, Total (TS)	316 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	290 mg/L	10	SM2540C
Sulfate	17 mg/L	5	EPA 375.2
Calcium (Total)	69.8 mg/L	0.2	EPA 200.7
Magnesium (Total)	7.54 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.4 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.024 mg/L	0.03	EPA 365.1
TKN	0.5 mg/L	0.3	EPA 351.2
TOC	2.1 mg/L	1	SM5310B

Lab ID # AB23051	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	44.1 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0007 Sample Date: 10/5/2015 IDEM Sample #: AB23317
 Water Flow Type Pool Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments: Isolated pool

Lab ID #	Result	Reporting Limit	Method
% Sat	81.6 %		ASTM D888-09(C)
DO	7.84 mg/L		ASTM D888-09(C)
pH (Field)	7.78 SU		EPA 150.2
Specific Conductance (Field)	632 umho/cm		SM2510B
Temperature	17.48 °C		SM2550B(2)
Turbidity (Hach)	4.53 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 550214	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	186 mg/L	10	EPA 310.2
Chloride	74 mg/L	5	SM4500CI-E
Hardness (as CaCO3)	240 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	409 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	376 mg/L	10	SM2540C
Sulfate	26 mg/L	5	EPA 375.2
Calcium (Total)	82.4 mg/L	0.2	EPA 200.7
Magnesium (Total)	9.02 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.6 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.026 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	3.1 mg/L	1	SM5310B

Lab ID # AB23317	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	344.8 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
2 - Scattered	9 - Snow	9 - East (90 Degrees)	1 - Light
3 - Partly	10 - Sleet	18 - South (180 Degrees)	2 - Mod./Light
4 - Cloudy		27 - West (270 Degrees)	3 - Moderate
5 - Mist			4 - Mod./Strong
6 - Fog			5 - Strong
7 - Shower			6 - > 86

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

SiteID: OBS-06-0008 **USGS Hydrologic Unit:** 051401040604
Stream Name: South Fork Blue River **County:** Washington
Description: State Road 135 **Latitude:** 38 28 42.63532 **Longitude:** -86 5 37.32004
Drainage: 70.777 **Site Number:** 15T-008

SiteID: OBS-06-0008 **Sample Date:** 11/12/2014 **IDEM Sample #:** AB19596
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	74.4 %		ASTM D888-09(C)
DO	8.78 mg/L		ASTM D888-09(C)
pH (Field)	7.38 SU		EPA 150.2
Specific Conductance (Field)	313 umho/cm		SM2510B
Temperature	8.05 °C		SM2550B(2)
Turbidity (Hach)	2.57 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Flow	8.2696 cf/sec		TM D5389-95/D3858
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID # 522227	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	113 mg/L	10	EPA 310.2
Chloride	13 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	138 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 4 mg/L	4	SM2540D
Solids, Total (TS)	192 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	182 mg/L	10	SM2540C
Sulfate	22 mg/L	5	EPA 375.2
Calcium (Total)	42 mg/L	0.2	EPA 200.7
Magnesium (Total)	6.91 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.6 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.017 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	3 mg/L	1	SM5310B

Lab ID # AB19596	Result	Reporting Limit	Method
Coliforms (Total)	1732.9 MPN/100mL	1	SM9223B
E. coli	35 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0008

Sample Date: 12/8/2014

IDEM Sample #: AB19639

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 was not taken due to dangerous conditions.

Lab ID #	Result	Reporting Limit	Method
% Sat	92.9 %		ASTM D888-09(C)
DO	11.61 mg/L		ASTM D888-09(C)
pH (Field)	7.68 SU		EPA 150.2
Specific Conductance (Field)	250 umho/cm		SM2510B
Temperature	5.81 °C		SM2550B(2)
Turbidity (Hach)	11.4 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	3 Lookup		Observation

Lab ID # 524388	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	83 mg/L	10	EPA 310.2
Chloride	7.1 mg/L	5	SM4500CI-E
Hardness (as CaCO3)	103 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	9 mg/L	6	SM2540D
Solids, Total (TS)	170 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	149 mg/L	10	SM2540C
Sulfate	17 mg/L	5	EPA 375.2
Calcium (Total)	35.1 mg/L	0.2	EPA 200.7
Magnesium (Total)	5.49 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	2 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.046 mg/L	0.03	EPA 365.1
TKN	0.3 mg/L	0.3	EPA 351.2
TOC	2.4 mg/L	1	SM5310B

Lab ID # AB19639	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: OBS-06-0008 Sample Date: 1/5/2015 IDEM Sample #: AB20113
 Water Flow Type Run Water Appearance Murky Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments: Streamflow not taken due to high flow event and extreme cold weather.

Lab ID #	Result	Reporting Limit	Method
% Sat	98.1 %		ASTM D888-09(C)
DO	13.42 mg/L		ASTM D888-09(C)
pH (Field)	7.82 SU		EPA 150.2
Specific Conductance (Field)	209 umho/cm		SM2510B
Temperature	2.23 °C		SM2550B(2)
Turbidity (Hach)	17.1 NTU		EPA 180.1
Air Temp	1 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 526624	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	64 mg/L	10	EPA 310.2
Chloride	< 5 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	90 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	14 mg/L	6	SM2540D
Solids, Total (TS)	158 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	133 mg/L	10	SM2540C
Sulfate	20 mg/L	5	EPA 375.2
Calcium (Total)	28.1 mg/L	0.2	EPA 200.7
Magnesium (Total)	4.65 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.6 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.052 mg/L	0.03	EPA 365.1
TKN	0.3 mg/L	0.3	EPA 351.2
TOC	3 mg/L	1	SM5310B

Lab ID # AB20113	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	344.8 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0008

Sample Date: 2/2/2015

IDEM Sample #: AB20346

Water Flow Type Eddy

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	95.9 %		ASTM D888-09(C)
DO	13.15 mg/L		ASTM D888-09(C)
pH (Field)	8.04 SU		EPA 150.2
Specific Conductance (Field)	248 umho/cm		SM2510B
Temperature	2.34 °C		SM2550B(2)
Turbidity (Hach)	22.7 NTU		EPA 180.1
Air Temp	1 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID # 528878	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	73 mg/L	10	EPA 310.2
Chloride	10 mg/L	5	SM4500CI-E
Hardness (as CaCO3)	102 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	14 mg/L	6	SM2540D
Solids, Total (TS)	172 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	146 mg/L	10	SM2540C
Sulfate	25 mg/L	5	EPA 375.2
Calcium (Total)	33.3 mg/L	0.2	EPA 200.7
Magnesium (Total)	5.99 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.3 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.045 mg/L	0.03	EPA 365.1
TKN	0.6 mg/L	0.3	EPA 351.2
TOC	3.6 mg/L	1	SM5310B

Lab ID # AB20346	Result	Reporting Limit	Method
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: OBS-06-0008

Sample Date: 3/2/2015

IDEM Sample #: AB20568

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	99.2 %		ASTM D888-09(C)
DO	14.64 mg/L		ASTM D888-09(C)
pH (Field)	8.31 SU		EPA 150.2
Specific Conductance (Field)	272 umho/cm		SM2510B
Temperature	0 °C		SM2550B(2)
Turbidity (Hach)	2.86 NTU		EPA 180.1
Air Temp	1 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 531457	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	79 mg/L	10	EPA 310.2
Chloride	12 mg/L	5	SM4500CI-E
Hardness (as CaCO3)	121 mg/L	75	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	160 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	150 mg/L	10	SM2540C
Sulfate	30 mg/L	5	EPA 375.2
Calcium (Total)	35.6 mg/L	0.2	EPA 200.7
Magnesium (Total)	6.34 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.1 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.012 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	< 1 mg/L	1	SM5310B

Lab ID # AB20568	Result	Reporting Limit	Method
Coliforms (Total)	435.2 MPN/100mL	1	SM9223B
E. coli	15.8 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0008

Sample Date: 4/6/2015

IDEM Sample #: AB21045

Water Flow Type Eddy

Water Appearance Murky

Water Depth

Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments: Flow was not taken due to dangerous sampling conditions. High flow event.

Lab ID #	Result	Reporting Limit	Method
% Sat	96.7 %		ASTM D888-09(C)
DO	10.84 mg/L		ASTM D888-09(C)
pH (Field)	7.77 SU		EPA 150.2
Specific Conductance (Field)	203 umho/cm		SM2510B
Temperature	10.3 °C		SM2550B(2)
Turbidity (Hach)	17.5 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	7 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation
Lab ID # 534787	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	64 mg/L	10	EPA 310.2
Chloride	6.1 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	88 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	14 mg/L	6	SM2540D
Solids, Total (TS)	150 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	125 mg/L	10	SM2540C
Sulfate	18 mg/L	5	EPA 375.2
Calcium (Total)	29.6 mg/L	0.2	EPA 200.7
Magnesium (Total)	4.85 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.6 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.045 mg/L	0.03	EPA 365.1
TKN	0.3 mg/L	0.3	EPA 351.2
TOC	2 mg/L	1	SM5310B
Lab ID # AB21045	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	365.4 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0008 Sample Date: 5/11/2015 IDEM Sample #: AB21475
 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	78.7 %		ASTM D888-09(C)
DO	7.03 mg/L		ASTM D888-09(C)
pH (Field)	7.72 SU		EPA 150.2
Specific Conductance (Field)	264 umho/cm		SM2510B
Temperature	20.83 °C		SM2550B(2)
Turbidity (Hach)	3.79 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Flow	13.382 cf/sec		FM D5389-95/D3858
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	3 Lookup		Observation

Lab ID # 537986	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	95 mg/L	10	EPA 310.2
Chloride	8.8 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	111 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	171 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	158 mg/L	10	SM2540C
Sulfate	23 mg/L	5	EPA 375.2
Calcium (Total)	37.1 mg/L	0.2	EPA 200.7
Magnesium (Total)	6.1 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.7 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.016 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	2.1 mg/L	1	SM5310B

Lab ID # AB21475	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	114.5 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0008

Sample Date: 6/1/2015

IDEM Sample #: AB21777

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	64.8 %		ASTM D888-09(C)
DO	6.07 mg/L		ASTM D888-09(C)
pH (Field)	7.63 SU		EPA 150.2
Specific Conductance (Field)	276 umho/cm		SM2510B
Temperature	18.37 °C		SM2550B(2)
Turbidity (Hach)	5.07 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Flow	4.995 cf/sec		FM D5389-95/D3858
Sky Conditions	5 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID # 539838	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	101 mg/L	10	EPA 310.2
Chloride	10 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	114 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	179 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	167 mg/L	10	SM2540C
Sulfate	21 mg/L	5	EPA 375.2
Calcium (Total)	44.8 mg/L	0.2	EPA 200.7
Magnesium (Total)	7.35 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.4 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.03 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	2 mg/L	1	SM5310B

Lab ID # AB21777	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	73.8 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0008

Sample Date: 7/13/2015

IDEM Sample #: AB22435

Water Flow Type Run

Water Appearance Brown

Water Depth

Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments: Flow was not taken due to dangerous sampling conditions.

Lab ID #	Result	Reporting Limit	Method
% Sat	88.7 %		ASTM D888-09(C)
DO	7.78 mg/L		ASTM D888-09(C)
pH (Field)	7.58 SU		EPA 150.2
Specific Conductance (Field)	154 umho/cm		SM2510B
Temperature	21.86 °C		SM2550B(2)
Turbidity (Hach)	31.5 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 543521	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	41 mg/L	10	EPA 310.2
Chloride	< 5 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	66 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	23 mg/L	6	SM2540D
Solids, Total (TS)	144 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	107 mg/L	10	SM2540C
Sulfate	17 mg/L	5	EPA 375.2
Calcium (Total)	19.4 mg/L	0.2	EPA 200.7
Magnesium (Total)	4.06 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.8 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.04 mg/L	0.03	EPA 365.1
TKN	0.5 mg/L	0.3	EPA 351.2
TOC	4 mg/L	1	SM5310B

Lab ID # AB22435	Result	Reporting Limit	Method
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: OBS-06-0008 Sample Date: 8/4/2015 IDEM Sample #: AB22773
 Water Flow Type Run Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	73.1 %		ASTM D888-09(C)
DO	6.19 mg/L		ASTM D888-09(C)
pH (Field)	7.74 SU		EPA 150.2
Specific Conductance (Field)	261 umho/cm		SM2510B
Temperature	23.69 °C		SM2550B(2)
Turbidity (Hach)	7.29 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Flow	7.807 cf/sec		FM D5389-95/D3858
Sky Conditions	3 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 545208	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	96 mg/L	10	EPA 310.2
Chloride	10 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	114 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	6 mg/L	6	SM2540D
Solids, Total (TS)	167 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	152 mg/L	10	SM2540C
Sulfate	18 mg/L	5	EPA 375.2
Calcium (Total)	36 mg/L	0.2	EPA 200.7
Magnesium (Total)	6.04 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.8 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.019 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	3.3 mg/L	1	SM5310B

Lab ID # AB22773	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	325.5 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0008 Sample Date: 8/11/2015 IDEM Sample #: AB22920
 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	69.7 %		ASTM D888-09(C)
DO	5.95 mg/L		ASTM D888-09(C)
pH (Field)	7.86 SU		EPA 150.2
Specific Conductance (Field)	266 umho/cm		SM2510B
Temperature	23.11 °C		SM2550B(2)
Turbidity (Hach)	7.53 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID # AB22920	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	365.4 MPN/100mL	1	SM9223B

SiteID: OBS-06-0008 Sample Date: 8/18/2015 IDEM Sample #: AB22955
 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	66.5 %		ASTM D888-09(C)
DO	5.8 mg/L		ASTM D888-09(C)
pH (Field)	7.83 SU		EPA 150.2
Specific Conductance (Field)	272 umho/cm		SM2510B
Temperature	22.04 °C		SM2550B(2)
Turbidity (Hach)	5.8 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # AB22955	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	190.4 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0008 Sample Date: 8/25/2015 IDEM Sample #: AB23018
 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	69 %		ASTM D888-09(C)
DO	6.3 mg/L		ASTM D888-09(C)
pH (Field)	7.88 SU		EPA 150.2
Specific Conductance (Field)	272 umho/cm		SM2510B
Temperature	19.45 °C		SM2550B(2)
Turbidity (Hach)	4.54 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 # AB23018	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	111.9 MPN/100mL	1	SM9223B

SiteID: OBS-06-0008 Sample Date: 9/1/2015 IDEM Sample #: AB23052
 Water Flow Type Pool Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	64.7 %		ASTM D888-09(C)
DO	5.7 mg/L		ASTM D888-09(C)
pH (Field)	7.65 SU		EPA 150.2
Specific Conductance (Field)	286 umho/cm		SM2510B
Temperature	21.52 °C		SM2550B(2)
Turbidity (Hach)	3.41 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Flow	0.5902 cf/sec		TM D5389-95/D3858
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

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

Lab ID # 547440	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	110 mg/L	10	EPA 310.2
Chloride	13 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	124 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	172 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	161 mg/L	10	SM2540C
Sulfate	19 mg/L	5	EPA 375.2
Calcium (Total)	38.8 mg/L	0.2	EPA 200.7
Magnesium (Total)	6.12 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.2 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.018 mg/L	0.03	EPA 365.1
TKN	0.3 mg/L	0.3	EPA 351.2
TOC	2.6 mg/L	1	SM5310B

Lab ID # AB23052	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	45 MPN/100mL	1	SM9223B

SiteID: OBS-06-0008 **Sample Date:** 9/8/2015 **IDEM Sample #:** AB22162
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	68.2 %		SM4500-OG
% Sat	59.1 %		ASTM D888-09(C)
DO	4.81 mg/L		ASTM D888-09(C)
DO	5.5 mg/L		SM4500-OG
pH (Field)	7.46 SU		EPA 150.2
pH (Field)	7.39 SU		EPA 150.2
Specific Conductance (Field)	287 umho/cm		SM2510B
Specific Conductance (Field)	282 umho/cm		SM2510B
Temperature	24.43 °C		SM2550B(2)
Temperature	24.62 °C		SM2550B(2)
Turbidity (Hach)	13.8 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Air Temp	6 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation
Wind Strength	1 Lookup		Observation

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

SiteID: OBS-06-0008 **Sample Date:** 10/5/2015 **IDEM Sample #:** AB23318
Water Flow Type Pool **Water Appearance** Clear **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments: leaf litter beginning to accumulate in stream

Lab ID #	Result	Reporting Limit	Method
% Sat	53.1 %		ASTM D888-09(C)
DO	5.25 mg/L		ASTM D888-09(C)
pH (Field)	7.66 SU		EPA 150.2
Specific Conductance (Field)	328 umho/cm		SM2510B
Temperature	15.63 °C		SM2550B(2)
Turbidity (Hach)	4.78 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Flow	0.282 cf/sec		FM D5389-95/D3858
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 550215	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	127 mg/L	10	EPA 310.2
Chloride	18 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	137 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	6 mg/L	6	SM2540D
Solids, Total (TS)	203 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	187 mg/L	10	SM2540C
Sulfate	12 mg/L	5	EPA 375.2
Calcium (Total)	46 mg/L	0.2	EPA 200.7
Magnesium (Total)	6.95 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	< 0.1 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.023 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	2.8 mg/L	1	SM5310B

Lab ID # AB23318	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	137.4 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
2 - Scattered	9 - Snow	9 - East (90 Degrees)	1 - Light
3 - Partly	10 - Sleet	18 - South (180 Degrees)	2 - Mod./Light
4 - Cloudy		27 - West (270 Degrees)	3 - Moderate
5 - Mist			4 - Mod./Strong
6 - Fog			5 - Strong
7 - Shower			6 - > 86

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

SiteID: OBS-06-0020 **USGS Hydrologic Unit:** 051401040606
Stream Name: South Fork Blue River **County:** Washington
Description: Big Springs Rd **Latitude:** 38 28 50.34211 **Longitude:** -86 6 46.53339
Drainage: 87.674 **Site Number:** 15T-009

SiteID: OBS-06-0020 **Sample Date:** 4/6/2015 **IDEM Sample #:** AB21046
Water Flow Type Eddy **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	10.8 mg/L		ASTM D888-09(C)
pH (Field)	7.88 SU		EPA 150.2
Specific Conductance (Field)	234 umho/cm		SM2510B
Temperature	10.71 °C		SM2550B(2)
Turbidity (Hach)	22.5 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 534788	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	80 mg/L	10	EPA 310.2
Chloride	6.3 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	103 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	24 mg/L	6	SM2540D
Solids, Total (TS)	179 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	142 mg/L	10	SM2540C
Sulfate	17 mg/L	5	EPA 375.2
Calcium (Total)	36.3 mg/L	0.2	EPA 200.7
Magnesium (Total)	5.7 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.9 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.085 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	2 mg/L	1	SM5310B

Lab ID # AB21046	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	648.8 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0020 Sample Date: 5/11/2015 IDEM Sample #: AB21476
 Water Flow Type Riffle Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	95.5 %		ASTM D888-09(C)
DO	8.48 mg/L		ASTM D888-09(C)
pH (Field)	7.95 SU		EPA 150.2
Specific Conductance (Field)	317 umho/cm		SM2510B
Temperature	21.16 °C		SM2550B(2)
Turbidity (Hach)	3.55 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 537987	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	123 mg/L	10	EPA 310.2
Chloride	9.1 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	137 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	6 mg/L	6	SM2540D
Solids, Total (TS)	203 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	188 mg/L	10	SM2540C
Sulfate	24 mg/L	5	EPA 375.2
Calcium (Total)	46.5 mg/L	0.2	EPA 200.7
Magnesium (Total)	7.78 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.1 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.013 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	2.2 mg/L	1	SM5310B

