

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

**SiteID:** WL190-0010      **USGS Hydrologic Unit:** 051201081504  
**Stream Name:** Big Raccoon Creek      **County:** Parke  
**Description:** CR 600 West      **Latitude:** 39 45 34.24778      **Longitude:** -87 21 3.83528  
**Drainage:** 513.799      **Site Number:** 23T-001

**SiteID:** WL190-0010      **Sample Date:** 5/10/2023      **IDEM Sample #:** AC02866  
**Water Flow Type** Run      **Water Appearance** Murky      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**  **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	101.8 %		ASTM D888-09(C)
DO	9.39 mg/L		ASTM D888-09(C)
pH (Field)	8.18 SU		EPA 150.2
Specific Conductance (Field)	498.6 umho/cm		SM2510B
Temperature	19.2 °C		SM2550B(2)
Turbidity (Hach)	16.7 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

<b>Lab ID #: 50344584011</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	218 mg/L	10	SM2320B
Chloride	17 mg/L	0.25	EPA 300.0
Hardness (as CaCO3)	251 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	18.3 mg/L	2.5	SM2540D
Solids, Total (TS)	321 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	242 mg/L	10	SM2540C
Sulfate	24.8 mg/L	0.25	EPA 300.0
Calcium (Total)	64000 ug/L	1000	EPA 200.7
Magnesium (Total)	22100 ug/L	1000	EPA 200.7
COD	15.5 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.3 mg/L	0.1	EPA 353.2
Phosphorus, Total	0.062 mg/L	0.05	EPA 365.1
TKN	0.5 mg/L	0.5	EPA 351.2
TOC	2.9 mg/L	1	SM5310C

<b>Lab ID #: AC02866</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	3M9223B(Colilert-18)
E. coli	196.8 MPN/100mL	1	3M9223B(Colilert-18)

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

SiteID: WLV190-0010

Sample Date: 6/14/2023

IDEM Sample #: AC03213

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	108.8 %		ASTM D888-09(C)
DO	9.58 mg/L		ASTM D888-09(C)
pH (Field)	8.21 SU		EPA 150.2
Specific Conductance (Field)	527 umho/cm		SM2510B
Temperature	21.6 °C		SM2550B(2)
Turbidity (Hach)	10.7 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: 50347349010	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	227 mg/L	10	SM2320B
Chloride	15.1 mg/L	2.5	EPA 300.0
Hardness (as CaCO3)	264 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	8.5 mg/L	2.5	SM2540D
Solids, Total (TS)	339 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	300 mg/L	10	SM2540C
Sulfate	24.9 mg/L	2.5	EPA 300.0
Calcium (Total)	69300 ug/L	1000	EPA 200.7
Magnesium (Total)	22100 ug/L	1000	EPA 200.7
COD	12.6 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.2 mg/L	0.1	EPA 353.2
Phosphorus, Total	< 0.05 mg/L	0.05	EPA 365.1
TKN	< 0.5 mg/L	0.5	EPA 351.2
TOC	2.9 mg/L	1	SM5310C

Lab ID #: AC03213	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B(Colilert-18)
E. coli	129.6 MPN/100mL	1	SM9223B(Colilert-18)

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

SiteID: WLV190-0010      Sample Date: 7/11/2023      IDEM Sample #: AC03485  
 Water Flow Type    Glide      Water Appearance    Murky      Water Depth       Algae?  
 Water Flow (cf/sec):       Flow Estimated?       Aquatic Life?      Canopy Closed %    0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	106.8 %		ASTM D888-09(C)
DO	8.75 mg/L		ASTM D888-09(C)
pH (Field)	8.34 SU		EPA 150.2
Specific Conductance (Field)	412.9 umho/cm		SM2510B
Temperature	24.9 °C		SM2550B(2)
Turbidity (Hach)	37.8 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 #: 50349298001	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	173 mg/L	10	SM2320B
Chloride	14.1 mg/L	0.25	EPA 300.0
Hardness (as CaCO3)	206 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	44.1 mg/L	5.7	SM2540D
Solids, Total (TS)	273 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	222 mg/L	10	SM2540C
Sulfate	16.1 mg/L	0.25	EPA 300.0
Calcium (Total)	52500 ug/L	1000	EPA 200.7
Magnesium (Total)	18100 ug/L	1000	EPA 200.7
COD	35 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.1 mg/L	0.1	EPA 353.2
Phosphorus, Total	0.16 mg/L	0.05	EPA 365.1
TKN	1.5 mg/L	0.5	EPA 351.2
TOC	5.4 mg/L	1	SM5310C

Lab ID #: AC03485	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B(Colilert-18)
E. coli	272.3 MPN/100mL	1	SM9223B(Colilert-18)

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

SiteID: WLV190-0010

Sample Date: 7/24/2023

IDEM Sample #: AC03190

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 %		ASTM D888-09(C)
DO	7.9 mg/L		ASTM D888-09(C)
pH (Field)	8.12 SU		EPA 150.2
Specific Conductance (Field)	490.9 umho/cm		SM2510B
Temperature	23.9 °C		SM2550B(2)
Turbidity (Hach)	7.87 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 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:** WLV-15-0004      **USGS Hydrologic Unit:** 051201081504  
**Stream Name:** Tributary of Big Raccoon Creek      **County:** Parke  
**Description:** McAdams Road      **Latitude:** 39 44 4.92319      **Longitude:** -87 19 28.05978  
**Drainage:**      **Site Number:** 23T-002

**SiteID:** WLV-15-0004      **Sample Date:** 5/10/2023      **IDEM Sample #:** AC02865  
**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	101 %		ASTM D888-09(C)
DO	10.18 mg/L		ASTM D888-09(C)
pH (Field)	8.26 SU		EPA 150.2
Specific Conductance (Field)	584 umho/cm		SM2510B
Temperature	15 °C		SM2550B(2)
Turbidity (Hach)	1.87 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

<b>Lab ID #: 50344584010</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	260 mg/L	10	SM2320B
Chloride	12.5 mg/L	0.25	EPA 300.0
Hardness (as CaCO3)	299 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	< 2.5 mg/L	2.5	SM2540D
Solids, Total (TS)	366 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	316 mg/L	10	SM2540C
Sulfate	46.8 mg/L	0.25	EPA 300.0
Calcium (Total)	71600 ug/L	1000	EPA 200.7
Magnesium (Total)	29200 ug/L	1000	EPA 200.7
COD	< 10 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	2.1 mg/L	0.1	EPA 353.2
Phosphorus, Total	< 0.05 mg/L	0.05	EPA 365.1
TKN	< 0.5 mg/L	0.5	EPA 351.2
TOC	2.4 mg/L	1	SM5310C

<b>Lab ID #: AC02865</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	3M9223B(Colilert-18)
E. coli	435.2 MPN/100mL	1	3M9223B(Colilert-18)

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

**SiteID:** WLV-15-0004      **Sample Date:** 7/11/2023      **IDEM Sample #:** AC03495  
**Water Flow Type** Riffle      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	93 %		ASTM D888-09(C)
DO	8 mg/L		ASTM D888-09(C)
pH (Field)	8.02 SU		EPA 150.2
Specific Conductance (Field)	601 umho/cm		SM2510B
Temperature	22.8 °C		SM2550B(2)
Turbidity (Hach)	1.73 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

<b>Lab ID #:</b> 50349298002	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	237 mg/L	10	SM2320B
Chloride	12.4 mg/L	0.25	EPA 300.0
Hardness (as CaCO3)	268 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	4.2 mg/L	2.5	SM2540D
Solids, Total (TS)	341 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	327 mg/L	10	SM2540C
Sulfate	59.7 mg/L	2.5	EPA 300.0
Calcium (Total)	65500 ug/L	1000	EPA 200.7
Magnesium (Total)	25300 ug/L	1000	EPA 200.7
COD	< 10 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.29 mg/L	0.1	EPA 353.2
Phosphorus, Total	< 0.05 mg/L	0.05	EPA 365.1
TKN	< 0.5 mg/L	0.5	EPA 351.2
TOC	3.2 mg/L	1	SM5310C

<b>Lab ID #:</b> AC03495	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B(Colilert-18)
E. coli	167 MPN/100mL	1	SM9223B(Colilert-18)

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

# Indiana Department of Environmental Management

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

### Surface Water Results Summary

**SiteID:** WL190-0012      **USGS Hydrologic Unit:** 051201081504  
**Stream Name:** Big Raccoon Creek      **County:** Parke  
**Description:** Wabash Street, Mecca      **Latitude:** 39 43 45.26869      **Longitude:** -87 19 28.69273  
**Drainage:** 475.859      **Site Number:** 23T-003

**SiteID:** WL190-0012      **Sample Date:** 5/10/2023      **IDEM Sample #:** AC02864  
**Water Flow Type** Run      **Water Appearance** Murky      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**  **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

Lab ID #:	Result	Reporting Limit	Method
% Sat	96.9 %		ASTM D888-09(C)
DO	9.13 mg/L		ASTM D888-09(C)
pH (Field)	8.12 SU		EPA 150.2
Specific Conductance (Field)	485.6 umho/cm		SM2510B
Temperature	18.2 °C		SM2550B(2)
Turbidity (Hach)	14.7 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID #: 50344584020	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	218 mg/L	10	SM2320B
Chloride	16.7 mg/L	0.25	EPA 300.0
Hardness (as CaCO3)	247 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	20 mg/L	5	SM2540D
Solids, Total (TS)	297 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	252 mg/L	10	SM2540C
Sulfate	24.1 mg/L	0.25	EPA 300.0
Calcium (Total)	63000 ug/L	1000	EPA 200.7
Magnesium (Total)	21800 ug/L	1000	EPA 200.7
COD	14.6 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.3 mg/L	0.1	EPA 353.2
Phosphorus, Total	0.087 mg/L	0.05	EPA 365.1
TKN	0.72 mg/L	0.5	EPA 351.2
TOC	3.4 mg/L	1	SM5310C

Lab ID #: AC02864	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	3M9223B(Colilert-18)
E. coli	344.8 MPN/100mL	1	3M9223B(Colilert-18)

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

**SiteID:** WLV190-0012      **Sample Date:** 6/13/2023      **IDEM Sample #:** AC03211  
**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	101.5 %		ASTM D888-09(C)
DO	9.5 mg/L		ASTM D888-09(C)
pH (Field)	8.16 SU		EPA 150.2
Specific Conductance (Field)	522 umho/cm		SM2510B
Temperature	18.5 °C		SM2550B(2)
Turbidity (Hach)	5.68 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	2 Lookup		Observation

