

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

**SiteID:** WEL-14-0003      **USGS Hydrologic Unit:** 051202081407  
**Stream Name:** East Fork White River      **County:** Martin  
**Description:** CR 3 (Abel Hill Rd)      **Latitude:** 38 32 28.27577      **Longitude:** -86 49 3.69373  
**Drainage:**      **Site Number:** 18T-001

**SiteID:** WEL-14-0003      **Sample Date:** 5/21/2018      **IDEM Sample #:** AB33001  
**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	95.9 %		ASTM D888-09(C)
DO	8.25 mg/L		ASTM D888-09(C)
pH (Field)	8.03 SU		EPA 150.2
Specific Conductance (Field)	362.8 umho/cm		SM2510B
Temperature	22.818 °C		SM2550B(2)
Turbidity (Hach)	28.7 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

<u>Lab ID #</u> 500-145866-1	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	130 mg/L	5	SM2320B
Chloride	19 mg/L	2	EPA 300.0
Hardness (as CaCO3)	160 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	47 mg/L	5	SM2540D
Solids, Total (TS)	250 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	190 mg/L	10	SM2540C
Sulfate	23 mg/L	1	EPA 300.0
Calcium (Total)	42 mg/L	0.2	EPA 200.7
Magnesium (Total)	14 mg/L	0.1	EPA 200.7
COD	18 mg/L	10	SM5220C
Nitrogen, Ammonia	0.11 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	0.45 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.08 mg/L	0.05	SM4500P-E
TKN	0.5 mg/L	0.4	SM4500N(Org)-D
TOC	2.8 mg/L	1	SM5310C

<u>Lab ID #</u> AB33001	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	21.3 MPN/100mL	1	SM9223B

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

SiteID: WEL-14-0003      Sample Date: 6/11/2018      IDEM Sample #: AB33348  
 Water Flow Type Run      Water Appearance Murky      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	84.9 %		ASTM D888-09(C)
DO	7.18 mg/L		ASTM D888-09(C)
pH (Field)	8.08 SU		EPA 150.2
Specific Conductance (Field)	375 umho/cm		SM2510B
Temperature	23.62 °C		SM2550B(2)
Turbidity (Hach)	128 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 # 500-146852-1	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	130 mg/L	5	SM2320B
Chloride	19 mg/L	1	EPA 300.0
Hardness (as CaCO3)	180 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	150 mg/L	7.7	SM2540D
Solids, Total (TS)	500 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	300 mg/L	10	SM2540C
Sulfate	21 mg/L	1	EPA 300.0
Calcium (Total)	47 mg/L	0.2	EPA 200.7
Magnesium (Total)	14 mg/L	0.1	EPA 200.7
COD	19 mg/L	10	SM5220C
Nitrogen, Ammonia	0.18 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	1.9 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.077 mg/L	0.05	SM4500P-E
TKN	0.62 mg/L	0.4	SM4500N(Org)-D
TOC	4 mg/L	1	SM5310C

Lab ID # AB33348	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1732.9 MPN/100mL	1	SM9223B

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

SiteID: WEL-14-0003

Sample Date: 7/16/2018

IDEM Sample #: AB33670

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	92 %	ASTM D888-09(C)
	DO	7.24 mg/L	ASTM D888-09(C)
	pH (Field)	8.03 SU	EPA 150.2
	Specific Conductance (Field)	488 umho/cm	SM2510B
	Temperature	27.64 °C	SM2550B(2)
	Turbidity (Hach)	31.2 NTU	EPA 180.1
	Air Temp	5 Lookup	Observation
	Sky Conditions	4 Lookup	Observation
	Wind Direction	27 Lookup	Observation
	Wind Strength	1 Lookup	Observation

Lab ID # 500-148600-1	Result	Reporting Limit	Method
	Alkalinity (as CaCO3)	190 mg/L	5 SM2320B
	Chloride	23 mg/L	1 EPA 300.0
	Hardness (as CaCO3)	230 mg/L	1.3 SM2340B
	Solids, Suspended Total, (TSS)	45 mg/L	5 SM2540D
	Solids, Total (TS)	300 mg/L	10 SM2540B
	Solids, Total Dissolved (TDS)	340 mg/L	10 SM2540C
	Sulfate	24 mg/L	1 EPA 300.0
	Calcium (Total)	57 mg/L	0.2 EPA 200.7
	Magnesium (Total)	22 mg/L	0.1 EPA 200.7
	COD	19 mg/L	10 SM5220C
	Nitrogen, Ammonia	< 0.2 mg/L	0.2 SM4500NH3-G
	Nitrogen, Nitrate+Nitrite	0.62 mg/L	0.1 SM4500NO3-F
	Phosphorus, Total	0.054 mg/L	0.05 SM4500P-E
	TKN	0.48 mg/L	0.4 SM4500N(Org)-D
	TOC	2.4 mg/L	1 SM5310C

Lab ID # AB33670	Result	Reporting Limit	Method
	Coliforms (Total)	> 2419.6 MPN/100mL	2419.6 SM9223B
	E. coli	13.4 MPN/100mL	1 SM9223B

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

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

**SiteID:** WEL-15-0008      **USGS Hydrologic Unit:** 051202081503  
**Stream Name:** Slate Creek      **County:** Martin  
**Description:** CR 22      **Latitude:** 38 32 14.20475      **Longitude:** -86 54 16.36733  
**Drainage:**      **Site Number:** 18T-002

**SiteID:** WEL-15-0008      **Sample Date:** 5/21/2018      **IDEM Sample #:** AB33010  
**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	83.4 %		ASTM D888-09(C)
DO	6.89 mg/L		ASTM D888-09(C)
pH (Field)	7.51 SU		EPA 150.2
Specific Conductance (Field)	833 umho/cm		SM2510B
Temperature	24.905 °C		SM2550B(2)
Turbidity (Hach)	23.3 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID # 500-145866-10</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	190 mg/L	5	SM2320B
Chloride	14 mg/L	1	EPA 300.0
Hardness (as CaCO3)	510 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	11 mg/L	5	SM2540D
Solids, Total (TS)	780 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	710 mg/L	10	SM2540C
Sulfate	380 mg/L	10	EPA 300.0
Calcium (Total)	130 mg/L	0.2	EPA 200.7
Magnesium (Total)	47 mg/L	0.1	EPA 200.7
COD	14 mg/L	10	SM5220C
Nitrogen, Ammonia	0.19 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	0.18 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.044 mg/L	0.05	SM4500P-E
TKN	0.57 mg/L	0.4	SM4500N(Org)-D
TOC	3.7 mg/L	1	SM5310C

<u>Lab ID # AB33010</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	248.1 MPN/100mL	1	SM9223B

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

SiteID: WEL-15-0008      Sample Date: 6/11/2018      IDEM Sample #: AB33357  
 Water Flow Type Run      Water Appearance Brown      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	86.1 %		ASTM D888-09(C)
DO	7.75 mg/L		ASTM D888-09(C)
pH (Field)	7.13 SU		EPA 150.2
Specific Conductance (Field)	385 umho/cm		SM2510B
Temperature	20.41 °C		SM2550B(2)
Turbidity (Hach)	429 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 # 500-146852-10	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	47 mg/L	5	SM2320B
Chloride	5.8 mg/L	0.2	EPA 300.0
Hardness (as CaCO3)	160 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	430 mg/L	20	SM2540D
Solids, Total (TS)	940 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	380 mg/L	10	SM2540C
Sulfate	47 mg/L	2	EPA 300.0
Calcium (Total)	46 mg/L	0.2	EPA 200.7
Magnesium (Total)	12 mg/L	0.1	EPA 200.7
COD	63 mg/L	10	SM5220C
Nitrogen, Ammonia	0.82 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	21 mg/L	2	SM4500NO3-F
Phosphorus, Total	0.95 mg/L	0.15	SM4500P-E
TKN	2.1 mg/L	0.4	SM4500N(Org)-D
TOC	11 mg/L	1	SM5310C

Lab ID # AB33357	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B

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

SiteID: WEL-15-0008      Sample Date: 7/16/2018      IDEM Sample #: AB33679  
 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	86.1 %		ASTM D888-09(C)
DO	7.02 mg/L		ASTM D888-09(C)
pH (Field)	7.55 SU		EPA 150.2
Specific Conductance (Field)	978 umho/cm		SM2510B
Temperature	25.43 °C		SM2550B(2)
Turbidity (Hach)	34.4 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 500-148600-10	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	190 mg/L	5	SM2320B
Chloride	9.7 mg/L	0.4	EPA 300.0
Hardness (as CaCO3)	510 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	7 mg/L	5	SM2540D
Solids, Total (TS)	790 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	760 mg/L	10	SM2540C
Sulfate	260 mg/L	10	EPA 300.0
Calcium (Total)	130 mg/L	0.2	EPA 200.7
Magnesium (Total)	48 mg/L	0.1	EPA 200.7
COD	16 mg/L	10	SM5220C
Nitrogen, Ammonia	0.13 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	0.14 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.039 mg/L	0.05	SM4500P-E
TKN	0.42 mg/L	0.4	SM4500N(Org)-D
TOC	3.5 mg/L	1	SM5310C

Lab ID # AB33679	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	191.8 MPN/100mL	1	SM9223B

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

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

**SiteID:** WEL-15-0021      **USGS Hydrologic Unit:** 051202081503  
**Stream Name:** Tributary of Slate Cr      **County:** Daviess  
**Description:** CR 800 S      **Latitude:** 38 32 22.37901      **Longitude:** -86 55 57.04122  
**Drainage:**      **Site Number:** 18T-003