Lab ID # AB21476	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	166.4 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0020 Sample Date: 6/1/2015 IDEM Sample #: AB21778
 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	78.7 %		ASTM D888-09(C)
DO	7.52 mg/L		ASTM D888-09(C)
pH (Field)	7.91 SU		EPA 150.2
Specific Conductance (Field)	348 umho/cm		SM2510B
Temperature	17.61 °C		SM2550B(2)
Turbidity (Hach)	5 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 539839	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	134 mg/L	10	EPA 310.2
Chloride	11 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	156 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	6 mg/L	6	SM2540D
Solids, Total (TS)	222 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	206 mg/L	10	SM2540C
Sulfate	22 mg/L	5	EPA 375.2
Calcium (Total)	58.6 mg/L	0.2	EPA 200.7
Magnesium (Total)	10.3 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.9 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.025 mg/L	0.03	EPA 365.1
TKN	0.3 mg/L	0.3	EPA 351.2
TOC	2.1 mg/L	1	SM5310B

Lab ID # AB21778	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	191.8 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0020 Sample Date: 7/13/2015 IDEM Sample #: AB22436
 Water Flow Type Eddy 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	88.8 %		ASTM D888-09(C)
DO	7.81 mg/L		ASTM D888-09(C)
pH (Field)	7.68 SU		EPA 150.2
Specific Conductance (Field)	183 umho/cm		SM2510B
Temperature	21.66 °C		SM2550B(2)
Turbidity (Hach)	32.4 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 543522	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	54 mg/L	10	EPA 310.2
Chloride	< 5 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	79 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	30 mg/L	12	SM2540D
Solids, Total (TS)	164 mg/L	20	SM2540B
Solids, Total Dissolved (TDS)	160 mg/L	20	SM2540C
Sulfate	16 mg/L	5	EPA 375.2
Calcium (Total)	24.3 mg/L	0.2	EPA 200.7
Magnesium (Total)	4.56 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.2 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.047 mg/L	0.03	EPA 365.1
TKN	0.5 mg/L	0.3	EPA 351.2
TOC	3.9 mg/L	1	SM5310B

Lab ID # AB22436	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1119.9 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0020 Sample Date: 8/4/2015 IDEM Sample #: AB22781
 Water Flow Type Pool Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	90.6 %		ASTM D888-09(C)
DO	7.64 mg/L		ASTM D888-09(C)
pH (Field)	7.93 SU		EPA 150.2
Specific Conductance (Field)	317 umho/cm		SM2510B
Temperature	23.93 °C		SM2550B(2)
Turbidity (Hach)	6.25 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 545209	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	124 mg/L	10	EPA 310.2
Chloride	9.7 mg/L	5	SM4500CI-E
Hardness (as CaCO3)	143 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	199 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	186 mg/L	10	SM2540C
Sulfate	17 mg/L	5	EPA 375.2
Calcium (Total)	44.9 mg/L	0.2	EPA 200.7
Magnesium (Total)	7.6 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.6 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.022 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	3 mg/L	1	SM5310B

Lab ID # AB22781	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	157.6 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0020 Sample Date: 8/11/2015 IDEM Sample #: AB22921
 Water Flow Type Run Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	96.7 %		ASTM D888-09(C)
DO	8.13 mg/L		ASTM D888-09(C)
pH (Field)	7.97 SU		EPA 150.2
Specific Conductance (Field)	328 umho/cm		SM2510B
Temperature	24.08 °C		SM2550B(2)
Turbidity (Hach)	5.91 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID # AB22921	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	275.5 MPN/100mL	1	SM9223B

SiteID: OBS-06-0020 Sample Date: 8/18/2015 IDEM Sample #: AB22956
 Water Flow Type Run Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	85.5 %		ASTM D888-09(C)
DO	7.53 mg/L		ASTM D888-09(C)
pH (Field)	7.92 SU		EPA 150.2
Specific Conductance (Field)	346 umho/cm		SM2510B
Temperature	21.59 °C		SM2550B(2)
Turbidity (Hach)	5.54 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # AB22956	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	325.5 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0020 Sample Date: 8/25/2015 IDEM Sample #: AB23019
 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	86.2 %		ASTM D888-09(C)
DO	7.96 mg/L		ASTM D888-09(C)
pH (Field)	7.92 SU		EPA 150.2
Specific Conductance (Field)	354 umho/cm		SM2510B
Temperature	19.18 °C		SM2550B(2)
Turbidity (Hach)	4.88 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
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	142.1 MPN/100mL	1	SM9223B

SiteID: OBS-06-0020 Sample Date: 9/1/2015 IDEM Sample #: AB23053
 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 %		ASTM D888-09(C)
DO	7.87 mg/L		ASTM D888-09(C)
pH (Field)	7.79 SU		EPA 150.2
Specific Conductance (Field)	384 umho/cm		SM2510B
Temperature	22.53 °C		SM2550B(2)
Turbidity (Hach)	3.57 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

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

Lab ID # 547441	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	162 mg/L	10	EPA 310.2
Chloride	12 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	180 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	239 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	223 mg/L	10	SM2540C
Sulfate	23 mg/L	5	EPA 375.2
Calcium (Total)	53.3 mg/L	0.2	EPA 200.7
Magnesium (Total)	9.95 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.2 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.017 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	2.1 mg/L	1	SM5310B

Lab ID # AB23053	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	77.6 MPN/100mL	1	SM9223B

SiteID: OBS-06-0020 **Sample Date:** 9/9/2015 **IDEM Sample #:** AB22392
Water Flow Type Pool **Water Appearance** Clear **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	74.4 %		ASTM D888-09(C)
DO	6.18 mg/L		ASTM D888-09(C)
pH (Field)	7.51 SU		EPA 150.2
Specific Conductance (Field)	369 umho/cm		SM2510B
Temperature	23.48 °C		SM2550B(2)
Turbidity (Hach)	4.2 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

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

SiteID: OBS-06-0020 Sample Date: 9/16/2015 IDEM Sample #: AB22163
 Water Flow Type Run Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	73.3 %		SM4500-OG
DO	6.98 mg/L		SM4500-OG
pH (Field)	7.57 SU		EPA 150.2
Specific Conductance (Field)	409 umho/cm		SM2510B
Temperature	16.58 °C		SM2550B(2)
Turbidity (Hach)	3.39 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

SiteID: OBS-06-0020 Sample Date: 10/5/2015 IDEM Sample #: AB23319
 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	91.9 %		ASTM D888-09(C)
DO	8.96 mg/L		ASTM D888-09(C)
pH (Field)	7.95 SU		EPA 150.2
Specific Conductance (Field)	414 umho/cm		SM2510B
Temperature	16.73 °C		SM2550B(2)
Turbidity (Hach)	3.76 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

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

Lab ID # 550216	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	168 mg/L	10	EPA 310.2
Chloride	14 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	188 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	250 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	237 mg/L	10	SM2540C
Sulfate	25 mg/L	5	EPA 375.2
Calcium (Total)	56.7 mg/L	0.2	EPA 200.7
Magnesium (Total)	12 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.7 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.048 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	2.4 mg/L	1	SM5310B

Lab ID # AB23319	Result	Reporting Limit	Method
Coliforms (Total)	1986.3 MPN/100mL	1	SM9223B
E. coli	77.1 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: OBS-06-0009 **USGS Hydrologic Unit:** 051401040604
Stream Name: Punch Run **County:** Washington
Description: Shorts Corner Rd **Latitude:** 38 30 0.24983 **Longitude:** -86 4 44.58135
Drainage: 3.686 **Site Number:** 15T-010

SiteID: OBS-06-0009 **Sample Date:** 4/6/2015 **IDEM Sample #:** AB21027
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	104.6 %		ASTM D888-09(C)
DO	11.49 mg/L		ASTM D888-09(C)
pH (Field)	8.41 SU		EPA 150.2
Specific Conductance (Field)	428 umho/cm		SM2510B
Temperature	11.05 °C		SM2550B(2)
Turbidity (Hach)	6.17 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #</u> 534789	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	195 mg/L	10	EPA 310.2
Chloride	< 5 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	233 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	268 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	251 mg/L	10	SM2540C
Sulfate	25 mg/L	5	EPA 375.2
Calcium (Total)	69 mg/L	0.2	EPA 200.7
Magnesium (Total)	10.3 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.4 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.016 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	1.2 mg/L	1	SM5310B

<u>Lab ID #</u> AB21027	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	1732.9 MPN/100mL	1	SM9223B
E. coli	179.3 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0009 Sample Date: 5/11/2015 IDEM Sample #: AB21457
 Water Flow Type Pool Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	109.4 %		ASTM D888-09(C)
DO	10.14 mg/L		ASTM D888-09(C)
pH (Field)	7.97 SU		EPA 150.2
Specific Conductance (Field)	503 umho/cm		SM2510B
Temperature	18.88 °C		SM2550B(2)
Turbidity (Hach)	1.92 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	5 Lookup		Observation

Lab ID # 537988	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	219 mg/L	10	EPA 310.2
Chloride	< 5 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	251 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	310 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	298 mg/L	10	SM2540C
Sulfate	32 mg/L	5	EPA 375.2
Calcium (Total)	82.3 mg/L	0.2	EPA 200.7
Magnesium (Total)	11.7 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.8 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.011 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	2.5 mg/L	1	SM5310B

Lab ID # AB21457	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	360.9 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0009 Sample Date: 6/1/2015 IDEM Sample #: AB21759
 Water Flow Type Pool Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	73.8 %		ASTM D888-09(C)
DO	7.49 mg/L		ASTM D888-09(C)
pH (Field)	7.85 SU		EPA 150.2
Specific Conductance (Field)	515 umho/cm		SM2510B
Temperature	14.64 °C		SM2550B(2)
Turbidity (Hach)	2.58 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 539840	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	233 mg/L	10	EPA 310.2
Chloride	6.3 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	318 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	323 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	309 mg/L	10	SM2540C
Sulfate	32 mg/L	5	EPA 375.2
Calcium (Total)	102 mg/L	0.2	EPA 200.7
Magnesium (Total)	15.2 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.8 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.014 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	2 mg/L	1	SM5310B

Lab ID # AB21759	Result	Reporting Limit	Method
Coliforms (Total)	2419.6 MPN/100mL	1	SM9223B
E. coli	365.4 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0009 **Sample Date:** 6/29/2015 **IDEM Sample #:** AB22144
Water Flow Type Pool **Water Appearance** Clear **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

<u>Lab ID #</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	91.4 %		SM4500-OG
DO	8.5 mg/L		SM4500-OG
pH (Field)	7.99 SU		EPA 150.2
Specific Conductance (Field)	448 umho/cm		SM2510B
Temperature	17.5 °C		SM2550B(2)
Turbidity (Hach)	7.38 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

SiteID: OBS-06-0009 **Sample Date:** 7/13/2015 **IDEM Sample #:** AB22417
Water Flow Type Pool **Water Appearance** Clear **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

<u>Lab ID #</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	89.6 %		ASTM D888-09(C)
DO	8.17 mg/L		ASTM D888-09(C)
pH (Field)	7.79 SU		EPA 150.2
Specific Conductance (Field)	538 umho/cm		SM2510B
Temperature	19.74 °C		SM2550B(2)
Turbidity (Hach)	3.01 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

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

Lab ID # 543523	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	252 mg/L	10	EPA 310.2
Chloride	< 5 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	302 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	347 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	324 mg/L	10	SM2540C
Sulfate	25 mg/L	5	EPA 375.2
Calcium (Total)	90.9 mg/L	0.2	EPA 200.7
Magnesium (Total)	13.1 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	2 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.014 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	2 mg/L	1	SM5310B

Lab ID # AB22417	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	866.4 MPN/100mL	1	SM9223B

SiteID: OBS-06-0009 **Sample Date:** 8/4/2015 **IDEM Sample #:** AB22780
Water Flow Type Pool **Water Appearance** Clear **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	77.1 %		ASTM D888-09(C)
DO	6.86 mg/L		ASTM D888-09(C)
pH (Field)	7.49 SU		EPA 150.2
Specific Conductance (Field)	570 umho/cm		SM2510B
Temperature	20.81 °C		SM2550B(2)
Turbidity (Hach)	1.7 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	1 Lookup		Observation

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

Lab ID # 545210	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	266 mg/L	10	EPA 310.2
Chloride	5.7 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	310 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	344 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	325 mg/L	10	SM2540C
Sulfate	28 mg/L	5	EPA 375.2
Calcium (Total)	93 mg/L	0.2	EPA 200.7
Magnesium (Total)	13.2 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.4 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.01 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	2.2 mg/L	1	SM5310B

Lab ID # AB22780	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	365.4 MPN/100mL	1	SM9223B

SiteID: OBS-06-0009 **Sample Date:** 8/11/2015 **IDEM Sample #:** AB22902
Water Flow Type Pool **Water Appearance** Clear **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	86.7 %		ASTM D888-09(C)
DO	7.71 mg/L		ASTM D888-09(C)
pH (Field)	7.93 SU		EPA 150.2
Specific Conductance (Field)	552 umho/cm		SM2510B
Temperature	21.06 °C		SM2550B(2)
Turbidity (Hach)	1.91 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID # AB22902	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1046.2 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0009 Sample Date: 8/18/2015 IDEM Sample #: AB22937
 Water Flow Type Pool Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	84.6 %		ASTM D888-09(C)
DO	7.7 mg/L		ASTM D888-09(C)
pH (Field)	7.75 SU		EPA 150.2
Specific Conductance (Field)	528 umho/cm		SM2510B
Temperature	19.83 °C		SM2550B(2)
Turbidity (Hach)	1.58 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

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

SiteID: OBS-06-0009 Sample Date: 8/25/2015 IDEM Sample #: AB23000
 Water Flow Type Pool Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	84.9 %		ASTM D888-09(C)
DO	8.12 mg/L		ASTM D888-09(C)
pH (Field)	7.58 SU		EPA 150.2
Specific Conductance (Field)	544 umho/cm		SM2510B
Temperature	17.53 °C		SM2550B(2)
Turbidity (Hach)	2.63 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
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	547.5 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0009 Sample Date: 9/1/2015 IDEM Sample #: AB23034
 Water Flow Type Pool Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments: Isolated Pool

Lab ID #	Result	Reporting Limit	Method
% Sat	53.7 %		ASTM D888-09(C)
DO	4.83 mg/L		ASTM D888-09(C)
pH (Field)	7.55 SU		EPA 150.2
Specific Conductance (Field)	526 umho/cm		SM2510B
Temperature	20.58 °C		SM2550B(2)
Turbidity (Hach)	3.2 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 547442	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	221 mg/L	10	EPA 310.2
Chloride	8.4 mg/L	5	SM4500CI-E
Hardness (as CaCO3)	297 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	318 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	302 mg/L	10	SM2540C
Sulfate	33 mg/L	5	EPA 375.2
Calcium (Total)	84.2 mg/L	0.2	EPA 200.7
Magnesium (Total)	11.4 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	< 0.1 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.014 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	2 mg/L	1	SM5310B

Lab ID # AB23034	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	85.7 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
2 - Scattered	9 - Snow	9 - East (90 Degrees)	1 - Light
3 - Partly	10 - Sleet	18 - South (180 Degrees)	2 - Mod./Light
4 - Cloudy		27 - West (270 Degrees)	3 - Moderate
5 - Mist			4 - Mod./Strong
6 - Fog			5 - Strong
7 - Shower			6 - > 86

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

SiteID: OBS-06-0004 **USGS Hydrologic Unit:** 051401040604
Stream Name: South Fork Blue River **County:** Washington
Description: Martinsburg Road **Latitude:** 38 29 53.25940 **Longitude:** -86 2 12.02374
Drainage: 51.847 **Site Number:** 15T-011

SiteID: OBS-06-0004 **Sample Date:** 11/12/2014 **IDEM Sample #:** AB19597
Water Flow Type Run **Water Appearance** Clear **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

<u>Lab ID #</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	81 %		ASTM D888-09(C)
DO	9.55 mg/L		ASTM D888-09(C)
pH (Field)	7.17 SU		EPA 150.2
Specific Conductance (Field)	239 umho/cm		SM2510B
Temperature	8.09 °C		SM2550B(2)
Turbidity (Hach)	2.13 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Flow	6.0541 cf/sec		TM D5389-95/D3858
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

<u>Lab ID # 522229</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	64 mg/L	10	EPA 310.2
Chloride	13 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	92 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 4 mg/L	4	SM2540D
Solids, Total (TS)	145 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	138 mg/L	10	SM2540C
Sulfate	23 mg/L	5	EPA 375.2
Calcium (Total)	24.7 mg/L	0.2	EPA 200.7
Magnesium (Total)	5.97 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.5 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.015 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	2.8 mg/L	1	SM5310B

<u>Lab ID # AB19597</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
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: OBS-06-0004

Sample Date: 12/8/2014

IDEM Sample #: AB19640

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 was not taken due to dangerous conditions.

Lab ID #	Result	Reporting Limit	Method
% Sat	95.6 %		ASTM D888-09(C)
DO	12.1 mg/L		ASTM D888-09(C)
pH (Field)	7.43 SU		EPA 150.2
Specific Conductance (Field)	175 umho/cm		SM2510B
Temperature	5.34 °C		SM2550B(2)
Turbidity (Hach)	8.32 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	4 Lookup		Observation
Lab ID # 524389	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	42 mg/L	10	EPA 310.2
Chloride	7.1 mg/L	5	SM4500CI-E
Hardness (as CaCO3)	68 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	6 mg/L	6	SM2540D
Solids, Total (TS)	123 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	109 mg/L	10	SM2540C
Sulfate	19 mg/L	5	EPA 375.2
Calcium (Total)	18.8 mg/L	0.2	EPA 200.7
Magnesium (Total)	4.57 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.6 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.048 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	2.6 mg/L	1	SM5310B
Lab ID # AB19640	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	344.8 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0004 Sample Date: 1/5/2015 IDEM Sample #: AB20114
 Water Flow Type Run Water Appearance Murky Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments: Streamflow not taken due to high flow event and extreme cold weather.