<b>Lab ID #: 50347349019</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	221 mg/L	10	SM2320B
Chloride	17.6 mg/L	2.5	EPA 300.0
Hardness (as CaCO3)	261 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	7.3 mg/L	2.5	SM2540D
Solids, Total (TS)	323 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	299 mg/L	10	SM2540C
Sulfate	23 mg/L	2.5	EPA 300.0
Calcium (Total)	69000 ug/L	1000	EPA 200.7
Magnesium (Total)	21600 ug/L	1000	EPA 200.7
COD	12.6 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.5 mg/L	0.1	EPA 353.2
Phosphorus, Total	< 0.05 mg/L	0.05	EPA 365.1
TKN	< 0.5 mg/L	0.5	EPA 351.2
TOC	2.8 mg/L	1	SM5310C

<b>Lab ID #: AC03211</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B(Colilert-18)
E. coli	93.3 MPN/100mL	1	SM9223B(Colilert-18)



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

SiteID: WLV190-0012      Sample Date: 7/11/2023      IDEM Sample #: AC03496  
 Water Flow Type    Glide      Water Appearance    Brown      Water Depth       Algae?  
 Water Flow (cf/sec):       Flow Estimated?       Aquatic Life?      Canopy Closed %    0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	113.6 %		ASTM D888-09(C)
DO	9.52 mg/L		ASTM D888-09(C)
pH (Field)	8.35 SU		EPA 150.2
Specific Conductance (Field)	406.1 umho/cm		SM2510B
Temperature	24.2 °C		SM2550B(2)
Turbidity (Hach)	31.7 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: 50349298020	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	172 mg/L	10	SM2320B
Chloride	14.1 mg/L	0.25	EPA 300.0
Hardness (as CaCO3)	207 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	32.2 mg/L	5	SM2540D
Solids, Total (TS)	250 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	224 mg/L	10	SM2540C
Sulfate	15.5 mg/L	0.25	EPA 300.0
Calcium (Total)	53100 ug/L	1000	EPA 200.7
Magnesium (Total)	18100 ug/L	1000	EPA 200.7
COD	32.4 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1 mg/L	0.1	EPA 353.2
Phosphorus, Total	0.16 mg/L	0.05	EPA 365.1
TKN	1.5 mg/L	0.5	EPA 351.2
TOC	5.3 mg/L	1	SM5310C

Lab ID #: AC03496	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B(Colilert-18)
E. coli	248.9 MPN/100mL	1	SM9223B(Colilert-18)

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

SiteID: WLV190-0012

Sample Date: 7/25/2023

IDEM Sample #: AC03191

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	85.8 %		ASTM D888-09(C)
DO	7.26 mg/L		ASTM D888-09(C)
pH (Field)	8.07 SU		EPA 150.2
Specific Conductance (Field)	471 umho/cm		SM2510B
Temperature	23.7 °C		SM2550B(2)
Turbidity (Hach)	4.31 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 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:** WLV-15-0017      **USGS Hydrologic Unit:** 051201081504  
**Stream Name:** Big Raccoon Creek      **County:** Parke  
**Description:** Unnamed Farm Lane      **Latitude:** 39 42 4.40920      **Longitude:** -87 19 2.54514  
**Drainage:** 469.922      **Site Number:** 23T-005

**SiteID:** WLV-15-0017      **Sample Date:** 5/10/2023      **IDEM Sample #:** AC02880  
**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	92.9 %		ASTM D888-09(C)
DO	8.83 mg/L		ASTM D888-09(C)
pH (Field)	8.08 SU		EPA 150.2
Specific Conductance (Field)	484 umho/cm		SM2510B
Temperature	17.8 °C		SM2550B(2)
Turbidity (Hach)	12.9 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

<u>Lab ID #:</u> 50344584009	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	214 mg/L	10	SM2320B
Chloride	16.5 mg/L	0.25	EPA 300.0
Hardness (as CaCO3)	254 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	24.6 mg/L	2.5	SM2540D
Solids, Total (TS)	321 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	277 mg/L	10	SM2540C
Sulfate	23.8 mg/L	0.25	EPA 300.0
Calcium (Total)	65000 ug/L	1000	EPA 200.7
Magnesium (Total)	22200 ug/L	1000	EPA 200.7
COD	17.9 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.4 mg/L	0.1	EPA 353.2
Phosphorus, Total	0.067 mg/L	0.05	EPA 365.1
TKN	0.67 mg/L	0.5	EPA 351.2
TOC	3.3 mg/L	1	SM5310C

<u>Lab ID #:</u> AC02880	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	3M9223B(Colilert-18)
E. coli	275.5 MPN/100mL	1	3M9223B(Colilert-18)

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

**SiteID:** WLW-15-0017

**Sample Date:** 6/13/2023

**IDEM Sample #:** AC03227

**Water Flow Type** Run

**Water Appearance** Green

**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	103 %		ASTM D888-09(C)
DO	9.61 mg/L		ASTM D888-09(C)
pH (Field)	8.16 SU		EPA 150.2
Specific Conductance (Field)	515 umho/cm		SM2510B
Temperature	18.6 °C		SM2550B(2)
Turbidity (Hach)	5.66 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	2 Lookup		Observation

<b>Lab ID #: 50347349009</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	218 mg/L	10	SM2320B
Chloride	16.9 mg/L	2.5	EPA 300.0
Hardness (as CaCO3)	255 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	6 mg/L	2.5	SM2540D
Solids, Total (TS)	319 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	290 mg/L	10	SM2540C
Sulfate	22.8 mg/L	2.5	EPA 300.0
Calcium (Total)	67500 ug/L	1000	EPA 200.7
Magnesium (Total)	21000 ug/L	1000	EPA 200.7
COD	14.2 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.6 mg/L	0.1	EPA 353.2
Phosphorus, Total	< 0.05 mg/L	0.05	EPA 365.1
TKN	< 0.5 mg/L	0.5	EPA 351.2
TOC	2.8 mg/L	1	SM5310C

<b>Lab ID #: AC03227</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B(Colilert-18)
E. coli	93.4 MPN/100mL	1	SM9223B(Colilert-18)

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

**SiteID:** WLV-15-0017      **Sample Date:** 7/11/2023      **IDEM Sample #:** AC03497  
**Water Flow Type** Run      **Water Appearance** Murky      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	127.9 %		ASTM D888-09(C)
DO	10.49 mg/L		ASTM D888-09(C)
pH (Field)	8.4 SU		EPA 150.2
Specific Conductance (Field)	416.6 umho/cm		SM2510B
Temperature	25.5 °C		SM2550B(2)
Turbidity (Hach)	41.3 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

<b>Lab ID #: 50349298003</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	178 mg/L	10	SM2320B
Chloride	14.3 mg/L	0.25	EPA 300.0
Hardness (as CaCO3)	203 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	51.4 mg/L	6.5	SM2540D
Solids, Total (TS)	262 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	213 mg/L	10	SM2540C
Sulfate	15.9 mg/L	0.25	EPA 300.0
Calcium (Total)	52200 ug/L	1000	EPA 200.7
Magnesium (Total)	17700 ug/L	1000	EPA 200.7
COD	17.2 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.96 mg/L	0.1	EPA 353.2
Phosphorus, Total	0.16 mg/L	0.05	EPA 365.1
TKN	1.5 mg/L	0.5	EPA 351.2
TOC	5.8 mg/L	1	SM5310C

<b>Lab ID #: AC03497</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B(Colilert-18)
E. coli	261.3 MPN/100mL	1	SM9223B(Colilert-18)

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

SiteID: WLV-15-0017

Sample Date: 7/26/2023

IDEM Sample #: AC03193

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	88.3 %		ASTM D888-09(C)
DO	7.31 mg/L		ASTM D888-09(C)
pH (Field)	8.11 SU		EPA 150.2
Specific Conductance (Field)	441.8 umho/cm		SM2510B
Temperature	24.8 °C		SM2550B(2)
Turbidity (Hach)	7.43 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 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:** WL190-0003      **USGS Hydrologic Unit:** 051201081503  
**Stream Name:** Big Raccoon Creek      **County:** Parke  
**Description:** CR 325 West      **Latitude:** 39 39 9.00000      **Longitude:** -87 17 38.00000  
**Drainage:** 447.497      **Site Number:** 23T-006

**SiteID:** WL190-0003      **Sample Date:** 5/10/2023      **IDEM Sample #:** AC02879  
**Water Flow Type** Run      **Water Appearance** Murky      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**  **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	89.1 %		ASTM D888-09(C)
DO	8.62 mg/L		ASTM D888-09(C)
pH (Field)	8.03 SU		EPA 150.2
Specific Conductance (Field)	479.2 umho/cm		SM2510B
Temperature	16.9 °C		SM2550B(2)
Turbidity (Hach)	10.7 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

<b>Lab ID #: 50344584008</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	212 mg/L	10	SM2320B
Chloride	16.8 mg/L	0.25	EPA 300.0
Hardness (as CaCO3)	243 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	23.9 mg/L	2.5	SM2540D
Solids, Total (TS)	314 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	260 mg/L	10	SM2540C
Sulfate	23 mg/L	0.25	EPA 300.0
Calcium (Total)	62300 ug/L	1000	EPA 200.7
Magnesium (Total)	21300 ug/L	1000	EPA 200.7
COD	19 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.4 mg/L	0.1	EPA 353.2
Phosphorus, Total	0.065 mg/L	0.05	EPA 365.1
TKN	0.58 mg/L	0.5	EPA 351.2
TOC	3.1 mg/L	1	SM5310C

<b>Lab ID #: AC02879</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	3M9223B(Colilert-18)
E. coli	275.5 MPN/100mL	1	3M9223B(Colilert-18)

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

**SiteID:** WLV190-0003      **Sample Date:** 6/13/2023      **IDEM Sample #:** AC03226  
**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	96.9 %		ASTM D888-09(C)
DO	9.2 mg/L		ASTM D888-09(C)
pH (Field)	8.07 SU		EPA 150.2
Specific Conductance (Field)	501 umho/cm		SM2510B
Temperature	17.8 °C		SM2550B(2)
Turbidity (Hach)	3.61 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	2 Lookup		Observation

<b>Lab ID #: 50347349008</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	217 mg/L	10	SM2320B
Chloride	14.7 mg/L	2.5	EPA 300.0
Hardness (as CaCO3)	256 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	5.3 mg/L	2.5	SM2540D
Solids, Total (TS)	306 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	286 mg/L	10	SM2540C
Sulfate	21.5 mg/L	2.5	EPA 300.0
Calcium (Total)	68000 ug/L	1000	EPA 200.7
Magnesium (Total)	20900 ug/L	1000	EPA 200.7
COD	16.4 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.5 mg/L	0.1	EPA 353.2
Phosphorus, Total	< 0.05 mg/L	0.05	EPA 365.1
TKN	< 0.5 mg/L	0.5	EPA 351.2
TOC	2.9 mg/L	1	SM5310C

<b>Lab ID #: AC03226</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	2419.6 MPN/100mL	1	SM9223B(Colilert-18)
E. coli	129.6 MPN/100mL	1	SM9223B(Colilert-18)