**SiteID:** WEL-15-0021      **Sample Date:** 5/21/2018      **IDEM Sample #:** AB33011  
**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	120.6 %		ASTM D888-09(C)
DO	9.96 mg/L		ASTM D888-09(C)
pH (Field)	8.09 SU		EPA 150.2
Specific Conductance (Field)	391.1 umho/cm		SM2510B
Temperature	24.988 °C		SM2550B(2)
Turbidity (Hach)	4.87 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #</u> 500-145866-11	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	170 mg/L	5	SM2320B
Chloride	16 mg/L	1	EPA 300.0
Hardness (as CaCO3)	140 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	6 mg/L	5	SM2540D
Solids, Total (TS)	270 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	210 mg/L	10	SM2540C
Sulfate	78 mg/L	2	EPA 300.0
Calcium (Total)	39 mg/L	0.2	EPA 200.7
Magnesium (Total)	12 mg/L	0.1	EPA 200.7
COD	18 mg/L	10	SM5220C
Nitrogen, Ammonia	0.1 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	0.071 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.056 mg/L	0.05	SM4500P-E
TKN	0.64 mg/L	0.4	SM4500N(Org)-D
TOC	4.8 mg/L	1	SM5310C

<u>Lab ID #</u> AB33011	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	59.1 MPN/100mL	1	SM9223B

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

SiteID: WEL-15-0021      Sample Date: 6/11/2018      IDEM Sample #: AB33358  
 Water Flow Type Run      Water Appearance Brown      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	84.6 %		ASTM D888-09(C)
DO	7.6 mg/L		ASTM D888-09(C)
pH (Field)	6.94 SU		EPA 150.2
Specific Conductance (Field)	265 umho/cm		SM2510B
Temperature	20.54 °C		SM2550B(2)
Turbidity (Hach)	177 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 # 500-146852-11	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	35 mg/L	5	SM2320B
Chloride	7.4 mg/L	0.2	EPA 300.0
Hardness (as CaCO3)	100 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	170 mg/L	9.1	SM2540D
Solids, Total (TS)	460 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	280 mg/L	10	SM2540C
Sulfate	18 mg/L	0.4	EPA 300.0
Calcium (Total)	30 mg/L	0.2	EPA 200.7
Magnesium (Total)	6.4 mg/L	0.1	EPA 200.7
COD	45 mg/L	10	SM5220C
Nitrogen, Ammonia	0.8 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	14 mg/L	1	SM4500NO3-F
Phosphorus, Total	0.33 mg/L	0.05	SM4500P-E
TKN	2 mg/L	0.4	SM4500N(Org)-D
TOC	11 mg/L	1	SM5310C

Lab ID # AB33358	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B



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

SiteID: WEL-15-0021      Sample Date: 7/16/2018      IDEM Sample #: AB33680  
 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 %		ASTM D888-09(C)
DO	6.09 mg/L		ASTM D888-09(C)
pH (Field)	7.61 SU		EPA 150.2
Specific Conductance (Field)	377 umho/cm		SM2510B
Temperature	26.99 °C		SM2550B(2)
Turbidity (Hach)	14.1 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 500-148600-11	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	110 mg/L	5	SM2320B
Chloride	12 mg/L	1	EPA 300.0
Hardness (as CaCO3)	150 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	11 mg/L	5	SM2540D
Solids, Total (TS)	230 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	280 mg/L	10	SM2540C
Sulfate	39 mg/L	1	EPA 300.0
Calcium (Total)	41 mg/L	0.2	EPA 200.7
Magnesium (Total)	12 mg/L	0.1	EPA 200.7
COD	20 mg/L	10	SM5220C
Nitrogen, Ammonia	< 0.2 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	< 0.1 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.039 mg/L	0.05	SM4500P-E
TKN	0.57 mg/L	0.4	SM4500N(Org)-D
TOC	4.6 mg/L	1	SM5310C

Lab ID # AB33680	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	5.2 MPN/100mL	1	SM9223B

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

SiteID: WEL-15-0021

Sample Date: 7/24/2018

IDEM Sample #: AB33146

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	74.7 %		ASTM D888-09(C)
DO	5.71 mg/L		ASTM D888-09(C)
pH (Field)	8.14 SU		EPA 150.2
Specific Conductance (Field)	319 umho/cm		SM2510B
Temperature	28.77 °C		SM2550B(2)
Turbidity (Hach)	10.6 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

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

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

**SiteID:** WEL-15-0007      **USGS Hydrologic Unit:** 051202081503  
**Stream Name:** Slate Creek      **County:** Daviess  
**Description:** CR 1250 E      **Latitude:** 38 30 45.00625      **Longitude:** -86 56 0.06098  
**Drainage:**      **Site Number:** 18T-004

**SiteID:** WEL-15-0007      **Sample Date:** 5/21/2018      **IDEM Sample #:** AB33012  
**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	47.9 %		ASTM D888-09(C)
DO	4.12 mg/L		ASTM D888-09(C)
pH (Field)	7.26 SU		EPA 150.2
Specific Conductance (Field)	966 umho/cm		SM2510B
Temperature	23.15 °C		SM2550B(2)
Turbidity (Hach)	12.6 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

<u>Lab ID #</u> 500-145866-12	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	160 mg/L	5	SM2320B
Chloride	21 mg/L	1	EPA 300.0
Hardness (as CaCO3)	460 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	19 mg/L	5	SM2540D
Solids, Total (TS)	730 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	680 mg/L	10	SM2540C
Sulfate	360 mg/L	10	EPA 300.0
Calcium (Total)	110 mg/L	0.2	EPA 200.7
Magnesium (Total)	44 mg/L	0.1	EPA 200.7
COD	13 mg/L	10	SM5220C
Nitrogen, Ammonia	0.31 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	0.61 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.083 mg/L	0.05	SM4500P-E
TKN	0.69 mg/L	0.4	SM4500N(Org)-D
TOC	4.5 mg/L	1	SM5310C

<u>Lab ID #</u> AB33012	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	727 MPN/100mL	1	SM9223B

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

SiteID: WEL-15-0007      Sample Date: 6/11/2018      IDEM Sample #: AB33362  
 Water Flow Type Run      Water Appearance Brown      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	82.2 %		ASTM D888-09(C)
DO	7.37 mg/L		ASTM D888-09(C)
pH (Field)	7.04 SU		EPA 150.2
Specific Conductance (Field)	247 umho/cm		SM2510B
Temperature	20.62 °C		SM2550B(2)
Turbidity (Hach)	480 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 500-146852-15	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	36 mg/L	5	SM2320B
Chloride	5.5 mg/L	0.2	EPA 300.0
Hardness (as CaCO3)	110 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	470 mg/L	20	SM2540D
Solids, Total (TS)	770 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	240 mg/L	10	SM2540C
Sulfate	23 mg/L	1	EPA 300.0
Calcium (Total)	30 mg/L	0.2	EPA 200.7
Magnesium (Total)	7.3 mg/L	0.1	EPA 200.7
COD	57 mg/L	10	SM5220C
Nitrogen, Ammonia	0.87 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	9.7 mg/L	1	SM4500NO3-F
Phosphorus, Total	0.11 mg/L	0.05	SM4500P-E
TKN	2.6 mg/L	0.4	SM4500N(Org)-D
TOC	11 mg/L	1	SM5310C

Lab ID # AB33362	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B

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

SiteID: WEL-15-0007

Sample Date: 7/16/2018

IDEM Sample #: AB33684

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	40.3 %		ASTM D888-09(C)
DO	3.34 mg/L		ASTM D888-09(C)
pH (Field)	7.12 SU		EPA 150.2
Specific Conductance (Field)	812 umho/cm		SM2510B
Temperature	24.72 °C		SM2550B(2)
Turbidity (Hach)	5.63 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 500-148600-15	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	150 mg/L	5	SM2320B
Chloride	14 mg/L	0.4	EPA 300.0
Hardness (as CaCO3)	390 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	7 mg/L	5	SM2540D
Solids, Total (TS)	620 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	600 mg/L	10	SM2540C
Sulfate	270 mg/L	10	EPA 300.0
Calcium (Total)	95 mg/L	0.2	EPA 200.7
Magnesium (Total)	38 mg/L	0.1	EPA 200.7
COD	29 mg/L	10	SM5220C
Nitrogen, Ammonia	< 0.2 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	0.67 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.23 mg/L	0.05	SM4500P-E
TKN	0.67 mg/L	0.4	SM4500N(Org)-D
TOC	6.6 mg/L	1	SM5310C

Lab ID # AB33684	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B

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

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

**SiteID:** WEL-15-0011      **USGS Hydrologic Unit:** 051202081501  
**Stream Name:** Mill Creek      **County:** Dubois  
**Description:** N Portersville Rd      **Latitude:** 38 26 40.65871      **Longitude:** -86 57 26.15257  
**Drainage:**      **Site Number:** 18T-005

**SiteID:** WEL-15-0011      **Sample Date:** 5/21/2018      **IDEM Sample #:** AB33013  
**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	162.5 %		ASTM D888-09(C)
DO	13.3 mg/L		ASTM D888-09(C)
pH (Field)	8.3 SU		EPA 150.2
Specific Conductance (Field)	457.8 umho/cm		SM2510B
Temperature	25.895 °C		SM2550B(2)
Turbidity (Hach)	4.29 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

