

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

**SiteID:** OML-05-0020      **USGS Hydrologic Unit:** 050902030502  
**Stream Name:** Little Laughery Creek      **County:** Franklin  
**Description:** SR 46      **Latitude:** 39 18 30.86396      **Longitude:** -85 14 21.90295  
**Drainage:**      **Site Number:** 19T-001

**SiteID:** OML-05-0020      **Sample Date:** 4/1/2019      **IDEM Sample #:** AB37901  
**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	91.9 %		ASTM D888-09(C)
DO	12.3 mg/L		ASTM D888-09(C)
pH (Field)	7.65 SU		EPA 150.2
Specific Conductance (Field)	357 umho/cm		SM2510B
Temperature	3.15 °C		SM2550B(2)
Turbidity (Hach)	21.2 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #</u> 500-161024-1	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	120 mg/L	5	SM2320B
Chloride	16 mg/L	1	EPA 300.0
Hardness (as CaCO3)	160 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	17 mg/L	5	SM2540D
Solids, Total (TS)	290 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	290 mg/L	10	SM2540C
Sulfate	18 mg/L	1	EPA 300.0
Calcium (Total)	42 mg/L	0.2	EPA 200.7
Magnesium (Total)	14 mg/L	0.1	EPA 200.7
COD	18 mg/L	10	SM5220C
Nitrogen, Ammonia	0.16 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	4.3 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.085 mg/L	0.05	SM4500P-E
TKN	0.56 mg/L	0.4	SM4500N(Org)-D
TOC	3.4 mg/L	1	SM5310C

<u>Lab ID #</u> AB37901	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1299.7 MPN/100mL	1	SM9223B

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

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

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

**SiteID:** OML-05-0021      **USGS Hydrologic Unit:** 050902030502  
**Stream Name:** Little Laughery Creek      **County:** Ripley  
**Description:** SR 229      **Latitude:** 39 15 35.63184      **Longitude:** -85 14 34.33649  
**Drainage:**      **Site Number:** 19T-002

**SiteID:** OML-05-0021      **Sample Date:** 4/1/2019      **IDEM Sample #:** AB37919  
**Water Flow Type** Run      **Water Appearance** Brown      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	95.4 %		ASTM D888-09(C)
DO	12.34 mg/L		ASTM D888-09(C)
pH (Field)	7.83 SU		EPA 150.2
Specific Conductance (Field)	401 umho/cm		SM2510B
Temperature	4.47 °C		SM2550B(2)
Turbidity (Hach)	25.3 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID # 500-161024-4</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	140 mg/L	5	SM2320B
Chloride	25 mg/L	1	EPA 300.0
Hardness (as CaCO3)	170 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	19 mg/L	5	SM2540D
Solids, Total (TS)	300 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	310 mg/L	10	SM2540C
Sulfate	18 mg/L	1	EPA 300.0
Calcium (Total)	47 mg/L	0.2	EPA 200.7
Magnesium (Total)	12 mg/L	0.1	EPA 200.7
COD	16 mg/L	10	SM5220C
Nitrogen, Ammonia	0.15 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	2.9 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.1 mg/L	0.05	SM4500P-E
TKN	0.58 mg/L	0.4	SM4500N(Org)-D
TOC	4.2 mg/L	1	SM5310C

<u>Lab ID # AB37919</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	866.4 MPN/100mL	1	SM9223B

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Surface Water Results Summary**

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

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

**SiteID:** OML-05-0022      **USGS Hydrologic Unit:** 050902030502  
**Stream Name:** Bobs Cr      **County:** Ripley  
**Description:** CR 1300 N      **Latitude:** 39 15 52.87559      **Longitude:** -85 14 28.52278  
**Drainage:**      **Site Number:** 19T-003

**SiteID:** OML-05-0022      **Sample Date:** 4/1/2019      **IDEM Sample #:** AB37918  
**Water Flow Type** Run      **Water Appearance** Brown      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	93.5 %		ASTM D888-09(C)
DO	11.52 mg/L		ASTM D888-09(C)
pH (Field)	7.81 SU		EPA 150.2
Specific Conductance (Field)	215 umho/cm		SM2510B
Temperature	6.39 °C		SM2550B(2)
Turbidity (Hach)	50.5 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #</u> 500-161024-3	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	81 mg/L	5	SM2320B
Chloride	11 mg/L	1	EPA 300.0
Hardness (as CaCO3)	94 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	47 mg/L	5	SM2540D
Solids, Total (TS)	220 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	190 mg/L	10	SM2540C
Sulfate	7.9 mg/L	1	EPA 300.0
Calcium (Total)	27 mg/L	0.2	EPA 200.7
Magnesium (Total)	6.4 mg/L	0.1	EPA 200.7
COD	28 mg/L	10	SM5220C
Nitrogen, Ammonia	0.14 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	0.47 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.15 mg/L	0.05	SM4500P-E
TKN	1 mg/L	0.4	SM4500N(Org)-D
TOC	5.8 mg/L	1	SM5310C

<u>Lab ID #</u> AB37918	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	275.5 MPN/100mL	1	SM9223B

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

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**SiteID:** OML-05-0023      **USGS Hydrologic Unit:** 050902030502  
**Stream Name:** Little Laughery Creek      **County:** Ripley  
**Description:** CR 1250 N/Legion Road      **Latitude:** 39 15 6.14490      **Longitude:** -85 14 26.27253  
**Drainage:**      **Site Number:** 19T-004

**SiteID:** OML-05-0023      **Sample Date:** 2/18/2019      **IDEM Sample #:** AB36175  
**Water Flow Type** Run      **Water Appearance** Murky      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	89.9 %		ASTM D888-09(C)
DO	12.38 mg/L		ASTM D888-09(C)
pH (Field)	7.65 SU		EPA 150.2
Specific Conductance (Field)	431 umho/cm		SM2510B
Temperature	2 °C		SM2550B(2)
Turbidity (Hach)	16.5 NTU		EPA 180.1
Air Temp	1 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	140 mg/L	5	SM2320B
Chloride	35 mg/L	1	EPA 300.0
Hardness (as CaCO3)	170 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	15 mg/L	5	SM2540D
Solids, Total (TS)	250 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	210 mg/L	10	SM2540C
Sulfate	19 mg/L	1	EPA 300.0
Calcium (Total)	47 mg/L	0.2	EPA 200.7
Magnesium (Total)	13 mg/L	0.1	EPA 200.7
COD	12 mg/L	10	SM5220C
Nitrogen, Ammonia	0.85 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	2.2 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.072 mg/L	0.05	SM4500P-E
TKN	1.3 mg/L	0.4	SM4500N(Org)-D
TOC	4.2 mg/L	1	SM5310C

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

SiteID: OML-05-0023

Sample Date: 3/11/2019

IDEM Sample #: AB37627

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	91.5 %		ASTM D888-09(C)
DO	11.88 mg/L		ASTM D888-09(C)
pH (Field)	7.48 SU		EPA 150.2
Specific Conductance (Field)	325 umho/cm		SM2510B
Temperature	4.34 °C		SM2550B(2)
Turbidity (Hach)	52.3 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation
<b>Lab ID # 500-159865-3</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	110 mg/L	5	SM2320B
Chloride	22 mg/L	1	EPA 300.0
Hardness (as CaCO3)	130 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	32 mg/L	5	SM2540D
Solids, Total (TS)	230 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	190 mg/L	10	SM2540C
Sulfate	13 mg/L	1	EPA 300.0
Calcium (Total)	34 mg/L	0.2	EPA 200.7
Magnesium (Total)	10 mg/L	0.1	EPA 200.7
COD	32 mg/L	10	SM5220C
Nitrogen, Ammonia	0.18 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	1.8 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.095 mg/L	0.05	SM4500P-E
TKN	0.93 mg/L	0.4	SM4500N(Org)-D
TOC	4.8 mg/L	1	SM5310C