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

**SiteID:** WLV190-0003      **Sample Date:** 7/11/2023      **IDEM Sample #:** AC03498  
**Water Flow Type** Riffle      **Water Appearance** Brown      **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	123.5 %		ASTM D888-09(C)
DO	10.1 mg/L		ASTM D888-09(C)
pH (Field)	8.32 SU		EPA 150.2
Specific Conductance (Field)	480 umho/cm		SM2510B
Temperature	25.6 °C		SM2550B(2)
Turbidity (Hach)	28.6 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

<b>Lab ID #: 50349298004</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	184 mg/L	10	SM2320B
Chloride	14.5 mg/L	0.25	EPA 300.0
Hardness (as CaCO3)	209 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	27.6 mg/L	5	SM2540D
Solids, Total (TS)	239 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	241 mg/L	10	SM2540C
Sulfate	16.1 mg/L	0.25	EPA 300.0
Calcium (Total)	54000 ug/L	1000	EPA 200.7
Magnesium (Total)	18100 ug/L	1000	EPA 200.7
COD	31.2 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.1 mg/L	0.1	EPA 353.2
Phosphorus, Total	0.16 mg/L	0.05	EPA 365.1
TKN	1.4 mg/L	0.5	EPA 351.2
TOC	5.5 mg/L	1	SM5310C

<b>Lab ID #: AC03498</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B(Colilert-18)
E. coli	290.9 MPN/100mL	1	SM9223B(Colilert-18)

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

SiteID: WLV190-0003

Sample Date: 7/25/2023

IDEM Sample #: AC03198

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	85.4 %		ASTM D888-09(C)
DO	7.41 mg/L		ASTM D888-09(C)
pH (Field)	8.04 SU		EPA 150.2
Specific Conductance (Field)	484 umho/cm		SM2510B
Temperature	22.3 °C		SM2550B(2)
Turbidity (Hach)	7.86 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

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	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:** WLV-15-0006      **USGS Hydrologic Unit:** 051201081503  
**Stream Name:** Rock Run      **County:** Parke  
**Description:** CR 325 West      **Latitude:** 39 39 43.35924      **Longitude:** -87 17 40.75221  
**Drainage:** 15.4095      **Site Number:** 23T-007

**SiteID:** WLV-15-0006      **Sample Date:** 5/10/2023      **IDEM Sample #:** AC02878  
**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	89.3 %		ASTM D888-09(C)
DO	8.84 mg/L		ASTM D888-09(C)
pH (Field)	8.03 SU		EPA 150.2
Specific Conductance (Field)	529 umho/cm		SM2510B
Temperature	15.8 °C		SM2550B(2)
Turbidity (Hach)	3.86 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

<u>Lab ID #:</u> 50344584007	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	234 mg/L	10	SM2320B
Chloride	19.7 mg/L	0.25	EPA 300.0
Hardness (as CaCO3)	262 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	3.4 mg/L	2.5	SM2540D
Solids, Total (TS)	308 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	301 mg/L	10	SM2540C
Sulfate	25.6 mg/L	0.25	EPA 300.0
Calcium (Total)	62200 ug/L	1000	EPA 200.7
Magnesium (Total)	26000 ug/L	1000	EPA 200.7
COD	14.9 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.8 mg/L	0.1	EPA 353.2
Phosphorus, Total	< 0.05 mg/L	0.05	EPA 365.1
TKN	< 0.5 mg/L	0.5	EPA 351.2
TOC	3 mg/L	1	SM5310C

<u>Lab ID #:</u> AC02878	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	3M9223B(Colilert-18)
E. coli	107.6 MPN/100mL	1	3M9223B(Colilert-18)

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

SiteID: WLW-15-0006

Sample Date: 6/13/2023

IDEM Sample #: AC03225

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	9.06 mg/L		ASTM D888-09(C)
pH (Field)	8.01 SU		EPA 150.2
Specific Conductance (Field)	503 umho/cm		SM2510B
Temperature	17.6 °C		SM2550B(2)
Turbidity (Hach)	3.21 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID #: 50347349007	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	221 mg/L	10	SM2320B
Chloride	15 mg/L	2.5	EPA 300.0
Hardness (as CaCO3)	262 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	< 2.5 mg/L	2.5	SM2540D
Solids, Total (TS)	292 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	278 mg/L	10	SM2540C
Sulfate	24.6 mg/L	2.5	EPA 300.0
Calcium (Total)	62800 ug/L	1000	EPA 200.7
Magnesium (Total)	25500 ug/L	1000	EPA 200.7
COD	12.2 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	< 0.1 mg/L	0.1	EPA 353.2
Phosphorus, Total	< 0.05 mg/L	0.05	EPA 365.1
TKN	< 0.5 mg/L	0.5	EPA 351.2
TOC	3.5 mg/L	1	SM5310C

Lab ID #: AC03225	Result	Reporting Limit	Method
Coliforms (Total)	1553.1 MPN/100mL	1	SM9223B(Colilert-18)
E. coli	95.9 MPN/100mL	1	SM9223B(Colilert-18)

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

SiteID: WLW-15-0006      Sample Date: 7/13/2023      IDEM Sample #: AC03494  
 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	86.6 %		ASTM D888-09(C)
DO	7.33 mg/L		ASTM D888-09(C)
pH (Field)	7.85 SU		EPA 150.2
Specific Conductance (Field)	470.5 umho/cm		SM2510B
Temperature	23.7 °C		SM2550B(2)
Turbidity (Hach)	4.55 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: 50349298017	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	203 mg/L	10	SM2320B
Chloride	15.2 mg/L	0.25	EPA 300.0
Hardness (as CaCO3)	241 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	3.9 mg/L	2.5	SM2540D
Solids, Total (TS)	268 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	284 mg/L	10	SM2540C
Sulfate	21 mg/L	0.25	EPA 300.0
Calcium (Total)	60700 ug/L	1000	EPA 200.7
Magnesium (Total)	21700 ug/L	1000	EPA 200.7
COD	< 10 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.85 mg/L	0.1	EPA 353.2
Phosphorus, Total	< 0.05 mg/L	0.05	EPA 365.1
TKN	0.51 mg/L	0.5	EPA 351.2
TOC	3.5 mg/L	1	SM5310C

Lab ID #: AC03494	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B(Colilert-18)
E. coli	172.3 MPN/100mL	1	SM9223B(Colilert-18)

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

SiteID: WLV-15-0006

Sample Date: 7/25/2023

IDEM Sample #: AC03197

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	81.1 %		ASTM D888-09(C)
DO	6.71 mg/L		ASTM D888-09(C)
pH (Field)	7.74 SU		EPA 150.2
Specific Conductance (Field)	505 umho/cm		SM2510B
Temperature	24.9 °C		SM2550B(2)
Turbidity (Hach)	7.59 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

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	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:** WL190-0017      **USGS Hydrologic Unit:** 051201081503  
**Stream Name:** Tributary of Rock Run      **County:** Parke  
**Description:** Cooke Road      **Latitude:** 39 44 23.88365      **Longitude:** -87 16 41.07069  
**Drainage:** 3.895      **Site Number:** 23T-009

**SiteID:** WL190-0017      **Sample Date:** 5/10/2023      **IDEM Sample #:** AC02867  
**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	111.6 %		ASTM D888-09(C)
DO	10.83 mg/L		ASTM D888-09(C)
pH (Field)	8.26 SU		EPA 150.2
Specific Conductance (Field)	556 umho/cm		SM2510B
Temperature	16.7 °C		SM2550B(2)
Turbidity (Hach)	2.68 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

<u>Lab ID #:</u> 50344584012	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	241 mg/L	10	SM2320B
Chloride	25.8 mg/L	2.5	EPA 300.0
Hardness (as CaCO3)	269 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	< 2.5 mg/L	2.5	SM2540D
Solids, Total (TS)	347 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	290 mg/L	10	SM2540C
Sulfate	21.5 mg/L	0.25	EPA 300.0
Calcium (Total)	64500 ug/L	1000	EPA 200.7
Magnesium (Total)	26200 ug/L	1000	EPA 200.7
COD	37.6 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.83 mg/L	0.1	EPA 353.2
Phosphorus, Total	< 0.05 mg/L	0.05	EPA 365.1
TKN	< 0.5 mg/L	0.5	EPA 351.2
TOC	3.6 mg/L	1	SM5310C

<u>Lab ID #:</u> AC02867	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	2419.6 MPN/100mL	1	SM9223B(Colilert-18)
E. coli	65.7 MPN/100mL	1	SM9223B(Colilert-18)

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

**SiteID:** WLV190-0017      **Sample Date:** 6/15/2023      **IDEM Sample #:** AC03214  
**Water Flow Type** Run      **Water Appearance** Sheen      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:** Stream low flow

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	45.6 %		ASTM D888-09(C)
DO	4.37 mg/L		ASTM D888-09(C)
pH (Field)	7.6 SU		EPA 150.2
Specific Conductance (Field)	501 umho/cm		SM2510B
Temperature	17.2 °C		SM2550B(2)
Turbidity (Hach)	4.72 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

<b>Lab ID #: 50347349011</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	204 mg/L	10	SM2320B
Chloride	28.3 mg/L	2.5	EPA 300.0
Hardness (as CaCO3)	225 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	3.7 mg/L	2.5	SM2540D
Solids, Total (TS)	291 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	253 mg/L	10	SM2540C
Sulfate	12.6 mg/L	2.5	EPA 300.0
Calcium (Total)	55600 ug/L	1000	EPA 200.7
Magnesium (Total)	20900 ug/L	1000	EPA 200.7
COD	25.8 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	< 0.1 mg/L	0.1	EPA 353.2
Phosphorus, Total	0.06 mg/L	0.05	EPA 365.1
TKN	0.56 mg/L	0.5	EPA 351.2
TOC	7.3 mg/L	1	SM5310C

<b>Lab ID #: AC03214</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B(Colilert-18)
E. coli	727 MPN/100mL	1	SM9223B(Colilert-18)



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

SiteID: WLV190-0017      Sample Date: 7/13/2023      IDEM Sample #: AC03493  
 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	70.8 %		ASTM D888-09(C)
DO	6.2 mg/L		ASTM D888-09(C)
pH (Field)	7.87 SU		EPA 150.2
Specific Conductance (Field)	469.1 umho/cm		SM2510B
Temperature	21.8 °C		SM2550B(2)
Turbidity (Hach)	6.99 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: 50349298016	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	198 mg/L	10	SM2320B
Chloride	20 mg/L	0.25	EPA 300.0
Hardness (as CaCO3)	225 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	5.2 mg/L	2.5	SM2540D
Solids, Total (TS)	261 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	262 mg/L	10	SM2540C
Sulfate	14.2 mg/L	0.25	EPA 300.0
Calcium (Total)	57200 ug/L	1000	EPA 200.7
Magnesium (Total)	20100 ug/L	1000	EPA 200.7
COD	11.2 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.97 mg/L	0.1	EPA 353.2
Phosphorus, Total	0.066 mg/L	0.05	EPA 365.1
TKN	0.76 mg/L	0.5	EPA 351.2
TOC	4.6 mg/L	1	SM5310C

