

**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:** 11/13/2017      **IDEM Sample #:** AB31116  
**Water Flow Type** Run      **Water Appearance** Brown      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	80.4 %		ASTM D888-09(C)
DO	9.47 mg/L		ASTM D888-09(C)
pH (Field)	7.86 SU		EPA 150.2
Specific Conductance (Field)	317.4 umho/cm		SM2510B
Temperature	8.211 °C		SM2550B(2)
Turbidity (Hach)	88.3 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

<u>Lab ID #</u> 500-137425-1	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	120 mg/L	5	SM2320B
Chloride	11 mg/L	1	EPA 300.0
Hardness (as CaCO3)	170 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	110 mg/L	9.1	SM2540D
Solids, Total (TS)	280 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	260 mg/L	10	SM2540C
Sulfate	13 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	33 mg/L	10	SM5220C
Nitrogen, Ammonia	< 0.2 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	1.2 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.27 mg/L	0.05	SM4500P-E
TKN	0.71 mg/L	0.4	SM4500N(Org)-D
TOC	5.6 mg/L	1	SM5310C

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

SiteID: WEL-14-0003

Sample Date: 12/11/2017

IDEM Sample #: AB31324

Water Flow Type Run

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	96.1 %		ASTM D888-09(C)
DO	12.73 mg/L		ASTM D888-09(C)
pH (Field)	8.44 SU		EPA 150.2
Specific Conductance (Field)	599 umho/cm		SM2510B
Temperature	3.513 °C		SM2550B(2)
Turbidity (Hach)	4.72 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID # 500-138553-1	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	250 mg/L	5	SM2320B
Chloride	29 mg/L	1	EPA 300.0
Hardness (as CaCO3)	290 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	3 mg/L	5	SM2540D
Solids, Total (TS)	350 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	380 mg/L	10	SM2540C
Sulfate	30 mg/L	1	EPA 300.0
Calcium (Total)	79 mg/L	0.2	EPA 200.7
Magnesium (Total)	22 mg/L	0.1	EPA 200.7
COD	9.5 mg/L	10	SM5220C
Nitrogen, Ammonia	< 0.2 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	1.8 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.084 mg/L	0.05	SM4500P-E
TKN	0.28 mg/L	0.4	SM4500N(Org)-D
TOC	2.1 mg/L	1	SM5310C

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

SiteID: WEL-14-0003

Sample Date: 1/22/2018

IDEM Sample #: AB31571

Water Flow Type Run

Water Appearance Brown

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
	% Sat	93.7 %	ASTM D888-09(C)
	DO	13.11 mg/L	ASTM D888-09(C)
	pH (Field)	8.23 SU	EPA 150.2
	Specific Conductance (Field)	453.3 umho/cm	SM2510B
	Temperature	1.551 °C	SM2550B(2)
	Turbidity (Hach)	35.9 NTU	EPA 180.1
	Air Temp	3 Lookup	Observation
	Sky Conditions	8 Lookup	Observation
	Wind Direction	18 Lookup	Observation
	Wind Strength	2 Lookup	Observation

Lab ID # 500-140051-1	Result	Reporting Limit	Method
	Alkalinity (as CaCO3)	160 mg/L	5 SM2320B
	Chloride	28 mg/L	1 EPA 300.0
	Hardness (as CaCO3)	200 mg/L	1.3 SM2340B
	Solids, Suspended Total, (TSS)	53 mg/L	5 SM2540D
	Solids, Total (TS)	360 mg/L	10 SM2540B
	Solids, Total Dissolved (TDS)	300 mg/L	10 SM2540C
	Sulfate	24 mg/L	1 EPA 300.0
	Calcium (Total)	53 mg/L	0.2 EPA 200.7
	Magnesium (Total)	16 mg/L	0.1 EPA 200.7
	COD	13 mg/L	10 SM5220C
	Nitrogen, Ammonia	< 0.2 mg/L	0.2 SM4500NH3-G
	Nitrogen, Nitrate+Nitrite	2.9 mg/L	0.2 SM4500NO3-F
	Phosphorus, Total	0.17 mg/L	0.05 SM4500P-E
	TKN	0.65 mg/L	0.4 SM4500N(Org)-D
	TOC	3.2 mg/L	1 SM5310C