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

SiteID: OML-05-0023

Sample Date: 4/1/2019

IDEM Sample #: AB37920

Water Flow Type Run

Water Appearance Brown

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
	% Sat	93.9 %	ASTM D888-09(C)
	DO	11.82 mg/L	ASTM D888-09(C)
	pH (Field)	7.79 SU	EPA 150.2
	Specific Conductance (Field)	304 umho/cm	SM2510B
	Temperature	5.52 °C	SM2550B(2)
	Turbidity (Hach)	38.4 NTU	EPA 180.1
	Air Temp	2 Lookup	Observation
	Sky Conditions	1 Lookup	Observation
	Wind Direction	0 Lookup	Observation
	Wind Strength	1 Lookup	Observation

Lab ID # 500-161024-5	Result	Reporting Limit	Method
	Alkalinity (as CaCO3)	110 mg/L	5 SM2320B
	Chloride	16 mg/L	1 EPA 300.0
	Hardness (as CaCO3)	140 mg/L	1.3 SM2340B
	Solids, Suspended Total, (TSS)	36 mg/L	5 SM2540D
	Solids, Total (TS)	260 mg/L	10 SM2540B
	Solids, Total Dissolved (TDS)	230 mg/L	10 SM2540C
	Sulfate	12 mg/L	1 EPA 300.0
	Calcium (Total)	38 mg/L	0.2 EPA 200.7
	Magnesium (Total)	9.5 mg/L	0.1 EPA 200.7
	COD	28 mg/L	10 SM5220C
	Nitrogen, Ammonia	0.16 mg/L	0.2 SM4500NH3-G
	Nitrogen, Nitrate+Nitrite	1.6 mg/L	0.1 SM4500NO3-F
	Phosphorus, Total	0.14 mg/L	0.05 SM4500P-E
	TKN	0.65 mg/L	0.4 SM4500N(Org)-D
	TOC	5.1 mg/L	1 SM5310C

Lab ID # AB37920	Result	Reporting Limit	Method
	Coliforms (Total)	> 2419.6 MPN/100mL	2419.6 SM9223B
	E. coli	365.4 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  
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Surface Water Results Summary**

**SiteID:** OML-05-0009      **USGS Hydrologic Unit:** 050902030501  
**Stream Name:** Laughery Creek      **County:** Ripley  
**Description:** CR 250 W      **Latitude:** 39 15 18.76687      **Longitude:** -85 18 20.21532  
**Drainage:**      **Site Number:** 19T-005

**SiteID:** OML-05-0009      **Sample Date:** 2/18/2019      **IDEM Sample #:** AB36174  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<b>Lab ID #</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	92.4 %		ASTM D888-09(C)
DO	12.94 mg/L		ASTM D888-09(C)
pH (Field)	7.69 SU		EPA 150.2
Specific Conductance (Field)	409 umho/cm		SM2510B
Temperature	1.5 °C		SM2550B(2)
Turbidity (Hach)	11.6 NTU		EPA 180.1
Air Temp	1 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

<b>Lab ID #</b> 500-158962-2	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	140 mg/L	5	SM2320B
Chloride	24 mg/L	1	EPA 300.0
Hardness (as CaCO3)	190 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	7.5 mg/L	5	SM2540D
Solids, Total (TS)	260 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	220 mg/L	10	SM2540C
Sulfate	19 mg/L	1	EPA 300.0
Calcium (Total)	53 mg/L	0.2	EPA 200.7
Magnesium (Total)	14 mg/L	0.1	EPA 200.7
COD	< 10 mg/L	10	SM5220C
Nitrogen, Ammonia	0.14 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	4.3 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.053 mg/L	0.05	SM4500P-E
TKN	0.53 mg/L	0.4	SM4500N(Org)-D
TOC	2.6 mg/L	1	SM5310C

**Indiana Department of Environmental Management  
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SiteID: OML-05-0009      Sample Date: 3/11/2019      IDEM Sample #: AB37626  
 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	91.4 %		ASTM D888-09(C)
DO	11.95 mg/L		ASTM D888-09(C)
pH (Field)	7.62 SU		EPA 150.2
Specific Conductance (Field)	362 umho/cm		SM2510B
Temperature	4.07 °C		SM2550B(2)
Turbidity (Hach)	47.6 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 500-159865-2	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	110 mg/L	5	SM2320B
Chloride	19 mg/L	1	EPA 300.0
Hardness (as CaCO3)	150 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	27 mg/L	5	SM2540D
Solids, Total (TS)	270 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	210 mg/L	10	SM2540C
Sulfate	21 mg/L	1	EPA 300.0
Calcium (Total)	41 mg/L	0.2	EPA 200.7
Magnesium (Total)	12 mg/L	0.1	EPA 200.7
COD	22 mg/L	10	SM5220C
Nitrogen, Ammonia	< 0.2 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	3.7 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.035 mg/L	0.05	SM4500P-E
TKN	0.64 mg/L	0.4	SM4500N(Org)-D
TOC	3.9 mg/L	1	SM5310C

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

SiteID: OML-05-0009

Sample Date: 4/1/2019

IDEM Sample #: AB37902

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	105.3 %		ASTM D888-09(C)
DO	12.98 mg/L		ASTM D888-09(C)
pH (Field)	7.92 SU		EPA 150.2
Specific Conductance (Field)	348 umho/cm		SM2510B
Temperature	6.37 °C		SM2550B(2)
Turbidity (Hach)	23.5 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 500-161024-10	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	120 mg/L	5	SM2320B
Chloride	17 mg/L	1	EPA 300.0
Hardness (as CaCO3)	160 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	14 mg/L	5	SM2540D
Solids, Total (TS)	280 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	300 mg/L	10	SM2540C
Sulfate	20 mg/L	1	EPA 300.0
Calcium (Total)	45 mg/L	0.2	EPA 200.7
Magnesium (Total)	11 mg/L	0.1	EPA 200.7
COD	21 mg/L	10	SM5220C
Nitrogen, Ammonia	0.18 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	3.2 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.079 mg/L	0.05	SM4500P-E
TKN	0.72 mg/L	0.4	SM4500N(Org)-D
TOC	3.8 mg/L	1	SM5310C

Lab ID # AB37902	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	108.1 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
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:** OML-05-0024      **USGS Hydrologic Unit:** 050902030501  
**Stream Name:** Tub Creek      **County:** Ripley  
**Description:** CR 250 W      **Latitude:** 39 15 21.78944      **Longitude:** -85 18 19.81808  
**Drainage:**      **Site Number:** 19T-006

**SiteID:** OML-05-0024      **Sample Date:** 2/18/2019      **IDEM Sample #:** AB36173  
**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	91.9 %		ASTM D888-09(C)
DO	12.98 mg/L		ASTM D888-09(C)
pH (Field)	7.56 SU		EPA 150.2
Specific Conductance (Field)	436 umho/cm		SM2510B
Temperature	1.18 °C		SM2550B(2)
Turbidity (Hach)	5.66 NTU		EPA 180.1
Air Temp	1 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #</u> 500-158962-1	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	150 mg/L	5	SM2320B
Chloride	24 mg/L	1	EPA 300.0
Hardness (as CaCO3)	200 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	5 mg/L	5	SM2540D
Solids, Total (TS)	230 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	230 mg/L	10	SM2540C
Sulfate	20 mg/L	1	EPA 300.0
Calcium (Total)	54 mg/L	0.2	EPA 200.7
Magnesium (Total)	15 mg/L	0.1	EPA 200.7
COD	< 10 mg/L	10	SM5220C
Nitrogen, Ammonia	0.13 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	4 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.038 mg/L	0.05	SM4500P-E
TKN	0.34 mg/L	0.4	SM4500N(Org)-D
TOC	2 mg/L	1	SM5310C