Lab ID #: AC03493	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B(Colilert-18)
E. coli	613.1 MPN/100mL	1	SM9223B(Colilert-18)

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

SiteID: WLV190-0017

Sample Date: 7/26/2023

IDEM Sample #: AC03196

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	71.5 %		ASTM D888-09(C)
DO	5.98 mg/L		ASTM D888-09(C)
pH (Field)	7.82 SU		EPA 150.2
Specific Conductance (Field)	432 umho/cm		SM2510B
Temperature	24.3 °C		SM2550B(2)
Turbidity (Hach)	8.11 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	3 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:** WL190-0016      **USGS Hydrologic Unit:** 051201081503  
**Stream Name:** Rock Run      **County:** Parke  
**Description:** CR 100 South      **Latitude:** 39 45 18.05741      **Longitude:** -87 17 6.48382  
**Drainage:** 2.509      **Site Number:** 23T-010

**SiteID:** WL190-0016      **Sample Date:** 5/10/2023      **IDEM Sample #:** AC02868  
**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	120 %		ASTM D888-09(C)
DO	11.32 mg/L		ASTM D888-09(C)
pH (Field)	8.22 SU		EPA 150.2
Specific Conductance (Field)	553 umho/cm		SM2510B
Temperature	18.1 °C		SM2550B(2)
Turbidity (Hach)	3.32 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	0 Lookup		Observation

<u>Lab ID #:</u> 50344584013	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	240 mg/L	10	SM2320B
Chloride	23.3 mg/L	2.5	EPA 300.0
Hardness (as CaCO3)	283 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	3.7 mg/L	2.5	SM2540D
Solids, Total (TS)	325 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	290 mg/L	10	SM2540C
Sulfate	25.2 mg/L	0.25	EPA 300.0
Calcium (Total)	62400 ug/L	1000	EPA 200.7
Magnesium (Total)	30900 ug/L	1000	EPA 200.7
COD	15.8 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.8 mg/L	0.1	EPA 353.2
Phosphorus, Total	< 0.05 mg/L	0.05	EPA 365.1
TKN	< 0.5 mg/L	0.5	EPA 351.2
TOC	3 mg/L	1	SM5310C

<u>Lab ID #:</u> AC02868	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B(Colilert-18)
E. coli	1203.3 MPN/100mL	1	SM9223B(Colilert-18)

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

**SiteID:** WLV190-0016      **Sample Date:** 6/15/2023      **IDEM Sample #:** AC03215  
**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	59.6 %		ASTM D888-09(C)
DO	5.63 mg/L		ASTM D888-09(C)
pH (Field)	7.79 SU		EPA 150.2
Specific Conductance (Field)	542 umho/cm		SM2510B
Temperature	18 °C		SM2550B(2)
Turbidity (Hach)	4.54 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

<b>Lab ID #: 50347349012</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	231 mg/L	10	SM2320B
Chloride	20.8 mg/L	2.5	EPA 300.0
Hardness (as CaCO3)	271 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	3.2 mg/L	2.5	SM2540D
Solids, Total (TS)	330 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	287 mg/L	10	SM2540C
Sulfate	21 mg/L	2.5	EPA 300.0
Calcium (Total)	60100 ug/L	1000	EPA 200.7
Magnesium (Total)	29300 ug/L	1000	EPA 200.7
COD	18.7 mg/L	10	EPA 410.4
Nitrogen, Ammonia	0.24 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.78 mg/L	0.1	EPA 353.2
Phosphorus, Total	0.077 mg/L	0.05	EPA 365.1
TKN	0.88 mg/L	0.5	EPA 351.2
TOC	4.8 mg/L	1	SM5310C

<b>Lab ID #: AC03215</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B(Colilert-18)
E. coli	1986.3 MPN/100mL	1	SM9223B(Colilert-18)

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

SiteID: WLV190-0016      Sample Date: 7/13/2023      IDEM Sample #: AC03492  
 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	65.6 %		ASTM D888-09(C)
DO	5.73 mg/L		ASTM D888-09(C)
pH (Field)	7.92 SU		EPA 150.2
Specific Conductance (Field)	623 umho/cm		SM2510B
Temperature	21.9 °C		SM2550B(2)
Turbidity (Hach)	7.78 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: 50349298015	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	260 mg/L	10	SM2320B
Chloride	22.6 mg/L	2.5	EPA 300.0
Hardness (as CaCO3)	310 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	9.1 mg/L	2.5	SM2540D
Solids, Total (TS)	376 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	379 mg/L	10	SM2540C
Sulfate	21.2 mg/L	0.25	EPA 300.0
Calcium (Total)	72700 ug/L	1000	EPA 200.7
Magnesium (Total)	31200 ug/L	1000	EPA 200.7
COD	10.2 mg/L	10	EPA 410.4
Nitrogen, Ammonia	0.18 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	2.9 mg/L	0.1	EPA 353.2
Phosphorus, Total	0.1 mg/L	0.05	EPA 365.1
TKN	0.98 mg/L	0.5	EPA 351.2
TOC	3.4 mg/L	1	SM5310C

Lab ID #: AC03492	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B(Colilert-18)
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B(Colilert-18)

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

SiteID: WLV190-0016

Sample Date: 7/25/2023

IDEM Sample #: AC03195

Water Flow Type Stagnant

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	73.4 %		ASTM D888-09(C)
DO	6.26 mg/L		ASTM D888-09(C)
pH (Field)	7.85 SU		EPA 150.2
Specific Conductance (Field)	550 umho/cm		SM2510B
Temperature	23 °C		SM2550B(2)
Turbidity (Hach)	5.62 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 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:** WLV-15-0007      **USGS Hydrologic Unit:** 051201081502  
**Stream Name:** Rocky Run      **County:** Parke  
**Description:** Arabia Road      **Latitude:** 39 46 19.80264      **Longitude:** -87 19 20.42222  
**Drainage:** 4.7585      **Site Number:** 23T-011

**SiteID:** WLV-15-0007      **Sample Date:** 5/9/2023      **IDEM Sample #:** AC02863  
**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	104.2 %		ASTM D888-09(C)
DO	10.26 mg/L		ASTM D888-09(C)
pH (Field)	8.22 SU		EPA 150.2
Specific Conductance (Field)	588 umho/cm		SM2510B
Temperature	16.3 °C		SM2550B(2)
Turbidity (Hach)	1.77 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #:</u> 50344584001	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	271 mg/L	10	SM2320B
Chloride	20.4 mg/L	0.25	EPA 300.0
Hardness (as CaCO3)	316 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	< 2.5 mg/L	2.5	SM2540D
Solids, Total (TS)	379 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	321 mg/L	10	SM2540C
Sulfate	32.7 mg/L	0.25	EPA 300.0
Calcium (Total)	77500 ug/L	1000	EPA 200.7
Magnesium (Total)	29800 ug/L	1000	EPA 200.7
COD	11.5 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.61 mg/L	0.1	EPA 353.2
Phosphorus, Total	< 0.05 mg/L	0.05	EPA 365.1
TKN	< 0.5 mg/L	0.5	EPA 351.2
TOC	2.2 mg/L	1	SM5310C

<u>Lab ID #:</u> AC02863	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	1986.3 MPN/100mL	1	3M9223B(Colilert-18)
E. coli	42 MPN/100mL	1	3M9223B(Colilert-18)

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

SiteID: WLW-15-0007      Sample Date: 6/15/2023      IDEM Sample #: AC03210  
 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	94.2 %		ASTM D888-09(C)
DO	9.43 mg/L		ASTM D888-09(C)
pH (Field)	8.08 SU		EPA 150.2
Specific Conductance (Field)	680 umho/cm		SM2510B
Temperature	15.3 °C		SM2550B(2)
Turbidity (Hach)	0.65 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID #: 50347349001	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	303 mg/L	10	SM2320B
Chloride	21.6 mg/L	2.5	EPA 300.0
Hardness (as CaCO3)	353 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	< 2.5 mg/L	2.5	SM2540D
Solids, Total (TS)	392 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	354 mg/L	10	SM2540C
Sulfate	35.1 mg/L	2.5	EPA 300.0
Calcium (Total)	88200 ug/L	1000	EPA 200.7
Magnesium (Total)	32200 ug/L	1000	EPA 200.7
COD	< 10 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.26 mg/L	0.1	EPA 353.2
Phosphorus, Total	< 0.05 mg/L	0.05	EPA 365.1
TKN	< 0.5 mg/L	0.5	EPA 351.2
TOC	1.7 mg/L	1	SM5310C

Lab ID #: AC03210	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B(Colilert-18)
E. coli	150 MPN/100mL	1	SM9223B(Colilert-18)



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

SiteID: WLW-15-0007      Sample Date: 7/13/2023      IDEM Sample #: AC03491  
 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	93.5 %		ASTM D888-09(C)
DO	8.8 mg/L		ASTM D888-09(C)
pH (Field)	8.12 SU		EPA 150.2
Specific Conductance (Field)	680 umho/cm		SM2510B
Temperature	18.2 °C		SM2550B(2)
Turbidity (Hach)	1.81 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: 50349298014	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	297 mg/L	10	SM2320B
Chloride	20.6 mg/L	2.5	EPA 300.0
Hardness (as CaCO3)	347 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	< 2.5 mg/L	2.5	SM2540D
Solids, Total (TS)	388 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	376 mg/L	10	SM2540C
Sulfate	39.2 mg/L	0.25	EPA 300.0
Calcium (Total)	86600 ug/L	1000	EPA 200.7
Magnesium (Total)	31800 ug/L	1000	EPA 200.7
COD	< 10 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.34 mg/L	0.1	EPA 353.2
Phosphorus, Total	< 0.05 mg/L	0.05	EPA 365.1
TKN	< 0.5 mg/L	0.5	EPA 351.2
TOC	1.4 mg/L	1	SM5310C

Lab ID #: AC03491	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B(Colilert-18)
E. coli	84.2 MPN/100mL	1	SM9223B(Colilert-18)

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

**SiteID:** WLV-15-0007      **Sample Date:** 7/24/2023      **IDEM Sample #:** AC03194  
**Water Flow Type** Pool      **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	106.1 %		ASTM D888-09(C)
DO	9.74 mg/L		ASTM D888-09(C)
pH (Field)	8.13 SU		EPA 150.2
Specific Conductance (Field)	672 umho/cm		SM2510B
Temperature	19.4 °C		SM2550B(2)
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

<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:** WLW-15-0008      **USGS Hydrologic Unit:** 051201081502  
**Stream Name:** Leatherwood Creek      **County:** Parke  
**Description:** CR 40 North      **Latitude:** 39 46 24.41280      **Longitude:** -87 19 51.98520  
**Drainage:** 26.103      **Site Number:** 23T-012

**SiteID:** WLW-15-0008      **Sample Date:** 5/9/2023      **IDEM Sample #:** AC02873  
**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	118.3 %		ASTM D888-09(C)
DO	10.85 mg/L		ASTM D888-09(C)
pH (Field)	8.25 SU		EPA 150.2
Specific Conductance (Field)	571 umho/cm		SM2510B
Temperature	19.5 °C		SM2550B(2)
Turbidity (Hach)	1.87 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #:</u> 50344584002	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	250 mg/L	10	SM2320B
Chloride	21.9 mg/L	0.25	EPA 300.0
Hardness (as CaCO3)	294 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	< 2.5 mg/L	2.5	SM2540D
Solids, Total (TS)	351 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	323 mg/L	10	SM2540C
Sulfate	30.7 mg/L	0.25	EPA 300.0
Calcium (Total)	69400 ug/L	1000	EPA 200.7
Magnesium (Total)	29400 ug/L	1000	EPA 200.7
COD	14.7 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	2.2 mg/L	0.1	EPA 353.2
Phosphorus, Total	< 0.05 mg/L	0.05	EPA 365.1
TKN	< 0.5 mg/L	0.5	EPA 351.2
TOC	2.5 mg/L	1	SM5310C

<u>Lab ID #:</u> AC02873	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	3M9223B(Colilert-18)
E. coli	137.6 MPN/100mL	1	3M9223B(Colilert-18)

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

SiteID: WLW-15-0008

Sample Date: 6/15/2023

IDEM Sample #: AC03220

Water Flow Type Run

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments: White foam in debris. Foam not flowing in water.