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

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

**SiteID:** 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:** 11/13/2017      **IDEM Sample #:** AB31117  
**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	74.1 %		ASTM D888-09(C)
DO	8.85 mg/L		ASTM D888-09(C)
pH (Field)	7.38 SU		EPA 150.2
Specific Conductance (Field)	536 umho/cm		SM2510B
Temperature	7.57 °C		SM2550B(2)
Turbidity (Hach)	8 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

<u>Lab ID #</u> 500-137425-2	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	84 mg/L	5	SM2320B
Chloride	16 mg/L	1	EPA 300.0
Hardness (as CaCO3)	220 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	4 mg/L	5	SM2540D
Solids, Total (TS)	330 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	390 mg/L	10	SM2540C
Sulfate	120 mg/L	5	EPA 300.0
Calcium (Total)	59 mg/L	0.2	EPA 200.7
Magnesium (Total)	19 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	8.3 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.12 mg/L	0.05	SM4500P-E
TKN	0.72 mg/L	0.4	SM4500N(Org)-D
TOC	3.9 mg/L	1	SM5310C

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

SiteID: WEL-15-0007

Sample Date: 12/11/2017

IDEM Sample #: AB31325

Water Flow Type Run

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	98.6 %		ASTM D888-09(C)
DO	13.62 mg/L		ASTM D888-09(C)
pH (Field)	7.97 SU		EPA 150.2
Specific Conductance (Field)	687 umho/cm		SM2510B
Temperature	1.97 °C		SM2550B(2)
Turbidity (Hach)	6.54 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	3 Lookup		Observation

Lab ID # 500-138553-2	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	98 mg/L	5	SM2320B
Chloride	22 mg/L	1	EPA 300.0
Hardness (as CaCO3)	300 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	2.5 mg/L	5	SM2540D
Solids, Total (TS)	460 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	440 mg/L	10	SM2540C
Sulfate	200 mg/L	4	EPA 300.0
Calcium (Total)	78 mg/L	0.2	EPA 200.7
Magnesium (Total)	27 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	5.7 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.059 mg/L	0.05	SM4500P-E
TKN	0.52 mg/L	0.4	SM4500N(Org)-D
TOC	3.5 mg/L	1	SM5310C

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

**SiteID:** WEL-15-0007      **Sample Date:** 1/22/2018      **IDEM Sample #:** AB31572  
**Water Flow Type** Run      **Water Appearance** Brown      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**  **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:** Turbidity Overrange

Lab ID #	Result	Reporting Limit	Method
	% Sat	90.7 %	ASTM D888-09(C)
	DO	11.51 mg/L	ASTM D888-09(C)
	pH (Field)	7.74 SU	EPA 150.2
	Specific Conductance (Field)	213.6 umho/cm	SM2510B
	Temperature	5.215 °C	SM2550B(2)
	Turbidity (Hach)	> 1000 NTU	1000 EPA 180.1
	Air Temp	3 Lookup	Observation
	Sky Conditions	4 Lookup	Observation
	Wind Direction	18 Lookup	Observation
	Wind Strength	3 Lookup	Observation

Lab ID #	Result	Reporting Limit	Method
500-140051-2	Alkalinity (as CaCO3)	45 mg/L	5 SM2320B
	Chloride	15 mg/L	1 EPA 300.0
	Hardness (as CaCO3)	97 mg/L	1.3 SM2340B
	Solids, Suspended Total, (TSS)	2200 mg/L	100 SM2540D
	Solids, Total (TS)	3400 mg/L	10 SM2540B
	Solids, Total Dissolved (TDS)	220 mg/L	10 SM2540C
	Sulfate	23 mg/L	1 EPA 300.0
	Calcium (Total)	25 mg/L	0.2 EPA 200.7
	Magnesium (Total)	8.3 mg/L	0.1 EPA 200.7
	COD	110 mg/L	10 SM5220C
	Nitrogen, Ammonia	0.62 mg/L	0.2 SM4500NH3-G
	Nitrogen, Nitrate+Nitrite	2.9 mg/L	0.2 SM4500NO3-F
	Phosphorus, Total	0.97 mg/L	0.1 SM4500P-E
	TKN	1.6 mg/L	0.4 SM4500N(Org)-D
	TOC	9.8 mg/L	1 SM5310C