Lab ID #	Result	Reporting Limit	Method
% Sat	109.2 %		ASTM D888-09(C)
DO	15.43 mg/L		ASTM D888-09(C)
pH (Field)	7.6 SU		EPA 150.2
Specific Conductance (Field)	143 umho/cm		SM2510B
Temperature	1.02 °C		SM2550B(2)
Turbidity (Hach)	12.8 NTU		EPA 180.1
Air Temp	1 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 526626	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	29 mg/L	10	EPA 310.2
Chloride	< 5 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	64 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	8 mg/L	6	SM2540D
Solids, Total (TS)	113 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	97 mg/L	10	SM2540C
Sulfate	17 mg/L	5	EPA 375.2
Calcium (Total)	16.2 mg/L	0.2	EPA 200.7
Magnesium (Total)	4.2 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.3 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.036 mg/L	0.03	EPA 365.1
TKN	0.3 mg/L	0.3	EPA 351.2
TOC	2.7 mg/L	1	SM5310B

Lab ID # AB20114	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	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: OBS-06-0004

Sample Date: 2/2/2015

IDEM Sample #: AB20347

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	95.9 %		ASTM D888-09(C)
DO	13.43 mg/L		ASTM D888-09(C)
pH (Field)	7.77 SU		EPA 150.2
Specific Conductance (Field)	186 umho/cm		SM2510B
Temperature	1.5 °C		SM2550B(2)
Turbidity (Hach)	22.9 NTU		EPA 180.1
Air Temp	1 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID # 528880	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	37 mg/L	10	EPA 310.2
Chloride	11 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	72 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	10 mg/L	6	SM2540D
Solids, Total (TS)	144 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	122 mg/L	10	SM2540C
Sulfate	26 mg/L	5	EPA 375.2
Calcium (Total)	19.7 mg/L	0.2	EPA 200.7
Magnesium (Total)	4.84 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.08 mg/L	0.03	EPA 365.1
TKN	0.7 mg/L	0.3	EPA 351.2
TOC	6.3 mg/L	1	SM5310B

Lab ID # AB20347	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	980.4 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0004

Sample Date: 3/2/2015

IDEM Sample #: AB20569

Water Flow Type Pool

Water Appearance Clear

Water Depth Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	106.7 %		ASTM D888-09(C)
DO	15.6 mg/L		ASTM D888-09(C)
pH (Field)	8.07 SU		EPA 150.2
Specific Conductance (Field)	199 umho/cm		SM2510B
Temperature	0 °C		SM2550B(2)
Turbidity (Hach)	2.08 NTU		EPA 180.1
Air Temp	1 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 531459	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	40 mg/L	10	EPA 310.2
Chloride	11 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	80 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	119 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	108 mg/L	10	SM2540C
Sulfate	31 mg/L	5	EPA 375.2
Calcium (Total)	22.1 mg/L	0.2	EPA 200.7
Magnesium (Total)	5.64 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.01 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	< 1 mg/L	1	SM5310B

Lab ID # AB20569	Result	Reporting Limit	Method
Coliforms (Total)	866.4 MPN/100mL	1	SM9223B
E. coli	7.5 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0004 Sample Date: 4/6/2015 IDEM Sample #: AB21028
 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	99.8 %		ASTM D888-09(C)
DO	11.17 mg/L		ASTM D888-09(C)
pH (Field)	7.75 SU		EPA 150.2
Specific Conductance (Field)	135 umho/cm		SM2510B
Temperature	10.36 °C		SM2550B(2)
Turbidity (Hach)	25.9 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Flow	134.0182 cf/sec		FM D5389-95/D3858
Sky Conditions	4 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 534790	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	28 mg/L	10	EPA 310.2
Chloride	5.2 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	55 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	12 mg/L	6	SM2540D
Solids, Total (TS)	108 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	90 mg/L	10	SM2540C
Sulfate	19 mg/L	5	EPA 375.2
Calcium (Total)	15.1 mg/L	0.2	EPA 200.7
Magnesium (Total)	3.83 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.3 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.047 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	2.1 mg/L	1	SM5310B

Lab ID # AB21028	Result	Reporting Limit	Method
Coliforms (Total)	1986.3 MPN/100mL	1	SM9223B
E. coli	547.5 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0004 Sample Date: 5/11/2015 IDEM Sample #: AB21458
 Water Flow Type Run Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	89.1 %		ASTM D888-09(C)
DO	7.87 mg/L		ASTM D888-09(C)
pH (Field)	7.63 SU		EPA 150.2
Specific Conductance (Field)	196 umho/cm		SM2510B
Temperature	21.46 °C		SM2550B(2)
Turbidity (Hach)	5.15 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Flow	7.4973 cf/sec		FM D5389-95/D3858
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	3 Lookup		Observation

Lab ID # 537990	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	54 mg/L	10	EPA 310.2
Chloride	8.1 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	82 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	6 mg/L	6	SM2540D
Solids, Total (TS)	132 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	120 mg/L	10	SM2540C
Sulfate	26 mg/L	5	EPA 375.2
Calcium (Total)	22.4 mg/L	0.2	EPA 200.7
Magnesium (Total)	5.21 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.8 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.021 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	2.1 mg/L	1	SM5310B

Lab ID # AB21458	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	166.4 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0004 Sample Date: 6/1/2015 IDEM Sample #: AB21760
 Water Flow Type Pool Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	72.6 %		ASTM D888-09(C)
DO	6.98 mg/L		ASTM D888-09(C)
pH (Field)	7.56 SU		EPA 150.2
Specific Conductance (Field)	219 umho/cm		SM2510B
Temperature	17.14 °C		SM2550B(2)
Turbidity (Hach)	6.97 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Flow	3.7648 cf/sec		FM D5389-95/D3858
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID # 539841	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	62 mg/L	10	EPA 310.2
Chloride	9.8 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	83 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	8 mg/L	6	SM2540D
Solids, Total (TS)	142 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	127 mg/L	10	SM2540C
Sulfate	25 mg/L	5	EPA 375.2
Calcium (Total)	27.6 mg/L	0.2	EPA 200.7
Magnesium (Total)	6.29 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.4 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.033 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	2 mg/L	1	SM5310B

Lab ID # AB21760	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	365.4 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0004

Sample Date: 7/13/2015

IDEM Sample #: AB22418

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 was not taken due to dangerous weather incoming

Lab ID #	Result	Reporting Limit	Method
% Sat	92 %		ASTM D888-09(C)
DO	8.16 mg/L		ASTM D888-09(C)
pH (Field)	7.77 SU		EPA 150.2
Specific Conductance (Field)	131 umho/cm		SM2510B
Temperature	21.24 °C		SM2550B(2)
Turbidity (Hach)	14.9 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	8 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID # 543524	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	29 mg/L	10	EPA 310.2
Chloride	< 5 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	51 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	15 mg/L	6	SM2540D
Solids, Total (TS)	121 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	94 mg/L	10	SM2540C
Sulfate	17 mg/L	5	EPA 375.2
Calcium (Total)	14.3 mg/L	0.2	EPA 200.7
Magnesium (Total)	3.93 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.8 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.033 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	3.2 mg/L	1	SM5310B

Lab ID # AB22418	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	770.1 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0004 Sample Date: 8/4/2015 IDEM Sample #: AB22791
 Water Flow Type Run Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	92.2 %		ASTM D888-09(C)
DO	7.71 mg/L		ASTM D888-09(C)
pH (Field)	7.68 SU		EPA 150.2
Specific Conductance (Field)	212 umho/cm		SM2510B
Temperature	24.37 °C		SM2550B(2)
Turbidity (Hach)	9.16 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Flow	6.1008 cf/sec		FM D5389-95/D3858
Sky Conditions	3 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 545211	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	64 mg/L	10	EPA 310.2
Chloride	9.5 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	84 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	6 mg/L	6	SM2540D
Solids, Total (TS)	141 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	126 mg/L	10	SM2540C
Sulfate	19 mg/L	5	EPA 375.2
Calcium (Total)	25.4 mg/L	0.2	EPA 200.7
Magnesium (Total)	5.46 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.2 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.023 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	2.2 mg/L	1	SM5310B

Lab ID # AB22791	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	344.8 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0004 Sample Date: 8/11/2015 IDEM Sample #: AB22903
 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	86.8 %		ASTM D888-09(C)
DO	7.26 mg/L		ASTM D888-09(C)
pH (Field)	7.59 SU		EPA 150.2
Specific Conductance (Field)	213 umho/cm		SM2510B
Temperature	23.75 °C		SM2550B(2)
Turbidity (Hach)	12.3 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

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

SiteID: OBS-06-0004 Sample Date: 8/18/2015 IDEM Sample #: AB22938
 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	80.5 %		ASTM D888-09(C)
DO	7.03 mg/L		ASTM D888-09(C)
pH (Field)	7.55 SU		EPA 150.2
Specific Conductance (Field)	216 umho/cm		SM2510B
Temperature	22.1 °C		SM2550B(2)
Turbidity (Hach)	12.3 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	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: OBS-06-0004 Sample Date: 8/25/2015 IDEM Sample #: AB23001
 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	85.9 %		ASTM D888-09(C)
DO	7.83 mg/L		ASTM D888-09(C)
pH (Field)	7.65 SU		EPA 150.2
Specific Conductance (Field)	221 umho/cm		SM2510B
Temperature	19.75 °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	2 Lookup		Observation

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

SiteID: OBS-06-0004 Sample Date: 9/1/2015 IDEM Sample #: AB23035
 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	97.6 %		ASTM D888-09(C)
DO	8.43 mg/L		ASTM D888-09(C)
pH (Field)	7.62 SU		EPA 150.2
Specific Conductance (Field)	224 umho/cm		SM2510B
Temperature	22.53 °C		SM2550B(2)
Turbidity (Hach)	9.15 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Flow	1.4463 cf/sec		TM D5389-95/D3858
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

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

Lab ID # 547443	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	74 mg/L	10	EPA 310.2
Chloride	9.7 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	93 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	7 mg/L	6	SM2540D
Solids, Total (TS)	142 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	127 mg/L	10	SM2540C
Sulfate	19 mg/L	5	EPA 375.2
Calcium (Total)	27.1 mg/L	0.2	EPA 200.7
Magnesium (Total)	5.68 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.2 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.024 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	2 mg/L	1	SM5310B

Lab ID # AB23035	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1203.3 MPN/100mL	1	SM9223B

SiteID: OBS-06-0004 **Sample Date:** 9/8/2015 **IDEM Sample #:** AB22132
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	74.8 %		SM4500-OG
% Sat	77.7 %		SM4500-OG
DO	6.27 mg/L		SM4500-OG
DO	6.36 mg/L		SM4500-OG
pH (Field)	7.1 SU		EPA 150.2
pH (Field)	7.08 SU		EPA 150.2
Specific Conductance (Field)	206 umho/cm		SM2510B
Specific Conductance (Field)	205 umho/cm		SM2510B
Temperature	25.02 °C		SM2550B(2)
Temperature	25.08 °C		SM2550B(2)
Turbidity (Hach)	7.51 NTU		EPA 180.1
Turbidity (Hach)	7.51 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Air Temp	6 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	1 Lookup		Observation
Wind Strength	0 Lookup		Observation

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

SiteID: OBS-06-0004 **Sample Date:** 10/5/2015 **IDEM Sample #:** AB23301
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	70.5 %		ASTM D888-09(C)
DO	7.02 mg/L		ASTM D888-09(C)
pH (Field)	7.59 SU		EPA 150.2
Specific Conductance (Field)	221 umho/cm		SM2510B
Temperature	15.52 °C		SM2550B(2)
Turbidity (Hach)	5.57 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Flow	0.7021 cf/sec		FM D5389-95/D3858
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 550217	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	81 mg/L	10	EPA 310.2
Chloride	8.9 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	94 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	136 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	128 mg/L	10	SM2540C
Sulfate	14 mg/L	5	EPA 375.2
Calcium (Total)	27.9 mg/L	0.2	EPA 200.7
Magnesium (Total)	6.04 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.2 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.028 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	2.2 mg/L	1	SM5310B

Lab ID # AB23301	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	228.2 MPN/100mL	1	SM9223B

Weather Code Definitions			
SC Sky Conditions	WD Wind Direction	WS Wind Strength	AT Air Temp
1 - Clear	8 - Rain	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	2 - Mod./Light	3 - 46-60
4 - Cloudy		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: OBS-06-0006 **USGS Hydrologic Unit:** 051401040602
Stream Name: Tributary of South Fork Blue River **County:** Washington
Description: Shorts Corner Rd **Latitude:** 38 30 19.32303 **Longitude:** -86 1 12.10431
Drainage: 6.328 **Site Number:** 15T-012

SiteID: OBS-06-0006 **Sample Date:** 4/6/2015 **IDEM Sample #:** AB21029
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	99.4 %		ASTM D888-09(C)
DO	10.63 mg/L		ASTM D888-09(C)
pH (Field)	8 SU		EPA 150.2
Specific Conductance (Field)	207 umho/cm		SM2510B
Temperature	12.29 °C		SM2550B(2)
Turbidity (Hach)	12 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 534791	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	66 mg/L	10	EPA 310.2
Chloride	6.6 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	88 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	7 mg/L	6	SM2540D
Solids, Total (TS)	138 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	124 mg/L	10	SM2540C
Sulfate	15 mg/L	5	EPA 375.2
Calcium (Total)	28.6 mg/L	0.2	EPA 200.7
Magnesium (Total)	5.3 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	2.1 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.052 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	1.6 mg/L	1	SM5310B

Lab ID # AB21029	Result	Reporting Limit	Method
Coliforms (Total)	2419.6 MPN/100mL	1	SM9223B
E. coli	436 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0006 Sample Date: 5/11/2015 IDEM Sample #: AB21459
 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	123.8 %		ASTM D888-09(C)
DO	10.9 mg/L		ASTM D888-09(C)
pH (Field)	8.3 SU		EPA 150.2
Specific Conductance (Field)	233 umho/cm		SM2510B
Temperature	21.6 °C		SM2550B(2)
Turbidity (Hach)	2.18 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 537991	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	80 mg/L	10	EPA 310.2
Chloride	9 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	87 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	147 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	138 mg/L	10	SM2540C
Sulfate	15 mg/L	5	EPA 375.2
Calcium (Total)	30.6 mg/L	0.2	EPA 200.7
Magnesium (Total)	5.89 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.7 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.013 mg/L	0.03	EPA 365.1
TKN	0.3 mg/L	0.3	EPA 351.2
TOC	2 mg/L	1	SM5310B

Lab ID # AB21459	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	172 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0006

Sample Date: 6/1/2015

IDEM Sample #: AB21761

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	90.6 %		ASTM D888-09(C)
DO	8.99 mg/L		ASTM D888-09(C)
pH (Field)	7.88 SU		EPA 150.2
Specific Conductance (Field)	237 umho/cm		SM2510B
Temperature	15.67 °C		SM2550B(2)
Turbidity (Hach)	2.2 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 539842	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	84 mg/L	10	EPA 310.2
Chloride	8.3 mg/L	5	SM4500CI-E
Hardness (as CaCO3)	99 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	144 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	138 mg/L	10	SM2540C
Sulfate	15 mg/L	5	EPA 375.2
Calcium (Total)	35.5 mg/L	0.2	EPA 200.7
Magnesium (Total)	7.09 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.5 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.026 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	1.8 mg/L	1	SM5310B

Lab ID # AB21761	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: OBS-06-0006 Sample Date: 6/22/2015 IDEM Sample #: AB22133
 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	93.8 %		SM4500-OG
DO	8.25 mg/L		SM4500-OG
pH (Field)	7.82 SU		EPA 150.2
Specific Conductance (Field)	241 umho/cm		SM2510B
Temperature	21 °C		SM2550B(2)
Turbidity (Hach)	6.46 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

SiteID: OBS-06-0006 Sample Date: 7/13/2015 IDEM Sample #: AB22419
 Water Flow Type Eddy Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	88.5 %		ASTM D888-09(C)
DO	7.7 mg/L		ASTM D888-09(C)
pH (Field)	7.88 SU		EPA 150.2
Specific Conductance (Field)	229 umho/cm		SM2510B
Temperature	22.18 °C		SM2550B(2)
Turbidity (Hach)	4.98 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

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

Lab ID # 543525	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	80 mg/L	10	EPA 310.2
Chloride	7.9 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	100 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	161 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	145 mg/L	10	SM2540C
Sulfate	14 mg/L	5	EPA 375.2
Calcium (Total)	31.7 mg/L	0.2	EPA 200.7
Magnesium (Total)	6.23 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.4 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.029 mg/L	0.03	EPA 365.1
TKN	0.3 mg/L	0.3	EPA 351.2
TOC	2.5 mg/L	1	SM5310B

Lab ID # AB22419	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1986.3 MPN/100mL	1	SM9223B

SiteID: OBS-06-0006 **Sample Date:** 8/4/2015 **IDEM Sample #:** AB22779
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	102.2 %		ASTM D888-09(C)
DO	8.7 mg/L		ASTM D888-09(C)
pH (Field)	7.95 SU		EPA 150.2
Specific Conductance (Field)	270 umho/cm		SM2510B
Temperature	23.37 °C		SM2550B(2)
Turbidity (Hach)	1.97 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	1 Lookup		Observation

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

Lab ID # 545212	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	104 mg/L	10	EPA 310.2
Chloride	10 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	118 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	161 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	154 mg/L	10	SM2540C
Sulfate	16 mg/L	5	EPA 375.2
Calcium (Total)	34.7 mg/L	0.2	EPA 200.7
Magnesium (Total)	6.28 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.9 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.032 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	2.1 mg/L	1	SM5310B

Lab ID # AB22779	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	141.4 MPN/100mL	1	SM9223B

SiteID: OBS-06-0006 **Sample Date:** 8/11/2015 **IDEM Sample #:** AB22904
Water Flow Type Run **Water Appearance** Clear **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	94.5 %		ASTM D888-09(C)
DO	8.16 mg/L		ASTM D888-09(C)
pH (Field)	7.9 SU		EPA 150.2
Specific Conductance (Field)	270 umho/cm		SM2510B
Temperature	22.61 °C		SM2550B(2)
Turbidity (Hach)	2.36 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID # AB22904	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	344.8 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0006 Sample Date: 8/18/2015 IDEM Sample #: AB22939
 Water Flow Type Run Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	95.3 %		ASTM D888-09(C)
DO	8.46 mg/L		ASTM D888-09(C)
pH (Field)	7.92 SU		EPA 150.2
Specific Conductance (Field)	261 umho/cm		SM2510B
Temperature	21.2 °C		SM2550B(2)
Turbidity (Hach)	1.39 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

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

SiteID: OBS-06-0006 Sample Date: 8/25/2015 IDEM Sample #: AB23002
 Water Flow Type Run Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	97.5 %		ASTM D888-09(C)
DO	9.16 mg/L		ASTM D888-09(C)
pH (Field)	7.92 SU		EPA 150.2
Specific Conductance (Field)	252 umho/cm		SM2510B
Temperature	18.37 °C		SM2550B(2)
Turbidity (Hach)	2.75 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
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	108.6 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0006 Sample Date: 9/1/2015 IDEM Sample #: AB23036
 Water Flow Type Run Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	104.3 %		ASTM D888-09(C)
DO	9.03 mg/L		ASTM D888-09(C)
pH (Field)	7.68 SU		EPA 150.2
Specific Conductance (Field)	250 umho/cm		SM2510B
Temperature	22.45 °C		SM2550B(2)
Turbidity (Hach)	4.94 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 547444	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	99 mg/L	10	EPA 310.2
Chloride	8 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	108 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	144 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	137 mg/L	10	SM2540C
Sulfate	14 mg/L	5	EPA 375.2
Calcium (Total)	32.3 mg/L	0.2	EPA 200.7
Magnesium (Total)	6.25 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.5 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.022 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	1.9 mg/L	1	SM5310B

Lab ID # AB23036	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	32.3 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0006 Sample Date: 9/10/2015 IDEM Sample #: AB22395
 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	56.6 %		ASTM D888-09(C)
DO	4.91 mg/L		ASTM D888-09(C)
pH (Field)	7.36 SU		EPA 150.2
Specific Conductance (Field)	230 umho/cm		SM2510B
Temperature	21.09 °C		SM2550B(2)
Turbidity (Hach)	1.66 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