Lab ID #:	Result	Reporting Limit	Method
% Sat	93.6 %		ASTM D888-09(C)
DO	8.88 mg/L		ASTM D888-09(C)
pH (Field)	8.11 SU		EPA 150.2
Specific Conductance (Field)	598 umho/cm		SM2510B
Temperature	17.8 °C		SM2550B(2)
Turbidity (Hach)	0.99 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 #: 50347349002	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	263 mg/L	10	SM2320B
Chloride	16.7 mg/L	2.5	EPA 300.0
Hardness (as CaCO3)	313 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	< 2.5 mg/L	2.5	SM2540D
Solids, Total (TS)	355 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	315 mg/L	10	SM2540C
Sulfate	30.9 mg/L	2.5	EPA 300.0
Calcium (Total)	74600 ug/L	1000	EPA 200.7
Magnesium (Total)	30600 ug/L	1000	EPA 200.7
COD	11.4 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1 mg/L	0.1	EPA 353.2
Phosphorus, Total	< 0.05 mg/L	0.05	EPA 365.1
TKN	< 0.5 mg/L	0.5	EPA 351.2
TOC	2.5 mg/L	1	SM5310C

Lab ID #: AC03220	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B(Colilert-18)
E. coli	218.7 MPN/100mL	1	SM9223B(Colilert-18)

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

SiteID: WLV-15-0008

Sample Date: 7/12/2023

IDEM Sample #: AC03490

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	108.1 %		ASTM D888-09(C)
DO	8.92 mg/L		ASTM D888-09(C)
pH (Field)	8.16 SU		EPA 150.2
Specific Conductance (Field)	578 umho/cm		SM2510B
Temperature	25.1 °C		SM2550B(2)
Turbidity (Hach)	2.54 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 #: 50349298013	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	251 mg/L	10	SM2320B
Chloride	17.5 mg/L	0.25	EPA 300.0
Hardness (as CaCO3)	290 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	2.9 mg/L	2.5	SM2540D
Solids, Total (TS)	347 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	318 mg/L	10	SM2540C
Sulfate	29.1 mg/L	0.25	EPA 300.0
Calcium (Total)	70500 ug/L	1000	EPA 200.7
Magnesium (Total)	27800 ug/L	1000	EPA 200.7
COD	< 10 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.3 mg/L	0.1	EPA 353.2
Phosphorus, Total	0.083 mg/L	0.05	EPA 365.1
TKN	< 0.5 mg/L	0.5	EPA 351.2
TOC	2.6 mg/L	1	SM5310C

Lab ID #: AC03490	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B(Colilert-18)
E. coli	272.3 MPN/100mL	1	SM9223B(Colilert-18)

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

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

**SiteID:** WLV-15-0009      **USGS Hydrologic Unit:** 051201081502  
**Stream Name:** Leatherwood Creek      **County:** Parke  
**Description:** Leatherwood Road      **Latitude:** 39 47 55.66899      **Longitude:** -87 19 40.98340  
**Drainage:** 23.543      **Site Number:** 23T-013

**SiteID:** WLV-15-0009      **Sample Date:** 5/9/2023      **IDEM Sample #:** AC02874  
**Water Flow Type** Run      **Water Appearance** Green      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**  **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	114.8 %		ASTM D888-09(C)
DO	10.27 mg/L		ASTM D888-09(C)
pH (Field)	8.21 SU		EPA 150.2
Specific Conductance (Field)	586 umho/cm		SM2510B
Temperature	20.7 °C		SM2550B(2)
Turbidity (Hach)	2.15 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #:</u> 50344584003	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	253 mg/L	10	SM2320B
Chloride	23.2 mg/L	0.25	EPA 300.0
Hardness (as CaCO3)	306 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	< 2.5 mg/L	2.5	SM2540D
Solids, Total (TS)	357 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	313 mg/L	10	SM2540C
Sulfate	30.8 mg/L	0.25	EPA 300.0
Calcium (Total)	72500 ug/L	1000	EPA 200.7
Magnesium (Total)	30400 ug/L	1000	EPA 200.7
COD	12.6 mg/L	10	EPA 410.4
Nitrogen, Ammonia	0.19 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	2.8 mg/L	0.1	EPA 353.2
Phosphorus, Total	< 0.05 mg/L	0.05	EPA 365.1
TKN	1 mg/L	0.5	EPA 351.2
TOC	3 mg/L	1	SM5310C

<u>Lab ID #:</u> AC02874	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	3M9223B(Colilert-18)
E. coli	195.6 MPN/100mL	1	3M9223B(Colilert-18)

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

SiteID: WLW-15-0009

Sample Date: 6/14/2023

IDEM Sample #: AC03221

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	135.8 %		ASTM D888-09(C)
DO	12.24 mg/L		ASTM D888-09(C)
pH (Field)	8.34 SU		EPA 150.2
Specific Conductance (Field)	589 umho/cm		SM2510B
Temperature	20.4 °C		SM2550B(2)
Turbidity (Hach)	1.42 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: 50347349003	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	258 mg/L	10	SM2320B
Chloride	17.5 mg/L	2.5	EPA 300.0
Hardness (as CaCO3)	300 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	< 2.5 mg/L	2.5	SM2540D
Solids, Total (TS)	367 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	348 mg/L	10	SM2540C
Sulfate	31 mg/L	2.5	EPA 300.0
Calcium (Total)	71700 ug/L	1000	EPA 200.7
Magnesium (Total)	29400 ug/L	1000	EPA 200.7
COD	14.7 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.5 mg/L	0.1	EPA 353.2
Phosphorus, Total	< 0.05 mg/L	0.05	EPA 365.1
TKN	< 0.5 mg/L	0.5	EPA 351.2
TOC	3 mg/L	1	SM5310C

Lab ID #: AC03221	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B(Colilert-18)
E. coli	228.2 MPN/100mL	1	SM9223B(Colilert-18)

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

SiteID: WLW-15-0009      Sample Date: 7/12/2023      IDEM Sample #: AC03489  
 Water Flow Type Riffle      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):       Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	106.5 %		ASTM D888-09(C)
DO	8.72 mg/L		ASTM D888-09(C)
pH (Field)	8.12 SU		EPA 150.2
Specific Conductance (Field)	585 umho/cm		SM2510B
Temperature	25.4 °C		SM2550B(2)
Turbidity (Hach)	6.47 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 #: 50349298012	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	251 mg/L	10	SM2320B
Chloride	19 mg/L	0.25	EPA 300.0
Hardness (as CaCO3)	285 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	5.9 mg/L	2.5	SM2540D
Solids, Total (TS)	357 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	326 mg/L	10	SM2540C
Sulfate	27.9 mg/L	0.25	EPA 300.0
Calcium (Total)	69100 ug/L	1000	EPA 200.7
Magnesium (Total)	27400 ug/L	1000	EPA 200.7
COD	< 10 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.6 mg/L	0.1	EPA 353.2
Phosphorus, Total	0.13 mg/L	0.05	EPA 365.1
TKN	< 0.5 mg/L	0.5	EPA 351.2
TOC	2.7 mg/L	1	SM5310C

Lab ID #: AC03489	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B(Colilert-18)
E. coli	435.2 MPN/100mL	1	SM9223B(Colilert-18)



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

SiteID: WLV-15-0009

Sample Date: 7/24/2023

IDEM Sample #: AC03206

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	156.2 %		ASTM D888-09(C)
DO	12.19 mg/L		ASTM D888-09(C)
pH (Field)	8.35 SU		EPA 150.2
Specific Conductance (Field)	519 umho/cm		SM2510B
Temperature	28.1 °C		SM2550B(2)
Turbidity (Hach)	4.51 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 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:** WLW-15-0010      **USGS Hydrologic Unit:** 051201081502  
**Stream Name:** Little Leatherwood Creek      **County:** Parke  
**Description:** 10 O'Clock Road      **Latitude:** 39 49 11.76391      **Longitude:** -87 18 23.53540  
**Drainage:** 2.16      **Site Number:** 23T-014

**SiteID:** WLW-15-0010      **Sample Date:** 5/9/2023      **IDEM Sample #:** AC02876  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:** Cows in water. See photos in project folder.