Weather Code Definitions			
SC	WD	WS	AT
Sky Conditions	Wind Direction	Wind Strength	Air Temp
1 - Clear	8 - Rain	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	2 - Mod./Light	3 - 46-60
4 - Cloudy	27	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-15-0012      **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:** 11/13/2017      **IDEM Sample #:** AB31118  
**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	86 %		ASTM D888-09(C)
DO	10.27 mg/L		ASTM D888-09(C)
pH (Field)	7.85 SU		EPA 150.2
Specific Conductance (Field)	359.2 umho/cm		SM2510B
Temperature	7.772 °C		SM2550B(2)
Turbidity (Hach)	116 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

<u>Lab ID #</u> 500-137425-3	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	110 mg/L	5	SM2320B
Chloride	19 mg/L	1	EPA 300.0
Hardness (as CaCO3)	150 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	8 mg/L	5	SM2540D
Solids, Total (TS)	190 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	270 mg/L	10	SM2540C
Sulfate	23 mg/L	1	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	< 0.2 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	5 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.12 mg/L	0.05	SM4500P-E
TKN	0.52 mg/L	0.4	SM4500N(Org)-D
TOC	3.4 mg/L	1	SM5310C

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

SiteID: WEL-15-0012      Sample Date: 12/11/2017      IDEM Sample #: AB31326  
 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	110.1 %		ASTM D888-09(C)
DO	15.37 mg/L		ASTM D888-09(C)
pH (Field)	8.4 SU		EPA 150.2
Specific Conductance (Field)	368.9 umho/cm		SM2510B
Temperature	1.539 °C		SM2550B(2)
Turbidity (Hach)	4.31 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID # 500-138553-3	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	110 mg/L	5	SM2320B
Chloride	20 mg/L	1	EPA 300.0
Hardness (as CaCO3)	140 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	2.5 mg/L	5	SM2540D
Solids, Total (TS)	230 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	230 mg/L	10	SM2540C
Sulfate	25 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	8.9 mg/L	10	SM5220C
Nitrogen, Ammonia	< 0.2 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	5.3 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.039 mg/L	0.05	SM4500P-E
TKN	0.33 mg/L	0.4	SM4500N(Org)-D
TOC	2.3 mg/L	1	SM5310C



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

**SiteID:** WEL-15-0012      **Sample Date:** 1/22/2018      **IDEM Sample #:** AB31573  
**Water Flow Type** Run      **Water Appearance** Brown      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<b>Lab ID #</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
	% Sat	87.9 %	ASTM D888-09(C)
	DO	11.28 mg/L	ASTM D888-09(C)
	pH (Field)	7.73 SU	EPA 150.2
	Specific Conductance (Field)	261.6 umho/cm	SM2510B
	Temperature	4.763 °C	SM2550B(2)
	Turbidity (Hach)	601 NTU	EPA 180.1
	Air Temp	3 Lookup	Observation
	Sky Conditions	7 Lookup	Observation
	Wind Direction	18 Lookup	Observation
	Wind Strength	2 Lookup	Observation

<b>Lab ID #</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>	
500-140051-3	Alkalinity (as CaCO3)	64 mg/L	5	SM2320B
	Chloride	24 mg/L	1	EPA 300.0
	Hardness (as CaCO3)	120 mg/L	1.3	SM2340B
	Solids, Suspended Total, (TSS)	1100 mg/L	50	SM2540D
	Solids, Total (TS)	1300 mg/L	10	SM2540B
	Solids, Total Dissolved (TDS)	200 mg/L	10	SM2540C
	Sulfate	15 mg/L	0.4	EPA 300.0
	Calcium (Total)	31 mg/L	0.2	EPA 200.7
	Magnesium (Total)	9.9 mg/L	0.1	EPA 200.7
	COD	62 mg/L	10	SM5220C
	Nitrogen, Ammonia	0.33 mg/L	0.2	SM4500NH3-G
	Nitrogen, Nitrate+Nitrite	4.1 mg/L	0.5	SM4500NO3-F
	Phosphorus, Total	0.66 mg/L	0.05	SM4500P-E
	TKN	1.7 mg/L	0.4	SM4500N(Org)-D
	TOC	7 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 - Calm	1 - < 32
2 - Scattered	9 - Snow	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	2 - Mod./Light	3 - 46-60
4 - Cloudy	27	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-15-0010      **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:** 11/13/2017      **IDEM Sample #:** AB31119  
**Water Flow Type** Run      **Water Appearance** Brown      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	82.6 %		ASTM D888-09(C)
DO	9.65 mg/L		ASTM D888-09(C)
pH (Field)	7.88 SU		EPA 150.2
Specific Conductance (Field)	318.9 umho/cm		SM2510B
Temperature	8.495 °C		SM2550B(2)
Turbidity (Hach)	95 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