SiteID: OBS-06-0006 Sample Date: 10/5/2015 IDEM Sample #: AB23302
 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	87.2 %		ASTM D888-09(C)
DO	8.26 mg/L		ASTM D888-09(C)
pH (Field)	7.78 SU		EPA 150.2
Specific Conductance (Field)	254 umho/cm		SM2510B
Temperature	17.87 °C		SM2550B(2)
Turbidity (Hach)	1.75 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

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

Lab ID # 550218	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	94 mg/L	10	EPA 310.2
Chloride	9.2 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	102 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	153 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	204 mg/L	10	SM2540C
Sulfate	15 mg/L	5	EPA 375.2
Calcium (Total)	32.6 mg/L	0.2	EPA 200.7
Magnesium (Total)	6.58 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.1 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.026 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	1.9 mg/L	1	SM5310B

Lab ID # AB23302	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	22.8 MPN/100mL	1	SM9223B

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

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

SiteID: OBS-06-0012 **USGS Hydrologic Unit:** 051401040602
Stream Name: Tributary of South Fork Blue River **County:** Washington
Description: Mahuron Rd **Latitude:** 38 30 31.42457 **Longitude:** -86 0 55.82159
Drainage: 3.450 **Site Number:** 15T-013

SiteID: OBS-06-0012 **Sample Date:** 4/7/2015 **IDEM Sample #:** AB21030
Water Flow Type Eddy **Water Appearance** Brown **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

<u>Lab ID #</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	95.5 %		ASTM D888-09(C)
DO	10.21 mg/L		ASTM D888-09(C)
pH (Field)	7.09 SU		EPA 150.2
Specific Conductance (Field)	53 umho/cm		SM2510B
Temperature	12.41 °C		SM2550B(2)
Turbidity (Hach)	> 1000 NTU	1000	EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	7 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

<u>Lab ID # 534792</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	28 mg/L	10	EPA 310.2
Chloride	5.6 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	70 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	1770 mg/L	60	SM2540D
Solids, Total (TS)	2370 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	73 mg/L	10	SM2540C
Sulfate	7 mg/L	5	EPA 375.2
Calcium (Total)	13 mg/L	0.2	EPA 200.7
Magnesium (Total)	5.33 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.4 mg/L	0.1	EPA 353.1
Phosphorus, Total	1.326 mg/L	0.075	EPA 365.1
TKN	5.6 mg/L	1.5	EPA 351.2
TOC	12.1 mg/L	1	SM5310B

<u>Lab ID # AB21030</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B

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

SiteID: OBS-06-0012 Sample Date: 5/12/2015 IDEM Sample #: AB21460
 Water Flow Type Pool Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	93.4 %		ASTM D888-09(C)
DO	9.09 mg/L		ASTM D888-09(C)
pH (Field)	7.73 SU		EPA 150.2
Specific Conductance (Field)	193 umho/cm		SM2510B
Temperature	16.69 °C		SM2550B(2)
Turbidity (Hach)	1.98 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 537992	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	67 mg/L	10	EPA 310.2
Chloride	6 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	86 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	125 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	117 mg/L	10	SM2540C
Sulfate	17 mg/L	5	EPA 375.2
Calcium (Total)	24.7 mg/L	0.2	EPA 200.7
Magnesium (Total)	5.45 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.6 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.015 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	2.2 mg/L	1	SM5310B

Lab ID # AB21460	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	178.5 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0012

Sample Date: 6/2/2015

IDEM Sample #: AB21762

Water Flow Type Run

Water Appearance Clear

Water Depth Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	89.3 %		ASTM D888-09(C)
DO	9.17 mg/L		ASTM D888-09(C)
pH (Field)	7.85 SU		EPA 150.2
Specific Conductance (Field)	196 umho/cm		SM2510B
Temperature	14.16 °C		SM2550B(2)
Turbidity (Hach)	2.62 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 539843	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	69 mg/L	10	EPA 310.2
Chloride	5.6 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	84 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	124 mg/L	20	SM2540B
Solids, Total Dissolved (TDS)	116 mg/L	10	SM2540C
Sulfate	16 mg/L	5	EPA 375.2
Calcium (Total)	28.4 mg/L	0.2	EPA 200.7
Magnesium (Total)	6.3 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.4 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.019 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	1.9 mg/L	1	SM5310B

Lab ID # AB21762	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	275.5 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0012 Sample Date: 6/22/2015 IDEM Sample #: AB22134
 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	93 %		SM4500-OG
DO	8.04 mg/L		SM4500-OG
pH (Field)	8.09 SU		EPA 150.2
Specific Conductance (Field)	173 umho/cm		SM2510B
Temperature	21.5 °C		SM2550B(2)
Turbidity (Hach)	5.4 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

SiteID: OBS-06-0012 Sample Date: 7/14/2015 IDEM Sample #: AB22420
 Water Flow Type Flood 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	90.2 %		ASTM D888-09(C)
DO	7.86 mg/L		ASTM D888-09(C)
pH (Field)	7.3 SU		EPA 150.2
Specific Conductance (Field)	126 umho/cm		SM2510B
Temperature	22.2 °C		SM2550B(2)
Turbidity (Hach)	45.9 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

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

Lab ID # 543526	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	34 mg/L	10	EPA 310.2
Chloride	< 5 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	57 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	51 mg/L	6	SM2540D
Solids, Total (TS)	154 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	96 mg/L	10	SM2540C
Sulfate	9.8 mg/L	5	EPA 375.2
Calcium (Total)	15.7 mg/L	0.2	EPA 200.7
Magnesium (Total)	4.03 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.6 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.106 mg/L	0.03	EPA 365.1
TKN	0.8 mg/L	0.3	EPA 351.2
TOC	5 mg/L	1	SM5310B

Lab ID # AB22420a	Result	Reporting Limit	Method
Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B
E. coli	3448 MPN/100mL	10	SM9223B

SiteID: OBS-06-0012 **Sample Date:** 8/5/2015 **IDEM Sample #:** AB22778
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	86 %		ASTM D888-09(C)
DO	7.62 mg/L		ASTM D888-09(C)
pH (Field)	7.7 SU		EPA 150.2
Specific Conductance (Field)	213 umho/cm		SM2510B
Temperature	21.34 °C		SM2550B(2)
Turbidity (Hach)	2.96 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	1 Lookup		Observation

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

Lab ID # 545213	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	83 mg/L	10	EPA 310.2
Chloride	6.6 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	97 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	129 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	122 mg/L	10	SM2540C
Sulfate	12 mg/L	5	EPA 375.2
Calcium (Total)	27.4 mg/L	0.2	EPA 200.7
Magnesium (Total)	5.88 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.6 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.019 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	2.4 mg/L	1	SM5310B

Lab ID # AB22778	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	238.2 MPN/100mL	1	SM9223B

SiteID: OBS-06-0012 **Sample Date:** 8/12/2015 **IDEM Sample #:** AB22905
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	87.2 %		ASTM D888-09(C)
DO	7.95 mg/L		ASTM D888-09(C)
pH (Field)	7.79 SU		EPA 150.2
Specific Conductance (Field)	216 umho/cm		SM2510B
Temperature	19.84 °C		SM2550B(2)
Turbidity (Hach)	2.83 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 # AB22905	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	275.5 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0012 Sample Date: 8/19/2015 IDEM Sample #: AB22940
 Water Flow Type Pool Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	85.2 %		ASTM D888-09(C)
DO	7.67 mg/L		ASTM D888-09(C)
pH (Field)	7.72 SU		EPA 150.2
Specific Conductance (Field)	215 umho/cm		SM2510B
Temperature	20.41 °C		SM2550B(2)
Turbidity (Hach)	3.69 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	8 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation
Lab ID # AB22940	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1553.1 MPN/100mL	1	SM9223B

SiteID: OBS-06-0012 Sample Date: 8/26/2015 IDEM Sample #: AB23003
 Water Flow Type Run Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	88.7 %		ASTM D888-09(C)
DO	8.79 mg/L		ASTM D888-09(C)
pH (Field)	7.74 SU		EPA 150.2
Specific Conductance (Field)	218 umho/cm		SM2510B
Temperature	15.8 °C		SM2550B(2)
Turbidity (Hach)	2.35 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation
Lab ID # AB23003	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	770.1 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0012 Sample Date: 9/2/2015 IDEM Sample #: AB23037
 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	77.1 %		ASTM D888-09(C)
DO	7.05 mg/L		ASTM D888-09(C)
pH (Field)	7.58 SU		EPA 150.2
Specific Conductance (Field)	227 umho/cm		SM2510B
Temperature	19.75 °C		SM2550B(2)
Turbidity (Hach)	2.02 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 547445	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	93 mg/L	10	EPA 310.2
Chloride	6.2 mg/L	5	SM4500CI-E
Hardness (as CaCO3)	101 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	137 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	131 mg/L	10	SM2540C
Sulfate	12 mg/L	5	EPA 375.2
Calcium (Total)	29.8 mg/L	0.2	EPA 200.7
Magnesium (Total)	6.22 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.8 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.017 mg/L	0.03	EPA 365.1
TKN	0.3 mg/L	0.3	EPA 351.2
TOC	2.2 mg/L	1	SM5310B

Lab ID # AB23037	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	285.1 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0012 Sample Date: 9/8/2015 IDEM Sample #: AB22396
 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	81.8 %		SM4500-OG
DO	6.94 mg/L		SM4500-OG
pH (Field)	7.43 SU		EPA 150.2
Specific Conductance (Field)	206 umho/cm		SM2510B
Temperature	22.36 °C		SM2550B(2)
Turbidity (Hach)	1.98 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

SiteID: OBS-06-0012 Sample Date: 10/6/2015 IDEM Sample #: AB23303
 Water Flow Type Pool Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	65.6 %		ASTM D888-09(C)
DO	6.65 mg/L		ASTM D888-09(C)
pH (Field)	7.79 SU		EPA 150.2
Specific Conductance (Field)	218 umho/cm		SM2510B
Temperature	14.86 °C		SM2550B(2)
Turbidity (Hach)	2.36 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

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

Lab ID # 550219	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	83 mg/L	10	EPA 310.2
Chloride	6.7 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	92 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	136 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	127 mg/L	10	SM2540C
Sulfate	15 mg/L	5	EPA 375.2
Calcium (Total)	28.6 mg/L	0.2	EPA 200.7
Magnesium (Total)	6.35 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.1 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.021 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	2.2 mg/L	1	SM5310B

Lab ID # AB23303	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	67.7 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: OBS-06-0018 **USGS Hydrologic Unit:** 051401040602
Stream Name: South Fork Blue River **County:** Washington
Description: Main Street **Latitude:** 38 30 3.57485 **Longitude:** -86 0 34.62167
Drainage: 40.553 **Site Number:** 15T-014

SiteID: OBS-06-0018 **Sample Date:** 4/7/2015 **IDEM Sample #:** AB21031
Water Flow Type Eddy **Water Appearance** Brown **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

<u>Lab ID #</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	95.3 %		ASTM D888-09(C)
DO	10.21 mg/L		ASTM D888-09(C)
pH (Field)	7.17 SU		EPA 150.2
Specific Conductance (Field)	65 umho/cm		SM2510B
Temperature	12.23 °C		SM2550B(2)
Turbidity (Hach)	894 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	7 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

<u>Lab ID #</u> 534793	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	< 10 mg/L	10	EPA 310.2
Chloride	8 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	57 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	1240 mg/L	30	SM2540D
Solids, Total (TS)	1700 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	66 mg/L	10	SM2540C
Sulfate	11 mg/L	5	EPA 375.2
Calcium (Total)	11 mg/L	0.2	EPA 200.7
Magnesium (Total)	4.48 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.4 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.715 mg/L	0.03	EPA 365.1
TKN	3.7 mg/L	0.3	EPA 351.2
TOC	5.5 mg/L	1	SM5310B

<u>Lab ID #</u> AB21031	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B

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

SiteID: OBS-06-0018 Sample Date: 5/12/2015 IDEM Sample #: AB21461
 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	74.5 %		ASTM D888-09(C)
DO	6.91 mg/L		ASTM D888-09(C)
pH (Field)	7.2 SU		EPA 150.2
Specific Conductance (Field)	170 umho/cm		SM2510B
Temperature	19.05 °C		SM2550B(2)
Turbidity (Hach)	4.38 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 537993	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	32 mg/L	10	EPA 310.2
Chloride	8.4 mg/L	5	SM4500CI-E
Hardness (as CaCO3)	67 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	6 mg/L	6	SM2540D
Solids, Total (TS)	106 mg/L	20	SM2540B
Solids, Total Dissolved (TDS)	109 mg/L	10	SM2540C
Sulfate	30 mg/L	5	EPA 375.2
Calcium (Total)	16.8 mg/L	0.2	EPA 200.7
Magnesium (Total)	4.82 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.9 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.014 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	1.9 mg/L	1	SM5310B

Lab ID # AB21461	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	47.1 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0018

Sample Date: 6/2/2015

IDEM Sample #: AB21763

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	71.4 %		ASTM D888-09(C)
DO	7.04 mg/L		ASTM D888-09(C)
pH (Field)	7.29 SU		EPA 150.2
Specific Conductance (Field)	204 umho/cm		SM2510B
Temperature	16.03 °C		SM2550B(2)
Turbidity (Hach)	5.7 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 539844	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	41 mg/L	10	EPA 310.2
Chloride	10 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	74 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	6 mg/L	6	SM2540D
Solids, Total (TS)	140 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	124 mg/L	10	SM2540C
Sulfate	35 mg/L	5	EPA 375.2
Calcium (Total)	22.6 mg/L	0.2	EPA 200.7
Magnesium (Total)	6.27 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.5 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.022 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	2.1 mg/L	1	SM5310B

Lab ID # AB21763	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	151.5 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0018 Sample Date: 7/14/2015 IDEM Sample #: AB22421
 Water Flow Type Flood 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	82.8 %		ASTM D888-09(C)
DO	7.43 mg/L		ASTM D888-09(C)
pH (Field)	7.05 SU		EPA 150.2
Specific Conductance (Field)	54 umho/cm		SM2510B
Temperature	20.67 °C		SM2550B(2)
Turbidity (Hach)	616 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 543527	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	16 mg/L	10	EPA 310.2
Chloride	6.4 mg/L	5	SM4500CI-E
Hardness (as CaCO3)	33 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	545 mg/L	30	SM2540D
Solids, Total (TS)	696 mg/L	20	SM2540B
Solids, Total Dissolved (TDS)	84 mg/L	10	SM2540C
Sulfate	9 mg/L	5	EPA 375.2
Calcium (Total)	7.23 mg/L	0.2	EPA 200.7
Magnesium (Total)	3.51 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.2 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.378 mg/L	0.03	EPA 365.1
TKN	1.8 mg/L	0.3	EPA 351.2
TOC	9.3 mg/L	1	SM5310B

Lab ID # AB22421a	Result	Reporting Limit	Method
Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B
E. coli	8664 MPN/100mL	10	SM9223B

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

SiteID: OBS-06-0018

Sample Date: 8/5/2015

IDEM Sample #: AB22777

Water Flow Type Pool

Water Appearance Clear

Water Depth Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	73.2 %		ASTM D888-09(C)
DO	6.68 mg/L		ASTM D888-09(C)
pH (Field)	7.34 SU		EPA 150.2
Specific Conductance (Field)	185 umho/cm		SM2510B
Temperature	23.3 °C		SM2550B(2)
Turbidity (Hach)	6.27 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 545214	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	38 mg/L	10	EPA 310.2
Chloride	9.7 mg/L	5	SM4500CI-E
Hardness (as CaCO3)	72 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	129 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	113 mg/L	10	SM2540C
Sulfate	22 mg/L	5	EPA 375.2
Calcium (Total)	18.7 mg/L	0.2	EPA 200.7
Magnesium (Total)	4.84 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.5 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.012 mg/L	0.03	EPA 365.1
TKN	0.3 mg/L	0.3	EPA 351.2
TOC	2.1 mg/L	1	SM5310B

Lab ID # AB22777	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
Office of Water Quality-Watershed Assessment and Planning Branch
Surface Water Results Summary**

SiteID: OBS-06-0018 Sample Date: 8/12/2015 IDEM Sample #: AB22906
 Water Flow Type Run Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	83.8 %		ASTM D888-09(C)
DO	7.21 mg/L		ASTM D888-09(C)
pH (Field)	7.53 SU		EPA 150.2
Specific Conductance (Field)	187 umho/cm		SM2510B
Temperature	22.66 °C		SM2550B(2)
Turbidity (Hach)	6.76 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

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

SiteID: OBS-06-0018 Sample Date: 8/19/2015 IDEM Sample #: AB22941
 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	85.4 %		ASTM D888-09(C)
DO	7.44 mg/L		ASTM D888-09(C)
pH (Field)	7.48 SU		EPA 150.2
Specific Conductance (Field)	189 umho/cm		SM2510B
Temperature	22.12 °C		SM2550B(2)
Turbidity (Hach)	8.2 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	8 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	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: OBS-06-0018 Sample Date: 8/26/2015 IDEM Sample #: AB23004
 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	75 %		ASTM D888-09(C)
DO	7.04 mg/L		ASTM D888-09(C)
pH (Field)	7.49 SU		EPA 150.2
Specific Conductance (Field)	197 umho/cm		SM2510B
Temperature	18.33 °C		SM2550B(2)
Turbidity (Hach)	9.05 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID #	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	235.9 MPN/100mL	1	SM9223B

SiteID: OBS-06-0018 Sample Date: 9/2/2015 IDEM Sample #: AB23038
 Water Flow Type Run Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	88.1 %		ASTM D888-09(C)
DO	7.72 mg/L		ASTM D888-09(C)
pH (Field)	7.45 SU		EPA 150.2
Specific Conductance (Field)	202 umho/cm		SM2510B
Temperature	21.88 °C		SM2550B(2)
Turbidity (Hach)	7.92 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

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

Lab ID # 547446	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	49 mg/L	10	EPA 310.2
Chloride	11 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	78 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	137 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	120 mg/L	10	SM2540C
Sulfate	29 mg/L	5	EPA 375.2
Calcium (Total)	22.1 mg/L	0.2	EPA 200.7
Magnesium (Total)	5.49 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.3 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.033 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	2.6 mg/L	1	SM5310B

Lab ID # AB23038	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	81.3 MPN/100mL	1	SM9223B

SiteID: OBS-06-0018 **Sample Date:** 9/8/2015 **IDEM Sample #:** AB22397
Water Flow Type Pool **Water Appearance** Murky **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	63.8 %		SM4500-OG
DO	5.28 mg/L		SM4500-OG
pH (Field)	6.85 SU		EPA 150.2
Specific Conductance (Field)	187 umho/cm		SM2510B
Temperature	23.5 °C		SM2550B(2)
Turbidity (Hach)	5.84 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

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

SiteID: OBS-06-0018 Sample Date: 9/8/2015 IDEM Sample #: AB22135
 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	64.6 %		SM4500-OG
DO	5.36 mg/L		SM4500-OG
pH (Field)	6.88 SU		EPA 150.2
Specific Conductance (Field)	185 umho/cm		SM2510B
Temperature	23.53 °C		SM2550B(2)
Turbidity (Hach)	5.84 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

SiteID: OBS-06-0018 Sample Date: 10/6/2015 IDEM Sample #: AB23304
 Water Flow Type Run Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments: Beaver activity upstream