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

SiteID: OML-05-0024      Sample Date: 3/11/2019      IDEM Sample #: AB37625  
 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	91.2 %		ASTM D888-09(C)
DO	12.08 mg/L		ASTM D888-09(C)
pH (Field)	7.48 SU		EPA 150.2
Specific Conductance (Field)	337 umho/cm		SM2510B
Temperature	3.55 °C		SM2550B(2)
Turbidity (Hach)	26.6 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 500-159865-1	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	110 mg/L	5	SM2320B
Chloride	18 mg/L	1	EPA 300.0
Hardness (as CaCO3)	140 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	14 mg/L	5	SM2540D
Solids, Total (TS)	220 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	220 mg/L	10	SM2540C
Sulfate	16 mg/L	1	EPA 300.0
Calcium (Total)	39 mg/L	0.2	EPA 200.7
Magnesium (Total)	11 mg/L	0.1	EPA 200.7
COD	19 mg/L	10	SM5220C
Nitrogen, Ammonia	0.24 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	3.6 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.24 mg/L	0.05	SM4500P-E
TKN	0.67 mg/L	0.4	SM4500N(Org)-D
TOC	3.9 mg/L	1	SM5310C

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

SiteID: OML-05-0024

Sample Date: 4/1/2019

IDEM Sample #: AB37903

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	104.7 %		ASTM D888-09(C)
DO	12.37 mg/L		ASTM D888-09(C)
pH (Field)	7.92 SU		EPA 150.2
Specific Conductance (Field)	342 umho/cm		SM2510B
Temperature	8.08 °C		SM2550B(2)
Turbidity (Hach)	18.3 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 500-161024-11	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	120 mg/L	5	SM2320B
Chloride	15 mg/L	1	EPA 300.0
Hardness (as CaCO3)	160 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	16 mg/L	5	SM2540D
Solids, Total (TS)	280 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	290 mg/L	10	SM2540C
Sulfate	17 mg/L	1	EPA 300.0
Calcium (Total)	45 mg/L	0.2	EPA 200.7
Magnesium (Total)	12 mg/L	0.1	EPA 200.7
COD	18 mg/L	10	SM5220C
Nitrogen, Ammonia	0.12 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	3.3 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.073 mg/L	0.05	SM4500P-E
TKN	0.54 mg/L	0.4	SM4500N(Org)-D
TOC	3.6 mg/L	1	SM5310C

Lab ID # AB37903	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	101.4 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:** OML-05-0025      **USGS Hydrologic Unit:** 050902030503  
**Stream Name:** Ripley Cr      **County:** Ripley  
**Description:** SR 48      **Latitude:** 39 12 25.68560      **Longitude:** -85 8 41.99721  
**Drainage:**      **Site Number:** 19T-007

**SiteID:** OML-05-0025      **Sample Date:** 4/2/2019      **IDEM Sample #:** AB37911  
**Water Flow Type:** Glide      **Water Appearance:** Brown      **Water Depth:**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %:** 0-20%  
**Sampler Comments:**

<u>Lab ID #</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	94.9 %		ASTM D888-09(C)
DO	11.9 mg/L		ASTM D888-09(C)
pH (Field)	7.96 SU		EPA 150.2
Specific Conductance (Field)	353 umho/cm		SM2510B
Temperature	5.74 °C		SM2550B(2)
Turbidity (Hach)	18 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID # 500-161024-19</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	110 mg/L	5	SM2320B
Chloride	16 mg/L	1	EPA 300.0
Hardness (as CaCO3)	170 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	40 mg/L	5	SM2540D
Solids, Total (TS)	180 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	230 mg/L	10	SM2540C
Sulfate	11 mg/L	1	EPA 300.0
Calcium (Total)	47 mg/L	0.2	EPA 200.7
Magnesium (Total)	12 mg/L	0.1	EPA 200.7
COD	15 mg/L	10	SM5220C
Nitrogen, Ammonia	0.15 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	1.3 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.082 mg/L	0.05	SM4500P-E
TKN	0.44 mg/L	0.4	SM4500N(Org)-D
TOC	4.3 mg/L	1	SM5310C

<u>Lab ID # AB37911</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	307.6 MPN/100mL	1	SM9223B



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

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

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

**SiteID:** OML-05-0026      **USGS Hydrologic Unit:** 050902030503  
**Stream Name:** Ripley Cr      **County:** Ripley  
**Description:** N Old Milan Rd      **Latitude:** 39 10 29.31366      **Longitude:** -85 10 12.11020  
**Drainage:**      **Site Number:** 19T-008

**SiteID:** OML-05-0026      **Sample Date:** 2/18/2019      **IDEM Sample #:** AB36178  
**Water Flow Type** Run      **Water Appearance** Murky      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	91 %		ASTM D888-09(C)
DO	12.74 mg/L		ASTM D888-09(C)
pH (Field)	7.78 SU		EPA 150.2
Specific Conductance (Field)	384 umho/cm		SM2510B
Temperature	1.5 °C		SM2550B(2)
Turbidity (Hach)	11.6 NTU		EPA 180.1
Air Temp	1 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #</u> 500-158962-6	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	150 mg/L	5	SM2320B
Chloride	15 mg/L	1	EPA 300.0
Hardness (as CaCO3)	180 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	9 mg/L	5	SM2540D
Solids, Total (TS)	230 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	220 mg/L	10	SM2540C
Sulfate	18 mg/L	1	EPA 300.0
Calcium (Total)	49 mg/L	0.2	EPA 200.7
Magnesium (Total)	14 mg/L	0.1	EPA 200.7
COD	< 10 mg/L	10	SM5220C
Nitrogen, Ammonia	0.12 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	1.3 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.061 mg/L	0.05	SM4500P-E
TKN	0.38 mg/L	0.4	SM4500N(Org)-D
TOC	2.8 mg/L	1	SM5310C

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

SiteID: OML-05-0026

Sample Date: 3/11/2019

IDEM Sample #: AB37630

Water Flow Type Run

Water Appearance Brown

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	90.3 %		ASTM D888-09(C)
DO	11.68 mg/L		ASTM D888-09(C)
pH (Field)	7.35 SU		EPA 150.2
Specific Conductance (Field)	276 umho/cm		SM2510B
Temperature	4.5 °C		SM2550B(2)
Turbidity (Hach)	49.2 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation
<b>Lab ID # 500-159865-6</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	110 mg/L	5	SM2320B
Chloride	10 mg/L	1	EPA 300.0
Hardness (as CaCO3)	120 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	26 mg/L	5	SM2540D
Solids, Total (TS)	200 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	170 mg/L	10	SM2540C
Sulfate	12 mg/L	1	EPA 300.0
Calcium (Total)	33 mg/L	0.2	EPA 200.7
Magnesium (Total)	9.7 mg/L	0.1	EPA 200.7
COD	23 mg/L	10	SM5220C
Nitrogen, Ammonia	0.13 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	1 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.04 mg/L	0.05	SM4500P-E
TKN	0.55 mg/L	0.4	SM4500N(Org)-D
TOC	4.9 mg/L	1	SM5310C