<u>Lab ID #</u> 500-137425-4	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	130 mg/L	5	SM2320B
Chloride	12 mg/L	0.4	EPA 300.0
Hardness (as CaCO3)	170 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	130 mg/L	11	SM2540D
Solids, Total (TS)	270 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	250 mg/L	10	SM2540C
Sulfate	13 mg/L	0.4	EPA 300.0
Calcium (Total)	48 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	< 0.2 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	1.2 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.32 mg/L	0.05	SM4500P-E
TKN	0.65 mg/L	0.4	SM4500N(Org)-D
TOC	5.8 mg/L	1	SM5310C

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

SiteID: WEL-15-0010

Sample Date: 12/11/2017

IDEM Sample #: AB31327

Water Flow Type Run

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	96.1 %		ASTM D888-09(C)
DO	12.62 mg/L		ASTM D888-09(C)
pH (Field)	8.38 SU		EPA 150.2
Specific Conductance (Field)	593 umho/cm		SM2510B
Temperature	3.834 °C		SM2550B(2)
Turbidity (Hach)	5.39 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	2 Lookup		Observation
<b>Lab ID # 500-138553-4</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	240 mg/L	5	SM2320B
Chloride	27 mg/L	1	EPA 300.0
Hardness (as CaCO3)	290 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	4.5 mg/L	5	SM2540D
Solids, Total (TS)	340 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	320 mg/L	10	SM2540C
Sulfate	30 mg/L	1	EPA 300.0
Calcium (Total)	79 mg/L	0.2	EPA 200.7
Magnesium (Total)	22 mg/L	0.1	EPA 200.7
COD	18 mg/L	10	SM5220C
Nitrogen, Ammonia	< 0.2 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	2 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.085 mg/L	0.05	SM4500P-E
TKN	0.26 mg/L	0.4	SM4500N(Org)-D
TOC	1.9 mg/L	1	SM5310C

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

**SiteID:** WEL-15-0010      **Sample Date:** 1/22/2018      **IDEM Sample #:** AB31574  
**Water Flow Type** Run      **Water Appearance** Brown      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**  **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<b>Lab ID #</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
	% Sat	94.9 %	ASTM D888-09(C)
	DO	12.8 mg/L	ASTM D888-09(C)
	pH (Field)	8.03 SU	EPA 150.2
	Specific Conductance (Field)	428.9 umho/cm	SM2510B
	Temperature	2.939 °C	SM2550B(2)
	Turbidity (Hach)	60 NTU	EPA 180.1
	Air Temp	3 Lookup	Observation
	Sky Conditions	4 Lookup	Observation
	Wind Direction	18 Lookup	Observation
	Wind Strength	4 Lookup	Observation

<b>Lab ID #</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>	
500-140051-4	Alkalinity (as CaCO3)	140 mg/L	5	SM2320B
	Chloride	25 mg/L	1	EPA 300.0
	Hardness (as CaCO3)	180 mg/L	1.3	SM2340B
	Solids, Suspended Total, (TSS)	110 mg/L	5	SM2540D
	Solids, Total (TS)	470 mg/L	10	SM2540B
	Solids, Total Dissolved (TDS)	250 mg/L	10	SM2540C
	Sulfate	24 mg/L	1	EPA 300.0
	Calcium (Total)	49 mg/L	0.2	EPA 200.7
	Magnesium (Total)	14 mg/L	0.1	EPA 200.7
	COD	23 mg/L	10	SM5220C
	Nitrogen, Ammonia	0.12 mg/L	0.2	SM4500NH3-G
	Nitrogen, Nitrate+Nitrite	2.9 mg/L	0.2	SM4500NO3-F
	Phosphorus, Total	0.23 mg/L	0.05	SM4500P-E
	TKN	0.61 mg/L	0.4	SM4500N(Org)-D
	TOC	3.7 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)	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:** 11/13/2017      **IDEM Sample #:** AB31120  
**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	92.3 %		ASTM D888-09(C)
DO	10.92 mg/L		ASTM D888-09(C)
pH (Field)	7.91 SU		EPA 150.2
Specific Conductance (Field)	455.9 umho/cm		SM2510B
Temperature	7.966 °C		SM2550B(2)
Turbidity (Hach)	13.3 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #</u> 500-137425-5	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	120 mg/L	5	SM2320B
Chloride	6.3 mg/L	0.4	EPA 300.0
Hardness (as CaCO3)	210 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	9 mg/L	5	SM2540D
Solids, Total (TS)	290 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	340 mg/L	10	SM2540C
Sulfate	110 mg/L	4	EPA 300.0
Calcium (Total)	50 mg/L	0.2	EPA 200.7
Magnesium (Total)	21 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	0.4 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.096 mg/L	0.05	SM4500P-E
TKN	0.49 mg/L	0.4	SM4500N(Org)-D
TOC	6.1 mg/L	1	SM5310C