<u>Lab ID # 500-145866-13</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	170 mg/L	5	SM2320B
Chloride	25 mg/L	1	EPA 300.0
Hardness (as CaCO3)	160 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	< 5 mg/L	5	SM2540D
Solids, Total (TS)	270 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	240 mg/L	10	SM2540C
Sulfate	30 mg/L	1	EPA 300.0
Calcium (Total)	46 mg/L	0.2	EPA 200.7
Magnesium (Total)	12 mg/L	0.1	EPA 200.7
COD	16 mg/L	10	SM5220C
Nitrogen, Ammonia	0.16 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	0.65 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.073 mg/L	0.05	SM4500P-E
TKN	0.48 mg/L	0.4	SM4500N(Org)-D
TOC	3.8 mg/L	1	SM5310C

<u>Lab ID # AB33013</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	69.7 MPN/100mL	1	SM9223B

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

SiteID: WEL-15-0011      Sample Date: 6/11/2018      IDEM Sample #: AB33349  
 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	83.5 %		ASTM D888-09(C)
DO	7.18 mg/L		ASTM D888-09(C)
pH (Field)	7.23 SU		EPA 150.2
Specific Conductance (Field)	193 umho/cm		SM2510B
Temperature	22.83 °C		SM2550B(2)
Turbidity (Hach)	82.2 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 500-146852-2	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	53 mg/L	5	SM2320B
Chloride	10 mg/L	0.4	EPA 300.0
Hardness (as CaCO3)	79 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	67 mg/L	5	SM2540D
Solids, Total (TS)	280 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	220 mg/L	10	SM2540C
Sulfate	7.4 mg/L	0.4	EPA 300.0
Calcium (Total)	24 mg/L	0.2	EPA 200.7
Magnesium (Total)	4.5 mg/L	0.1	EPA 200.7
COD	33 mg/L	10	SM5220C
Nitrogen, Ammonia	0.46 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	3.9 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.19 mg/L	0.05	SM4500P-E
TKN	1.3 mg/L	0.4	SM4500N(Org)-D
TOC	9.4 mg/L	1	SM5310C

Lab ID # AB33349	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B

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

SiteID: WEL-15-0011      Sample Date: 7/16/2018      IDEM Sample #: AB33671  
 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	126.7 %		ASTM D888-09(C)
DO	10.18 mg/L		ASTM D888-09(C)
pH (Field)	7.89 SU		EPA 150.2
Specific Conductance (Field)	372 umho/cm		SM2510B
Temperature	26.53 °C		SM2550B(2)
Turbidity (Hach)	4.34 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 500-148600-2	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	140 mg/L	5	SM2320B
Chloride	17 mg/L	1	EPA 300.0
Hardness (as CaCO3)	150 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	3 mg/L	5	SM2540D
Solids, Total (TS)	200 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	280 mg/L	10	SM2540C
Sulfate	21 mg/L	1	EPA 300.0
Calcium (Total)	43 mg/L	0.2	EPA 200.7
Magnesium (Total)	10 mg/L	0.1	EPA 200.7
COD	16 mg/L	10	SM5220C
Nitrogen, Ammonia	0.17 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	1.1 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.072 mg/L	0.05	SM4500P-E
TKN	0.35 mg/L	0.4	SM4500N(Org)-D
TOC	3.9 mg/L	1	SM5310C

Lab ID # AB33671	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	172.5 MPN/100mL	1	SM9223B



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

SiteID: WEL-15-0011      Sample Date: 7/24/2018      IDEM Sample #: AB33148  
 Water Flow Type Pool      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	72.1 %		ASTM D888-09(C)
DO	6.17 mg/L		ASTM D888-09(C)
pH (Field)	7.81 SU		EPA 150.2
Specific Conductance (Field)	337 umho/cm		SM2510B
Temperature	23 °C		SM2550B(2)
Turbidity (Hach)	4.8 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

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:** WEL-15-0012      **USGS Hydrologic Unit:** 051202081501  
**Stream Name:** Mill Creek      **County:** Dubois  
**Description:** CR 700 N      **Latitude:** 38 28 52.34422      **Longitude:** -86 57 11.67299  
**Drainage:**      **Site Number:** 18T-006

**SiteID:** WEL-15-0012      **Sample Date:** 5/21/2018      **IDEM Sample #:** AB33014  
**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	95.3 %		ASTM D888-09(C)
DO	7.85 mg/L		ASTM D888-09(C)
pH (Field)	7.73 SU		EPA 150.2
Specific Conductance (Field)	335.9 umho/cm		SM2510B
Temperature	25.115 °C		SM2550B(2)
Turbidity (Hach)	16.9 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

<u>Lab ID #</u> 500-145866-14	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	100 mg/L	5	SM2320B
Chloride	19 mg/L	2	EPA 300.0
Hardness (as CaCO3)	130 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	13 mg/L	5	SM2540D
Solids, Total (TS)	220 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	190 mg/L	10	SM2540C
Sulfate	15 mg/L	0.4	EPA 300.0
Calcium (Total)	35 mg/L	0.2	EPA 200.7
Magnesium (Total)	11 mg/L	0.1	EPA 200.7
COD	14 mg/L	10	SM5220C
Nitrogen, Ammonia	0.36 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	5.7 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.093 mg/L	0.05	SM4500P-E
TKN	0.77 mg/L	0.4	SM4500N(Org)-D
TOC	3.1 mg/L	1	SM5310C

<u>Lab ID #</u> AB33014	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	435.2 MPN/100mL	1	SM9223B

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

SiteID: WEL-15-0012      Sample Date: 6/11/2018      IDEM Sample #: AB33364  
 Water Flow Type Run      Water Appearance Brown      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	83 %		ASTM D888-09(C)
DO	7.31 mg/L		ASTM D888-09(C)
pH (Field)	7.25 SU		EPA 150.2
Specific Conductance (Field)	162 umho/cm		SM2510B
Temperature	21.55 °C		SM2550B(2)
Turbidity (Hach)	639 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	3 Lookup		Observation

Lab ID # 500-146852-17	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	49 mg/L	5	SM2320B
Chloride	6 mg/L	0.2	EPA 300.0
Hardness (as CaCO3)	85 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	870 mg/L	25	SM2540D
Solids, Total (TS)	830 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	220 mg/L	10	SM2540C
Sulfate	8.9 mg/L	0.2	EPA 300.0
Calcium (Total)	23 mg/L	0.2	EPA 200.7
Magnesium (Total)	6.7 mg/L	0.1	EPA 200.7
COD	61 mg/L	10	SM5220C
Nitrogen, Ammonia	0.65 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	2.7 mg/L	0.2	SM4500NO3-F
Phosphorus, Total	0.089 mg/L	0.05	SM4500P-E
TKN	2.4 mg/L	0.4	SM4500N(Org)-D
TOC	8.7 mg/L	1	SM5310C

Lab ID # AB33364	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B

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

SiteID: WEL-15-0012      Sample Date: 7/16/2018      IDEM Sample #: AB33686  
 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	114.2 %		ASTM D888-09(C)
DO	9.32 mg/L		ASTM D888-09(C)
pH (Field)	7.97 SU		EPA 150.2
Specific Conductance (Field)	273 umho/cm		SM2510B
Temperature	25.69 °C		SM2550B(2)
Turbidity (Hach)	11.5 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 # 500-148600-17	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	84 mg/L	5	SM2320B
Chloride	14 mg/L	0.4	EPA 300.0
Hardness (as CaCO3)	110 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	13 mg/L	5	SM2540D
Solids, Total (TS)	180 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	230 mg/L	10	SM2540C
Sulfate	12 mg/L	0.4	EPA 300.0
Calcium (Total)	30 mg/L	0.2	EPA 200.7
Magnesium (Total)	8.6 mg/L	0.1	EPA 200.7
COD	16 mg/L	10	SM5220C
Nitrogen, Ammonia	< 0.2 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	5.2 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.085 mg/L	0.05	SM4500P-E
TKN	0.58 mg/L	0.4	SM4500N(Org)-D
TOC	3.5 mg/L	1	SM5310C

Lab ID # AB33686	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	866.4 MPN/100mL	1	SM9223B

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

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

**SiteID:** WEL-15-0010      **USGS Hydrologic Unit:** 051202081504  
**Stream Name:** East Fork White River      **County:** Dubois  
**Description:** CR 1100 E      **Latitude:** 38 30 8.97869      **Longitude:** -86 58 25.60926  
**Drainage:**      **Site Number:** 18T-007

**SiteID:** WEL-15-0010      **Sample Date:** 5/21/2018      **IDEM Sample #:** AB33015  
**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	108.8 %		ASTM D888-09(C)
DO	9.21 mg/L		ASTM D888-09(C)
pH (Field)	8.19 SU		EPA 150.2
Specific Conductance (Field)	368.8 umho/cm		SM2510B
Temperature	23.634 °C		SM2550B(2)
Turbidity (Hach)	31.8 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #</u> 500-145866-15	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	130 mg/L	5	SM2320B
Chloride	19 mg/L	1	EPA 300.0
Hardness (as CaCO3)	160 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	47 mg/L	5	SM2540D
Solids, Total (TS)	250 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	170 mg/L	10	SM2540C
Sulfate	22 mg/L	1	EPA 300.0
Calcium (Total)	43 mg/L	0.2	EPA 200.7
Magnesium (Total)	14 mg/L	0.1	EPA 200.7
COD	12 mg/L	10	SM5220C
Nitrogen, Ammonia	0.12 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	0.5 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.074 mg/L	0.05	SM4500P-E
TKN	0.54 mg/L	0.4	SM4500N(Org)-D
TOC	2.8 mg/L	1	SM5310C

<u>Lab ID #</u> AB33015	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	20.1 MPN/100mL	1	SM9223B