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

SiteID: OML-05-0026

Sample Date: 4/2/2019

IDEM Sample #: AB37910

Water Flow Type Run

Water Appearance Brown

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	90.9 %		ASTM D888-09(C)
DO	11.41 mg/L		ASTM D888-09(C)
pH (Field)	7.83 SU		EPA 150.2
Specific Conductance (Field)	326 umho/cm		SM2510B
Temperature	5.64 °C		SM2550B(2)
Turbidity (Hach)	23.5 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 500-161024-18	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	130 mg/L	5	SM2320B
Chloride	11 mg/L	1	EPA 300.0
Hardness (as CaCO3)	150 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	18 mg/L	5	SM2540D
Solids, Total (TS)	280 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	240 mg/L	10	SM2540C
Sulfate	16 mg/L	1	EPA 300.0
Calcium (Total)	43 mg/L	0.2	EPA 200.7
Magnesium (Total)	11 mg/L	0.1	EPA 200.7
COD	9.1 mg/L	10	SM5220C
Nitrogen, Ammonia	0.16 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	1 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.075 mg/L	0.05	SM4500P-E
TKN	0.3 mg/L	0.4	SM4500N(Org)-D
TOC	3.9 mg/L	1	SM5310C

Lab ID # AB37910	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	163.1 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
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:** OML-05-0027      **USGS Hydrologic Unit:** 050902030504  
**Stream Name:** Ripley Cr      **County:** Ripley  
**Description:** SR 48      **Latitude:** 39 11 57.27241      **Longitude:** -85 12 7.53762  
**Drainage:**      **Site Number:** 19T-009

**SiteID:** OML-05-0027      **Sample Date:** 4/2/2019      **IDEM Sample #:** AB37909  
**Water Flow Type** Riffle      **Water Appearance** Murky      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	94.6 %		ASTM D888-09(C)
DO	11.77 mg/L		ASTM D888-09(C)
pH (Field)	7.98 SU		EPA 150.2
Specific Conductance (Field)	318 umho/cm		SM2510B
Temperature	5.98 °C		SM2550B(2)
Turbidity (Hach)	22.1 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #</u> 500-161024-17	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	130 mg/L	5	SM2320B
Chloride	9.7 mg/L	1	EPA 300.0
Hardness (as CaCO3)	150 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	17 mg/L	5	SM2540D
Solids, Total (TS)	240 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	240 mg/L	10	SM2540C
Sulfate	15 mg/L	1	EPA 300.0
Calcium (Total)	45 mg/L	0.2	EPA 200.7
Magnesium (Total)	10 mg/L	0.1	EPA 200.7
COD	< 10 mg/L	10	SM5220C
Nitrogen, Ammonia	0.15 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	1 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.064 mg/L	0.05	SM4500P-E
TKN	0.31 mg/L	0.4	SM4500N(Org)-D
TOC	3.9 mg/L	1	SM5310C

<u>Lab ID #</u> AB37909	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	2419.6 MPN/100mL	1	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**

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

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

**SiteID:** OML-05-0028      **USGS Hydrologic Unit:** 050902030504  
**Stream Name:** N Br Ripley Cr      **County:** Ripley  
**Description:** N Adams Church Rd      **Latitude:** 39 12 42.35535      **Longitude:** -85 12 21.51943  
**Drainage:**      **Site Number:** 19T-010

**SiteID:** OML-05-0028      **Sample Date:** 4/2/2019      **IDEM Sample #:** AB37907  
**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	96.3 %		ASTM D888-09(C)
DO	12.38 mg/L		ASTM D888-09(C)
pH (Field)	8.02 SU		EPA 150.2
Specific Conductance (Field)	369 umho/cm		SM2510B
Temperature	4.71 °C		SM2550B(2)
Turbidity (Hach)	15 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

<u>Lab ID #</u> 500-161024-15	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	150 mg/L	5	SM2320B
Chloride	12 mg/L	1	EPA 300.0
Hardness (as CaCO3)	180 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	14 mg/L	5	SM2540D
Solids, Total (TS)	260 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	280 mg/L	10	SM2540C
Sulfate	16 mg/L	1	EPA 300.0
Calcium (Total)	52 mg/L	0.2	EPA 200.7
Magnesium (Total)	12 mg/L	0.1	EPA 200.7
COD	9.6 mg/L	10	SM5220C
Nitrogen, Ammonia	0.18 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	1.3 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.043 mg/L	0.05	SM4500P-E
TKN	0.34 mg/L	0.4	SM4500N(Org)-D
TOC	3.2 mg/L	1	SM5310C

<u>Lab ID #</u> AB37907	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	2419.6 MPN/100mL	1	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**

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



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

**SiteID:** OML-05-0029      **USGS Hydrologic Unit:** 050902030504  
**Stream Name:** Ripley Cr      **County:** Ripley  
**Description:** SR 129      **Latitude:** 39 12 35.72030      **Longitude:** -85 12 32.74782  
**Drainage:**      **Site Number:** 19T-011

**SiteID:** OML-05-0029      **Sample Date:** 2/18/2019      **IDEM Sample #:** AB36177  
**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	96.2 %		ASTM D888-09(C)
DO	13.41 mg/L		ASTM D888-09(C)
pH (Field)	7.93 SU		EPA 150.2
Specific Conductance (Field)	377 umho/cm		SM2510B
Temperature	1.7 °C		SM2550B(2)
Turbidity (Hach)	10.4 NTU		EPA 180.1
Air Temp	1 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #</u> 500-158962-5	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	150 mg/L	5	SM2320B
Chloride	13 mg/L	1	EPA 300.0
Hardness (as CaCO3)	180 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	7 mg/L	5	SM2540D
Solids, Total (TS)	220 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	220 mg/L	10	SM2540C
Sulfate	17 mg/L	1	EPA 300.0
Calcium (Total)	50 mg/L	0.2	EPA 200.7
Magnesium (Total)	13 mg/L	0.1	EPA 200.7
COD	< 10 mg/L	10	SM5220C
Nitrogen, Ammonia	0.11 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	1.4 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.039 mg/L	0.05	SM4500P-E
TKN	0.41 mg/L	0.4	SM4500N(Org)-D
TOC	2.8 mg/L	1	SM5310C

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

SiteID: OML-05-0029      Sample Date: 3/11/2019      IDEM Sample #: AB37629  
 Water Flow Type Run      Water Appearance Brown      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	93.2 %		ASTM D888-09(C)
DO	11.88 mg/L		ASTM D888-09(C)
pH (Field)	7.59 SU		EPA 150.2
Specific Conductance (Field)	257 umho/cm		SM2510B
Temperature	5.07 °C		SM2550B(2)
Turbidity (Hach)	46.1 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 500-159865-5	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	100 mg/L	5	SM2320B
Chloride	8.2 mg/L	1	EPA 300.0
Hardness (as CaCO3)	120 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	19 mg/L	5	SM2540D
Solids, Total (TS)	160 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	170 mg/L	10	SM2540C
Sulfate	10 mg/L	1	EPA 300.0
Calcium (Total)	33 mg/L	0.2	EPA 200.7
Magnesium (Total)	8.6 mg/L	0.1	EPA 200.7
COD	26 mg/L	10	SM5220C
Nitrogen, Ammonia	0.13 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	1.2 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.04 mg/L	0.05	SM4500P-E
TKN	0.49 mg/L	0.4	SM4500N(Org)-D
TOC	5.1 mg/L	1	SM5310C

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

SiteID: OML-05-0029      Sample Date: 4/2/2019      IDEM Sample #: AB37906  
 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	92.2 %		ASTM D888-09(C)
DO	11.64 mg/L		ASTM D888-09(C)
pH (Field)	7.97 SU		EPA 150.2
Specific Conductance (Field)	312 umho/cm		SM2510B
Temperature	5.43 °C		SM2550B(2)
Turbidity (Hach)	22 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 500-161024-14	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	130 mg/L	5	SM2320B
Chloride	9.3 mg/L	1	EPA 300.0
Hardness (as CaCO3)	150 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	16 mg/L	5	SM2540D
Solids, Total (TS)	250 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	260 mg/L	10	SM2540C
Sulfate	14 mg/L	1	EPA 300.0
Calcium (Total)	44 mg/L	0.2	EPA 200.7
Magnesium (Total)	9.9 mg/L	0.1	EPA 200.7
COD	9.6 mg/L	10	SM5220C
Nitrogen, Ammonia	0.14 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	1 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.061 mg/L	0.05	SM4500P-E
TKN	0.64 mg/L	0.4	SM4500N(Org)-D
TOC	4 mg/L	1	SM5310C