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	131.3 %		ASTM D888-09(C)
DO	11.57 mg/L		ASTM D888-09(C)
pH (Field)	8.32 SU		EPA 150.2
Specific Conductance (Field)	581 umho/cm		SM2510B
Temperature	21.5 °C		SM2550B(2)
Turbidity (Hach)	4.8 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #:</u> 50344584005	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	259 mg/L	10	SM2320B
Chloride	22.1 mg/L	0.25	EPA 300.0
Hardness (as CaCO3)	307 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	9.1 mg/L	2.5	SM2540D
Solids, Total (TS)	370 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	320 mg/L	10	SM2540C
Sulfate	28.7 mg/L	0.25	EPA 300.0
Calcium (Total)	68200 ug/L	1000	EPA 200.7
Magnesium (Total)	33300 ug/L	1000	EPA 200.7
COD	11.9 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	2.4 mg/L	0.1	EPA 353.2
Phosphorus, Total	0.058 mg/L	0.05	EPA 365.1
TKN	< 0.5 mg/L	0.5	EPA 351.2
TOC	2.6 mg/L	1	SM5310C

<u>Lab ID #:</u> AC02876	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	3M9223B(Colilert-18)
E. coli	866.4 MPN/100mL	1	3M9223B(Colilert-18)

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

SiteID: WLW-15-0010      Sample Date: 6/14/2023      IDEM Sample #: AC03223  
 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	99.6 %		ASTM D888-09(C)
DO	9.32 mg/L		ASTM D888-09(C)
pH (Field)	8.05 SU		EPA 150.2
Specific Conductance (Field)	618 umho/cm		SM2510B
Temperature	18.5 °C		SM2550B(2)
Turbidity (Hach)	16.1 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: 50347349005	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	274 mg/L	10	SM2320B
Chloride	16.5 mg/L	2.5	EPA 300.0
Hardness (as CaCO3)	322 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	2.6 mg/L	2.5	SM2540D
Solids, Total (TS)	392 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	362 mg/L	10	SM2540C
Sulfate	29.1 mg/L	2.5	EPA 300.0
Calcium (Total)	76800 ug/L	1000	EPA 200.7
Magnesium (Total)	31500 ug/L	1000	EPA 200.7
COD	< 10 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	2 mg/L	0.1	EPA 353.2
Phosphorus, Total	0.072 mg/L	0.05	EPA 365.1
TKN	< 0.5 mg/L	0.5	EPA 351.2
TOC	2.6 mg/L	1	SM5310C

Lab ID #: AC03223	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B(Colilert-18)
E. coli	770.1 MPN/100mL	1	SM9223B(Colilert-18)

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

SiteID: WLV-15-0010      Sample Date: 7/12/2023      IDEM Sample #: AC03488  
 Water Flow Type Riffle      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	88.4 %		ASTM D888-09(C)
DO	7.56 mg/L		ASTM D888-09(C)
pH (Field)	7.94 SU		EPA 150.2
Specific Conductance (Field)	625 umho/cm		SM2510B
Temperature	23.1 °C		SM2550B(2)
Turbidity (Hach)	6.47 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 #: 50349298011	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	274 mg/L	10	SM2320B
Chloride	17.9 mg/L	0.25	EPA 300.0
Hardness (as CaCO3)	318 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	4.6 mg/L	2.5	SM2540D
Solids, Total (TS)	389 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	354 mg/L	10	SM2540C
Sulfate	30.6 mg/L	0.25	EPA 300.0
Calcium (Total)	76500 ug/L	1000	EPA 200.7
Magnesium (Total)	30700 ug/L	1000	EPA 200.7
COD	< 10 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.8 mg/L	0.1	EPA 353.2
Phosphorus, Total	0.066 mg/L	0.05	EPA 365.1
TKN	0.54 mg/L	0.5	EPA 351.2
TOC	2.6 mg/L	1	SM5310C

Lab ID #: AC03488	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B(Colilert-18)
E. coli	1413.6 MPN/100mL	1	SM9223B(Colilert-18)

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

**SiteID:** WLV-15-0010

**Sample Date:** 7/25/2023

**IDEM Sample #:** AC03205

**Water Flow Type** Pool

**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	100.2 %		ASTM D888-09(C)
DO	8.47 mg/L		ASTM D888-09(C)
pH (Field)	7.93 SU		EPA 150.2
Specific Conductance (Field)	602 umho/cm		SM2510B
Temperature	23.8 °C		SM2550B(2)
Turbidity (Hach)	5.41 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

<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:** WLV-15-0011      **USGS Hydrologic Unit:** 051201081502  
**Stream Name:** Leatherwood Creek      **County:** Parke  
**Description:** 10 O'Clock Road      **Latitude:** 39 48 54.34428      **Longitude:** -87 17 56.76259  
**Drainage:** 17.6405      **Site Number:** 23T-015

**SiteID:** WLV-15-0011      **Sample Date:** 5/9/2023      **IDEM Sample #:** AC02875  
**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	137.8 %		ASTM D888-09(C)
DO	12.31 mg/L		ASTM D888-09(C)
pH (Field)	8.36 SU		EPA 150.2
Specific Conductance (Field)	578 umho/cm		SM2510B
Temperature	20.8 °C		SM2550B(2)
Turbidity (Hach)	2.29 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #:</u> 50344584004	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	248 mg/L	10	SM2320B
Chloride	24.9 mg/L	0.25	EPA 300.0
Hardness (as CaCO3)	304 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	< 2.5 mg/L	2.5	SM2540D
Solids, Total (TS)	365 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	305 mg/L	10	SM2540C
Sulfate	29.7 mg/L	0.25	EPA 300.0
Calcium (Total)	71400 ug/L	1000	EPA 200.7
Magnesium (Total)	30600 ug/L	1000	EPA 200.7
COD	16.5 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	2.7 mg/L	0.1	EPA 353.2
Phosphorus, Total	< 0.05 mg/L	0.05	EPA 365.1
TKN	0.5 mg/L	0.5	EPA 351.2
TOC	2.9 mg/L	1	SM5310C

<u>Lab ID #:</u> AC02875	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	3M9223B(Colilert-18)
E. coli	156.5 MPN/100mL	1	3M9223B(Colilert-18)

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

SiteID: WLV-15-0011      Sample Date: 6/14/2023      IDEM Sample #: AC03222  
 Water Flow Type Run      Water Appearance Murky      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments: Cows in stream

Lab ID #:	Result	Reporting Limit	Method
% Sat	154.1 %		ASTM D888-09(C)
DO	14 mg/L		ASTM D888-09(C)
pH (Field)	8.4 SU		EPA 150.2
Specific Conductance (Field)	600 umho/cm		SM2510B
Temperature	20 °C		SM2550B(2)
Turbidity (Hach)	25.8 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: 50347349004	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	261 mg/L	10	SM2320B
Chloride	19.1 mg/L	2.5	EPA 300.0
Hardness (as CaCO3)	315 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	22.7 mg/L	2.5	SM2540D
Solids, Total (TS)	405 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	352 mg/L	10	SM2540C
Sulfate	30.4 mg/L	2.5	EPA 300.0
Calcium (Total)	75200 ug/L	1000	EPA 200.7
Magnesium (Total)	30800 ug/L	1000	EPA 200.7
COD	17.9 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.4 mg/L	0.1	EPA 353.2
Phosphorus, Total	0.1 mg/L	0.05	EPA 365.1
TKN	0.66 mg/L	0.5	EPA 351.2
TOC	4.1 mg/L	1	SM5310C

Lab ID #: AC03222	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B(Colilert-18)
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B(Colilert-18)

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

SiteID: WLW-15-0011

Sample Date: 7/12/2023

IDEM Sample #: AC03487

Water Flow Type Glide

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments: Did dilution for E. Coli sample. Site failed previous month for E. Coli.

Lab ID #:	Result	Reporting Limit	Method
% Sat	139.4 %		ASTM D888-09(C)
DO	11.39 mg/L		ASTM D888-09(C)
pH (Field)	8.27 SU		EPA 150.2
Specific Conductance (Field)	590 umho/cm		SM2510B
Temperature	25.4 °C		SM2550B(2)
Turbidity (Hach)	3.94 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 #: 50349298010	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	253 mg/L	10	SM2320B
Chloride	21.1 mg/L	0.25	EPA 300.0
Hardness (as CaCO3)	290 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	3.7 mg/L	2.5	SM2540D
Solids, Total (TS)	358 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	335 mg/L	10	SM2540C
Sulfate	28.1 mg/L	0.25	EPA 300.0
Calcium (Total)	70200 ug/L	1000	EPA 200.7
Magnesium (Total)	27800 ug/L	1000	EPA 200.7
COD	16.3 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.6 mg/L	0.1	EPA 353.2
Phosphorus, Total	0.085 mg/L	0.05	EPA 365.1
TKN	0.54 mg/L	0.5	EPA 351.2
TOC	3.1 mg/L	1	SM5310C

Lab ID #: AC03487	Result	Reporting Limit	Method
E. coli	547.5 MPN/100mL	1	SM9223B(Colilert-18)

Lab ID #: AC03487b	Result	Reporting Limit	Method
Coliforms (Total)	7280 MPN/100mL	100	SM9223B(Colilert-18)



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

SiteID: WLV-15-0011

Sample Date: 7/25/2023

IDEM Sample #: AC03204

Water Flow Type Run

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments: Cattle wire across stream US of bridge; sampled DS; scum/film on surface

Lab ID #:	Result	Reporting Limit	Method
% Sat	221 %		ASTM D888-09(C)
DO	16.67 mg/L		ASTM D888-09(C)
pH (Field)	8.43 SU		EPA 150.2
Specific Conductance (Field)	482.5 umho/cm		SM2510B
Temperature	30.1 °C		SM2550B(2)
Turbidity (Hach)	6.04 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 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)	1 - < 32
2 - Scattered	9 - Snow	9 East (90 Degrees)	2 - 33-45
3 - Partly	10 - Sleet	18 South (180 Degrees)	3 - 46-60
4 - Cloudy		27 West (270 Degrees)	4 - 61-75
5 - Mist			5 - 76-85
6 - Fog			6 - > 86
7 - Shower			

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

**SiteID:** WLW-15-0012      **USGS Hydrologic Unit:** 051201081501  
**Stream Name:** Leatherwood Creek      **County:** Parke  
**Description:** Hill Top Road      **Latitude:** 39 49 19.03199      **Longitude:** -87 16 25.14550  
**Drainage:** 10.9545      **Site Number:** 23T-016

**SiteID:** WLW-15-0012      **Sample Date:** 5/11/2023      **IDEM Sample #:** AC02869  
**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	100.6 %		ASTM D888-09(C)
DO	10.02 mg/L		ASTM D888-09(C)
pH (Field)	8.15 SU		EPA 150.2
Specific Conductance (Field)	604 umho/cm		SM2510B
Temperature	15.5 °C		SM2550B(2)
Turbidity (Hach)	1.1 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

<u>Lab ID #:</u> 50344584014	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	267 mg/L	10	SM2320B
Chloride	22.7 mg/L	2.5	EPA 300.0
Hardness (as CaCO3)	307 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	< 2.5 mg/L	2.5	SM2540D
Solids, Total (TS)	333 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	310 mg/L	10	SM2540C
Sulfate	30.6 mg/L	0.25	EPA 300.0
Calcium (Total)	73200 ug/L	1000	EPA 200.7
Magnesium (Total)	30200 ug/L	1000	EPA 200.7
COD	33.6 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.7 mg/L	0.1	EPA 353.2
Phosphorus, Total	0.054 mg/L	0.05	EPA 365.1
TKN	< 0.5 mg/L	0.5	EPA 351.2
TOC	2.9 mg/L	1	SM5310C

<u>Lab ID #:</u> AC02869	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	3M9223B(Colilert-18)
E. coli	231 MPN/100mL	1	3M9223B(Colilert-18)