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

SiteID: WEL-15-0009      Sample Date: 12/11/2017      IDEM Sample #: AB31328  
 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	123.1 %		ASTM D888-09(C)
DO	16.29 mg/L		ASTM D888-09(C)
pH (Field)	8.23 SU		EPA 150.2
Specific Conductance (Field)	777 umho/cm		SM2510B
Temperature	3.45 °C		SM2550B(2)
Turbidity (Hach)	21 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	4 Lookup		Observation

Lab ID # 500-138553-5	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	180 mg/L	5	SM2320B
Chloride	15 mg/L	1	EPA 300.0
Hardness (as CaCO3)	350 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	9 mg/L	5	SM2540D
Solids, Total (TS)	540 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	540 mg/L	10	SM2540C
Sulfate	230 mg/L	5	EPA 300.0
Calcium (Total)	75 mg/L	0.2	EPA 200.7
Magnesium (Total)	36 mg/L	0.1	EPA 200.7
COD	38 mg/L	10	SM5220C
Nitrogen, Ammonia	< 0.2 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	0.15 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.19 mg/L	0.05	SM4500P-E
TKN	0.88 mg/L	0.4	SM4500N(Org)-D
TOC	8.2 mg/L	1	SM5310C

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

**SiteID:** WEL-15-0009      **Sample Date:** 1/22/2018      **IDEM Sample #:** AB31575  
**Water Flow Type** Run      **Water Appearance** Brown      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:** Turbidity Overrange

<b>Lab ID #</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
	% Sat	89 %	ASTM D888-09(C)
	DO	11.65 mg/L	ASTM D888-09(C)
	pH (Field)	8.03 SU	EPA 150.2
	Specific Conductance (Field)	192 umho/cm	SM2510B
	Temperature	4.045 °C	SM2550B(2)
	Turbidity (Hach)	> 1000 NTU	1000 EPA 180.1
	Air Temp	3 Lookup	Observation
	Sky Conditions	4 Lookup	Observation
	Wind Direction	18 Lookup	Observation
	Wind Strength	3 Lookup	Observation

<b>Lab ID #</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
500-140051-5	Alkalinity (as CaCO3)	58 mg/L	5 SM2320B
	Chloride	6.7 mg/L	1 EPA 300.0
	Hardness (as CaCO3)	130 mg/L	1.3 SM2340B
	Solids, Suspended Total, (TSS)	2100 mg/L	100 SM2540D
	Solids, Total (TS)	2300 mg/L	10 SM2540B
	Solids, Total Dissolved (TDS)	240 mg/L	10 SM2540C
	Sulfate	22 mg/L	1 EPA 300.0
	Calcium (Total)	31 mg/L	0.2 EPA 200.7
	Magnesium (Total)	12 mg/L	0.1 EPA 200.7
	COD	35 mg/L	10 SM5220C
	Nitrogen, Ammonia	0.33 mg/L	0.2 SM4500NH3-G
	Nitrogen, Nitrate+Nitrite	1.6 mg/L	0.1 SM4500NO3-F
	Phosphorus, Total	0.76 mg/L	0.05 SM4500P-E
	TKN	1.9 mg/L	0.4 SM4500N(Org)-D
	TOC	9.2 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 - Calm	1 - < 32
2 - Scattered	9 - Snow	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	2 - Mod./Light	3 - 46-60
4 - Cloudy	27	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-15-0014      **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:** 11/13/2017      **IDEM Sample #:** AB31121  
**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	94.2 %		ASTM D888-09(C)
DO	11.15 mg/L		ASTM D888-09(C)
pH (Field)	7.97 SU		EPA 150.2
Specific Conductance (Field)	363.2 umho/cm		SM2510B
Temperature	7.982 °C		SM2550B(2)
Turbidity (Hach)	13.2 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	0 Lookup		Observation