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

SiteID: WEL-15-0010      Sample Date: 6/11/2018      IDEM Sample #: AB33363  
 Water Flow Type Run      Water Appearance Brown      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	84.5 %		ASTM D888-09(C)
DO	7.23 mg/L		ASTM D888-09(C)
pH (Field)	7.82 SU		EPA 150.2
Specific Conductance (Field)	337 umho/cm		SM2510B
Temperature	23.05 °C		SM2550B(2)
Turbidity (Hach)	317 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 500-146852-16	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	110 mg/L	5	SM2320B
Chloride	14 mg/L	1	EPA 300.0
Hardness (as CaCO3)	170 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	550 mg/L	20	SM2540D
Solids, Total (TS)	700 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	250 mg/L	10	SM2540C
Sulfate	21 mg/L	1	EPA 300.0
Calcium (Total)	46 mg/L	0.2	EPA 200.7
Magnesium (Total)	13 mg/L	0.1	EPA 200.7
COD	31 mg/L	10	SM5220C
Nitrogen, Ammonia	0.37 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	2.9 mg/L	0.2	SM4500NO3-F
Phosphorus, Total	0.1 mg/L	0.05	SM4500P-E
TKN	1.5 mg/L	0.4	SM4500N(Org)-D
TOC	5.1 mg/L	1	SM5310C

Lab ID # AB33363	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B

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

SiteID: WEL-15-0010      Sample Date: 7/16/2018      IDEM Sample #: AB33685  
 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	108.8 %		ASTM D888-09(C)
DO	8.52 mg/L		ASTM D888-09(C)
pH (Field)	8.16 SU		EPA 150.2
Specific Conductance (Field)	495 umho/cm		SM2510B
Temperature	27.97 °C		SM2550B(2)
Turbidity (Hach)	31.6 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 # 500-148600-16	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	200 mg/L	5	SM2320B
Chloride	24 mg/L	1	EPA 300.0
Hardness (as CaCO3)	240 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	48 mg/L	5	SM2540D
Solids, Total (TS)	330 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	330 mg/L	10	SM2540C
Sulfate	28 mg/L	1	EPA 300.0
Calcium (Total)	60 mg/L	0.2	EPA 200.7
Magnesium (Total)	22 mg/L	0.1	EPA 200.7
COD	20 mg/L	10	SM5220C
Nitrogen, Ammonia	< 0.2 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	0.79 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.046 mg/L	0.05	SM4500P-E
TKN	0.62 mg/L	0.4	SM4500N(Org)-D
TOC	2.5 mg/L	1	SM5310C

Lab ID # AB33685	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	17.1 MPN/100mL	1	SM9223B

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

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

**SiteID:** WEL-15-0018      **USGS Hydrologic Unit:** 051202081504  
**Stream Name:** Sugar Cr      **County:** Daviess  
**Description:** CR 600 S      **Latitude:** 38 34 2.99378      **Longitude:** -86 57 37.11420  
**Drainage:**      **Site Number:** 18T-008

**SiteID:** WEL-15-0018      **Sample Date:** 5/21/2018      **IDEM Sample #:** AB33016  
**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	80.4 %		ASTM D888-09(C)
DO	6.85 mg/L		ASTM D888-09(C)
pH (Field)	7.58 SU		EPA 150.2
Specific Conductance (Field)	622 umho/cm		SM2510B
Temperature	23.244 °C		SM2550B(2)
Turbidity (Hach)	7.81 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

<u>Lab ID #</u> 500-145866-16	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	160 mg/L	5	SM2320B
Chloride	15 mg/L	1	EPA 300.0
Hardness (as CaCO3)	270 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	2 mg/L	5	SM2540D
Solids, Total (TS)	410 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	370 mg/L	10	SM2540C
Sulfate	140 mg/L	4	EPA 300.0
Calcium (Total)	69 mg/L	0.2	EPA 200.7
Magnesium (Total)	25 mg/L	0.1	EPA 200.7
COD	15 mg/L	10	SM5220C
Nitrogen, Ammonia	0.22 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	0.09 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.054 mg/L	0.05	SM4500P-E
TKN	0.52 mg/L	0.4	SM4500N(Org)-D
TOC	4.1 mg/L	1	SM5310C

<u>Lab ID #</u> AB33016	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	110.6 MPN/100mL	1	SM9223B



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

SiteID: WEL-15-0018      Sample Date: 6/11/2018      IDEM Sample #: AB33359  
 Water Flow Type Run      Water Appearance Brown      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	84.8 %		ASTM D888-09(C)
DO	7.65 mg/L		ASTM D888-09(C)
pH (Field)	7.3 SU		EPA 150.2
Specific Conductance (Field)	191 umho/cm		SM2510B
Temperature	20.36 °C		SM2550B(2)
Turbidity (Hach)	458 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 # 500-146852-12	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	48 mg/L	5	SM2320B
Chloride	4.2 mg/L	0.2	EPA 300.0
Hardness (as CaCO3)	90 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	480 mg/L	20	SM2540D
Solids, Total (TS)	690 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	240 mg/L	10	SM2540C
Sulfate	22 mg/L	1	EPA 300.0
Calcium (Total)	23 mg/L	0.2	EPA 200.7
Magnesium (Total)	7.6 mg/L	0.1	EPA 200.7
COD	61 mg/L	10	SM5220C
Nitrogen, Ammonia	0.27 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	3.6 mg/L	0.2	SM4500NO3-F
Phosphorus, Total	0.46 mg/L	0.05	SM4500P-E
TKN	1.2 mg/L	0.4	SM4500N(Org)-D
TOC	11 mg/L	1	SM5310C

Lab ID # AB33359	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B

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

SiteID: WEL-15-0018      Sample Date: 7/16/2018      IDEM Sample #: AB33681  
 Water Flow Type Run      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):       Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	73.3 %		ASTM D888-09(C)
DO	6.06 mg/L		ASTM D888-09(C)
pH (Field)	7.55 SU		EPA 150.2
Specific Conductance (Field)	518 umho/cm		SM2510B
Temperature	24.83 °C		SM2550B(2)
Turbidity (Hach)	5.58 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 500-148600-12	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	170 mg/L	5	SM2320B
Chloride	8.3 mg/L	0.4	EPA 300.0
Hardness (as CaCO3)	240 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	10 mg/L	5	SM2540D
Solids, Total (TS)	340 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	350 mg/L	10	SM2540C
Sulfate	97 mg/L	4	EPA 300.0
Calcium (Total)	61 mg/L	0.2	EPA 200.7
Magnesium (Total)	21 mg/L	0.1	EPA 200.7
COD	22 mg/L	10	SM5220C
Nitrogen, Ammonia	< 0.2 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	< 0.1 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.059 mg/L	0.05	SM4500P-E
TKN	0.41 mg/L	0.4	SM4500N(Org)-D
TOC	4.5 mg/L	1	SM5310C

Lab ID # AB33681	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	579.4 MPN/100mL	1	SM9223B

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

SiteID: WEL-15-0018

Sample Date: 7/24/2018

IDEM Sample #: AB33151

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	72 %		ASTM D888-09(C)
DO	6.15 mg/L		ASTM D888-09(C)
pH (Field)	7.88 SU		EPA 150.2
Specific Conductance (Field)	491 umho/cm		SM2510B
Temperature	22.45 °C		SM2550B(2)
Turbidity (Hach)	3.23 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:** WEL-15-0022      **USGS Hydrologic Unit:** 051202081504  
**Stream Name:** West Fork Sugar Creek      **County:** Daviess  
**Description:** CR 700 S      **Latitude:** 38 33 15.20091      **Longitude:** -86 59 33.89621  
**Drainage:**      **Site Number:** 18T-009

**SiteID:** WEL-15-0022      **Sample Date:** 5/21/2018      **IDEM Sample #:** AB33017  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

Lab ID #	Result	Reporting Limit	Method
% Sat	102.2 %		ASTM D888-09(C)
DO	8.76 mg/L		ASTM D888-09(C)
pH (Field)	7.88 SU		EPA 150.2
Specific Conductance (Field)	1130 umho/cm		SM2510B
Temperature	22.933 °C		SM2550B(2)
Turbidity (Hach)	7.35 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 500-145866-17	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	250 mg/L	5	SM2320B
Chloride	5 mg/L	0.4	EPA 300.0
Hardness (as CaCO3)	470 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	4.5 mg/L	5	SM2540D
Solids, Total (TS)	810 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	760 mg/L	10	SM2540C
Sulfate	430 mg/L	10	EPA 300.0
Calcium (Total)	100 mg/L	0.2	EPA 200.7
Magnesium (Total)	51 mg/L	0.1	EPA 200.7
COD	20 mg/L	10	SM5220C
Nitrogen, Ammonia	0.2 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	0.077 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.041 mg/L	0.05	SM4500P-E
TKN	0.6 mg/L	0.4	SM4500N(Org)-D
TOC	4.9 mg/L	1	SM5310C

Lab ID # AB33017	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	160.7 MPN/100mL	1	SM9223B

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

SiteID: WEL-15-0022      Sample Date: 6/11/2018      IDEM Sample #: AB33360  
 Water Flow Type Run      Water Appearance Brown      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	87.7 %		ASTM D888-09(C)
DO	7.61 mg/L		ASTM D888-09(C)
pH (Field)	7.52 SU		EPA 150.2
Specific Conductance (Field)	403 umho/cm		SM2510B
Temperature	22.33 °C		SM2550B(2)
Turbidity (Hach)	240 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 # 500-146852-13	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	100 mg/L	5	SM2320B
Chloride	3 mg/L	0.2	EPA 300.0
Hardness (as CaCO3)	170 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	310 mg/L	13	SM2540D
Solids, Total (TS)	630 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	350 mg/L	10	SM2540C
Sulfate	90 mg/L	2	EPA 300.0
Calcium (Total)	42 mg/L	0.2	EPA 200.7
Magnesium (Total)	16 mg/L	0.1	EPA 200.7
COD	54 mg/L	10	SM5220C
Nitrogen, Ammonia	0.45 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	1.2 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.081 mg/L	0.05	SM4500P-E
TKN	1.3 mg/L	0.4	SM4500N(Org)-D
TOC	11 mg/L	1	SM5310C