Lab ID #	Result	Reporting Limit	Method
% Sat	52.5 %		ASTM D888-09(C)
DO	5.13 mg/L		ASTM D888-09(C)
pH (Field)	7.58 SU		EPA 150.2
Specific Conductance (Field)	260 umho/cm		SM2510B
Temperature	16.42 °C		SM2550B(2)
Turbidity (Hach)	4.38 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

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

Lab ID # 550220	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	53 mg/L	10	EPA 310.2
Chloride	13 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	86 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	145 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	134 mg/L	10	SM2540C
Sulfate	30 mg/L	5	EPA 375.2
Calcium (Total)	24.5 mg/L	0.2	EPA 200.7
Magnesium (Total)	5.95 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	< 0.1 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.024 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	2.8 mg/L	1	SM5310B

Lab ID # AB23304	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	26.2 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: OBS-06-0022 **USGS Hydrologic Unit:** 051401040602
Stream Name: South Fork Blue River **County:** Washington
Description: Lockenour Road **Latitude:** 38 30 44.54356 **Longitude:** -85 58 30.24865
Drainage: 37.319 **Site Number:** 15T-015

SiteID: OBS-06-0022 **Sample Date:** 11/12/2014 **IDEM Sample #:** AB19598
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	99.3 %		ASTM D888-09(C)
DO	11.82 mg/L		ASTM D888-09(C)
pH (Field)	7.23 SU		EPA 150.2
Specific Conductance (Field)	214 umho/cm		SM2510B
Temperature	7.8 °C		SM2550B(2)
Turbidity (Hach)	2.97 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Flow	3.7903 cf/sec		FM D5389-95/D3858
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 522230	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	44 mg/L	10	EPA 310.2
Chloride	12 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	77 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 4 mg/L	4	SM2540D
Solids, Total (TS)	130 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	122 mg/L	10	SM2540C
Sulfate	28 mg/L	5	EPA 375.2
Calcium (Total)	19.6 mg/L	0.2	EPA 200.7
Magnesium (Total)	5.77 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.6 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.013 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	2.1 mg/L	1	SM5310B

Lab ID # AB19598	Result	Reporting Limit	Method
Coliforms (Total)	2419.6 MPN/100mL	1	SM9223B
E. coli	63.1 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0022

Sample Date: 12/8/2014

IDEM Sample #: AB19641

Water Flow Type Run

Water Appearance Clear

Water Depth Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	98.2 %		ASTM D888-09(C)
DO	12.3 mg/L		ASTM D888-09(C)
pH (Field)	7.32 SU		EPA 150.2
Specific Conductance (Field)	137 umho/cm		SM2510B
Temperature	5.78 °C		SM2550B(2)
Turbidity (Hach)	4.49 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Flow	65.1049 cf/sec		FM D5389-95/D3858
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	4 Lookup		Observation

Lab ID # 524390	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	25 mg/L	10	EPA 310.2
Chloride	5.9 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	53 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	98 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	88 mg/L	10	SM2540C
Sulfate	22 mg/L	5	EPA 375.2
Calcium (Total)	12.5 mg/L	0.2	EPA 200.7
Magnesium (Total)	4.06 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.3 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.023 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	2 mg/L	1	SM5310B

Lab ID # AB19641	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	111.9 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0022

Sample Date: 1/5/2015

IDEM Sample #: AB20115

Water Flow Type Run

Water Appearance Murky

Water Depth

Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments: Streamflow not taken due to high flow event and extreme cold weather.

Lab ID #	Result	Reporting Limit	Method
% Sat	99.7 %		ASTM D888-09(C)
DO	14.13 mg/L		ASTM D888-09(C)
pH (Field)	7.12 SU		EPA 150.2
Specific Conductance (Field)	114 umho/cm		SM2510B
Temperature	1.07 °C		SM2550B(2)
Turbidity (Hach)	8.67 NTU		EPA 180.1
Air Temp	1 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation
Lab ID # 526627	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	16 mg/L	10	EPA 310.2
Chloride	< 5 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	48 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	93 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	81 mg/L	10	SM2540C
Sulfate	20 mg/L	5	EPA 375.2
Calcium (Total)	10.2 mg/L	0.2	EPA 200.7
Magnesium (Total)	3.54 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.025 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	2.7 mg/L	1	SM5310B
Lab ID # AB20115	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	93.4 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0022 Sample Date: 2/2/2015 IDEM Sample #: AB20348
 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	101 %		ASTM D888-09(C)
DO	14.4 mg/L		ASTM D888-09(C)
pH (Field)	7.85 SU		EPA 150.2
Specific Conductance (Field)	150 umho/cm		SM2510B
Temperature	0.87 °C		SM2550B(2)
Turbidity (Hach)	14 NTU		EPA 180.1
Air Temp	1 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 528881	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	23 mg/L	10	EPA 310.2
Chloride	9.6 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	61 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	117 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	104 mg/L	10	SM2540C
Sulfate	25 mg/L	5	EPA 375.2
Calcium (Total)	15.6 mg/L	0.2	EPA 200.7
Magnesium (Total)	4.71 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.9 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.047 mg/L	0.03	EPA 365.1
TKN	0.5 mg/L	0.3	EPA 351.2
TOC	5.1 mg/L	1	SM5310B

Lab ID # AB20348	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	238.2 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0022

Sample Date: 3/2/2015

IDEM Sample #: AB20570

Water Flow Type Riffle

Water Appearance Clear

Water Depth Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	107 %		ASTM D888-09(C)
DO	15.6 mg/L		ASTM D888-09(C)
pH (Field)	8.15 SU		EPA 150.2
Specific Conductance (Field)	163 umho/cm		SM2510B
Temperature	0.01 °C		SM2550B(2)
Turbidity (Hach)	1.59 NTU		EPA 180.1
Air Temp	1 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 531460	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	23 mg/L	10	EPA 310.2
Chloride	9 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	62 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	99 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	90 mg/L	10	SM2540C
Sulfate	32 mg/L	5	EPA 375.2
Calcium (Total)	15.5 mg/L	0.2	EPA 200.7
Magnesium (Total)	5.07 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.7 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.009 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	< 1 mg/L	1	SM5310B

Lab ID # AB20570	Result	Reporting Limit	Method
Coliforms (Total)	461.1 MPN/100mL	1	SM9223B
E. coli	23.1 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0022

Sample Date: 4/7/2015

IDEM Sample #: AB21032

Water Flow Type Eddy

Water Appearance Brown

Water Depth

Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments: Flow was not taken due to dangerous sampling conditions. High Flow event.

Lab ID #	Result	Reporting Limit	Method
% Sat	96.2 %		ASTM D888-09(C)
DO	10.38 mg/L		ASTM D888-09(C)
pH (Field)	7.06 SU		EPA 150.2
Specific Conductance (Field)	58 umho/cm		SM2510B
Temperature	11.98 °C		SM2550B(2)
Turbidity (Hach)	> 1000 NTU	1000	EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	7 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 534794	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	11 mg/L	10	EPA 310.2
Chloride	8.2 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	83 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	4380 mg/L	60	SM2540D
Solids, Total (TS)	4610 mg/L	40	SM2540B
Solids, Total Dissolved (TDS)	73 mg/L	10	SM2540C
Sulfate	9.2 mg/L	5	EPA 375.2
Calcium (Total)	16.6 mg/L	0.2	EPA 200.7
Magnesium (Total)	6.85 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.4 mg/L	0.1	EPA 353.1
Phosphorus, Total	1.683 mg/L	0.075	EPA 365.1
TKN	8.3 mg/L	1.5	EPA 351.2
TOC	12 mg/L	1	SM5310B

Lab ID # AB21032	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B

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

SiteID: OBS-06-0022

Sample Date: 5/12/2015

IDEM Sample #: AB21462

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	78.3 %		ASTM D888-09(C)
DO	7.45 mg/L		ASTM D888-09(C)
pH (Field)	7.25 SU		EPA 150.2
Specific Conductance (Field)	166 umho/cm		SM2510B
Temperature	17.7 °C		SM2550B(2)
Turbidity (Hach)	7.21 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Flow	3.7865 cf/sec		FM D5389-95/D3858
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID # 537994	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	32 mg/L	10	EPA 310.2
Chloride	8.1 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	65 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	6 mg/L	6	SM2540D
Solids, Total (TS)	120 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	106 mg/L	10	SM2540C
Sulfate	31 mg/L	5	EPA 375.2
Calcium (Total)	16.2 mg/L	0.2	EPA 200.7
Magnesium (Total)	4.97 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.6 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.017 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	1.6 mg/L	1	SM5310B

Lab ID # AB21462	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: OBS-06-0022 Sample Date: 6/2/2015 IDEM Sample #: AB21764
 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	85.7 %		ASTM D888-09(C)
DO	8.61 mg/L		ASTM D888-09(C)
pH (Field)	7.35 SU		EPA 150.2
Specific Conductance (Field)	189 umho/cm		SM2510B
Temperature	15.18 °C		SM2550B(2)
Turbidity (Hach)	2.2 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Flow	1.2193 cf/sec		TM D5389-95/D3858
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 539845	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	37 mg/L	10	EPA 310.2
Chloride	9.6 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	72 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	126 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	111 mg/L	10	SM2540C
Sulfate	33 mg/L	5	EPA 375.2
Calcium (Total)	21.5 mg/L	0.2	EPA 200.7
Magnesium (Total)	6.61 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.4 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.012 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	1.5 mg/L	1	SM5310B

Lab ID # AB21764	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: OBS-06-0022 Sample Date: 6/22/2015 IDEM Sample #: AB22136
 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	101.3 %		SM4500-OG
DO	8.45 mg/L		SM4500-OG
pH (Field)	7.35 SU		EPA 150.2
Specific Conductance (Field)	146 umho/cm		SM2510B
Temperature	23.2 °C		SM2550B(2)
Turbidity (Hach)	3.98 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

SiteID: OBS-06-0022 Sample Date: 7/14/2015 IDEM Sample #: AB22422
 Water Flow Type Flood Water Appearance Brown Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments: Flow was not taken due to flood event

Lab ID #	Result	Reporting Limit	Method
% Sat	83.3 %		ASTM D888-09(C)
DO	7.48 mg/L		ASTM D888-09(C)
pH (Field)	7.02 SU		EPA 150.2
Specific Conductance (Field)	55 umho/cm		SM2510B
Temperature	20.6 °C		SM2550B(2)
Turbidity (Hach)	432 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

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

Lab ID # 543528	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	< 10 mg/L	10	EPA 310.2
Chloride	6.5 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	34 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	460 mg/L	30	SM2540D
Solids, Total (TS)	536 mg/L	20	SM2540B
Solids, Total Dissolved (TDS)	93 mg/L	10	SM2540C
Sulfate	10 mg/L	5	EPA 375.2
Calcium (Total)	7.45 mg/L	0.2	EPA 200.7
Magnesium (Total)	3.36 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.2 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.324 mg/L	0.03	EPA 365.1
TKN	1.5 mg/L	0.3	EPA 351.2
TOC	9 mg/L	1	SM5310B

Lab ID # AB22422a	Result	Reporting Limit	Method
Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B
E. coli	7701 MPN/100mL	10	SM9223B

SiteID: OBS-06-0022 **Sample Date:** 8/5/2015 **IDEM Sample #:** AB22788
Water Flow Type Run **Water Appearance** Clear **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	83.7 %		ASTM D888-09(C)
DO	7.72 mg/L		ASTM D888-09(C)
pH (Field)	7.39 SU		EPA 150.2
Specific Conductance (Field)	174 umho/cm		SM2510B
Temperature	22.22 °C		SM2550B(2)
Turbidity (Hach)	2.99 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Flow	2.6376 cf/sec		TM D5389-95/D3858
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

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

Lab ID # 545215	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	37 mg/L	10	EPA 310.2
Chloride	9.7 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	67 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	118 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	108 mg/L	10	SM2540C
Sulfate	26 mg/L	5	EPA 375.2
Calcium (Total)	17.5 mg/L	0.2	EPA 200.7
Magnesium (Total)	4.78 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.1 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.006 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	1.9 mg/L	1	SM5310B

Lab ID # AB22788	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	184.2 MPN/100mL	1	SM9223B

SiteID: OBS-06-0022 **Sample Date:** 8/12/2015 **IDEM Sample #:** AB22907
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	87.9 %		ASTM D888-09(C)
DO	7.83 mg/L		ASTM D888-09(C)
pH (Field)	7.4 SU		EPA 150.2
Specific Conductance (Field)	177 umho/cm		SM2510B
Temperature	21.04 °C		SM2550B(2)
Turbidity (Hach)	2.86 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 # AB22907	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	517.2 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0022 Sample Date: 8/19/2015 IDEM Sample #: AB22942
 Water Flow Type Run Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	80.6 %		ASTM D888-09(C)
DO	7.15 mg/L		ASTM D888-09(C)
pH (Field)	7.49 SU		EPA 150.2
Specific Conductance (Field)	184 umho/cm		SM2510B
Temperature	21.18 °C		SM2550B(2)
Turbidity (Hach)	4.53 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	8 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # AB22942	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	686.7 MPN/100mL	1	SM9223B

SiteID: OBS-06-0022 Sample Date: 8/26/2015 IDEM Sample #: AB23005
 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	90.9 %		ASTM D888-09(C)
DO	8.84 mg/L		ASTM D888-09(C)
pH (Field)	7.49 SU		EPA 150.2
Specific Conductance (Field)	194 umho/cm		SM2510B
Temperature	16.71 °C		SM2550B(2)
Turbidity (Hach)	2.67 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # AB23005	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	65 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0022

Sample Date: 9/2/2015

IDEM Sample #: AB23039

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	84.6 %		ASTM D888-09(C)
DO	7.48 mg/L		ASTM D888-09(C)
pH (Field)	7.4 SU		EPA 150.2
Specific Conductance (Field)	209 umho/cm		SM2510B
Temperature	20.67 °C		SM2550B(2)
Turbidity (Hach)	3.7 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Flow	0.5597 cf/sec		TM D5389-95/D3858
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 547447	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	43 mg/L	10	EPA 310.2
Chloride	12 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	76 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	135 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	121 mg/L	10	SM2540C
Sulfate	35 mg/L	5	EPA 375.2
Calcium (Total)	21.4 mg/L	0.2	EPA 200.7
Magnesium (Total)	5.72 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.2 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.016 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	1.9 mg/L	1	SM5310B

Lab ID # AB23039	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	190.4 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0022 Sample Date: 9/10/2015 IDEM Sample #: AB22398
 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	69.7 %		ASTM D888-09(C)
DO	5.98 mg/L		ASTM D888-09(C)
pH (Field)	7.11 SU		EPA 150.2
Specific Conductance (Field)	202 umho/cm		SM2510B
Temperature	21.46 °C		SM2550B(2)
Turbidity (Hach)	2.57 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

SiteID: OBS-06-0022 Sample Date: 10/6/2015 IDEM Sample #: AB23305
 Water Flow Type Pool Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments: Isolated pool; flow not taken

Lab ID #	Result	Reporting Limit	Method
% Sat	58.8 %		ASTM D888-09(C)
DO	5.88 mg/L		ASTM D888-09(C)
pH (Field)	7.7 SU		EPA 150.2
Specific Conductance (Field)	238 umho/cm		SM2510B
Temperature	15.31 °C		SM2550B(2)
Turbidity (Hach)	1.94 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

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

Lab ID # 550221	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	48 mg/L	10	EPA 310.2
Chloride	18 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	84 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	157 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	145 mg/L	10	SM2540C
Sulfate	37 mg/L	5	EPA 375.2
Calcium (Total)	22.7 mg/L	0.2	EPA 200.7
Magnesium (Total)	6.7 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	< 0.1 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.02 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	3.4 mg/L	1	SM5310B

Lab ID # AB23305	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	104.6 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: OBS-06-0003 **USGS Hydrologic Unit:** 051401040601
Stream Name: Jeff Branch **County:** Washington
Description: East Blue River Road **Latitude:** 38 31 26.96188 **Longitude:** -85 57 10.96482
Drainage: 6.129 **Site Number:** 15T-016

SiteID: OBS-06-0003 **Sample Date:** 4/7/2015 **IDEM Sample #:** AB21033
Water Flow Type Eddy **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	93 %		ASTM D888-09(C)
DO	9.96 mg/L		ASTM D888-09(C)
pH (Field)	7.11 SU		EPA 150.2
Specific Conductance (Field)	50 umho/cm		SM2510B
Temperature	12.29 °C		SM2550B(2)
Turbidity (Hach)	356 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	7 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

<u>Lab ID #</u> 534795	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	< 10 mg/L	10	EPA 310.2
Chloride	6.8 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	35 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	504 mg/L	24	SM2540D
Solids, Total (TS)	511 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	55 mg/L	10	SM2540C
Sulfate	6.7 mg/L	5	EPA 375.2
Calcium (Total)	7.78 mg/L	0.2	EPA 200.7
Magnesium (Total)	2.3 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.2 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.432 mg/L	0.03	EPA 365.1
TKN	1.8 mg/L	0.3	EPA 351.2
TOC	6.7 mg/L	1	SM5310B

<u>Lab ID #</u> AB21033	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1986.3 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0003 Sample Date: 5/12/2015 IDEM Sample #: AB21463
 Water Flow Type Pool Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	89.4 %		ASTM D888-09(C)
DO	8.8 mg/L		ASTM D888-09(C)
pH (Field)	7.57 SU		EPA 150.2
Specific Conductance (Field)	160 umho/cm		SM2510B
Temperature	16.26 °C		SM2550B(2)
Turbidity (Hach)	0.99 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 537995	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	36 mg/L	10	EPA 310.2
Chloride	7.1 mg/L	5	SM4500CI-E
Hardness (as CaCO3)	65 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	111 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	101 mg/L	10	SM2540C
Sulfate	22 mg/L	5	EPA 375.2
Calcium (Total)	17.4 mg/L	0.2	EPA 200.7
Magnesium (Total)	4.91 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.7 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.006 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	< 1 mg/L	1	SM5310B

Lab ID # AB21463	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	48.8 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0003 Sample Date: 6/2/2015 IDEM Sample #: AB21765
 Water Flow Type Pool Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	72.3 %		ASTM D888-09(C)
DO	7.38 mg/L		ASTM D888-09(C)
pH (Field)	7.35 SU		EPA 150.2
Specific Conductance (Field)	186 umho/cm		SM2510B
Temperature	14.48 °C		SM2550B(2)
Turbidity (Hach)	1.68 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 539846	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	38 mg/L	10	EPA 310.2
Chloride	8.4 mg/L	5	SM4500CI-E
Hardness (as CaCO3)	82 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	128 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	118 mg/L	10	SM2540C
Sulfate	30 mg/L	5	EPA 375.2
Calcium (Total)	23.7 mg/L	0.2	EPA 200.7
Magnesium (Total)	6.74 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1 mg/L	0.1	EPA 353.1
Phosphorus, Total	< 0.03 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	< 1 mg/L	1	SM5310B

Lab ID # AB21765	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	77.6 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0003 Sample Date: 6/22/2015 IDEM Sample #: AB22137
 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	108.7 %		SM4500-OG
DO	8.69 mg/L		SM4500-OG
pH (Field)	7.75 SU		EPA 150.2
Specific Conductance (Field)	151 umho/cm		SM2510B
Temperature	25.78 °C		SM2550B(2)
Turbidity (Hach)	1.04 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	1 Lookup		Observation