<u>Lab ID #</u> 500-137425-6	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	120 mg/L	5	SM2320B
Chloride	16 mg/L	1	EPA 300.0
Hardness (as CaCO3)	160 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	5.5 mg/L	5	SM2540D
Solids, Total (TS)	200 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	290 mg/L	10	SM2540C
Sulfate	24 mg/L	1	EPA 300.0
Calcium (Total)	45 mg/L	0.2	EPA 200.7
Magnesium (Total)	12 mg/L	0.1	EPA 200.7
COD	17 mg/L	10	SM5220C
Nitrogen, Ammonia	< 0.2 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	5.4 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.13 mg/L	0.05	SM4500P-E
TKN	0.62 mg/L	0.4	SM4500N(Org)-D
TOC	3.1 mg/L	1	SM5310C



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

SiteID: WEL-15-0014      Sample Date: 12/11/2017      IDEM Sample #: AB31329  
 Water Flow Type Run      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):       Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	109 %		ASTM D888-09(C)
DO	15.54 mg/L		ASTM D888-09(C)
pH (Field)	8.57 SU		EPA 150.2
Specific Conductance (Field)	384.5 umho/cm		SM2510B
Temperature	0.841 °C		SM2550B(2)
Turbidity (Hach)	10.1 NTU		EPA 180.1
Air Temp	2 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID # 500-138553-6	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	130 mg/L	5	SM2320B
Chloride	18 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)	240 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	250 mg/L	10	SM2540C
Sulfate	21 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	< 10 mg/L	10	SM5220C
Nitrogen, Ammonia	< 0.2 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	5 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.063 mg/L	0.05	SM4500P-E
TKN	0.37 mg/L	0.4	SM4500N(Org)-D
TOC	2.7 mg/L	1	SM5310C

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

**SiteID:** WEL-15-0014      **Sample Date:** 1/22/2018      **IDEM Sample #:** AB31576  
**Water Flow Type** Run      **Water Appearance** Brown      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**  **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:** Turbidity Overrange

<b>Lab ID #</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
	% Sat	85 %	ASTM D888-09(C)
	DO	11.18 mg/L	ASTM D888-09(C)
	pH (Field)	7.86 SU	EPA 150.2
	Specific Conductance (Field)	227.1 umho/cm	SM2510B
	Temperature	3.854 °C	SM2550B(2)
	Turbidity (Hach)	> 1000 NTU	1000 EPA 180.1
	Air Temp	3 Lookup	Observation
	Sky Conditions	4 Lookup	Observation
	Wind Direction	18 Lookup	Observation
	Wind Strength	3 Lookup	Observation

<b>Lab ID #</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
500-140051-6	Alkalinity (as CaCO3)	75 mg/L	5 SM2320B
	Chloride	10 mg/L	0.4 EPA 300.0
	Hardness (as CaCO3)	140 mg/L	1.3 SM2340B
	Solids, Suspended Total, (TSS)	1300 mg/L	50 SM2540D
	Solids, Total (TS)	1600 mg/L	10 SM2540B
	Solids, Total Dissolved (TDS)	210 mg/L	10 SM2540C
	Sulfate	20 mg/L	1 EPA 300.0
	Calcium (Total)	37 mg/L	0.2 EPA 200.7
	Magnesium (Total)	12 mg/L	0.1 EPA 200.7
	COD	31 mg/L	10 SM5220C
	Nitrogen, Ammonia	0.46 mg/L	0.2 SM4500NH3-G
	Nitrogen, Nitrate+Nitrite	2 mg/L	0.1 SM4500NO3-F
	Phosphorus, Total	1 mg/L	0.1 SM4500P-E
	TKN	2.8 mg/L	0.4 SM4500N(Org)-D
	TOC	8.4 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 - Calm	1 - < 32
2 - Scattered	9 - Snow	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	2 - Mod./Light	3 - 46-60
4 - Cloudy	27	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:** 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:** 11/13/2017      **IDEM Sample #:** AB31123  
**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	79.7 %		ASTM D888-09(C)
DO	9.55 mg/L		ASTM D888-09(C)
pH (Field)	7.81 SU		EPA 150.2
Specific Conductance (Field)	490 umho/cm		SM2510B
Temperature	7.514 °C		SM2550B(2)
Turbidity (Hach)	19.2 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #</u> 500-137425-7	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	110 mg/L	5	SM2320B
Chloride	12 mg/L	0.4	EPA 300.0
Hardness (as CaCO3)	170 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	9.5 mg/L	5	SM2540D
Solids, Total (TS)	290 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	370 mg/L	10	SM2540C
Sulfate	96 mg/L	4	EPA 300.0
Calcium (Total)	45 mg/L	0.2	EPA 200.7
Magnesium (Total)	15 mg/L	0.1	EPA 200.7
COD	26 mg/L	10	SM5220C
Nitrogen, Ammonia	< 0.2 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	1.4 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.2 mg/L	0.05	SM4500P-E
TKN	0.75 mg/L	0.4	SM4500N(Org)-D
TOC	6 mg/L	1	SM5310C