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

SiteID: WLV-15-0012      Sample Date: 6/14/2023      IDEM Sample #: AC03216  
 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	109.5 %		ASTM D888-09(C)
DO	10.51 mg/L		ASTM D888-09(C)
pH (Field)	8.27 SU		EPA 150.2
Specific Conductance (Field)	624 umho/cm		SM2510B
Temperature	17.2 °C		SM2550B(2)
Turbidity (Hach)	1.41 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID #: 50347349013	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	274 mg/L	10	SM2320B
Chloride	22.5 mg/L	2.5	EPA 300.0
Hardness (as CaCO3)	310 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	< 2.5 mg/L	2.5	SM2540D
Solids, Total (TS)	391 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	365 mg/L	10	SM2540C
Sulfate	28.6 mg/L	2.5	EPA 300.0
Calcium (Total)	76300 ug/L	1000	EPA 200.7
Magnesium (Total)	29000 ug/L	1000	EPA 200.7
COD	16.8 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.5 mg/L	0.1	EPA 353.2
Phosphorus, Total	0.055 mg/L	0.05	EPA 365.1
TKN	< 0.5 mg/L	0.5	EPA 351.2
TOC	3 mg/L	1	SM5310C

Lab ID #: AC03216	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B(Colilert-18)
E. coli	298.7 MPN/100mL	1	SM9223B(Colilert-18)

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

SiteID: WLW-15-0012      Sample Date: 7/12/2023      IDEM Sample #: AC03502  
 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	100.3 %		ASTM D888-09(C)
DO	8.72 mg/L		ASTM D888-09(C)
pH (Field)	8.19 SU		EPA 150.2
Specific Conductance (Field)	618 umho/cm		SM2510B
Temperature	22.3 °C		SM2550B(2)
Turbidity (Hach)	3.01 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 #: 50349298008	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	265 mg/L	10	SM2320B
Chloride	24.6 mg/L	0.25	EPA 300.0
Hardness (as CaCO3)	302 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	< 2.5 mg/L	2.5	SM2540D
Solids, Total (TS)	386 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	344 mg/L	10	SM2540C
Sulfate	27 mg/L	0.25	EPA 300.0
Calcium (Total)	74600 ug/L	1000	EPA 200.7
Magnesium (Total)	28200 ug/L	1000	EPA 200.7
COD	14.4 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.7 mg/L	0.1	EPA 353.2
Phosphorus, Total	0.1 mg/L	0.05	EPA 365.1
TKN	< 0.5 mg/L	0.5	EPA 351.2
TOC	3.4 mg/L	1	SM5310C

Lab ID #: AC03502	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B(Colilert-18)
E. coli	648.8 MPN/100mL	1	SM9223B(Colilert-18)

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

SiteID: WLW-15-0012

Sample Date: 7/24/2023

IDEM Sample #: AC03203

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	137.7 %		ASTM D888-09(C)
DO	11.5 mg/L		ASTM D888-09(C)
pH (Field)	8.37 SU		EPA 150.2
Specific Conductance (Field)	621 umho/cm		SM2510B
Temperature	24.3 °C		SM2550B(2)
Turbidity (Hach)	3.54 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

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	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:** WLW-15-0013      **USGS Hydrologic Unit:** 051201081501  
**Stream Name:** Cat Creek      **County:** Parke  
**Description:** Clay Plant Road      **Latitude:** 39 49 57.63528      **Longitude:** -87 16 59.91206  
**Drainage:** 4.167      **Site Number:** 23T-017

**SiteID:** WLW-15-0013      **Sample Date:** 5/9/2023      **IDEM Sample #:** AC02877  
**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	131.9 %		ASTM D888-09(C)
DO	11.96 mg/L		ASTM D888-09(C)
pH (Field)	8.41 SU		EPA 150.2
Specific Conductance (Field)	581 umho/cm		SM2510B
Temperature	20.1 °C		SM2550B(2)
Turbidity (Hach)	2.02 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #:</u> 50344584006	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	247 mg/L	10	SM2320B
Chloride	22.9 mg/L	2.5	EPA 300.0
Hardness (as CaCO3)	303 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	< 2.5 mg/L	2.5	SM2540D
Solids, Total (TS)	355 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	345 mg/L	10	SM2540C
Sulfate	28.7 mg/L	0.25	EPA 300.0
Calcium (Total)	69100 ug/L	1000	EPA 200.7
Magnesium (Total)	31800 ug/L	1000	EPA 200.7
COD	14.2 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	3.9 mg/L	0.1	EPA 353.2
Phosphorus, Total	< 0.05 mg/L	0.05	EPA 365.1
TKN	< 0.5 mg/L	0.5	EPA 351.2
TOC	2.7 mg/L	1	SM5310C

<u>Lab ID #:</u> AC02877	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	3M9223B(Colilert-18)
E. coli	108.1 MPN/100mL	1	3M9223B(Colilert-18)

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

SiteID: WLV-15-0013      Sample Date: 6/14/2023      IDEM Sample #: AC03224  
 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	88.8 %		ASTM D888-09(C)
DO	8.56 mg/L		ASTM D888-09(C)
pH (Field)	8.08 SU		EPA 150.2
Specific Conductance (Field)	611 umho/cm		SM2510B
Temperature	17 °C		SM2550B(2)
Turbidity (Hach)	1.72 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID #: 50347349006	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	256 mg/L	10	SM2320B
Chloride	17 mg/L	2.5	EPA 300.0
Hardness (as CaCO3)	305 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	< 2.5 mg/L	2.5	SM2540D
Solids, Total (TS)	378 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	363 mg/L	10	SM2540C
Sulfate	38.8 mg/L	2.5	EPA 300.0
Calcium (Total)	72200 ug/L	1000	EPA 200.7
Magnesium (Total)	30300 ug/L	1000	EPA 200.7
COD	10.3 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.4 mg/L	0.1	EPA 353.2
Phosphorus, Total	0.11 mg/L	0.05	EPA 365.1
TKN	< 0.5 mg/L	0.5	EPA 351.2
TOC	2.9 mg/L	1	SM5310C

Lab ID #: AC03224	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B(Colilert-18)
E. coli	224.7 MPN/100mL	1	SM9223B(Colilert-18)

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

SiteID: WLV-15-0013      Sample Date: 7/12/2023      IDEM Sample #: AC03486  
 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	87.7 %		ASTM D888-09(C)
DO	7.58 mg/L		ASTM D888-09(C)
pH (Field)	8.04 SU		EPA 150.2
Specific Conductance (Field)	608 umho/cm		SM2510B
Temperature	22.5 °C		SM2550B(2)
Turbidity (Hach)	3.32 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 #: 50349298009	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	256 mg/L	10	SM2320B
Chloride	19.8 mg/L	0.25	EPA 300.0
Hardness (as CaCO3)	303 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	3 mg/L	2.5	SM2540D
Solids, Total (TS)	378 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	323 mg/L	10	SM2540C
Sulfate	36.4 mg/L	0.25	EPA 300.0
Calcium (Total)	72200 ug/L	1000	EPA 200.7
Magnesium (Total)	29700 ug/L	1000	EPA 200.7
COD	< 10 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.4 mg/L	0.1	EPA 353.2
Phosphorus, Total	0.16 mg/L	0.05	EPA 365.1
TKN	0.61 mg/L	0.5	EPA 351.2
TOC	3.2 mg/L	1	SM5310C

Lab ID #: AC03486	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B(Colilert-18)
E. coli	325.5 MPN/100mL	1	SM9223B(Colilert-18)



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

SiteID: WLV-15-0013

Sample Date: 7/26/2023

IDEM Sample #: AC03202

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	6.8 mg/L		ASTM D888-09(C)
pH (Field)	8.02 SU		EPA 150.2
Specific Conductance (Field)	630 umho/cm		SM2510B
Temperature	22.3 °C		SM2550B(2)
Turbidity (Hach)	5.47 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

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	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:** WLW-15-0014      **USGS Hydrologic Unit:** 051201081501  
**Stream Name:** Leatherwood Creek      **County:** Parke  
**Description:** Broadway Street      **Latitude:** 39 49 41.69742      **Longitude:** -87 14 55.00007  
**Drainage:** 6.65      **Site Number:** 23T-018

**SiteID:** WLW-15-0014      **Sample Date:** 5/11/2023      **IDEM Sample #:** AC02870  
**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	87 %		ASTM D888-09(C)
DO	8.69 mg/L		ASTM D888-09(C)
pH (Field)	7.93 SU		EPA 150.2
Specific Conductance (Field)	613 umho/cm		SM2510B
Temperature	15.4 °C		SM2550B(2)
Turbidity (Hach)	1.75 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

<u>Lab ID #:</u> 50344584015	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	262 mg/L	10	SM2320B
Chloride	26.1 mg/L	2.5	EPA 300.0
Hardness (as CaCO3)	314 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	< 2.5 mg/L	2.5	SM2540D
Solids, Total (TS)	356 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	314 mg/L	10	SM2540C
Sulfate	33 mg/L	0.25	EPA 300.0
Calcium (Total)	73900 ug/L	1000	EPA 200.7
Magnesium (Total)	31400 ug/L	1000	EPA 200.7
COD	< 10 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	2.4 mg/L	0.1	EPA 353.2
Phosphorus, Total	0.089 mg/L	0.05	EPA 365.1
TKN	< 0.5 mg/L	0.5	EPA 351.2
TOC	2.6 mg/L	1	SM5310C

<u>Lab ID #:</u> AC02870	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B(Colilert-18)
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B(Colilert-18)

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

**SiteID:** WLW-15-0014      **Sample Date:** 6/14/2023      **IDEM Sample #:** AC03217  
**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	90.5 %		ASTM D888-09(C)
DO	8.83 mg/L		ASTM D888-09(C)
pH (Field)	7.84 SU		EPA 150.2
Specific Conductance (Field)	637 umho/cm		SM2510B
Temperature	16.5 °C		SM2550B(2)
Turbidity (Hach)	1.42 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

<b>Lab ID #: 50347349014</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	264 mg/L	10	SM2320B
Chloride	26.1 mg/L	2.5	EPA 300.0
Hardness (as CaCO3)	326 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	< 2.5 mg/L	2.5	SM2540D
Solids, Total (TS)	400 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	373 mg/L	10	SM2540C
Sulfate	32.7 mg/L	2.5	EPA 300.0
Calcium (Total)	78300 ug/L	1000	EPA 200.7
Magnesium (Total)	31600 ug/L	1000	EPA 200.7
COD	10.9 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.8 mg/L	0.1	EPA 353.2
Phosphorus, Total	0.088 mg/L	0.05	EPA 365.1
TKN	< 0.5 mg/L	0.5	EPA 351.2
TOC	3.5 mg/L	1	SM5310C

<b>Lab ID #: AC03217</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B(Colilert-18)
E. coli	727 MPN/100mL	1	SM9223B(Colilert-18)