SiteID: OBS-06-0003 Sample Date: 7/14/2015 IDEM Sample #: AB22423
 Water Flow Type Flood 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	90.9 %		ASTM D888-09(C)
DO	8.26 mg/L		ASTM D888-09(C)
pH (Field)	6.91 SU		EPA 150.2
Specific Conductance (Field)	83 umho/cm		SM2510B
Temperature	20.02 °C		SM2550B(2)
Turbidity (Hach)	62 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

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

Lab ID # 543529	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	14 mg/L	10	EPA 310.2
Chloride	< 5 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	36 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	71 mg/L	6	SM2540D
Solids, Total (TS)	157 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	80 mg/L	10	SM2540C
Sulfate	9.9 mg/L	5	EPA 375.2
Calcium (Total)	9.58 mg/L	0.2	EPA 200.7
Magnesium (Total)	2.7 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.5 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.085 mg/L	0.03	EPA 365.1
TKN	0.7 mg/L	0.3	EPA 351.2
TOC	5.5 mg/L	1	SM5310B

Lab ID # AB22423a	Result	Reporting Limit	Method
Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B
E. coli	2755 MPN/100mL	10	SM9223B

SiteID: OBS-06-0003 **Sample Date:** 8/5/2015 **IDEM Sample #:** AB22776
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	75.5 %		ASTM D888-09(C)
DO	6.73 mg/L		ASTM D888-09(C)
pH (Field)	7.4 SU		EPA 150.2
Specific Conductance (Field)	171 umho/cm		SM2510B
Temperature	20.99 °C		SM2550B(2)
Turbidity (Hach)	1.2 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	1 Lookup		Observation

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

Lab ID # 545216	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	39 mg/L	10	EPA 310.2
Chloride	8.7 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	70 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	117 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	108 mg/L	10	SM2540C
Sulfate	21 mg/L	5	EPA 375.2
Calcium (Total)	18.1 mg/L	0.2	EPA 200.7
Magnesium (Total)	4.86 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.5 mg/L	0.1	EPA 353.1
Phosphorus, Total	< 0.03 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	1.2 mg/L	1	SM5310B

Lab ID # AB22776	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	325.5 MPN/100mL	1	SM9223B

SiteID: OBS-06-0003 **Sample Date:** 8/12/2015 **IDEM Sample #:** AB22908
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	81.1 %		ASTM D888-09(C)
DO	7.41 mg/L		ASTM D888-09(C)
pH (Field)	7.53 SU		EPA 150.2
Specific Conductance (Field)	169 umho/cm		SM2510B
Temperature	19.71 °C		SM2550B(2)
Turbidity (Hach)	1.42 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 # AB22908	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	260.3 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0003 Sample Date: 8/19/2015 IDEM Sample #: AB22943
 Water Flow Type Pool Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	69.3 %		ASTM D888-09(C)
DO	6.21 mg/L		ASTM D888-09(C)
pH (Field)	7.47 SU		EPA 150.2
Specific Conductance (Field)	182 umho/cm		SM2510B
Temperature	20.67 °C		SM2550B(2)
Turbidity (Hach)	1.62 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	8 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # AB22943	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	2419.6 MPN/100mL	1	SM9223B

SiteID: OBS-06-0003 Sample Date: 8/26/2015 IDEM Sample #: AB23006
 Water Flow Type Pool Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	69.5 %		ASTM D888-09(C)
DO	6.81 mg/L		ASTM D888-09(C)
pH (Field)	7.39 SU		EPA 150.2
Specific Conductance (Field)	187 umho/cm		SM2510B
Temperature	16.3 °C		SM2550B(2)
Turbidity (Hach)	3.14 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # AB23006	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	178.5 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0003 Sample Date: 9/2/2015 IDEM Sample #: AB23040
 Water Flow Type Pool Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments: Isolated Pools

Lab ID #	Result	Reporting Limit	Method
% Sat	53.8 %		ASTM D888-09(C)
DO	4.85 mg/L		ASTM D888-09(C)
pH (Field)	7.27 SU		EPA 150.2
Specific Conductance (Field)	206 umho/cm		SM2510B
Temperature	20.53 °C		SM2550B(2)
Turbidity (Hach)	2.22 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 547448	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	46 mg/L	10	EPA 310.2
Chloride	11 mg/L	5	SM4500CI-E
Hardness (as CaCO3)	80 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	138 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	125 mg/L	10	SM2540C
Sulfate	33 mg/L	5	EPA 375.2
Calcium (Total)	23.3 mg/L	0.2	EPA 200.7
Magnesium (Total)	5.78 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.6 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.009 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	1.3 mg/L	1	SM5310B

Lab ID # AB23040	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	275.5 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0003 Sample Date: 9/14/2015 IDEM Sample #: AB22399
 Water Flow Type Pool Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments: ISOLATED POOL.

Lab ID #	Result	Reporting Limit	Method
% Sat	70.4 %		ASTM D888-09(C)
DO	6.64 mg/L		ASTM D888-09(C)
pH (Field)	6.88 SU		EPA 150.2
Specific Conductance (Field)	204 umho/cm		SM2510B
Temperature	16.83 °C		SM2550B(2)
Turbidity (Hach)	3.66 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

SiteID: OBS-06-0003 Sample Date: 10/6/2015 IDEM Sample #: AB23306
 Water Flow Type Pool Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments: Isolated pool

Lab ID #	Result	Reporting Limit	Method
% Sat	31.8 %		ASTM D888-09(C)
DO	3.16 mg/L		ASTM D888-09(C)
pH (Field)	7.54 SU		EPA 150.2
Specific Conductance (Field)	282 umho/cm		SM2510B
Temperature	15.32 °C		SM2550B(2)
Turbidity (Hach)	1.5 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

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

Lab ID # 550222	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	48 mg/L	10	EPA 310.2
Chloride	16 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	110 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	192 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	173 mg/L	10	SM2540C
Sulfate	58 mg/L	5	EPA 375.2
Calcium (Total)	30.5 mg/L	0.2	EPA 200.7
Magnesium (Total)	7.94 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	< 0.1 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.012 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	1.6 mg/L	1	SM5310B

Lab ID # AB23306	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	98.7 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: OBS-06-0002 **USGS Hydrologic Unit:** 051401040601
Stream Name: South Fork Blue River **County:** Washington
Description: Bowers Knob Road **Latitude:** 38 31 14.70931 **Longitude:** -85 56 21.09222
Drainage: 25.347 **Site Number:** 15T-017

SiteID: OBS-06-0002 **Sample Date:** 11/12/2014 **IDEM Sample #:** AB19599
Water Flow Type Riffle **Water Appearance** Clear **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

<u>Lab ID #</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	116.8 %		ASTM D888-09(C)
DO	13.82 mg/L		ASTM D888-09(C)
pH (Field)	8.17 SU		EPA 150.2
Specific Conductance (Field)	222 umho/cm		SM2510B
Temperature	8.04 °C		SM2550B(2)
Turbidity (Hach)	2.97 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Flow	2.3079 cf/sec		TM D5389-95/D3858
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

<u>Lab ID # 522232</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	45 mg/L	10	EPA 310.2
Chloride	13 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	80 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 4 mg/L	4	SM2540D
Solids, Total (TS)	135 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	128 mg/L	10	SM2540C
Sulfate	31 mg/L	5	EPA 375.2
Calcium (Total)	20.7 mg/L	0.2	EPA 200.7
Magnesium (Total)	6.25 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.4 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.011 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	2.4 mg/L	1	SM5310B

<u>Lab ID # AB19599</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	1732.9 MPN/100mL	1	SM9223B
E. coli	19.9 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0002 Sample Date: 12/8/2014 IDEM Sample #: AB19642
 Water Flow Type Riffle Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	100.2 %		ASTM D888-09(C)
DO	12.41 mg/L		ASTM D888-09(C)
pH (Field)	7.21 SU		EPA 150.2
Specific Conductance (Field)	139 umho/cm		SM2510B
Temperature	6.21 °C		SM2550B(2)
Turbidity (Hach)	4.61 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Flow	42.5112 cf/sec		FM D5389-95/D3858
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	3 Lookup		Observation

Lab ID # 524391	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	22 mg/L	10	EPA 310.2
Chloride	6 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	51 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	96 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	87 mg/L	10	SM2540C
Sulfate	25 mg/L	5	EPA 375.2
Calcium (Total)	12.6 mg/L	0.2	EPA 200.7
Magnesium (Total)	4.34 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.1 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.024 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	2.4 mg/L	1	SM5310B

Lab ID # AB19642	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	107.6 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0002

Sample Date: 1/5/2015

IDEM Sample #: AB20116

Water Flow Type Riffle

Water Appearance Murky

Water Depth

Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments: Streamflow not taken due to high flow event and extreme cold weather.

Lab ID #	Result	Reporting Limit	Method
% Sat	105.7 %		ASTM D888-09(C)
DO	14.99 mg/L		ASTM D888-09(C)
pH (Field)	7.03 SU		EPA 150.2
Specific Conductance (Field)	112 umho/cm		SM2510B
Temperature	0.99 °C		SM2550B(2)
Turbidity (Hach)	8.15 NTU		EPA 180.1
Air Temp	1 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation
Lab ID # 526629	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	14 mg/L	10	EPA 310.2
Chloride	< 5 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	47 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	6 mg/L	6	SM2540D
Solids, Total (TS)	95 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	81 mg/L	10	SM2540C
Sulfate	22 mg/L	5	EPA 375.2
Calcium (Total)	9.89 mg/L	0.2	EPA 200.7
Magnesium (Total)	3.66 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.9 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.024 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	2.8 mg/L	1	SM5310B
Lab ID # AB20116	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	90.5 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0002

Sample Date: 2/2/2015

IDEM Sample #: AB20349

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	103.8 %		ASTM D888-09(C)
DO	14.75 mg/L		ASTM D888-09(C)
pH (Field)	7.71 SU		EPA 150.2
Specific Conductance (Field)	162 umho/cm		SM2510B
Temperature	0.94 °C		SM2550B(2)
Turbidity (Hach)	12.4 NTU		EPA 180.1
Air Temp	1 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 528882	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	19 mg/L	10	EPA 310.2
Chloride	10 mg/L	5	SM4500CI-E
Hardness (as CaCO3)	60 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	121 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	108 mg/L	10	SM2540C
Sulfate	28 mg/L	5	EPA 375.2
Calcium (Total)	14.5 mg/L	0.2	EPA 200.7
Magnesium (Total)	4.55 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.8 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.047 mg/L	0.03	EPA 365.1
TKN	0.5 mg/L	0.3	EPA 351.2
TOC	5.3 mg/L	1	SM5310B

Lab ID # AB20349	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	191.8 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0002

Sample Date: 3/2/2015

IDEM Sample #: AB20571

Water Flow Type Riffle

Water Appearance Clear

Water Depth Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	108.4 %		ASTM D888-09(C)
DO	15.96 mg/L		ASTM D888-09(C)
pH (Field)	8.1 SU		EPA 150.2
Specific Conductance (Field)	169 umho/cm		SM2510B
Temperature	0 °C		SM2550B(2)
Turbidity (Hach)	1.23 NTU		EPA 180.1
Air Temp	1 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 531461	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	21 mg/L	10	EPA 310.2
Chloride	9.8 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	59 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	103 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	93 mg/L	10	SM2540C
Sulfate	38 mg/L	5	EPA 375.2
Calcium (Total)	15.2 mg/L	0.2	EPA 200.7
Magnesium (Total)	5.18 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.6 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.009 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	< 1 mg/L	1	SM5310B

Lab ID # AB20571	Result	Reporting Limit	Method
Coliforms (Total)	344.8 MPN/100mL	1	SM9223B
E. coli	13.2 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0002 Sample Date: 4/7/2015 IDEM Sample #: AB21034
 Water Flow Type Eddy Water Appearance Brown Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments: Flow was not taken due to dangerous sampling conditions. High flow event.

Lab ID #	Result	Reporting Limit	Method
% Sat	94.5 %		ASTM D888-09(C)
DO	10.22 mg/L		ASTM D888-09(C)
pH (Field)	7.27 SU		EPA 150.2
Specific Conductance (Field)	90 umho/cm		SM2510B
Temperature	11.8 °C		SM2550B(2)
Turbidity (Hach)	378 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	7 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 534796	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	< 10 mg/L	10	EPA 310.2
Chloride	< 5 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	48 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	636 mg/L	24	SM2540D
Solids, Total (TS)	888 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	74 mg/L	10	SM2540C
Sulfate	14 mg/L	5	EPA 375.2
Calcium (Total)	10.2 mg/L	0.2	EPA 200.7
Magnesium (Total)	3.82 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.4 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.477 mg/L	0.03	EPA 365.1
TKN	2.1 mg/L	0.3	EPA 351.2
TOC	6.5 mg/L	1	SM5310B

Lab ID # AB21034	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: OBS-06-0002 Sample Date: 5/12/2015 IDEM Sample #: AB21464
 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	106.8 %		ASTM D888-09(C)
DO	10.33 mg/L		ASTM D888-09(C)
pH (Field)	7.8 SU		EPA 150.2
Specific Conductance (Field)	169 umho/cm		SM2510B
Temperature	16.95 °C		SM2550B(2)
Turbidity (Hach)	1.28 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Flow	2.3828 cf/sec		FM D5389-95/D3858
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	3 Lookup		Observation

Lab ID # 537996	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	31 mg/L	10	EPA 310.2
Chloride	8.2 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	64 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	109 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	105 mg/L	10	SM2540C
Sulfate	34 mg/L	5	EPA 375.2
Calcium (Total)	16.2 mg/L	0.2	EPA 200.7
Magnesium (Total)	5.28 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.5 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.009 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	1.7 mg/L	1	SM5310B

Lab ID # AB21464	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1203.3 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0002 Sample Date: 6/2/2015 IDEM Sample #: AB21766
 Water Flow Type Run Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	105.6 %		ASTM D888-09(C)
DO	10.72 mg/L		ASTM D888-09(C)
pH (Field)	8 SU		EPA 150.2
Specific Conductance (Field)	198 umho/cm		SM2510B
Temperature	14.68 °C		SM2550B(2)
Turbidity (Hach)	2.61 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Flow	0.9918 cf/sec		FM D5389-95/D3858
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 539847	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	40 mg/L	10	EPA 310.2
Chloride	10 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	83 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	133 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	122 mg/L	10	SM2540C
Sulfate	35 mg/L	5	EPA 375.2
Calcium (Total)	23.2 mg/L	0.2	EPA 200.7
Magnesium (Total)	7.46 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.5 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.005 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	1.6 mg/L	1	SM5310B

Lab ID # AB21766	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: OBS-06-0002 Sample Date: 6/22/2015 IDEM Sample #: AB22138
 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	118.6 %		SM4500-OG
DO	9.45 mg/L		SM4500-OG
pH (Field)	8.13 SU		EPA 150.2
Specific Conductance (Field)	151 umho/cm		SM2510B
Temperature	26.03 °C		SM2550B(2)
Turbidity (Hach)	3.59 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	1 Lookup		Observation

SiteID: OBS-06-0002 Sample Date: 7/14/2015 IDEM Sample #: AB22424
 Water Flow Type Flood Water Appearance Brown Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments: Flow was not taken due to flood event

Lab ID #	Result	Reporting Limit	Method
% Sat	84.1 %		ASTM D888-09(C)
DO	7.59 mg/L		ASTM D888-09(C)
pH (Field)	6.99 SU		EPA 150.2
Specific Conductance (Field)	60 umho/cm		SM2510B
Temperature	20.38 °C		SM2550B(2)
Turbidity (Hach)	337 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

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

Lab ID # 543530	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	< 10 mg/L	10	EPA 310.2
Chloride	5.9 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	32 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	385 mg/L	30	SM2540D
Solids, Total (TS)	466 mg/L	20	SM2540B
Solids, Total Dissolved (TDS)	77 mg/L	10	SM2540C
Sulfate	9.5 mg/L	5	EPA 375.2
Calcium (Total)	7.55 mg/L	0.2	EPA 200.7
Magnesium (Total)	3.03 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.3 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.259 mg/L	0.03	EPA 365.1
TKN	1.4 mg/L	0.3	EPA 351.2
TOC	9 mg/L	1	SM5310B

Lab ID # AB22424a	Result	Reporting Limit	Method
Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B
E. coli	5475 MPN/100mL	10	SM9223B

SiteID: OBS-06-0002 **Sample Date:** 8/5/2015 **IDEM Sample #:** AB22792
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	119 %		ASTM D888-09(C)
DO	10.49 mg/L		ASTM D888-09(C)
pH (Field)	8.37 SU		EPA 150.2
Specific Conductance (Field)	182 umho/cm		SM2510B
Temperature	21.57 °C		SM2550B(2)
Turbidity (Hach)	1.61 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Flow	1.3996 cf/sec		TM D5389-95/D3858
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

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

Lab ID # 545217	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	36 mg/L	10	EPA 310.2
Chloride	9.8 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	69 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	120 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	108 mg/L	10	SM2540C
Sulfate	27 mg/L	5	EPA 375.2
Calcium (Total)	18.3 mg/L	0.2	EPA 200.7
Magnesium (Total)	5.23 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.9 mg/L	0.1	EPA 353.1
Phosphorus, Total	< 0.03 mg/L	0.03	EPA 365.1
TKN	0.3 mg/L	0.3	EPA 351.2
TOC	2.2 mg/L	1	SM5310B

Lab ID # AB22792	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	365.4 MPN/100mL	1	SM9223B

SiteID: OBS-06-0002 **Sample Date:** 8/12/2015 **IDEM Sample #:** AB22909
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	103.9 %		ASTM D888-09(C)
DO	9.5 mg/L		ASTM D888-09(C)
pH (Field)	7.9 SU		EPA 150.2
Specific Conductance (Field)	198 umho/cm		SM2510B
Temperature	19.6 °C		SM2550B(2)
Turbidity (Hach)	2.01 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 # AB22909	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	248.1 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0002 Sample Date: 8/19/2015 IDEM Sample #: AB22944
 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	91.1 %		ASTM D888-09(C)
DO	8.07 mg/L		ASTM D888-09(C)
pH (Field)	7.76 SU		EPA 150.2
Specific Conductance (Field)	266 umho/cm		SM2510B
Temperature	21.28 °C		SM2550B(2)
Turbidity (Hach)	2.97 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	8 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # AB22944	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B

SiteID: OBS-06-0002 Sample Date: 8/26/2015 IDEM Sample #: AB23007
 Water Flow Type Run Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	92.5 %		ASTM D888-09(C)
DO	9.21 mg/L		ASTM D888-09(C)
pH (Field)	7.78 SU		EPA 150.2
Specific Conductance (Field)	227 umho/cm		SM2510B
Temperature	15.54 °C		SM2550B(2)
Turbidity (Hach)	3.31 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # AB23007	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	195.6 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0002 Sample Date: 9/2/2015 IDEM Sample #: AB23041
 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	106.9 %		ASTM D888-09(C)
DO	9.67 mg/L		ASTM D888-09(C)
pH (Field)	7.66 SU		EPA 150.2
Specific Conductance (Field)	240 umho/cm		SM2510B
Temperature	20.27 °C		SM2550B(2)
Turbidity (Hach)	2.65 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Flow	0.1161 cf/sec		FM D5389-95/D3858
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 547449	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	51 mg/L	10	EPA 310.2
Chloride	14 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	83 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	149 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	138 mg/L	10	SM2540C
Sulfate	46 mg/L	5	EPA 375.2
Calcium (Total)	23.3 mg/L	0.2	EPA 200.7
Magnesium (Total)	6.53 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	< 0.1 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.011 mg/L	0.03	EPA 365.1
TKN	0.3 mg/L	0.3	EPA 351.2
TOC	2.4 mg/L	1	SM5310B