Lab ID # AB33360	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B

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

SiteID: WEL-15-0022      Sample Date: 7/16/2018      IDEM Sample #: AB33682  
 Water Flow Type Run      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):       Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	81.3 %		ASTM D888-09(C)
DO	6.76 mg/L		ASTM D888-09(C)
pH (Field)	7.66 SU		EPA 150.2
Specific Conductance (Field)	962 umho/cm		SM2510B
Temperature	24.41 °C		SM2550B(2)
Turbidity (Hach)	9.03 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID # 500-148600-13	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	140 mg/L	5	SM2320B
Chloride	4 mg/L	0.4	EPA 300.0
Hardness (as CaCO3)	390 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	7.5 mg/L	5	SM2540D
Solids, Total (TS)	690 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	700 mg/L	10	SM2540C
Sulfate	390 mg/L	10	EPA 300.0
Calcium (Total)	84 mg/L	0.2	EPA 200.7
Magnesium (Total)	43 mg/L	0.1	EPA 200.7
COD	20 mg/L	10	SM5220C
Nitrogen, Ammonia	0.11 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	0.23 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.029 mg/L	0.05	SM4500P-E
TKN	0.39 mg/L	0.4	SM4500N(Org)-D
TOC	3.8 mg/L	1	SM5310C

Lab ID # AB33682	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	816.4 MPN/100mL	1	SM9223B

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

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

**SiteID:** WEL-15-0009      **USGS Hydrologic Unit:** 051202081504  
**Stream Name:** Sugar Cr      **County:** Daviess  
**Description:** CR 900 S      **Latitude:** 38 31 29.97021      **Longitude:** -86 58 33.65921  
**Drainage:**      **Site Number:** 18T-010

**SiteID:** WEL-15-0009      **Sample Date:** 5/21/2018      **IDEM Sample #:** AB33002  
**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	110 %		ASTM D888-09(C)
DO	9.1 mg/L		ASTM D888-09(C)
pH (Field)	7.93 SU		EPA 150.2
Specific Conductance (Field)	722 umho/cm		SM2510B
Temperature	24.877 °C		SM2550B(2)
Turbidity (Hach)	6.65 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #</u> 500-145866-2	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	190 mg/L	5	SM2320B
Chloride	11 mg/L	1	EPA 300.0
Hardness (as CaCO3)	300 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	8 mg/L	5	SM2540D
Solids, Total (TS)	470 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	460 mg/L	10	SM2540C
Sulfate	170 mg/L	5	EPA 300.0
Calcium (Total)	73 mg/L	0.2	EPA 200.7
Magnesium (Total)	28 mg/L	0.1	EPA 200.7
COD	15 mg/L	10	SM5220C
Nitrogen, Ammonia	0.32 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	0.62 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.055 mg/L	0.05	SM4500P-E
TKN	0.74 mg/L	0.4	SM4500N(Org)-D
TOC	4.8 mg/L	1	SM5310C

<u>Lab ID #</u> AB33002	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	344.8 MPN/100mL	1	SM9223B

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

SiteID: WEL-15-0009      Sample Date: 6/11/2018      IDEM Sample #: AB33361  
 Water Flow Type Run      Water Appearance Brown      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	78.5 %		ASTM D888-09(C)
DO	7.03 mg/L		ASTM D888-09(C)
pH (Field)	7.46 SU		EPA 150.2
Specific Conductance (Field)	212 umho/cm		SM2510B
Temperature	20.75 °C		SM2550B(2)
Turbidity (Hach)	> 1000 NTU	1000	EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 500-146852-14	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	62 mg/L	5	SM2320B
Chloride	3.5 mg/L	0.2	EPA 300.0
Hardness (as CaCO3)	120 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	1300 mg/L	50	SM2540D
Solids, Total (TS)	1500 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	260 mg/L	10	SM2540C
Sulfate	28 mg/L	1	EPA 300.0
Calcium (Total)	31 mg/L	0.2	EPA 200.7
Magnesium (Total)	11 mg/L	0.1	EPA 200.7
COD	100 mg/L	10	SM5220C
Nitrogen, Ammonia	0.55 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	3 mg/L	0.2	SM4500NO3-F
Phosphorus, Total	0.049 mg/L	0.05	SM4500P-E
TKN	1.3 mg/L	0.4	SM4500N(Org)-D
TOC	10 mg/L	1	SM5310C

Lab ID # AB33361	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B



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

SiteID: WEL-15-0009      Sample Date: 7/16/2018      IDEM Sample #: AB33683  
 Water Flow Type Run      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):       Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	123.5 %		ASTM D888-09(C)
DO	9.94 mg/L		ASTM D888-09(C)
pH (Field)	7.98 SU		EPA 150.2
Specific Conductance (Field)	658 umho/cm		SM2510B
Temperature	26.6 °C		SM2550B(2)
Turbidity (Hach)	6.14 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 500-148600-14	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	160 mg/L	5	SM2320B
Chloride	8.9 mg/L	1	EPA 300.0
Hardness (as CaCO3)	290 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	8 mg/L	5	SM2540D
Solids, Total (TS)	460 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	500 mg/L	10	SM2540C
Sulfate	200 mg/L	10	EPA 300.0
Calcium (Total)	70 mg/L	0.2	EPA 200.7
Magnesium (Total)	28 mg/L	0.1	EPA 200.7
COD	19 mg/L	10	SM5220C
Nitrogen, Ammonia	0.11 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	0.21 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.029 mg/L	0.05	SM4500P-E
TKN	0.43 mg/L	0.4	SM4500N(Org)-D
TOC	4.5 mg/L	1	SM5310C

Lab ID # AB33683	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	184.2 MPN/100mL	1	SM9223B

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

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

**SiteID:** WEL-15-0013      **USGS Hydrologic Unit:** 051202081506  
**Stream Name:** Birch Creek      **County:** Dubois  
**Description:** CR 460 N      **Latitude:** 38 26 46.78659      **Longitude:** -87 1 9.39666  
**Drainage:**      **Site Number:** 18T-011

**SiteID:** WEL-15-0013      **Sample Date:** 5/22/2018      **IDEM Sample #:** AB33003  
**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	82 %		ASTM D888-09(C)
DO	7.93 mg/L		ASTM D888-09(C)
pH (Field)	7.58 SU		EPA 150.2
Specific Conductance (Field)	385.6 umho/cm		SM2510B
Temperature	16.824 °C		SM2550B(2)
Turbidity (Hach)	46.7 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

<u>Lab ID #</u> 500-145866-3	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	130 mg/L	5	SM2320B
Chloride	15 mg/L	0.4	EPA 300.0
Hardness (as CaCO3)	150 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	100 mg/L	5	SM2540D
Solids, Total (TS)	320 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	230 mg/L	10	SM2540C
Sulfate	14 mg/L	0.4	EPA 300.0
Calcium (Total)	42 mg/L	0.2	EPA 200.7
Magnesium (Total)	11 mg/L	0.1	EPA 200.7
COD	19 mg/L	10	SM5220C
Nitrogen, Ammonia	0.31 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	6.9 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.1 mg/L	0.05	SM4500P-E
TKN	0.97 mg/L	0.4	SM4500N(Org)-D
TOC	2.7 mg/L	1	SM5310C

<u>Lab ID #</u> AB33003	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	2419.6 MPN/100mL	1	SM9223B

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

SiteID: WEL-15-0013      Sample Date: 6/12/2018      IDEM Sample #: AB33350  
 Water Flow Type Run      Water Appearance Brown      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	72.1 %		ASTM D888-09(C)
DO	6.45 mg/L		ASTM D888-09(C)
pH (Field)	7.02 SU		EPA 150.2
Specific Conductance (Field)	162 umho/cm		SM2510B
Temperature	20.58 °C		SM2550B(2)
Turbidity (Hach)	151 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 500-146852-3	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	44 mg/L	5	SM2320B
Chloride	3.1 mg/L	0.2	EPA 300.0
Hardness (as CaCO3)	57 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	140 mg/L	7.1	SM2540D
Solids, Total (TS)	340 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	160 mg/L	10	SM2540C
Sulfate	4.7 mg/L	0.2	EPA 300.0
Calcium (Total)	17 mg/L	0.2	EPA 200.7
Magnesium (Total)	3.5 mg/L	0.1	EPA 200.7
COD	43 mg/L	10	SM5220C
Nitrogen, Ammonia	0.58 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	2.5 mg/L	0.2	SM4500NO3-F
Phosphorus, Total	0.4 mg/L	0.05	SM4500P-E
TKN	1.4 mg/L	0.4	SM4500N(Org)-D
TOC	10 mg/L	1	SM5310C