Lab ID # AB37906	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	201.4 MPN/100mL	1	SM9223B

Weather Code Definitions			
SC 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:** OML-05-0030      **USGS Hydrologic Unit:** 050902030505  
**Stream Name:** Laughery Creek      **County:** Ripley  
**Description:** SR 48      **Latitude:** 39 11 50.29840      **Longitude:** -85 14 51.02670  
**Drainage:**      **Site Number:** 19T-012

**SiteID:** OML-05-0030      **Sample Date:** 2/18/2019      **IDEM Sample #:** AB36176  
**Water Flow Type** Run      **Water Appearance** Murky      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	93 %		ASTM D888-09(C)
DO	12.9 mg/L		ASTM D888-09(C)
pH (Field)	7.81 SU		EPA 150.2
Specific Conductance (Field)	403 umho/cm		SM2510B
Temperature	1.8 °C		SM2550B(2)
Turbidity (Hach)	11.9 NTU		EPA 180.1
Air Temp	1 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #</u> 500-158962-4	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	150 mg/L	5	SM2320B
Chloride	19 mg/L	1	EPA 300.0
Hardness (as CaCO3)	180 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	10 mg/L	5	SM2540D
Solids, Total (TS)	230 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	230 mg/L	10	SM2540C
Sulfate	17 mg/L	1	EPA 300.0
Calcium (Total)	52 mg/L	0.2	EPA 200.7
Magnesium (Total)	13 mg/L	0.1	EPA 200.7
COD	9.7 mg/L	10	SM5220C
Nitrogen, Ammonia	0.18 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	2.7 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.047 mg/L	0.05	SM4500P-E
TKN	0.56 mg/L	0.4	SM4500N(Org)-D
TOC	2.9 mg/L	1	SM5310C

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

SiteID: OML-05-0030      Sample Date: 3/11/2019      IDEM Sample #: AB37628  
 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	91.2 %		ASTM D888-09(C)
DO	11.57 mg/L		ASTM D888-09(C)
pH (Field)	7.61 SU		EPA 150.2
Specific Conductance (Field)	276 umho/cm		SM2510B
Temperature	5.22 °C		SM2550B(2)
Turbidity (Hach)	64.1 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 500-159865-4	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	99 mg/L	5	SM2320B
Chloride	12 mg/L	1	EPA 300.0
Hardness (as CaCO3)	120 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	34 mg/L	5	SM2540D
Solids, Total (TS)	240 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	200 mg/L	10	SM2540C
Sulfate	11 mg/L	1	EPA 300.0
Calcium (Total)	34 mg/L	0.2	EPA 200.7
Magnesium (Total)	8.8 mg/L	0.1	EPA 200.7
COD	28 mg/L	10	SM5220C
Nitrogen, Ammonia	0.18 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	1.7 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.097 mg/L	0.05	SM4500P-E
TKN	0.7 mg/L	0.4	SM4500N(Org)-D
TOC	5.3 mg/L	1	SM5310C

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

SiteID: OML-05-0030

Sample Date: 4/2/2019

IDEM Sample #: AB37905

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	91.3 %		ASTM D888-09(C)
DO	11.26 mg/L		ASTM D888-09(C)
pH (Field)	7.93 SU		EPA 150.2
Specific Conductance (Field)	333 umho/cm		SM2510B
Temperature	6.31 °C		SM2550B(2)
Turbidity (Hach)	25.5 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 500-161024-13	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	130 mg/L	5	SM2320B
Chloride	13 mg/L	1	EPA 300.0
Hardness (as CaCO3)	150 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	21 mg/L	5	SM2540D
Solids, Total (TS)	260 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	280 mg/L	10	SM2540C
Sulfate	15 mg/L	1	EPA 300.0
Calcium (Total)	45 mg/L	0.2	EPA 200.7
Magnesium (Total)	10 mg/L	0.1	EPA 200.7
COD	11 mg/L	10	SM5220C
Nitrogen, Ammonia	0.15 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	1.9 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.078 mg/L	0.05	SM4500P-E
TKN	0.6 mg/L	0.4	SM4500N(Org)-D
TOC	4.1 mg/L	1	SM5310C

Lab ID # AB37905	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	124.6 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:** OML-05-0031      **USGS Hydrologic Unit:** 050902030505  
**Stream Name:** Laughery Creek      **County:** Ripley  
**Description:** Salem Rd      **Latitude:** 39 13 38.71781      **Longitude:** -85 14 31.34545  
**Drainage:**      **Site Number:** 19T-013

**SiteID:** OML-05-0031      **Sample Date:** 4/1/2019      **IDEM Sample #:** AB37922  
**Water Flow Type** Run      **Water Appearance** Brown      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	93.9 %		ASTM D888-09(C)
DO	11.93 mg/L		ASTM D888-09(C)
pH (Field)	7.86 SU		EPA 150.2
Specific Conductance (Field)	309 umho/cm		SM2510B
Temperature	5.16 °C		SM2550B(2)
Turbidity (Hach)	39.2 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #</u> 500-161024-7	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	110 mg/L	5	SM2320B
Chloride	14 mg/L	1	EPA 300.0
Hardness (as CaCO3)	140 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	30 mg/L	5	SM2540D
Solids, Total (TS)	270 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	260 mg/L	10	SM2540C
Sulfate	13 mg/L	1	EPA 300.0
Calcium (Total)	40 mg/L	0.2	EPA 200.7
Magnesium (Total)	9.2 mg/L	0.1	EPA 200.7
COD	29 mg/L	10	SM5220C
Nitrogen, Ammonia	0.16 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	2.2 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.13 mg/L	0.05	SM4500P-E
TKN	0.52 mg/L	0.4	SM4500N(Org)-D
TOC	4.8 mg/L	1	SM5310C

<u>Lab ID #</u> AB37922	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	435.2 MPN/100mL	1	SM9223B

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

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



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

**SiteID:** OML060-0007      **USGS Hydrologic Unit:** 050902030505  
**Stream Name:** Laughery Creek      **County:** Ripley  
**Description:** SR 229      **Latitude:** 39 14 43.58250      **Longitude:** -85 14 52.34751  
**Drainage:**      **Site Number:** 19T-014

**SiteID:** OML060-0007      **Sample Date:** 4/1/2019      **IDEM Sample #:** AB37921  
**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	95.6 %		ASTM D888-09(C)
DO	12.31 mg/L		ASTM D888-09(C)
pH (Field)	7.88 SU		EPA 150.2
Specific Conductance (Field)	315 umho/cm		SM2510B
Temperature	4.53 °C		SM2550B(2)
Turbidity (Hach)	31.4 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 500-161024-6	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	110 mg/L	5	SM2320B
Chloride	12 mg/L	1	EPA 300.0
Hardness (as CaCO3)	150 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	18 mg/L	5	SM2540D
Solids, Total (TS)	270 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	270 mg/L	10	SM2540C
Sulfate	15 mg/L	1	EPA 300.0
Calcium (Total)	43 mg/L	0.2	EPA 200.7
Magnesium (Total)	9.5 mg/L	0.1	EPA 200.7
COD	27 mg/L	10	SM5220C
Nitrogen, Ammonia	0.14 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	2.8 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.1 mg/L	0.05	SM4500P-E
TKN	0.57 mg/L	0.4	SM4500N(Org)-D
TOC	4.6 mg/L	1	SM5310C