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

SiteID: WEL170-0008

Sample Date: 12/11/2017

IDEM Sample #: AB31330

Water Flow Type Run

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	109 %		ASTM D888-09(C)
DO	14.78 mg/L		ASTM D888-09(C)
pH (Field)	8.53 SU		EPA 150.2
Specific Conductance (Field)	842 umho/cm		SM2510B
Temperature	2.63 °C		SM2550B(2)
Turbidity (Hach)	7.46 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	2 Lookup		Observation
<b>Lab ID # 500-138553-7</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	200 mg/L	5	SM2320B
Chloride	22 mg/L	2	EPA 300.0
Hardness (as CaCO3)	280 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	2 mg/L	5	SM2540D
Solids, Total (TS)	540 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	540 mg/L	10	SM2540C
Sulfate	220 mg/L	5	EPA 300.0
Calcium (Total)	70 mg/L	0.2	EPA 200.7
Magnesium (Total)	26 mg/L	0.1	EPA 200.7
COD	18 mg/L	10	SM5220C
Nitrogen, Ammonia	< 0.2 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	0.16 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.11 mg/L	0.05	SM4500P-E
TKN	0.31 mg/L	0.4	SM4500N(Org)-D
TOC	5.3 mg/L	1	SM5310C

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

**SiteID:** WEL170-0008      **Sample Date:** 1/22/2018      **IDEM Sample #:** AB31577  
**Water Flow Type** Run      **Water Appearance** Brown      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**  **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:** Turbidity Overrange

<b>Lab ID #</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
	% Sat	88 %	ASTM D888-09(C)
	DO	11.29 mg/L	ASTM D888-09(C)
	pH (Field)	7.77 SU	EPA 150.2
	Specific Conductance (Field)	241.5 umho/cm	SM2510B
	Temperature	4.782 °C	SM2550B(2)
	Turbidity (Hach)	> 1000 NTU	1000 EPA 180.1
	Air Temp	3 Lookup	Observation
	Sky Conditions	4 Lookup	Observation
	Wind Direction	18 Lookup	Observation
	Wind Strength	4 Lookup	Observation

<b>Lab ID #</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
500-140051-7	Alkalinity (as CaCO3)	56 mg/L	5 SM2320B
	Chloride	18 mg/L	1 EPA 300.0
	Hardness (as CaCO3)	120 mg/L	1.3 SM2340B
	Solids, Suspended Total, (TSS)	2200 mg/L	50 SM2540D
	Solids, Total (TS)	2700 mg/L	10 SM2540B
	Solids, Total Dissolved (TDS)	240 mg/L	10 SM2540C
	Sulfate	19 mg/L	0.4 EPA 300.0
	Calcium (Total)	29 mg/L	0.2 EPA 200.7
	Magnesium (Total)	11 mg/L	0.1 EPA 200.7
	COD	33 mg/L	10 SM5220C
	Nitrogen, Ammonia	0.36 mg/L	0.2 SM4500NH3-G
	Nitrogen, Nitrate+Nitrite	3.1 mg/L	0.2 SM4500NO3-F
	Phosphorus, Total	0.97 mg/L	0.1 SM4500P-E
	TKN	2.8 mg/L	0.4 SM4500N(Org)-D
	TOC	8.8 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)	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:** 11/13/2017      **IDEM Sample #:** AB31124  
**Water Flow Type** Run      **Water Appearance** Brown      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	57 %		ASTM D888-09(C)
DO	6.76 mg/L		ASTM D888-09(C)
pH (Field)	7.6 SU		EPA 150.2
Specific Conductance (Field)	486.5 umho/cm		SM2510B
Temperature	7.948 °C		SM2550B(2)
Turbidity (Hach)	43.6 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #</u> 500-137425-8	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	110 mg/L	5	SM2320B
Chloride	10 mg/L	0.4	EPA 300.0
Hardness (as CaCO3)	200 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	17 mg/L	5	SM2540D
Solids, Total (TS)	300 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	360 mg/L	10	SM2540C
Sulfate	98 mg/L	4	EPA 300.0
Calcium (Total)	50 mg/L	0.2	EPA 200.7
Magnesium (Total)	18 mg/L	0.1	EPA 200.7
COD	35 mg/L	10	SM5220C
Nitrogen, Ammonia	< 0.2 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	0.87 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.31 mg/L	0.05	SM4500P-E
TKN	0.65 mg/L	0.4	SM4500N(Org)-D
TOC	7.2 mg/L	1	SM5310C