Lab ID # AB33350	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B

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

**SiteID:** WEL-15-0013      **Sample Date:** 7/17/2018      **IDEM Sample #:** AB33672  
**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	84.4 %	ASTM D888-09(C)
	DO	7.96 mg/L	ASTM D888-09(C)
	pH (Field)	7.64 SU	EPA 150.2
	Specific Conductance (Field)	379 umho/cm	SM2510B
	Temperature	18.13 °C	SM2550B(2)
	Turbidity (Hach)	16.9 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> 500-148600-3	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>	
	Alkalinity (as CaCO3)	130 mg/L	5	SM2320B
	Chloride	15 mg/L	1	EPA 300.0
	Hardness (as CaCO3)	160 mg/L	1.3	SM2340B
	Solids, Suspended Total, (TSS)	24 mg/L	5	SM2540D
	Solids, Total (TS)	260 mg/L	10	SM2540B
	Solids, Total Dissolved (TDS)	290 mg/L	10	SM2540C
	Sulfate	11 mg/L	1	EPA 300.0
	Calcium (Total)	43 mg/L	0.2	EPA 200.7
	Magnesium (Total)	12 mg/L	0.1	EPA 200.7
	COD	7.9 mg/L	10	SM5220C
	Nitrogen, Ammonia	< 0.2 mg/L	0.2	SM4500NH3-G
	Nitrogen, Nitrate+Nitrite	7.9 mg/L	0.5	SM4500NO3-F
	Phosphorus, Total	0.086 mg/L	0.05	SM4500P-E
	TKN	0.42 mg/L	0.4	SM4500N(Org)-D
	TOC	1.6 mg/L	1	SM5310C

<b>Weather Code Definitions</b>			
<b>SC</b>	<b>WD</b>	<b>WS</b>	<b>AT</b>
<b>Sky Conditions</b>	<b>Wind Direction</b>	<b>Wind Strength</b>	<b>Air Temp</b>
1 - Clear	8 - Rain	0 - North (0 Degrees)	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			4 - 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:** WEL-15-0014      **USGS Hydrologic Unit:** 051202081506  
**Stream Name:** Birch Creek      **County:** Dubois  
**Description:** W Portersville Rd      **Latitude:** 38 29 22.92610      **Longitude:** -87 1 13.46040  
**Drainage:**      **Site Number:** 18T-012

**SiteID:** WEL-15-0014      **Sample Date:** 5/22/2018      **IDEM Sample #:** AB33004  
**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	67.1 %		ASTM D888-09(C)
DO	5.95 mg/L		ASTM D888-09(C)
pH (Field)	7.59 SU		EPA 150.2
Specific Conductance (Field)	371.2 umho/cm		SM2510B
Temperature	21.139 °C		SM2550B(2)
Turbidity (Hach)	23.8 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 500-145866-4	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	120 mg/L	5	SM2320B
Chloride	15 mg/L	1	EPA 300.0
Hardness (as CaCO3)	150 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	26 mg/L	5	SM2540D
Solids, Total (TS)	260 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	220 mg/L	10	SM2540C
Sulfate	19 mg/L	1	EPA 300.0
Calcium (Total)	40 mg/L	0.2	EPA 200.7
Magnesium (Total)	12 mg/L	0.1	EPA 200.7
COD	17 mg/L	10	SM5220C
Nitrogen, Ammonia	0.27 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	5.4 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.17 mg/L	0.05	SM4500P-E
TKN	0.75 mg/L	0.4	SM4500N(Org)-D
TOC	3.3 mg/L	1	SM5310C

Lab ID # AB33004	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1553.1 MPN/100mL	1	SM9223B

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

SiteID: WEL-15-0014      Sample Date: 6/12/2018      IDEM Sample #: AB33351  
 Water Flow Type Run      Water Appearance Brown      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	76.6 %		ASTM D888-09(C)
DO	6.81 mg/L		ASTM D888-09(C)
pH (Field)	7.27 SU		EPA 150.2
Specific Conductance (Field)	180 umho/cm		SM2510B
Temperature	21.04 °C		SM2550B(2)
Turbidity (Hach)	416 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	7 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 500-146852-4	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	53 mg/L	5	SM2320B
Chloride	4.5 mg/L	0.2	EPA 300.0
Hardness (as CaCO3)	82 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	360 mg/L	20	SM2540D
Solids, Total (TS)	530 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	200 mg/L	10	SM2540C
Sulfate	14 mg/L	0.4	EPA 300.0
Calcium (Total)	23 mg/L	0.2	EPA 200.7
Magnesium (Total)	5.7 mg/L	0.1	EPA 200.7
COD	47 mg/L	10	SM5220C
Nitrogen, Ammonia	0.7 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	1.9 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.26 mg/L	0.05	SM4500P-E
TKN	1.4 mg/L	0.4	SM4500N(Org)-D
TOC	9.2 mg/L	1	SM5310C

Lab ID # AB33351	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B

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

SiteID: WEL-15-0014

Sample Date: 7/17/2018

IDEM Sample #: AB33673

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	67.8 %	ASTM D888-09(C)
	DO	5.57 mg/L	ASTM D888-09(C)
	pH (Field)	7.73 SU	EPA 150.2
	Specific Conductance (Field)	365 umho/cm	SM2510B
	Temperature	25.14 °C	SM2550B(2)
	Turbidity (Hach)	6.98 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 # 500-148600-4	Result	Reporting Limit	Method
	Alkalinity (as CaCO3)	120 mg/L	5 SM2320B
	Chloride	15 mg/L	1 EPA 300.0
	Hardness (as CaCO3)	140 mg/L	1.3 SM2340B
	Solids, Suspended Total, (TSS)	6.5 mg/L	5 SM2540D
	Solids, Total (TS)	230 mg/L	10 SM2540B
	Solids, Total Dissolved (TDS)	290 mg/L	10 SM2540C
	Sulfate	16 mg/L	1 EPA 300.0
	Calcium (Total)	39 mg/L	0.2 EPA 200.7
	Magnesium (Total)	11 mg/L	0.1 EPA 200.7
	COD	12 mg/L	10 SM5220C
	Nitrogen, Ammonia	0.13 mg/L	0.2 SM4500NH3-G
	Nitrogen, Nitrate+Nitrite	6.8 mg/L	0.5 SM4500NO3-F
	Phosphorus, Total	0.064 mg/L	0.05 SM4500P-E
	TKN	0.48 mg/L	0.4 SM4500N(Org)-D
	TOC	2.3 mg/L	1 SM5310C

Lab ID # AB33673	Result	Reporting Limit	Method
	Coliforms (Total)	> 2419.6 MPN/100mL	2419.6 SM9223B
	E. coli	179.3 MPN/100mL	1 SM9223B

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

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

**SiteID:** WEL-15-0015      **USGS Hydrologic Unit:** 051202081508  
**Stream Name:** Bear Creek      **County:** Pike  
**Description:** CR 550 N      **Latitude:** 38 30 10.17157      **Longitude:** -87 6 2.09326  
**Drainage:**      **Site Number:** 18T-014

**SiteID:** WEL-15-0015      **Sample Date:** 5/22/2018      **IDEM Sample #:** AB33005  
**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	59.1 %		ASTM D888-09(C)
DO	5.27 mg/L		ASTM D888-09(C)
pH (Field)	7.52 SU		EPA 150.2
Specific Conductance (Field)	471.8 umho/cm		SM2510B
Temperature	20.498 °C		SM2550B(2)
Turbidity (Hach)	179 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

<u>Lab ID #</u> 500-145866-5	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	130 mg/L	5	SM2320B
Chloride	25 mg/L	1	EPA 300.0
Hardness (as CaCO3)	170 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	110 mg/L	6.3	SM2540D
Solids, Total (TS)	430 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	290 mg/L	10	SM2540C
Sulfate	29 mg/L	1	EPA 300.0
Calcium (Total)	48 mg/L	0.2	EPA 200.7
Magnesium (Total)	14 mg/L	0.1	EPA 200.7
COD	49 mg/L	10	SM5220C
Nitrogen, Ammonia	2.8 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	7.6 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.35 mg/L	0.05	SM4500P-E
TKN	3.9 mg/L	0.4	SM4500N(Org)-D
TOC	12 mg/L	1	SM5310C

<u>Lab ID #</u> AB33005	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B



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

SiteID: WEL-15-0015

Sample Date: 6/12/2018

IDEM Sample #: AB33352

Water Flow Type Run

Water Appearance Brown

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	79.1 %		ASTM D888-09(C)
DO	7.1 mg/L		ASTM D888-09(C)
pH (Field)	7.15 SU		EPA 150.2
Specific Conductance (Field)	200 umho/cm		SM2510B
Temperature	20.55 °C		SM2550B(2)
Turbidity (Hach)	246 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID # 500-146852-5	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	61 mg/L	5	SM2320B
Chloride	8.2 mg/L	0.4	EPA 300.0
Hardness (as CaCO3)	86 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	280 mg/L	13	SM2540D
Solids, Total (TS)	510 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	220 mg/L	10	SM2540C
Sulfate	9.5 mg/L	0.2	EPA 300.0
Calcium (Total)	25 mg/L	0.2	EPA 200.7
Magnesium (Total)	5.9 mg/L	0.1	EPA 200.7
COD	48 mg/L	10	SM5220C
Nitrogen, Ammonia	1 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	3.1 mg/L	0.2	SM4500NO3-F
Phosphorus, Total	0.22 mg/L	0.05	SM4500P-E
TKN	2.2 mg/L	0.4	SM4500N(Org)-D
TOC	12 mg/L	1	SM5310C

Lab ID # AB33352	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B

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

SiteID: WEL-15-0015

Sample Date: 7/17/2018

IDEM Sample #: AB33674

Water Flow Type Run

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	75.2 %		ASTM D888-09(C)
DO	6.23 mg/L		ASTM D888-09(C)
pH (Field)	7.88 SU		EPA 150.2
Specific Conductance (Field)	516 umho/cm		SM2510B
Temperature	24.7 °C		SM2550B(2)
Turbidity (Hach)	6.74 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 # 500-148600-5	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	200 mg/L	5	SM2320B
Chloride	20 mg/L	1	EPA 300.0
Hardness (as CaCO3)	220 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	10 mg/L	5	SM2540D
Solids, Total (TS)	300 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	340 mg/L	10	SM2540C
Sulfate	29 mg/L	1	EPA 300.0
Calcium (Total)	56 mg/L	0.2	EPA 200.7
Magnesium (Total)	20 mg/L	0.1	EPA 200.7
COD	16 mg/L	10	SM5220C
Nitrogen, Ammonia	0.12 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	2.7 mg/L	0.2	SM4500NO3-F
Phosphorus, Total	0.071 mg/L	0.05	SM4500P-E
TKN	0.46 mg/L	0.4	SM4500N(Org)-D
TOC	3.2 mg/L	1	SM5310C