Lab ID # AB37921	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	167 MPN/100mL	1	SM9223B

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

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

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

**SiteID:** OML060-0005      **USGS Hydrologic Unit:** 050902030505  
**Stream Name:** Tributary of Laughery Creek      **County:** Ripley  
**Description:** CR 1050 N      **Latitude:** 39 13 40.78137      **Longitude:** -85 16 49.51887  
**Drainage:**      **Site Number:** 19T-015

**SiteID:** OML060-0005      **Sample Date:** 4/1/2019      **IDEM Sample #:** AB37923  
**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	111.3 %		ASTM D888-09(C)
DO	13.46 mg/L		ASTM D888-09(C)
pH (Field)	8.2 SU		EPA 150.2
Specific Conductance (Field)	330 umho/cm		SM2510B
Temperature	7.15 °C		SM2550B(2)
Turbidity (Hach)	14 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #</u> 500-161024-8	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	120 mg/L	5	SM2320B
Chloride	13 mg/L	1	EPA 300.0
Hardness (as CaCO3)	150 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	9 mg/L	5	SM2540D
Solids, Total (TS)	290 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	250 mg/L	10	SM2540C
Sulfate	13 mg/L	1	EPA 300.0
Calcium (Total)	49 mg/L	0.2	EPA 200.7
Magnesium (Total)	7.9 mg/L	0.1	EPA 200.7
COD	9.6 mg/L	10	SM5220C
Nitrogen, Ammonia	0.13 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	4.1 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.046 mg/L	0.05	SM4500P-E
TKN	0.66 mg/L	0.4	SM4500N(Org)-D
TOC	3 mg/L	1	SM5310C

<u>Lab ID #</u> AB37923	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	44.3 MPN/100mL	1	SM9223B

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

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

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

**SiteID:** OML-05-0032      **USGS Hydrologic Unit:** 050902030505  
**Stream Name:** Walnut Fork      **County:** Ripley  
**Description:** CR 1300 N      **Latitude:** 39 15 53.34097      **Longitude:** -85 16 48.17450  
**Drainage:**      **Site Number:** 19T-016

**SiteID:** OML-05-0032      **Sample Date:** 4/1/2019      **IDEM Sample #:** AB37904  
**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	107.1 %		ASTM D888-09(C)
DO	12.52 mg/L		ASTM D888-09(C)
pH (Field)	7.92 SU		EPA 150.2
Specific Conductance (Field)	365 umho/cm		SM2510B
Temperature	8.51 °C		SM2550B(2)
Turbidity (Hach)	15.3 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #</u> 500-161024-12	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	130 mg/L	5	SM2320B
Chloride	15 mg/L	1	EPA 300.0
Hardness (as CaCO3)	180 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	14 mg/L	5	SM2540D
Solids, Total (TS)	290 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	340 mg/L	10	SM2540C
Sulfate	18 mg/L	1	EPA 300.0
Calcium (Total)	48 mg/L	0.2	EPA 200.7
Magnesium (Total)	13 mg/L	0.1	EPA 200.7
COD	24 mg/L	10	SM5220C
Nitrogen, Ammonia	0.15 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	3.4 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.07 mg/L	0.05	SM4500P-E
TKN	0.57 mg/L	0.4	SM4500N(Org)-D
TOC	4.9 mg/L	1	SM5310C

<u>Lab ID #</u> AB37904	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	1986.3 MPN/100mL	1	SM9223B
E. coli	53 MPN/100mL	1	SM9223B

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

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

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

**SiteID:** OML060-0006      **USGS Hydrologic Unit:** 050902030505  
**Stream Name:** Laughery Creek      **County:** Ripley  
**Description:** CR 200 W      **Latitude:** 39 14 44.80411      **Longitude:** -85 17 28.78470  
**Drainage:**      **Site Number:** 19T-017

**SiteID:** OML060-0006      **Sample Date:** 4/1/2019      **IDEM Sample #:** AB37924  
**Water Flow Type** Run      **Water Appearance** Murky      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	103.8 %		ASTM D888-09(C)
DO	13.09 mg/L		ASTM D888-09(C)
pH (Field)	7.96 SU		EPA 150.2
Specific Conductance (Field)	338 umho/cm		SM2510B
Temperature	5.42 °C		SM2550B(2)
Turbidity (Hach)	23.3 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #</u> 500-161024-9	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	120 mg/L	5	SM2320B
Chloride	15 mg/L	1	EPA 300.0
Hardness (as CaCO3)	160 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	14 mg/L	5	SM2540D
Solids, Total (TS)	270 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	270 mg/L	10	SM2540C
Sulfate	18 mg/L	1	EPA 300.0
Calcium (Total)	45 mg/L	0.2	EPA 200.7
Magnesium (Total)	11 mg/L	0.1	EPA 200.7
COD	12 mg/L	10	SM5220C
Nitrogen, Ammonia	0.15 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	3 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.075 mg/L	0.05	SM4500P-E
TKN	0.43 mg/L	0.4	SM4500N(Org)-D
TOC	4.2 mg/L	1	SM5310C

<u>Lab ID #</u> AB37924	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	161.6 MPN/100mL	1	SM9223B

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

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



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

**SiteID:** OML-05-0033      **USGS Hydrologic Unit:** 050902030506  
**Stream Name:** Plum Creek      **County:** Ripley  
**Description:** SR 350      **Latitude:** 39 8 51.29511      **Longitude:** -85 15 22.04081  
**Drainage:**      **Site Number:** 19T-018

**SiteID:** OML-05-0033      **Sample Date:** 4/2/2019      **IDEM Sample #:** AB37916  
**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	117.4 %		ASTM D888-09(C)
DO	13.44 mg/L		ASTM D888-09(C)
pH (Field)	8.77 SU		EPA 150.2
Specific Conductance (Field)	400 umho/cm		SM2510B
Temperature	9.35 °C		SM2550B(2)
Turbidity (Hach)	8.76 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 500-161024-23	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	150 mg/L	5	SM2320B
Chloride	22 mg/L	1	EPA 300.0
Hardness (as CaCO3)	180 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	6.5 mg/L	5	SM2540D
Solids, Total (TS)	180 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	300 mg/L	10	SM2540C
Sulfate	21 mg/L	1	EPA 300.0
Calcium (Total)	57 mg/L	0.2	EPA 200.7
Magnesium (Total)	10 mg/L	0.1	EPA 200.7
COD	9.6 mg/L	10	SM5220C
Nitrogen, Ammonia	0.14 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	2 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.036 mg/L	0.05	SM4500P-E
TKN	0.44 mg/L	0.4	SM4500N(Org)-D
TOC	3.2 mg/L	1	SM5310C

Lab ID # AB37916	Result	Reporting Limit	Method
Coliforms (Total)	2419.6 MPN/100mL	1	SM9223B
E. coli	27.2 MPN/100mL	1	SM9223B

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

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

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

**SiteID:** OML-05-0042      **USGS Hydrologic Unit:** 050902030506  
**Stream Name:** Laughery Creek      **County:** Ripley  
**Description:** SR 350, Osgood Water Intake      **Latitude:** 39 8 59.10005      **Longitude:** -85 15 13.40180  
**Drainage:**      **Site Number:** 19T-019