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

SiteID: WEL-15-0017

Sample Date: 12/11/2017

IDEM Sample #: AB31331

Water Flow Type Run

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #	Result	Reporting Limit	Method
% Sat	108.2 %		ASTM D888-09(C)
DO	14.83 mg/L		ASTM D888-09(C)
pH (Field)	8.11 SU		EPA 150.2
Specific Conductance (Field)	1297 umho/cm		SM2510B
Temperature	2.03 °C		SM2550B(2)
Turbidity (Hach)	5.01 NTU		EPA 180.1
Air Temp	3 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	2 Lookup		Observation

Lab ID # 500-138553-8	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	210 mg/L	5	SM2320B
Chloride	15 mg/L	1	EPA 300.0
Hardness (as CaCO3)	570 mg/L	1.3	SM2340B
Solids, Suspended Total, (TSS)	4 mg/L	5	SM2540D
Solids, Total (TS)	990 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	920 mg/L	10	SM2540C
Sulfate	490 mg/L	20	EPA 300.0
Calcium (Total)	110 mg/L	0.2	EPA 200.7
Magnesium (Total)	70 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	0.064 mg/L	0.05	SM4500P-E
TKN	0.28 mg/L	0.4	SM4500N(Org)-D
TOC	5 mg/L	1	SM5310C

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

**SiteID:** WEL-15-0017      **Sample Date:** 1/22/2018      **IDEM Sample #:** AB31578  
**Water Flow Type** Run      **Water Appearance** Brown      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**  **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:** Turbidity Overrange

Lab ID #	Result	Reporting Limit	Method
	% Sat	87.7 %	ASTM D888-09(C)
	DO	10.61 mg/L	ASTM D888-09(C)
	pH (Field)	7.88 SU	EPA 150.2
	Specific Conductance (Field)	201.1 umho/cm	SM2510B
	Temperature	7.105 °C	SM2550B(2)
	Turbidity (Hach)	> 1000 NTU	1000 EPA 180.1
	Air Temp	3 Lookup	Observation
	Sky Conditions	4 Lookup	Observation
	Wind Direction	18 Lookup	Observation
	Wind Strength	3 Lookup	Observation

Lab ID #	Result	Reporting Limit	Method
500-140051-8	Alkalinity (as CaCO3)	55 mg/L	5 SM2320B
	Chloride	14 mg/L	1 EPA 300.0
	Hardness (as CaCO3)	150 mg/L	1.3 SM2340B
	Solids, Suspended Total, (TSS)	2100 mg/L	100 SM2540D
	Solids, Total (TS)	2500 mg/L	10 SM2540B
	Solids, Total Dissolved (TDS)	250 mg/L	10 SM2540C
	Sulfate	20 mg/L	1 EPA 300.0
	Calcium (Total)	34 mg/L	0.2 EPA 200.7
	Magnesium (Total)	15 mg/L	0.1 EPA 200.7
	COD	48 mg/L	10 SM5220C
	Nitrogen, Ammonia	0.18 mg/L	0.2 SM4500NH3-G
	Nitrogen, Nitrate+Nitrite	1.6 mg/L	0.1 SM4500NO3-F
	Phosphorus, Total	0.98 mg/L	0.1 SM4500P-E
	TKN	2.5 mg/L	0.4 SM4500N(Org)-D
	TOC	10 mg/L	1 SM5310C

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