Lab ID # AB33674	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	387.3 MPN/100mL	1	SM9223B

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

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

**SiteID:** WEL-15-0016      **USGS Hydrologic Unit:** 051202081508  
**Stream Name:** Beech Creek      **County:** Pike  
**Description:** CR 550 N      **Latitude:** 38 30 9.46944      **Longitude:** -87 7 44.51491  
**Drainage:**      **Site Number:** 18T-015

**SiteID:** WEL-15-0016      **Sample Date:** 5/22/2018      **IDEM Sample #:** AB33006  
**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	50.5 %		ASTM D888-09(C)
DO	4.52 mg/L		ASTM D888-09(C)
pH (Field)	7.54 SU		EPA 150.2
Specific Conductance (Field)	475.9 umho/cm		SM2510B
Temperature	20.144 °C		SM2550B(2)
Turbidity (Hach)	71.2 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

<u>Lab ID #</u> 500-145866-6	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	180 mg/L	5	SM2320B
Chloride	18 mg/L	1	EPA 300.0
Hardness (as CaCO3)	200 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	48 mg/L	5	SM2540D
Solids, Total (TS)	350 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	270 mg/L	10	SM2540C
Sulfate	28 mg/L	1	EPA 300.0
Calcium (Total)	53 mg/L	0.2	EPA 200.7
Magnesium (Total)	17 mg/L	0.1	EPA 200.7
COD	30 mg/L	10	SM5220C
Nitrogen, Ammonia	0.41 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	1.4 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.22 mg/L	0.05	SM4500P-E
TKN	1.1 mg/L	0.4	SM4500N(Org)-D
TOC	7 mg/L	1	SM5310C

<u>Lab ID #</u> AB33006	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B

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

SiteID: WEL-15-0016      Sample Date: 6/12/2018      IDEM Sample #: AB33353  
 Water Flow Type Run      Water Appearance Brown      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	83.8 %		ASTM D888-09(C)
DO	7.54 mg/L		ASTM D888-09(C)
pH (Field)	7.34 SU		EPA 150.2
Specific Conductance (Field)	230 umho/cm		SM2510B
Temperature	20.29 °C		SM2550B(2)
Turbidity (Hach)	245 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 500-146852-6	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	83 mg/L	5	SM2320B
Chloride	7.3 mg/L	0.2	EPA 300.0
Hardness (as CaCO3)	110 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	280 mg/L	11	SM2540D
Solids, Total (TS)	470 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	210 mg/L	10	SM2540C
Sulfate	9.9 mg/L	0.2	EPA 300.0
Calcium (Total)	32 mg/L	0.2	EPA 200.7
Magnesium (Total)	8 mg/L	0.1	EPA 200.7
COD	49 mg/L	10	SM5220C
Nitrogen, Ammonia	1.7 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	2.3 mg/L	0.2	SM4500NO3-F
Phosphorus, Total	0.16 mg/L	0.05	SM4500P-E
TKN	2.8 mg/L	0.4	SM4500N(Org)-D
TOC	12 mg/L	1	SM5310C

Lab ID # AB33353	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B

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

SiteID: WEL-15-0016

Sample Date: 7/17/2018

IDEM Sample #: AB33675

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	60.3 %		ASTM D888-09(C)
DO	5.04 mg/L		ASTM D888-09(C)
pH (Field)	7.8 SU		EPA 150.2
Specific Conductance (Field)	563 umho/cm		SM2510B
Temperature	24.04 °C		SM2550B(2)
Turbidity (Hach)	40.6 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 # 500-148600-6	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	220 mg/L	5	SM2320B
Chloride	22 mg/L	1	EPA 300.0
Hardness (as CaCO3)	250 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	29 mg/L	5	SM2540D
Solids, Total (TS)	360 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	380 mg/L	10	SM2540C
Sulfate	31 mg/L	1	EPA 300.0
Calcium (Total)	65 mg/L	0.2	EPA 200.7
Magnesium (Total)	22 mg/L	0.1	EPA 200.7
COD	14 mg/L	10	SM5220C
Nitrogen, Ammonia	0.14 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	2.8 mg/L	0.2	SM4500NO3-F
Phosphorus, Total	0.067 mg/L	0.05	SM4500P-E
TKN	0.42 mg/L	0.4	SM4500N(Org)-D
TOC	2.5 mg/L	1	SM5310C

Lab ID # AB33675	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	816.4 MPN/100mL	1	SM9223B

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

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

**SiteID:** WEL170-0008      **USGS Hydrologic Unit:** 051202081507  
**Stream Name:** Aikman Creek      **County:** Daviess  
**Description:** Alex Hill Rd      **Latitude:** 38 34 15.42672      **Longitude:** -87 10 2.38580  
**Drainage:** 20      **Site Number:** 18T-016

**SiteID:** WEL170-0008      **Sample Date:** 5/22/2018      **IDEM Sample #:** AB33007  
**Water Flow Type** Pool      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:** Stream pooled u/s of bridge

<u>Lab ID #</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	37.5 %		ASTM D888-09(C)
DO	3.41 mg/L		ASTM D888-09(C)
pH (Field)	7.45 SU		EPA 150.2
Specific Conductance (Field)	734 umho/cm		SM2510B
Temperature	22.086 °C		SM2550B(2)
Turbidity (Hach)	35.3 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

<u>Lab ID #</u> 500-145866-7	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	210 mg/L	5	SM2320B
Chloride	24 mg/L	2	EPA 300.0
Hardness (as CaCO3)	250 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	19 mg/L	5	SM2540D
Solids, Total (TS)	450 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	430 mg/L	10	SM2540C
Sulfate	140 mg/L	4	EPA 300.0
Calcium (Total)	62 mg/L	0.2	EPA 200.7
Magnesium (Total)	24 mg/L	0.1	EPA 200.7
COD	21 mg/L	10	SM5220C
Nitrogen, Ammonia	0.44 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	0.3 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.15 mg/L	0.05	SM4500P-E
TKN	0.97 mg/L	0.4	SM4500N(Org)-D
TOC	5.9 mg/L	1	SM5310C

<u>Lab ID #</u> AB33007	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	579.4 MPN/100mL	1	SM9223B

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

SiteID: WEL170-0008

Sample Date: 6/12/2018

IDEM Sample #: AB33354

Water Flow Type Run

Water Appearance Brown

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	74.7 %		ASTM D888-09(C)
DO	6.57 mg/L		ASTM D888-09(C)
pH (Field)	7.23 SU		EPA 150.2
Specific Conductance (Field)	223 umho/cm		SM2510B
Temperature	21.65 °C		SM2550B(2)
Turbidity (Hach)	677 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	7 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 500-146852-7	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	55 mg/L	5	SM2320B
Chloride	7.8 mg/L	0.4	EPA 300.0
Hardness (as CaCO3)	100 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	870 mg/L	25	SM2540D
Solids, Total (TS)	1100 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	240 mg/L	10	SM2540C
Sulfate	18 mg/L	0.4	EPA 300.0
Calcium (Total)	28 mg/L	0.2	EPA 200.7
Magnesium (Total)	7.6 mg/L	0.1	EPA 200.7
COD	78 mg/L	10	SM5220C
Nitrogen, Ammonia	0.67 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	4.5 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.092 mg/L	0.05	SM4500P-E
TKN	1.6 mg/L	0.4	SM4500N(Org)-D
TOC	11 mg/L	1	SM5310C

Lab ID # AB33354	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B

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

SiteID: WEL170-0008      Sample Date: 7/17/2018      IDEM Sample #: AB33676  
 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	38 %		ASTM D888-09(C)
DO	3.3 mg/L		ASTM D888-09(C)
pH (Field)	7.3 SU		EPA 150.2
Specific Conductance (Field)	396 umho/cm		SM2510B
Temperature	24.14 °C		SM2550B(2)
Turbidity (Hach)	49.5 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 # 500-148600-7	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	98 mg/L	5	SM2320B
Chloride	10 mg/L	0.4	EPA 300.0
Hardness (as CaCO3)	130 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	16 mg/L	5	SM2540D
Solids, Total (TS)	300 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	320 mg/L	10	SM2540C
Sulfate	68 mg/L	4	EPA 300.0
Calcium (Total)	34 mg/L	0.2	EPA 200.7
Magnesium (Total)	11 mg/L	0.1	EPA 200.7
COD	31 mg/L	10	SM5220C
Nitrogen, Ammonia	0.34 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	1 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.32 mg/L	0.05	SM4500P-E
TKN	0.99 mg/L	0.4	SM4500N(Org)-D
TOC	8.1 mg/L	1	SM5310C

Lab ID # AB33676	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	547.5 MPN/100mL	1	SM9223B



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

SiteID: WEL170-0008

Sample Date: 7/25/2018

IDEM Sample #: AB33158

Water Flow Type Pool

Water Appearance Other

Water Depth  Algae?

Water Flow (cf/sec):  Flow Estimated?  Aquatic Life? Canopy Closed % 0-20%

Sampler Comments: Stagnant; Green sheen on top of water; Brown sheen on top of water; TURBIDITY TAKEN AFTER SAMPLING.