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

SiteID: WLV-15-0014      Sample Date: 7/12/2023      IDEM Sample #: AC03501  
 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	89.8 %		ASTM D888-09(C)
DO	7.88 mg/L		ASTM D888-09(C)
pH (Field)	7.88 SU		EPA 150.2
Specific Conductance (Field)	618 umho/cm		SM2510B
Temperature	21.7 °C		SM2550B(2)
Turbidity (Hach)	3.7 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 #: 50349298007	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	255 mg/L	10	SM2320B
Chloride	21.7 mg/L	2.5	EPA 300.0
Hardness (as CaCO3)	303 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	3.4 mg/L	2.5	SM2540D
Solids, Total (TS)	367 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	335 mg/L	10	SM2540C
Sulfate	29.5 mg/L	0.25	EPA 300.0
Calcium (Total)	73700 ug/L	1000	EPA 200.7
Magnesium (Total)	28900 ug/L	1000	EPA 200.7
COD	< 10 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	2.1 mg/L	0.1	EPA 353.2
Phosphorus, Total	0.15 mg/L	0.05	EPA 365.1
TKN	0.51 mg/L	0.5	EPA 351.2
TOC	3.5 mg/L	1	SM5310C

Lab ID #: AC03501	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B(Colilert-18)
E. coli	727 MPN/100mL	1	SM9223B(Colilert-18)

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

**SiteID:** WLV-15-0014

**Sample Date:** 7/24/2023

**IDEM Sample #:** AC03201

**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	94.1 %		ASTM D888-09(C)
DO	8.07 mg/L		ASTM D888-09(C)
pH (Field)	7.89 SU		EPA 150.2
Specific Conductance (Field)	650 umho/cm		SM2510B
Temperature	22.9 °C		SM2550B(2)
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

<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:** WLW-15-0015      **USGS Hydrologic Unit:** 051201081501  
**Stream Name:** Leatherwood Creek      **County:** Parke  
**Description:** US Highway 41      **Latitude:** 39 50 4.32313      **Longitude:** -87 14 8.75426  
**Drainage:** 5.444      **Site Number:** 23T-019

**SiteID:** WLW-15-0015      **Sample Date:** 5/11/2023      **IDEM Sample #:** AC02871  
**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	93.6 %		ASTM D888-09(C)
DO	9.28 mg/L		ASTM D888-09(C)
pH (Field)	8.01 SU		EPA 150.2
Specific Conductance (Field)	592 umho/cm		SM2510B
Temperature	15.7 °C		SM2550B(2)
Turbidity (Hach)	1.42 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #:</u> 50344584016	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	258 mg/L	10	SM2320B
Chloride	24.2 mg/L	0.25	EPA 300.0
Hardness (as CaCO3)	306 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	< 2.5 mg/L	2.5	SM2540D
Solids, Total (TS)	364 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	317 mg/L	10	SM2540C
Sulfate	33.7 mg/L	0.25	EPA 300.0
Calcium (Total)	72200 ug/L	1000	EPA 200.7
Magnesium (Total)	30500 ug/L	1000	EPA 200.7
COD	14.9 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	2.4 mg/L	0.1	EPA 353.2
Phosphorus, Total	0.07 mg/L	0.05	EPA 365.1
TKN	< 0.5 mg/L	0.5	EPA 351.2
TOC	2.9 mg/L	1	SM5310C

<u>Lab ID #:</u> AC02871	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	3M9223B(Colilert-18)
E. coli	1299.7 MPN/100mL	1	3M9223B(Colilert-18)

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

SiteID: WLW-15-0015      Sample Date: 6/14/2023      IDEM Sample #: AC03218  
 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	77.7 %		ASTM D888-09(C)
DO	7.58 mg/L		ASTM D888-09(C)
pH (Field)	7.84 SU		EPA 150.2
Specific Conductance (Field)	603 umho/cm		SM2510B
Temperature	16.5 °C		SM2550B(2)
Turbidity (Hach)	1.66 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID #: 50347349015	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	254 mg/L	10	SM2320B
Chloride	20.9 mg/L	2.5	EPA 300.0
Hardness (as CaCO3)	306 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	< 2.5 mg/L	2.5	SM2540D
Solids, Total (TS)	355 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	365 mg/L	10	SM2540C
Sulfate	34.3 mg/L	2.5	EPA 300.0
Calcium (Total)	73100 ug/L	1000	EPA 200.7
Magnesium (Total)	30000 ug/L	1000	EPA 200.7
COD	14.1 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.3 mg/L	0.1	EPA 353.2
Phosphorus, Total	0.15 mg/L	0.05	EPA 365.1
TKN	< 0.5 mg/L	0.5	EPA 351.2
TOC	3.7 mg/L	1	SM5310C

Lab ID #: AC03218	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B(Colilert-18)
E. coli	275.5 MPN/100mL	1	SM9223B(Colilert-18)

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

SiteID: WLW-15-0015      Sample Date: 7/12/2023      IDEM Sample #: AC03500  
 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	73.6 %		ASTM D888-09(C)
DO	6.47 mg/L		ASTM D888-09(C)
pH (Field)	7.85 SU		EPA 150.2
Specific Conductance (Field)	600 umho/cm		SM2510B
Temperature	21.7 °C		SM2550B(2)
Turbidity (Hach)	6.11 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 #: 50349298006	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	247 mg/L	10	SM2320B
Chloride	24.6 mg/L	0.25	EPA 300.0
Hardness (as CaCO3)	292 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	4.7 mg/L	2.5	SM2540D
Solids, Total (TS)	369 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	348 mg/L	10	SM2540C
Sulfate	29.1 mg/L	0.25	EPA 300.0
Calcium (Total)	70800 ug/L	1000	EPA 200.7
Magnesium (Total)	27900 ug/L	1000	EPA 200.7
COD	11.5 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	2 mg/L	0.1	EPA 353.2
Phosphorus, Total	0.17 mg/L	0.05	EPA 365.1
TKN	0.64 mg/L	0.5	EPA 351.2
TOC	3.9 mg/L	1	SM5310C

Lab ID #: AC03500	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B(Colilert-18)
E. coli	727 MPN/100mL	1	SM9223B(Colilert-18)



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

SiteID: WLV-15-0015

Sample Date: 7/24/2023

IDEM Sample #: AC03200

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	90.7 %		ASTM D888-09(C)
DO	7.76 mg/L		ASTM D888-09(C)
pH (Field)	7.96 SU		EPA 150.2
Specific Conductance (Field)	622 umho/cm		SM2510B
Temperature	23 °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	0 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:** WLW-15-0016      **USGS Hydrologic Unit:** 051201081501  
**Stream Name:** Leatherwood Creek      **County:** Parke  
**Description:** Marshall Road      **Latitude:** 39 50 20.23781      **Longitude:** -87 11 33.49247  
**Drainage:** 1.403      **Site Number:** 23T-020

**SiteID:** WLW-15-0016      **Sample Date:** 5/11/2023      **IDEM Sample #:** AC02872  
**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	108.9 %		ASTM D888-09(C)
DO	10.67 mg/L		ASTM D888-09(C)
pH (Field)	8.21 SU		EPA 150.2
Specific Conductance (Field)	502 umho/cm		SM2510B
Temperature	16.3 °C		SM2550B(2)
Turbidity (Hach)	1.63 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

<b>Lab ID #: 50344584017</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	218 mg/L	10	SM2320B
Chloride	22.2 mg/L	2.5	EPA 300.0
Hardness (as CaCO3)	261 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	< 2.5 mg/L	2.5	SM2540D
Solids, Total (TS)	290 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	245 mg/L	10	SM2540C
Sulfate	21.4 mg/L	0.25	EPA 300.0
Calcium (Total)	59600 ug/L	1000	EPA 200.7
Magnesium (Total)	27200 ug/L	1000	EPA 200.7
COD	15.6 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	1.4 mg/L	0.1	EPA 353.2
Phosphorus, Total	< 0.05 mg/L	0.05	EPA 365.1
TKN	0.58 mg/L	0.5	EPA 351.2
TOC	2.7 mg/L	1	SM5310C

<b>Lab ID #: AC02872</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B(Colilert-18)
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B(Colilert-18)

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

**SiteID:** WLW-15-0016      **Sample Date:** 6/14/2023      **IDEM Sample #:** AC03219  
**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	75 %		ASTM D888-09(C)
DO	7.29 mg/L		ASTM D888-09(C)
pH (Field)	7.9 SU		EPA 150.2
Specific Conductance (Field)	507 umho/cm		SM2510B
Temperature	16.7 °C		SM2550B(2)
Turbidity (Hach)	2.1 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

<b>Lab ID #: 50347349016</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	215 mg/L	10	SM2320B
Chloride	22.1 mg/L	2.5	EPA 300.0
Hardness (as CaCO3)	250 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	< 2.5 mg/L	2.5	SM2540D
Solids, Total (TS)	298 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	291 mg/L	10	SM2540C
Sulfate	17.2 mg/L	2.5	EPA 300.0
Calcium (Total)	57200 ug/L	1000	EPA 200.7
Magnesium (Total)	26000 ug/L	1000	EPA 200.7
COD	16.5 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	0.38 mg/L	0.1	EPA 353.2
Phosphorus, Total	0.11 mg/L	0.05	EPA 365.1
TKN	< 0.5 mg/L	0.5	EPA 351.2
TOC	4.6 mg/L	1	SM5310C

<b>Lab ID #: AC03219</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B(Colilert-18)
E. coli	1732.9 MPN/100mL	1	SM9223B(Colilert-18)

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

SiteID: WLV-15-0016      Sample Date: 7/12/2023      IDEM Sample #: AC03499  
 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	81.8 %		ASTM D888-09(C)
DO	7.19 mg/L		ASTM D888-09(C)
pH (Field)	8.03 SU		EPA 150.2
Specific Conductance (Field)	548 umho/cm		SM2510B
Temperature	21.7 °C		SM2550B(2)
Turbidity (Hach)	5.56 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 #: 50349298005	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	232 mg/L	10	SM2320B
Chloride	20.4 mg/L	2.5	EPA 300.0
Hardness (as CaCO3)	264 mg/L	10	SM2340B
Solids, Suspended Total, (TSS)	3.6 mg/L	2.5	SM2540D
Solids, Total (TS)	332 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	342 mg/L	10	SM2540C
Sulfate	16.3 mg/L	0.25	EPA 300.0
Calcium (Total)	63000 ug/L	1000	EPA 200.7
Magnesium (Total)	26000 ug/L	1000	EPA 200.7
COD	10 mg/L	10	EPA 410.4
Nitrogen, Ammonia	< 0.1 mg/L	0.1	EPA 350.1
Nitrogen, Nitrate+Nitrite	2.9 mg/L	0.1	EPA 353.2
Phosphorus, Total	0.08 mg/L	0.05	EPA 365.1
TKN	< 0.5 mg/L	0.5	EPA 351.2
TOC	3.1 mg/L	1	SM5310C

Lab ID #: AC03499	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B(Colilert-18)
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B(Colilert-18)

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

SiteID: WLV-15-0016

Sample Date: 7/26/2023

IDEM Sample #: AC03199

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	88.2 %		ASTM D888-09(C)
DO	7.52 mg/L		ASTM D888-09(C)
pH (Field)	8 SU		EPA 150.2
Specific Conductance (Field)	552 umho/cm		SM2510B
Temperature	23.2 °C		SM2550B(2)
Turbidity (Hach)	6.37 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	3 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	