Lab ID # AB23041	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	248.9 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0002 Sample Date: 9/14/2015 IDEM Sample #: AB22400
 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	102.6 %		SM4500-OG
DO	9.52 mg/L		SM4500-OG
pH (Field)	7.66 SU		EPA 150.2
Specific Conductance (Field)	254 umho/cm		SM2510B
Temperature	17.98 °C		SM2550B(2)
Turbidity (Hach)	2.57 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

SiteID: OBS-06-0002 Sample Date: 10/6/2015 IDEM Sample #: AB23307
 Water Flow Type Run Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments: Flow was not taken due to extremely low flow conditions

Lab ID #	Result	Reporting Limit	Method
% Sat	83.5 %		ASTM D888-09(C)
DO	8.42 mg/L		ASTM D888-09(C)
pH (Field)	7.99 SU		EPA 150.2
Specific Conductance (Field)	277 umho/cm		SM2510B
Temperature	15 °C		SM2550B(2)
Turbidity (Hach)	1.86 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

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

Lab ID # 550223	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	59 mg/L	10	EPA 310.2
Chloride	17 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	96 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	177 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	164 mg/L	10	SM2540C
Sulfate	43 mg/L	5	EPA 375.2
Calcium (Total)	26.2 mg/L	0.2	EPA 200.7
Magnesium (Total)	7.97 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	< 0.1 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.028 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	4.3 mg/L	1	SM5310B

Lab ID # AB23307	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	19.5 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
Office of Water Quality-Watershed Assessment and Planning Branch
Surface Water Results Summary**

SiteID: OBS-06-0019 **USGS Hydrologic Unit:** 051401040601
Stream Name: Jeff Branch **County:** Washington
Description: Bethel Road **Latitude:** 38 32 20.02469 **Longitude:** -85 57 21.42533
Drainage: 5.604 **Site Number:** 15T-018

SiteID: OBS-06-0019 **Sample Date:** 4/7/2015 **IDEM Sample #:** AB21035
Water Flow Type Eddy **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	10.51 mg/L		ASTM D888-09(C)
pH (Field)	7.44 SU		EPA 150.2
Specific Conductance (Field)	84 umho/cm		SM2510B
Temperature	11.05 °C		SM2550B(2)
Turbidity (Hach)	301 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	7 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 534797	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	< 10 mg/L	10	EPA 310.2
Chloride	7.2 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	45 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	264 mg/L	24	SM2540D
Solids, Total (TS)	395 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	83 mg/L	10	SM2540C
Sulfate	12 mg/L	5	EPA 375.2
Calcium (Total)	10.6 mg/L	0.2	EPA 200.7
Magnesium (Total)	3.62 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.9 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.276 mg/L	0.03	EPA 365.1
TKN	1.3 mg/L	0.3	EPA 351.2
TOC	4.8 mg/L	1	SM5310B

Lab ID # AB21035	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B

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

SiteID: OBS-06-0019 Sample Date: 5/12/2015 IDEM Sample #: AB21465
 Water Flow Type Riffle Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	108.8 %		ASTM D888-09(C)
DO	10.75 mg/L		ASTM D888-09(C)
pH (Field)	7.8 SU		EPA 150.2
Specific Conductance (Field)	150 umho/cm		SM2510B
Temperature	15.86 °C		SM2550B(2)
Turbidity (Hach)	1.68 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 537997	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	37 mg/L	10	EPA 310.2
Chloride	7.2 mg/L	5	SM4500CI-E
Hardness (as CaCO3)	62 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	100 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	93 mg/L	10	SM2540C
Sulfate	21 mg/L	5	EPA 375.2
Calcium (Total)	16.2 mg/L	0.2	EPA 200.7
Magnesium (Total)	4.7 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.5 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.006 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	< 1 mg/L	1	SM5310B

Lab ID # AB21465	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	143.9 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0019 Sample Date: 6/2/2015 IDEM Sample #: AB21767
 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	86 %		ASTM D888-09(C)
DO	8.73 mg/L		ASTM D888-09(C)
pH (Field)	7.52 SU		EPA 150.2
Specific Conductance (Field)	186 umho/cm		SM2510B
Temperature	14.3 °C		SM2550B(2)
Turbidity (Hach)	1.4 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 539848	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	43 mg/L	10	EPA 310.2
Chloride	8.5 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	78 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	125 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	115 mg/L	10	SM2540C
Sulfate	28 mg/L	5	EPA 375.2
Calcium (Total)	22.9 mg/L	0.2	EPA 200.7
Magnesium (Total)	6.84 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.7 mg/L	0.1	EPA 353.1
Phosphorus, Total	< 0.03 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	1.1 mg/L	1	SM5310B

Lab ID # AB21767	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	517.2 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0019 Sample Date: 6/23/2015 IDEM Sample #: AB22139
 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	119.2 %		SM4500-OG
DO	10.2 mg/L		SM4500-OG
pH (Field)	8.02 SU		EPA 150.2
Specific Conductance (Field)	158 umho/cm		SM2510B
Temperature	22.14 °C		SM2550B(2)
Turbidity (Hach)	1.71 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

SiteID: OBS-06-0019 Sample Date: 7/14/2015 IDEM Sample #: AB22425
 Water Flow Type Flood 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	8.08 mg/L		ASTM D888-09(C)
pH (Field)	6.95 SU		EPA 150.2
Specific Conductance (Field)	108 umho/cm		SM2510B
Temperature	19.37 °C		SM2550B(2)
Turbidity (Hach)	54.1 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

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

Lab ID # 543531	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	14 mg/L	10	EPA 310.2
Chloride	< 5 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	32 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	61 mg/L	6	SM2540D
Solids, Total (TS)	144 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	77 mg/L	10	SM2540C
Sulfate	9.1 mg/L	5	EPA 375.2
Calcium (Total)	8.61 mg/L	0.2	EPA 200.7
Magnesium (Total)	2.55 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.6 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.082 mg/L	0.03	EPA 365.1
TKN	0.7 mg/L	0.3	EPA 351.2
TOC	4.7 mg/L	1	SM5310B

Lab ID # AB22425a	Result	Reporting Limit	Method
Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B
E. coli	2613 MPN/100mL	10	SM9223B

SiteID: OBS-06-0019 **Sample Date:** 8/5/2015 **IDEM Sample #:** AB22775
Water Flow Type Riffle **Water Appearance** Clear **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	92.6 %		ASTM D888-09(C)
DO	8.17 mg/L		ASTM D888-09(C)
pH (Field)	7.55 SU		EPA 150.2
Specific Conductance (Field)	172 umho/cm		SM2510B
Temperature	21.49 °C		SM2550B(2)
Turbidity (Hach)	4.41 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	1 Lookup		Observation

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

Lab ID # 545218	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	44 mg/L	10	EPA 310.2
Chloride	8.3 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	70 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	113 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	107 mg/L	10	SM2540C
Sulfate	20 mg/L	5	EPA 375.2
Calcium (Total)	19.1 mg/L	0.2	EPA 200.7
Magnesium (Total)	5.3 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1 mg/L	0.1	EPA 353.1
Phosphorus, Total	< 0.03 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	1.4 mg/L	1	SM5310B

Lab ID # AB22775	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	98.7 MPN/100mL	1	SM9223B

SiteID: OBS-06-0019 **Sample Date:** 8/12/2015 **IDEM Sample #:** AB22910
Water Flow Type Riffle **Water Appearance** Clear **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	96.8 %		ASTM D888-09(C)
DO	8.88 mg/L		ASTM D888-09(C)
pH (Field)	7.6 SU		EPA 150.2
Specific Conductance (Field)	170 umho/cm		SM2510B
Temperature	19.52 °C		SM2550B(2)
Turbidity (Hach)	1.3 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 # AB22910	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	128.1 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0019 Sample Date: 8/19/2015 IDEM Sample #: AB22945
 Water Flow Type Riffle Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	87.2 %		ASTM D888-09(C)
DO	7.26 mg/L		ASTM D888-09(C)
pH (Field)	7.77 SU		EPA 150.2
Specific Conductance (Field)	180 umho/cm		SM2510B
Temperature	20.67 °C		SM2550B(2)
Turbidity (Hach)	1.4 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	8 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

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

SiteID: OBS-06-0019 Sample Date: 8/26/2015 IDEM Sample #: AB23008
 Water Flow Type Run Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	89 %		ASTM D888-09(C)
DO	8.38 mg/L		ASTM D888-09(C)
pH (Field)	7.71 SU		EPA 150.2
Specific Conductance (Field)	188 umho/cm		SM2510B
Temperature	17.99 °C		SM2550B(2)
Turbidity (Hach)	1.15 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID #	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	8.6 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0019 Sample Date: 9/2/2015 IDEM Sample #: AB23042
 Water Flow Type Pool Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments: Isolated Pools

Lab ID #	Result	Reporting Limit	Method
% Sat	83.4 %		ASTM D888-09(C)
DO	7.39 mg/L		ASTM D888-09(C)
pH (Field)	7.34 SU		EPA 150.2
Specific Conductance (Field)	207 umho/cm		SM2510B
Temperature	21.26 °C		SM2550B(2)
Turbidity (Hach)	1.01 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 547450	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	50 mg/L	10	EPA 310.2
Chloride	10 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	79 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	136 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	124 mg/L	10	SM2540C
Sulfate	29 mg/L	5	EPA 375.2
Calcium (Total)	23.2 mg/L	0.2	EPA 200.7
Magnesium (Total)	5.82 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.7 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.007 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	1.2 mg/L	1	SM5310B

Lab ID # AB23042	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	3 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0019

Sample Date: 9/14/2015

IDEM Sample #: AB22401

Water Flow Type Pool

Water Appearance Clear

Water Depth Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
	% Sat	85.9 %	ASTM D888-09(C)
	DO	7.47 mg/L	ASTM D888-09(C)
	pH (Field)	7.36 SU	EPA 150.2
	Specific Conductance (Field)	265 umho/cm	SM2510B
	Temperature	20.76 °C	SM2550B(2)
	Turbidity (Hach)	20.6 NTU	EPA 180.1
	Air Temp	4 Lookup	Observation
	Sky Conditions	1 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	1 Lookup	Observation

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

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

SiteID: OBS-06-0011 **USGS Hydrologic Unit:** 051401040601
Stream Name: Honey Run **County:** Washington
Description: North Honey Run Road **Latitude:** 38 31 31.59941 **Longitude:** -85 53 53.79930
Drainage: 3.558 **Site Number:** 15T-019

SiteID: OBS-06-0011 **Sample Date:** 4/7/2015 **IDEM Sample #:** AB21036
Water Flow Type Eddy **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	93.9 %		ASTM D888-09(C)
DO	10.37 mg/L		ASTM D888-09(C)
pH (Field)	7.42 SU		EPA 150.2
Specific Conductance (Field)	102 umho/cm		SM2510B
Temperature	10.94 °C		SM2550B(2)
Turbidity (Hach)	236 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	7 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

<u>Lab ID # 534798</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	< 10 mg/L	10	EPA 310.2
Chloride	6.7 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	49 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	188 mg/L	24	SM2540D
Solids, Total (TS)	287 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	89 mg/L	10	SM2540C
Sulfate	20 mg/L	5	EPA 375.2
Calcium (Total)	11.4 mg/L	0.2	EPA 200.7
Magnesium (Total)	4.3 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.3 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.292 mg/L	0.03	EPA 365.1
TKN	1.6 mg/L	0.3	EPA 351.2
TOC	5.6 mg/L	1	SM5310B

<u>Lab ID # AB21036</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B

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

SiteID: OBS-06-0011 Sample Date: 5/12/2015 IDEM Sample #: AB21466
 Water Flow Type Riffle Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	82.5 %		ASTM D888-09(C)
DO	8.22 mg/L		ASTM D888-09(C)
pH (Field)	7.3 SU		EPA 150.2
Specific Conductance (Field)	140 umho/cm		SM2510B
Temperature	15.55 °C		SM2550B(2)
Turbidity (Hach)	1.25 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 537998	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	25 mg/L	10	EPA 310.2
Chloride	< 5 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	55 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	107 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	88 mg/L	10	SM2540C
Sulfate	32 mg/L	5	EPA 375.2
Calcium (Total)	13.3 mg/L	0.2	EPA 200.7
Magnesium (Total)	5.01 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.2 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.006 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	1.2 mg/L	1	SM5310B

Lab ID # AB21466	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
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Surface Water Results Summary**

SiteID: OBS-06-0011

Sample Date: 6/2/2015

IDEM Sample #: AB21768

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	70.7 %		ASTM D888-09(C)
DO	7.27 mg/L		ASTM D888-09(C)
pH (Field)	7.38 SU		EPA 150.2
Specific Conductance (Field)	162 umho/cm		SM2510B
Temperature	14.12 °C		SM2550B(2)
Turbidity (Hach)	1.2 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 539850	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	30 mg/L	10	EPA 310.2
Chloride	< 5 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	60 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	109 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	97 mg/L	10	SM2540C
Sulfate	32 mg/L	5	EPA 375.2
Calcium (Total)	18.6 mg/L	0.2	EPA 200.7
Magnesium (Total)	6.59 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.7 mg/L	0.1	EPA 353.1
Phosphorus, Total	< 0.03 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	< 1 mg/L	1	SM5310B

Lab ID # AB21768	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: OBS-06-0011 Sample Date: 6/23/2015 IDEM Sample #: AB22140
 Water Flow Type Run Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	88.9 %		SM4500-OG
DO	7.39 mg/L		SM4500-OG
pH (Field)	7.55 SU		EPA 150.2
Specific Conductance (Field)	120 umho/cm		SM2510B
Temperature	23.41 °C		SM2550B(2)
Turbidity (Hach)	2.49 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	2 Lookup		Observation

SiteID: OBS-06-0011 Sample Date: 7/14/2015 IDEM Sample #: AB22426
 Water Flow Type Flood 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	90.9 %		ASTM D888-09(C)
DO	8.39 mg/L		ASTM D888-09(C)
pH (Field)	7.31 SU		EPA 150.2
Specific Conductance (Field)	68 umho/cm		SM2510B
Temperature	19.16 °C		SM2550B(2)
Turbidity (Hach)	399 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

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

Lab ID # 543532	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	< 10 mg/L	10	EPA 310.2
Chloride	< 5 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	32 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	476 mg/L	12	SM2540D
Solids, Total (TS)	565 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	73 mg/L	10	SM2540C
Sulfate	13 mg/L	5	EPA 375.2
Calcium (Total)	6.29 mg/L	0.2	EPA 200.7
Magnesium (Total)	4.4 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.2 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.205 mg/L	0.03	EPA 365.1
TKN	1.1 mg/L	0.3	EPA 351.2
TOC	7.4 mg/L	1	SM5310B

Lab ID # AB22426	Result	Reporting Limit	Method
E. coli	1413.6 MPN/100mL	1	SM9223B

Lab ID # AB22426a	Result	Reporting Limit	Method
Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B

SiteID: OBS-06-0011 **Sample Date:** 8/5/2015 **IDEM Sample #:** AB22774
Water Flow Type Pool **Water Appearance** Clear **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	77 %		ASTM D888-09(C)
DO	6.95 mg/L		ASTM D888-09(C)
pH (Field)	7.59 SU		EPA 150.2
Specific Conductance (Field)	170 umho/cm		SM2510B
Temperature	20.37 °C		SM2550B(2)
Turbidity (Hach)	1.35 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

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

Lab ID # 545219	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	39 mg/L	10	EPA 310.2
Chloride	5.9 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	67 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	112 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	103 mg/L	10	SM2540C
Sulfate	28 mg/L	5	EPA 375.2
Calcium (Total)	17.4 mg/L	0.2	EPA 200.7
Magnesium (Total)	5.82 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.6 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.005 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	2.2 mg/L	1	SM5310B

Lab ID # AB22774	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	344.8 MPN/100mL	1	SM9223B

SiteID: OBS-06-0011 **Sample Date:** 8/12/2015 **IDEM Sample #:** AB22911
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	71.1 %		ASTM D888-09(C)
DO	6.58 mg/L		ASTM D888-09(C)
pH (Field)	7.67 SU		EPA 150.2
Specific Conductance (Field)	172 umho/cm		SM2510B
Temperature	19.04 °C		SM2550B(2)
Turbidity (Hach)	1.54 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # AB22911	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1203.3 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0011 Sample Date: 8/19/2015 IDEM Sample #: AB22946
 Water Flow Type Pool Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	70.7 %		ASTM D888-09(C)
DO	6.25 mg/L		ASTM D888-09(C)
pH (Field)	7.65 SU		EPA 150.2
Specific Conductance (Field)	187 umho/cm		SM2510B
Temperature	21.31 °C		SM2550B(2)
Turbidity (Hach)	2.12 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	8 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation
Lab ID # AB22946	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	231 MPN/100mL	1	SM9223B

SiteID: OBS-06-0011 Sample Date: 8/26/2015 IDEM Sample #: AB23009
 Water Flow Type Pool Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	66.7 %		ASTM D888-09(C)
DO	6.43 mg/L		ASTM D888-09(C)
pH (Field)	7.67 SU		EPA 150.2
Specific Conductance (Field)	204 umho/cm		SM2510B
Temperature	17 °C		SM2550B(2)
Turbidity (Hach)	3.94 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation
Lab ID # AB23009	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	150 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0011 Sample Date: 9/2/2015 IDEM Sample #: AB23043
 Water Flow Type Run Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments: Isolated Pools

Lab ID #	Result	Reporting Limit	Method
% Sat	64.9 %		ASTM D888-09(C)
DO	5.81 mg/L		ASTM D888-09(C)
pH (Field)	7.47 SU		EPA 150.2
Specific Conductance (Field)	238 umho/cm		SM2510B
Temperature	20.76 °C		SM2550B(2)
Turbidity (Hach)	4.05 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 547451	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	64 mg/L	10	EPA 310.2
Chloride	8.1 mg/L	5	SM4500CI-E
Hardness (as CaCO3)	95 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	153 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	141 mg/L	10	SM2540C
Sulfate	39 mg/L	5	EPA 375.2
Calcium (Total)	26.2 mg/L	0.2	EPA 200.7
Magnesium (Total)	7.5 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.2 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.013 mg/L	0.03	EPA 365.1
TKN	0.3 mg/L	0.3	EPA 351.2
TOC	2.3 mg/L	1	SM5310B

Lab ID # AB23043	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	113.7 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0011 Sample Date: 9/14/2015 IDEM Sample #: AB22402
 Water Flow Type Pool Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	87.1 %		SM4500-OG
DO	8.26 mg/L		SM4500-OG
pH (Field)	7.47 SU		EPA 150.2
Specific Conductance (Field)	267 umho/cm		SM2510B
Temperature	17.05 °C		SM2550B(2)
Turbidity (Hach)	1.57 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

SiteID: OBS-06-0011 Sample Date: 10/6/2015 IDEM Sample #: AB23309
 Water Flow Type Pool Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments: Isolated Pool