Lab ID #	Result	Reporting Limit	Method
% Sat	45.6 %		ASTM D888-09(C)
DO	3.91 mg/L		ASTM D888-09(C)
pH (Field)	7.45 SU		EPA 150.2
Specific Conductance (Field)	436.9 umho/cm		SM2510B
Temperature	23.1 °C		SM2550B(2)
Turbidity (Hach)	57.2 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

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:** WEL-15-0017      **USGS Hydrologic Unit:** 051202081509  
**Stream Name:** Mud Creek      **County:** Pike  
**Description:** CR 725 N      **Latitude:** 38 31 37.93847      **Longitude:** -87 13 11.17811  
**Drainage:**      **Site Number:** 18T-017

**SiteID:** WEL-15-0017      **Sample Date:** 5/22/2018      **IDEM Sample #:** AB33008  
**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	70.7 %		ASTM D888-09(C)
DO	6.15 mg/L		ASTM D888-09(C)
pH (Field)	7.75 SU		EPA 150.2
Specific Conductance (Field)	928 umho/cm		SM2510B
Temperature	22.039 °C		SM2550B(2)
Turbidity (Hach)	30.7 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

<u>Lab ID #</u> 500-145866-8	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	220 mg/L	5	SM2320B
Chloride	18 mg/L	1	EPA 300.0
Hardness (as CaCO3)	400 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	28 mg/L	5	SM2540D
Solids, Total (TS)	670 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	590 mg/L	10	SM2540C
Sulfate	260 mg/L	10	EPA 300.0
Calcium (Total)	88 mg/L	0.2	EPA 200.7
Magnesium (Total)	44 mg/L	0.1	EPA 200.7
COD	13 mg/L	10	SM5220C
Nitrogen, Ammonia	0.24 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	0.91 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.1 mg/L	0.05	SM4500P-E
TKN	0.64 mg/L	0.4	SM4500N(Org)-D
TOC	3.9 mg/L	1	SM5310C

<u>Lab ID #</u> AB33008	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	365.4 MPN/100mL	1	SM9223B

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

SiteID: WEL-15-0017      Sample Date: 6/12/2018      IDEM Sample #: AB33356  
 Water Flow Type Run      Water Appearance Brown      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	85.7 %		ASTM D888-09(C)
DO	7.64 mg/L		ASTM D888-09(C)
pH (Field)	7.48 SU		EPA 150.2
Specific Conductance (Field)	214 umho/cm		SM2510B
Temperature	20.95 °C		SM2550B(2)
Turbidity (Hach)	> 1000 NTU	1000	EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	7 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 500-146852-9	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	67 mg/L	5	SM2320B
Chloride	5.8 mg/L	0.2	EPA 300.0
Hardness (as CaCO3)	220 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	2400 mg/L	50	SM2540D
Solids, Total (TS)	2800 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	310 mg/L	10	SM2540C
Sulfate	24 mg/L	1	EPA 300.0
Calcium (Total)	54 mg/L	0.2	EPA 200.7
Magnesium (Total)	21 mg/L	0.1	EPA 200.7
COD	95 mg/L	10	SM5220C
Nitrogen, Ammonia	1.5 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	2.2 mg/L	0.2	SM4500NO3-F
Phosphorus, Total	0.11 mg/L	0.05	SM4500P-E
TKN	2 mg/L	0.4	SM4500N(Org)-D
TOC	8.5 mg/L	1	SM5310C

Lab ID # AB33356	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B

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

SiteID: WEL-15-0017

Sample Date: 7/17/2018

IDEM Sample #: AB33678

Water Flow Type Run

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
	% Sat	80.4 %	ASTM D888-09(C)
	DO	6.58 mg/L	ASTM D888-09(C)
	pH (Field)	7.88 SU	EPA 150.2
	Specific Conductance (Field)	1039 umho/cm	SM2510B
	Temperature	25.38 °C	SM2550B(2)
	Turbidity (Hach)	10.9 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 # 500-148600-9	Result	Reporting Limit	Method
	Alkalinity (as CaCO3)	190 mg/L	5 SM2320B
	Chloride	9.5 mg/L	0.4 EPA 300.0
	Hardness (as CaCO3)	420 mg/L	1.3 SM2340B
	Solids, Suspended Total, (TSS)	8.5 mg/L	5 SM2540D
	Solids, Total (TS)	750 mg/L	10 SM2540B
	Solids, Total Dissolved (TDS)	770 mg/L	10 SM2540C
	Sulfate	360 mg/L	10 EPA 300.0
	Calcium (Total)	82 mg/L	0.2 EPA 200.7
	Magnesium (Total)	52 mg/L	0.1 EPA 200.7
	COD	19 mg/L	10 SM5220C
	Nitrogen, Ammonia	0.12 mg/L	0.2 SM4500NH3-G
	Nitrogen, Nitrate+Nitrite	0.21 mg/L	0.1 SM4500NO3-F
	Phosphorus, Total	0.043 mg/L	0.05 SM4500P-E
	TKN	0.39 mg/L	0.4 SM4500N(Org)-D
	TOC	4.3 mg/L	1 SM5310C

Lab ID # AB33678	Result	Reporting Limit	Method
	Coliforms (Total)	> 2419.6 MPN/100mL	2419.6 SM9223B
	E. coli	184.2 MPN/100mL	1 SM9223B

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

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

**SiteID:** WEL-15-0020      **USGS Hydrologic Unit:** 051202081509  
**Stream Name:** East Fork White River      **County:** Pike  
**Description:** SR 57      **Latitude:** 38 32 19.71102      **Longitude:** -87 13 23.17826  
**Drainage:**      **Site Number:** 18T-018

**SiteID:** WEL-15-0020      **Sample Date:** 5/22/2018      **IDEM Sample #:** AB33009  
**Water Flow Type** Run      **Water Appearance** Murky      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	96.6 %		ASTM D888-09(C)
DO	8.27 mg/L		ASTM D888-09(C)
pH (Field)	8.06 SU		EPA 150.2
Specific Conductance (Field)	373.8 umho/cm		SM2510B
Temperature	23.072 °C		SM2550B(2)
Turbidity (Hach)	38.8 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #</u> 500-145866-9	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	140 mg/L	5	SM2320B
Chloride	20 mg/L	1	EPA 300.0
Hardness (as CaCO3)	170 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	69 mg/L	5	SM2540D
Solids, Total (TS)	260 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	190 mg/L	10	SM2540C
Sulfate	23 mg/L	1	EPA 300.0
Calcium (Total)	44 mg/L	0.2	EPA 200.7
Magnesium (Total)	14 mg/L	0.1	EPA 200.7
COD	17 mg/L	10	SM5220C
Nitrogen, Ammonia	0.11 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	0.53 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.081 mg/L	0.05	SM4500P-E
TKN	0.59 mg/L	0.4	SM4500N(Org)-D
TOC	2.7 mg/L	1	SM5310C

<u>Lab ID #</u> AB33009	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	63.8 MPN/100mL	1	SM9223B

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

SiteID: WEL-15-0020      Sample Date: 6/12/2018      IDEM Sample #: AB33355  
 Water Flow Type Run      Water Appearance Brown      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	77.2 %		ASTM D888-09(C)
DO	6.64 mg/L		ASTM D888-09(C)
pH (Field)	7.66 SU		EPA 150.2
Specific Conductance (Field)	323 umho/cm		SM2510B
Temperature	22.66 °C		SM2550B(2)
Turbidity (Hach)	181 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	7 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 500-146852-8	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	100 mg/L	5	SM2320B
Chloride	14 mg/L	0.4	EPA 300.0
Hardness (as CaCO3)	150 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	260 mg/L	9.1	SM2540D
Solids, Total (TS)	570 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	270 mg/L	10	SM2540C
Sulfate	21 mg/L	1	EPA 300.0
Calcium (Total)	41 mg/L	0.2	EPA 200.7
Magnesium (Total)	11 mg/L	0.1	EPA 200.7
COD	29 mg/L	10	SM5220C
Nitrogen, Ammonia	0.32 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	3.3 mg/L	0.2	SM4500NO3-F
Phosphorus, Total	0.13 mg/L	0.05	SM4500P-E
TKN	0.97 mg/L	0.4	SM4500N(Org)-D
TOC	5.6 mg/L	1	SM5310C

Lab ID # AB33355	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B

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

SiteID: WEL-15-0020

Sample Date: 7/17/2018

IDEM Sample #: AB33677

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	111.1 %		ASTM D888-09(C)
DO	8.77 mg/L		ASTM D888-09(C)
pH (Field)	8.13 SU		EPA 150.2
Specific Conductance (Field)	498 umho/cm		SM2510B
Temperature	27.46 °C		SM2550B(2)
Turbidity (Hach)	38.4 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 # 500-148600-8	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	200 mg/L	5	SM2320B
Chloride	22 mg/L	1	EPA 300.0
Hardness (as CaCO3)	250 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	62 mg/L	5	SM2540D
Solids, Total (TS)	360 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	310 mg/L	10	SM2540C
Sulfate	24 mg/L	1	EPA 300.0
Calcium (Total)	62 mg/L	0.2	EPA 200.7
Magnesium (Total)	22 mg/L	0.1	EPA 200.7
COD	22 mg/L	10	SM5220C
Nitrogen, Ammonia	< 0.2 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	0.57 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.053 mg/L	0.05	SM4500P-E
TKN	0.6 mg/L	0.4	SM4500N(Org)-D
TOC	2.6 mg/L	1	SM5310C

Lab ID # AB33677	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	16.1 MPN/100mL	1	SM9223B

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