**SiteID:** OML-05-0042      **Sample Date:** 2/18/2019      **IDEM Sample #:** AB36179  
**Water Flow Type** Pool      **Water Appearance** Murky      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	94.4 %		ASTM D888-09(C)
DO	13.02 mg/L		ASTM D888-09(C)
pH (Field)	7.92 SU		EPA 150.2
Specific Conductance (Field)	391 umho/cm		SM2510B
Temperature	2.1 °C		SM2550B(2)
Turbidity (Hach)	12.4 NTU		EPA 180.1
Air Temp	1 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #</u> 500-158962-7	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	150 mg/L	5	SM2320B
Chloride	18 mg/L	1	EPA 300.0
Hardness (as CaCO3)	180 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	6.5 mg/L	5	SM2540D
Solids, Total (TS)	230 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	210 mg/L	10	SM2540C
Sulfate	17 mg/L	1	EPA 300.0
Calcium (Total)	52 mg/L	0.2	EPA 200.7
Magnesium (Total)	12 mg/L	0.1	EPA 200.7
COD	< 10 mg/L	10	SM5220C
Nitrogen, Ammonia	0.14 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	2.3 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.049 mg/L	0.05	SM4500P-E
TKN	0.41 mg/L	0.4	SM4500N(Org)-D
TOC	3 mg/L	1	SM5310C

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

SiteID: OML-05-0042      Sample Date: 3/11/2019      IDEM Sample #: AB37631  
 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	92.3 %		ASTM D888-09(C)
DO	11.51 mg/L		ASTM D888-09(C)
pH (Field)	7.66 SU		EPA 150.2
Specific Conductance (Field)	256 umho/cm		SM2510B
Temperature	5.89 °C		SM2550B(2)
Turbidity (Hach)	74.8 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 500-159865-7	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	91 mg/L	5	SM2320B
Chloride	12 mg/L	1	EPA 300.0
Hardness (as CaCO3)	110 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	37 mg/L	5	SM2540D
Solids, Total (TS)	230 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	190 mg/L	10	SM2540C
Sulfate	10 mg/L	1	EPA 300.0
Calcium (Total)	32 mg/L	0.2	EPA 200.7
Magnesium (Total)	7.8 mg/L	0.1	EPA 200.7
COD	23 mg/L	10	SM5220C
Nitrogen, Ammonia	0.21 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	1.7 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.11 mg/L	0.05	SM4500P-E
TKN	0.72 mg/L	0.4	SM4500N(Org)-D
TOC	5.6 mg/L	1	SM5310C

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

SiteID: OML-05-0042      Sample Date: 4/2/2019      IDEM Sample #: AB37915  
 Water Flow Type Pool      Water Appearance Brown      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments: Foam/Bubbles

Lab ID #	Result	Reporting Limit	Method
% Sat	98.2 %		ASTM D888-09(C)
DO	11.81 mg/L		ASTM D888-09(C)
pH (Field)	8.09 SU		EPA 150.2
Specific Conductance (Field)	318 umho/cm		SM2510B
Temperature	7.34 °C		SM2550B(2)
Turbidity (Hach)	28.2 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 500-161024-22	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	130 mg/L	5	SM2320B
Chloride	12 mg/L	1	EPA 300.0
Hardness (as CaCO3)	160 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	20 mg/L	5	SM2540D
Solids, Total (TS)	130 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	280 mg/L	10	SM2540C
Sulfate	14 mg/L	1	EPA 300.0
Calcium (Total)	46 mg/L	0.2	EPA 200.7
Magnesium (Total)	9.7 mg/L	0.1	EPA 200.7
COD	8.6 mg/L	10	SM5220C
Nitrogen, Ammonia	0.15 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	1.7 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.081 mg/L	0.05	SM4500P-E
TKN	0.58 mg/L	0.4	SM4500N(Org)-D
TOC	4.1 mg/L	1	SM5310C

Lab ID # AB37915	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	90.8 MPN/100mL	1	SM9223B

Weather Code Definitions			
SC Sky Conditions	WD Wind Direction	WS Wind Strength	AT Air Temp
1 - Clear	8 - Rain	0 - 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:** OML-05-0034      **USGS Hydrologic Unit:** 050902030506  
**Stream Name:** Castators Creek      **County:** Ripley  
**Description:** SR 350      **Latitude:** 39 8 59.63440      **Longitude:** -85 14 34.94307  
**Drainage:**      **Site Number:** 19T-020

**SiteID:** OML-05-0034      **Sample Date:** 4/2/2019      **IDEM Sample #:** AB37914  
**Water Flow Type** Riffle      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	113 %		ASTM D888-09(C)
DO	13.33 mg/L		ASTM D888-09(C)
pH (Field)	8.42 SU		EPA 150.2
Specific Conductance (Field)	325 umho/cm		SM2510B
Temperature	8.14 °C		SM2550B(2)
Turbidity (Hach)	12 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #</u> 500-161024-21	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	140 mg/L	5	SM2320B
Chloride	9.7 mg/L	1	EPA 300.0
Hardness (as CaCO3)	170 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	8.5 mg/L	5	SM2540D
Solids, Total (TS)	130 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	270 mg/L	10	SM2540C
Sulfate	13 mg/L	1	EPA 300.0
Calcium (Total)	54 mg/L	0.2	EPA 200.7
Magnesium (Total)	9.4 mg/L	0.1	EPA 200.7
COD	13 mg/L	10	SM5220C
Nitrogen, Ammonia	0.14 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	0.3 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.042 mg/L	0.05	SM4500P-E
TKN	0.31 mg/L	0.4	SM4500N(Org)-D
TOC	3 mg/L	1	SM5310C

<u>Lab ID #</u> AB37914	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	1553.1 MPN/100mL	1	SM9223B
E. coli	42 MPN/100mL	1	SM9223B

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

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

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

**SiteID:** OML-05-0012      **USGS Hydrologic Unit:** 050902030507  
**Stream Name:** Laughery Creek      **County:** Ripley  
**Description:** CR 450 N      **Latitude:** 39 8 24.22718      **Longitude:** -85 14 58.64216  
**Drainage:**      **Site Number:** 19T-021

**SiteID:** OML-05-0012      **Sample Date:** 2/18/2019      **IDEM Sample #:** AB36180  
**Water Flow Type** Run      **Water Appearance** Murky      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	96.4 %		ASTM D888-09(C)
DO	13.23 mg/L		ASTM D888-09(C)
pH (Field)	7.92 SU		EPA 150.2
Specific Conductance (Field)	395 umho/cm		SM2510B
Temperature	2.2 °C		SM2550B(2)
Turbidity (Hach)	11.8 NTU		EPA 180.1
Air Temp	1 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #</u> 500-158962-8	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	150 mg/L	5	SM2320B
Chloride	18 mg/L	1	EPA 300.0
Hardness (as CaCO3)	180 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	9 mg/L	5	SM2540D
Solids, Total (TS)	230 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	220 mg/L	10	SM2540C
Sulfate	17 mg/L	1	EPA 300.0
Calcium (Total)	53 mg/L	0.2	EPA 200.7
Magnesium (Total)	12 mg/L	0.1	EPA 200.7
COD	< 10 mg/L	10	SM5220C
Nitrogen, Ammonia	0.15 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	2.1 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.046 mg/L	0.05	SM4500P-E
TKN	0.39 mg/L	0.4	SM4500N(Org)-D
TOC	2.9 mg/L	1	SM5310C



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

SiteID: OML-05-0012      Sample Date: 3/11/2019      IDEM Sample #: AB37632  
 Water Flow Type Run      Water Appearance Brown      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	94.6 %		ASTM D888-09(C)
DO	11.74 mg/L		ASTM D888-09(C)
pH (Field)	7.78 SU		EPA 150.2
Specific Conductance (Field)	262 umho/cm		SM2510B
Temperature	6.1 °C		SM2550B(2)
Turbidity (Hach)	76.5 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 500-159865-8	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	94 mg/L	5	SM2320B
Chloride	12 mg/L	1	EPA 300.0
Hardness (as CaCO3)	110 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	35 mg/L	5	SM2540D
Solids, Total (TS)	200 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	190 mg/L	10	SM2540C
Sulfate	11 mg/L	1	EPA 300.0
Calcium (Total)	32 mg/L	0.2	EPA 200.7
Magnesium (Total)	7.6 mg/L	0.1	EPA 200.7
COD	43 mg/L	10	SM5220C
Nitrogen, Ammonia	0.24 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	1.8 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.09 mg/L	0.05	SM4500P-E
TKN	0.59 mg/L	0.4	SM4500N(Org)-D
TOC	5.4 mg/L	1	SM5310C