Lab ID #	Result	Reporting Limit	Method
% Sat	66.3 %		ASTM D888-09(C)
DO	6.59 mg/L		ASTM D888-09(C)
pH (Field)	7.83 SU		EPA 150.2
Specific Conductance (Field)	332 umho/cm		SM2510B
Temperature	15.62 °C		SM2550B(2)
Turbidity (Hach)	4.05 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

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

Lab ID # 550224	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	71 mg/L	10	EPA 310.2
Chloride	16 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	140 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	226 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	203 mg/L	10	SM2540C
Sulfate	59 mg/L	5	EPA 375.2
Calcium (Total)	39.8 mg/L	0.2	EPA 200.7
Magnesium (Total)	11.2 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.8 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.018 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	2.6 mg/L	1	SM5310B

Lab ID # AB23309	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	162.4 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: OBS-06-0005 **USGS Hydrologic Unit:** 051401040601
Stream Name: Springle Creek **County:** Washington
Description: Blue River Road **Latitude:** 38 32 47.07018 **Longitude:** -85 53 55.57511
Drainage: 4.355 **Site Number:** 15T-020

SiteID: OBS-06-0005 **Sample Date:** 4/7/2015 **IDEM Sample #:** AB21038
Water Flow Type Eddy **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	94.6 %		ASTM D888-09(C)
DO	10.37 mg/L		ASTM D888-09(C)
pH (Field)	7.5 SU		EPA 150.2
Specific Conductance (Field)	107 umho/cm		SM2510B
Temperature	11.22 °C		SM2550B(2)
Turbidity (Hach)	43.5 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

<u>Lab ID # 534799</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	11 mg/L	10	EPA 310.2
Chloride	6.7 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	40 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	43 mg/L	6	SM2540D
Solids, Total (TS)	124 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	70 mg/L	10	SM2540C
Sulfate	17 mg/L	5	EPA 375.2
Calcium (Total)	10.6 mg/L	0.2	EPA 200.7
Magnesium (Total)	3.49 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.1 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.069 mg/L	0.03	EPA 365.1
TKN	0.4 mg/L	0.3	EPA 351.2
TOC	1.9 mg/L	1	SM5310B

<u>Lab ID # AB21038</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
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: OBS-06-0005 Sample Date: 5/12/2015 IDEM Sample #: AB21468
 Water Flow Type Pool Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	71.8 %		ASTM D888-09(C)
DO	6.84 mg/L		ASTM D888-09(C)
pH (Field)	7.13 SU		EPA 150.2
Specific Conductance (Field)	172 umho/cm		SM2510B
Temperature	17.77 °C		SM2550B(2)
Turbidity (Hach)	0.92 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 537999	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	28 mg/L	10	EPA 310.2
Chloride	10 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	62 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	111 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	104 mg/L	10	SM2540C
Sulfate	34 mg/L	5	EPA 375.2
Calcium (Total)	16.2 mg/L	0.2	EPA 200.7
Magnesium (Total)	4.98 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.5 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.006 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	< 1 mg/L	1	SM5310B

Lab ID # AB21468	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	74.4 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0005

Sample Date: 6/2/2015

IDEM Sample #: AB21770

Water Flow Type Pool

Water Appearance Clear

Water Depth Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	73.1 %		ASTM D888-09(C)
DO	7.37 mg/L		ASTM D888-09(C)
pH (Field)	7.2 SU		EPA 150.2
Specific Conductance (Field)	208 umho/cm		SM2510B
Temperature	14.98 °C		SM2550B(2)
Turbidity (Hach)	1.61 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 539851	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	27 mg/L	10	EPA 310.2
Chloride	12 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	69 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	137 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	123 mg/L	10	SM2540C
Sulfate	41 mg/L	5	EPA 375.2
Calcium (Total)	22.6 mg/L	0.2	EPA 200.7
Magnesium (Total)	7.28 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.7 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.006 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	< 1 mg/L	1	SM5310B

Lab ID # AB21770	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	121.1 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0005 Sample Date: 6/23/2015 IDEM Sample #: AB22141
 Water Flow Type Run Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	95.4 %		SM4500-OG
DO	7.73 mg/L		SM4500-OG
pH (Field)	7.28 SU		EPA 150.2
Specific Conductance (Field)	167 umho/cm		SM2510B
Temperature	24.91 °C		SM2550B(2)
Turbidity (Hach)	1.31 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	1 Lookup		Observation

SiteID: OBS-06-0005 Sample Date: 7/14/2015 IDEM Sample #: AB22428
 Water Flow Type Flood 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	88.9 %		ASTM D888-09(C)
DO	8.05 mg/L		ASTM D888-09(C)
pH (Field)	6.84 SU		EPA 150.2
Specific Conductance (Field)	67 umho/cm		SM2510B
Temperature	20.23 °C		SM2550B(2)
Turbidity (Hach)	212 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

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

Lab ID # 543533	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	< 10 mg/L	10	EPA 310.2
Chloride	5.6 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	33 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	364 mg/L	12	SM2540D
Solids, Total (TS)	453 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	77 mg/L	10	SM2540C
Sulfate	12 mg/L	5	EPA 375.2
Calcium (Total)	7.4 mg/L	0.2	EPA 200.7
Magnesium (Total)	3.3 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.4 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.181 mg/L	0.03	EPA 365.1
TKN	1 mg/L	0.3	EPA 351.2
TOC	6.8 mg/L	1	SM5310B

Lab ID # AB22428a	Result	Reporting Limit	Method
Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B
E. coli	4611 MPN/100mL	10	SM9223B

SiteID: OBS-06-0005 **Sample Date:** 8/5/2015 **IDEM Sample #:** AB22793
Water Flow Type Pool **Water Appearance** Clear **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	77.3 %		ASTM D888-09(C)
DO	6.81 mg/L		ASTM D888-09(C)
pH (Field)	7.54 SU		EPA 150.2
Specific Conductance (Field)	175 umho/cm		SM2510B
Temperature	21.53 °C		SM2550B(2)
Turbidity (Hach)	0.97 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

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

Lab ID # 545220	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	27 mg/L	10	EPA 310.2
Chloride	10 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	67 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	119 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	108 mg/L	10	SM2540C
Sulfate	30 mg/L	5	EPA 375.2
Calcium (Total)	17.2 mg/L	0.2	EPA 200.7
Magnesium (Total)	5.02 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.1 mg/L	0.1	EPA 353.1
Phosphorus, Total	< 0.03 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	1.6 mg/L	1	SM5310B

Lab ID # AB22793	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	579.4 MPN/100mL	1	SM9223B

SiteID: OBS-06-0005 **Sample Date:** 8/12/2015 **IDEM Sample #:** AB22913
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	79.6 %		ASTM D888-09(C)
DO	7.18 mg/L		ASTM D888-09(C)
pH (Field)	7.49 SU		EPA 150.2
Specific Conductance (Field)	191 umho/cm		SM2510B
Temperature	20.37 °C		SM2550B(2)
Turbidity (Hach)	1.63 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # AB22913	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	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: OBS-06-0005 Sample Date: 8/19/2015 IDEM Sample #: AB22948
 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	69.8 %		ASTM D888-09(C)
DO	6.18 mg/L		ASTM D888-09(C)
pH (Field)	7.39 SU		EPA 150.2
Specific Conductance (Field)	200 umho/cm		SM2510B
Temperature	21.36 °C		SM2550B(2)
Turbidity (Hach)	2.87 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	8 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation
Lab ID # AB22948	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B

SiteID: OBS-06-0005 Sample Date: 8/26/2015 IDEM Sample #: AB23011
 Water Flow Type Pool Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	74 %		ASTM D888-09(C)
DO	7.18 mg/L		ASTM D888-09(C)
pH (Field)	7.58 SU		EPA 150.2
Specific Conductance (Field)	211 umho/cm		SM2510B
Temperature	16.83 °C		SM2550B(2)
Turbidity (Hach)	2.48 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation
Lab ID # AB23011	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	275.5 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0005 Sample Date: 9/2/2015 IDEM Sample #: AB23045
 Water Flow Type Pool Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments: Isolated Pools

Lab ID #	Result	Reporting Limit	Method
% Sat	55.6 %		ASTM D888-09(C)
DO	5.06 mg/L		ASTM D888-09(C)
pH (Field)	7.21 SU		EPA 150.2
Specific Conductance (Field)	228 umho/cm		SM2510B
Temperature	20.07 °C		SM2550B(2)
Turbidity (Hach)	1.25 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 547452	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	25 mg/L	10	EPA 310.2
Chloride	13 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	87 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	155 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	140 mg/L	10	SM2540C
Sulfate	58 mg/L	5	EPA 375.2
Calcium (Total)	22.4 mg/L	0.2	EPA 200.7
Magnesium (Total)	6.75 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.4 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.008 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	1.3 mg/L	1	SM5310B

Lab ID # AB23045	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1119.9 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0005

Sample Date: 9/14/2015

IDEM Sample #: AB22403

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	61 %	SM4500-OG
	DO	6.01 mg/L	SM4500-OG
	pH (Field)	7.25 SU	EPA 150.2
	Specific Conductance (Field)	236 umho/cm	SM2510B
	Temperature	15.24 °C	SM2550B(2)
	Turbidity (Hach)	2.64 NTU	EPA 180.1
	Air Temp	4 Lookup	Observation
	Sky Conditions	1 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	1 Lookup	Observation

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

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

SiteID: OBS-06-0010 **USGS Hydrologic Unit:** 051401040601
Stream Name: South Fork Blue River **County:** Washington
Description: Casey Hollow Road **Latitude:** 38 33 9.45404 **Longitude:** -85 53 17.60082
Drainage: 6.404 **Site Number:** 15T-021

SiteID: OBS-06-0010 **Sample Date:** 4/7/2015 **IDEM Sample #:** AB21039
Water Flow Type Eddy **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	94.3 %		ASTM D888-09(C)
DO	10.26 mg/L		ASTM D888-09(C)
pH (Field)	7.32 SU		EPA 150.2
Specific Conductance (Field)	123 umho/cm		SM2510B
Temperature	11.56 °C		SM2550B(2)
Turbidity (Hach)	163 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	7 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

<u>Lab ID # 534800</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	< 10 mg/L	10	EPA 310.2
Chloride	13 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	49 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	132 mg/L	24	SM2540D
Solids, Total (TS)	257 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	88 mg/L	10	SM2540C
Sulfate	22 mg/L	5	EPA 375.2
Calcium (Total)	12 mg/L	0.2	EPA 200.7
Magnesium (Total)	3.89 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.6 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.227 mg/L	0.03	EPA 365.1
TKN	1.1 mg/L	0.3	EPA 351.2
TOC	4.1 mg/L	1	SM5310B

<u>Lab ID # AB21039</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	648.8 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0010 Sample Date: 5/12/2015 IDEM Sample #: AB21469
 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	70 %		ASTM D888-09(C)
DO	6.83 mg/L		ASTM D888-09(C)
pH (Field)	7.38 SU		EPA 150.2
Specific Conductance (Field)	184 umho/cm		SM2510B
Temperature	16.54 °C		SM2550B(2)
Turbidity (Hach)	0.96 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 538000	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	33 mg/L	10	EPA 310.2
Chloride	12 mg/L	5	SM4500CI-E
Hardness (as CaCO3)	63 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	118 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	109 mg/L	10	SM2540C
Sulfate	30 mg/L	5	EPA 375.2
Calcium (Total)	15.7 mg/L	0.2	EPA 200.7
Magnesium (Total)	5.41 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.5 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.011 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	1.7 mg/L	1	SM5310B

Lab ID # AB21469	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	150 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0010 Sample Date: 6/2/2015 IDEM Sample #: AB21771
 Water Flow Type Pool Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	67.8 %		ASTM D888-09(C)
DO	6.96 mg/L		ASTM D888-09(C)
pH (Field)	7.46 SU		EPA 150.2
Specific Conductance (Field)	216 umho/cm		SM2510B
Temperature	14.17 °C		SM2550B(2)
Turbidity (Hach)	1.17 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 539852	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	36 mg/L	10	EPA 310.2
Chloride	17 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	67 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	137 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	124 mg/L	10	SM2540C
Sulfate	37 mg/L	5	EPA 375.2
Calcium (Total)	20.3 mg/L	0.2	EPA 200.7
Magnesium (Total)	6.9 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.9 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.006 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	1.5 mg/L	1	SM5310B

Lab ID # AB21771	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	184.2 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0010 Sample Date: 6/23/2015 IDEM Sample #: AB22142
 Water Flow Type Run Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	98.9 %		SM4500-OG
DO	7.87 mg/L		SM4500-OG
pH (Field)	7.87 SU		EPA 150.2
Specific Conductance (Field)	165 umho/cm		SM2510B
Temperature	25.91 °C		SM2550B(2)
Turbidity (Hach)	2.49 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	1 Lookup		Observation

SiteID: OBS-06-0010 Sample Date: 7/14/2015 IDEM Sample #: AB22429
 Water Flow Type Flood 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	87.5 %		ASTM D888-09(C)
DO	7.9 mg/L		ASTM D888-09(C)
pH (Field)	7.54 SU		EPA 150.2
Specific Conductance (Field)	67 umho/cm		SM2510B
Temperature	20.31 °C		SM2550B(2)
Turbidity (Hach)	390 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

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

Lab ID # 543534	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	< 10 mg/L	10	EPA 310.2
Chloride	5.5 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	38 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	580 mg/L	30	SM2540D
Solids, Total (TS)	664 mg/L	20	SM2540B
Solids, Total Dissolved (TDS)	83 mg/L	10	SM2540C
Sulfate	11 mg/L	5	EPA 375.2
Calcium (Total)	8.32 mg/L	0.2	EPA 200.7
Magnesium (Total)	3.92 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.2 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.267 mg/L	0.03	EPA 365.1
TKN	1.4 mg/L	0.3	EPA 351.2
TOC	9.4 mg/L	1	SM5310B

Lab ID # AB22429a	Result	Reporting Limit	Method
Coliforms (Total)	> 24196 MPN/100mL	24196	SM9223B
E. coli	5794 MPN/100mL	10	SM9223B

SiteID: OBS-06-0010 **Sample Date:** 8/5/2015 **IDEM Sample #:** AB22790
Water Flow Type Pool **Water Appearance** Clear **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	75.5 %		ASTM D888-09(C)
DO	6.72 mg/L		ASTM D888-09(C)
pH (Field)	8.05 SU		EPA 150.2
Specific Conductance (Field)	175 umho/cm		SM2510B
Temperature	21.06 °C		SM2550B(2)
Turbidity (Hach)	1.77 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

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

Lab ID # 545221	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	36 mg/L	10	EPA 310.2
Chloride	12 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	64 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	119 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	108 mg/L	10	SM2540C
Sulfate	27 mg/L	5	EPA 375.2
Calcium (Total)	17 mg/L	0.2	EPA 200.7
Magnesium (Total)	5.18 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.8 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.007 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	2.4 mg/L	1	SM5310B

Lab ID # AB22790	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	204.6 MPN/100mL	1	SM9223B

SiteID: OBS-06-0010 **Sample Date:** 8/12/2015 **IDEM Sample #:** AB22914
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	82.9 %		ASTM D888-09(C)
DO	7.63 mg/L		ASTM D888-09(C)
pH (Field)	7.92 SU		EPA 150.2
Specific Conductance (Field)	176 umho/cm		SM2510B
Temperature	19.95 °C		SM2550B(2)
Turbidity (Hach)	1.91 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # AB22914	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	261.3 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0010 Sample Date: 8/19/2015 IDEM Sample #: AB22949
 Water Flow Type Pool Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	69.8 %		ASTM D888-09(C)
DO	6.22 mg/L		ASTM D888-09(C)
pH (Field)	8.84 SU		EPA 150.2
Specific Conductance (Field)	178 umho/cm		SM2510B
Temperature	21.02 °C		SM2550B(2)
Turbidity (Hach)	3.09 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	8 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation
Lab ID # AB22949	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B

SiteID: OBS-06-0010 Sample Date: 8/26/2015 IDEM Sample #: AB23012
 Water Flow Type Pool Water Appearance Clear Water Depth Algae?
 Water Flow (cf/sec): Flow Estimated? Aquatic Life? Canopy Closed % 0-20%
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	72.6 %		ASTM D888-09(C)
DO	7.14 mg/L		ASTM D888-09(C)
pH (Field)	7.68 SU		EPA 150.2
Specific Conductance (Field)	187 umho/cm		SM2510B
Temperature	16.12 °C		SM2550B(2)
Turbidity (Hach)	1.65 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation
Lab ID # AB23012	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B

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

SiteID: OBS-06-0010 Sample Date: 9/2/2015 IDEM Sample #: AB23046
 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	65.6 %		ASTM D888-09(C)
DO	5.93 mg/L		ASTM D888-09(C)
pH (Field)	7.74 SU		EPA 150.2
Specific Conductance (Field)	141 umho/cm		SM2510B
Temperature	20.3 °C		SM2550B(2)
Turbidity (Hach)	1.65 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 547453	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	36 mg/L	10	EPA 310.2
Chloride	< 5 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	50 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	88 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	85 mg/L	10	SM2540C
Sulfate	25 mg/L	5	EPA 375.2
Calcium (Total)	13.9 mg/L	0.2	EPA 200.7
Magnesium (Total)	4.37 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.1 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.01 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	2.7 mg/L	1	SM5310B

Lab ID # AB23046	Result	Reporting Limit	Method
Coliforms (Total)	2419.6 MPN/100mL	1	SM9223B
E. coli	63.8 MPN/100mL	1	SM9223B

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

SiteID: OBS-06-0010 **Sample Date:** 9/8/2015 **IDEM Sample #:** AB22404
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	62.4 %		SM4500-OG
DO	5.18 mg/L		SM4500-OG
pH (Field)	7.08 SU		EPA 150.2
Specific Conductance (Field)	137 umho/cm		SM2510B
Temperature	23.56 °C		SM2550B(2)
Turbidity (Hach)	1.31 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

SiteID: OBS-06-0010 **Sample Date:** 10/6/2015 **IDEM Sample #:** AB23312
Water Flow Type Pool **Water Appearance** Clear **Water Depth** **Algae?**
Water Flow (cf/sec): **Flow Estimated?** **Aquatic Life?** **Canopy Closed %** 0-20%
Sampler Comments: Isolated pool

Lab ID #	Result	Reporting Limit	Method
% Sat	24.1 %		ASTM D888-09(C)
DO	2.44 mg/L		ASTM D888-09(C)
pH (Field)	7.67 SU		EPA 150.2
Specific Conductance (Field)	232 umho/cm		SM2510B
Temperature	14.96 °C		SM2550B(2)
Turbidity (Hach)	1.96 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

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

Lab ID # 550225	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	44 mg/L	10	EPA 310.2
Chloride	11 mg/L	5	SM4500Cl-E
Hardness (as CaCO3)	83 mg/L	30	EPA 130.1
Solids, Suspended Total, (TSS)	< 6 mg/L	6	SM2540D
Solids, Total (TS)	155 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	143 mg/L	10	SM2540C
Sulfate	51 mg/L	5	EPA 375.2
Calcium (Total)	21.8 mg/L	0.2	EPA 200.7
Magnesium (Total)	7.32 mg/L	0.2	EPA 200.7
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	< 0.1 mg/L	0.1	EPA 353.1
Phosphorus, Total	0.022 mg/L	0.03	EPA 365.1
TKN	< 0.3 mg/L	0.3	EPA 351.2
TOC	4.2 mg/L	1	SM5310B

Lab ID # AB23312	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	224.7 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	