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

SiteID: OML-05-0012

Sample Date: 4/2/2019

IDEM Sample #: AB37917

Water Flow Type Pool

Water Appearance Brown

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
	% Sat	103 %	ASTM D888-09(C)
	DO	12.18 mg/L	ASTM D888-09(C)
	pH (Field)	8.21 SU	EPA 150.2
	Specific Conductance (Field)	326 umho/cm	SM2510B
	Temperature	7.97 °C	SM2550B(2)
	Turbidity (Hach)	24.8 NTU	EPA 180.1
	Air Temp	3 Lookup	Observation
	Sky Conditions	1 Lookup	Observation
	Wind Direction	0 Lookup	Observation
	Wind Strength	1 Lookup	Observation

Lab ID # 500-161024-24	Result	Reporting Limit	Method
	Alkalinity (as CaCO3)	130 mg/L	5 SM2320B
	Chloride	12 mg/L	1 EPA 300.0
	Hardness (as CaCO3)	160 mg/L	1.3 SM2340B
	Solids, Suspended Total, (TSS)	19 mg/L	5 SM2540D
	Solids, Total (TS)	170 mg/L	10 SM2540B
	Solids, Total Dissolved (TDS)	290 mg/L	10 SM2540C
	Sulfate	14 mg/L	1 EPA 300.0
	Calcium (Total)	47 mg/L	0.2 EPA 200.7
	Magnesium (Total)	9.6 mg/L	0.1 EPA 200.7
	COD	13 mg/L	10 SM5220C
	Nitrogen, Ammonia	0.17 mg/L	0.2 SM4500NH3-G
	Nitrogen, Nitrate+Nitrite	1.6 mg/L	0.1 SM4500NO3-F
	Phosphorus, Total	0.068 mg/L	0.05 SM4500P-E
	TKN	0.7 mg/L	0.4 SM4500N(Org)-D
	TOC	3.9 mg/L	1 SM5310C

Lab ID # AB37917	Result	Reporting Limit	Method
	Coliforms (Total)	> 2419.6 MPN/100mL	2419.6 SM9223B
	E. coli	114.5 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
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:** OML-05-0035      **USGS Hydrologic Unit:** 050902030502  
**Stream Name:** Trib of Little Laughery Cr      **County:** Franklin  
**Description:** Huntersville Rd      **Latitude:** 39 18 26.16139      **Longitude:** -85 14 5.17977  
**Drainage:**      **Site Number:** 19T-022

**SiteID:** OML-05-0035      **Sample Date:** 4/1/2019      **IDEM Sample #:** AB37912  
**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	93.7 %		ASTM D888-09(C)
DO	12.41 mg/L		ASTM D888-09(C)
pH (Field)	7.92 SU		EPA 150.2
Specific Conductance (Field)	535 umho/cm		SM2510B
Temperature	3.55 °C		SM2550B(2)
Turbidity (Hach)	15.3 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #</u> 500-161024-2	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	170 mg/L	5	SM2320B
Chloride	55 mg/L	2	EPA 300.0
Hardness (as CaCO3)	210 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	9 mg/L	5	SM2540D
Solids, Total (TS)	390 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	310 mg/L	10	SM2540C
Sulfate	20 mg/L	1	EPA 300.0
Calcium (Total)	61 mg/L	0.2	EPA 200.7
Magnesium (Total)	15 mg/L	0.1	EPA 200.7
COD	21 mg/L	10	SM5220C
Nitrogen, Ammonia	0.12 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	1 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.049 mg/L	0.05	SM4500P-E
TKN	0.52 mg/L	0.4	SM4500N(Org)-D
TOC	4.6 mg/L	1	SM5310C

<u>Lab ID #</u> AB37912	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
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**

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

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

**SiteID:** OML-05-0036      **USGS Hydrologic Unit:** 050902030504  
**Stream Name:** Trib of Ripley Cr      **County:** Ripley  
**Description:** CR 950 N      **Latitude:** 39 12 34.61357      **Longitude:** -85 11 42.88160  
**Drainage:**      **Site Number:** 19T-023

**SiteID:** OML-05-0036      **Sample Date:** 4/2/2019      **IDEM Sample #:** AB37908  
**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	96.9 %		ASTM D888-09(C)
DO	12.22 mg/L		ASTM D888-09(C)
pH (Field)	8.02 SU		EPA 150.2
Specific Conductance (Field)	292 umho/cm		SM2510B
Temperature	5.43 °C		SM2550B(2)
Turbidity (Hach)	14.3 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #</u> 500-161024-16	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	130 mg/L	5	SM2320B
Chloride	5.6 mg/L	1	EPA 300.0
Hardness (as CaCO3)	140 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	9.5 mg/L	5	SM2540D
Solids, Total (TS)	210 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	220 mg/L	10	SM2540C
Sulfate	13 mg/L	1	EPA 300.0
Calcium (Total)	40 mg/L	0.2	EPA 200.7
Magnesium (Total)	10 mg/L	0.1	EPA 200.7
COD	11 mg/L	10	SM5220C
Nitrogen, Ammonia	0.42 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	0.59 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.039 mg/L	0.05	SM4500P-E
TKN	0.38 mg/L	0.4	SM4500N(Org)-D
TOC	3.7 mg/L	1	SM5310C

<u>Lab ID #</u> AB37908	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	1732.9 MPN/100mL	1	SM9223B
E. coli	70.3 MPN/100mL	1	SM9223B

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

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

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

**SiteID:** OML-05-0040      **USGS Hydrologic Unit:** 050902030503  
**Stream Name:** Trib of Ripley Cr      **County:** Ripley  
**Description:** N Spades Rd      **Latitude:** 39 12 11.37145      **Longitude:** -85 7 55.62252  
**Drainage:**      **Site Number:** 19T-027

**SiteID:** OML-05-0040      **Sample Date:** 4/2/2019      **IDEM Sample #:** AB37913  
**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	97.3 %		ASTM D888-09(C)
DO	11.81 mg/L		ASTM D888-09(C)
pH (Field)	7.88 SU		EPA 150.2
Specific Conductance (Field)	326 umho/cm		SM2510B
Temperature	7 °C		SM2550B(2)
Turbidity (Hach)	23.1 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID # 500-161024-20</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	130 mg/L	5	SM2320B
Chloride	12 mg/L	1	EPA 300.0
Hardness (as CaCO3)	160 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	16 mg/L	5	SM2540D
Solids, Total (TS)	140 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	300 mg/L	10	SM2540C
Sulfate	17 mg/L	1	EPA 300.0
Calcium (Total)	44 mg/L	0.2	EPA 200.7
Magnesium (Total)	12 mg/L	0.1	EPA 200.7
COD	13 mg/L	10	SM5220C
Nitrogen, Ammonia	0.14 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	0.73 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.052 mg/L	0.05	SM4500P-E
TKN	0.35 mg/L	0.4	SM4500N(Org)-D
TOC	4.1 mg/L	1	SM5310C

<u>Lab ID # AB37913</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	2419.6 MPN/100mL	1	SM9223B
E. coli	172.2 MPN/100mL	1	SM9223B

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

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