

Sunrise Coal, LLC  
Bulldog Mine  
Permit No. 429

# ATTACHMENT III-2B1a

PRIVATE WATER WELL DATA

## PRIVATE WATER WELL #1

Page 1

## ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
top soil	0	2
yellow clay	2	14
sandy clay	14	19
hard pan	19	23
blue clay	23	35
sand & gravel	35	36
drift	36	40
<b>Total Depth</b>		40
Casing: 36" CONCRETE from 1' to -41'		
Water from sand & gravel at 35' to '.		
Driller's Log filed		
Location source: Location from the driller		
Permit Date: January 1, 1977		Permit #: 56104

COMPANY Reynolds, Joseph R.

FARM Maddox, Clarenece

DATE DRILLED January 1, 1970

NO.

ELEVATION 0

COUNTY NO. 22127

LOCATION SE SW SW

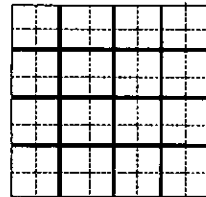
LATITUDE 39.953887

LONGITUDE -87.877736

COUNTY Vermilion

API 121832212700

6 - 17N - 13W



State Plane Coordinates (Converted from Latitude, Longitude)

Illinois East Zone, NAD 83

N: 1,197,438

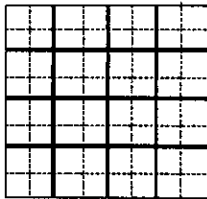
E: 1,111,974

## PRIVATE WATER WELL #2

Page 1

### ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
top soil	0	5
yellow clay	5	12
sandy clay	12	13
yellow clay	13	19
brown clay	19	28
glacial drift	28	36
silt	36	39
glacial drift	39	50
<b>Total Depth</b>		50
Casing: 6" PLASTIC from 1' to -10'		
36" CONCRETE from -10' to -50'		
Water from sandy clay at 13' to '.		
Driller's Log filed		
Location source: Location from the driller		
<b>Permit Date:</b> November 23, 1977		<b>Permit #:</b> 69564

<b>COMPANY</b>	Reynolds, Joseph R.	
<b>FARM</b>	Terry, Ralph	
<b>DATE DRILLED</b>	November 1, 1977	
<b>ELEVATION</b>	0	
<b>LOCATION</b>	SE SW SW	
<b>LATITUDE</b>	39.92473	
<b>LONGITUDE</b>	-87.877448	
<b>COUNTY</b>	Vermilion	
	<b>API 12183225600</b>	<b>18 - 17N - 13W</b>

State Plane Coordinates (Converted from Latitude, Longitude)  
 Illinois East Zone, NAD 83  
 N: 1,186,817  
 E: 1,112,109

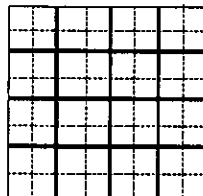
## PRIVATE WATER WELL #0130

Page 1

## ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
clayey silt loam blk moist firm topsoil	0	1
silty clay mtd brn moist firm tr gvl/s	1	11
silt mottled brown moist some clay	11	13
silty clay gry moist stiff tr sand/gvl	13	28
silty clay brn moist v stiff tr sand/gvl	28	35
silty sand brown v moist-wet tr gravel	35	39
silty clay gry moist stiff tr sand/gvl	39	48
shale dark gray, very soft clayey	48	67
coal black soft fractured	67	68
shale dark gray, soft mod hard, silty	68	81
<b>Total Depth</b>		81
Casing: 6" ASTM F480 SDR 21 PVC from -1' to 14' 30" FIBERGLASS SCREEN from 14' to 80' " SLOTTED from 51' to 80'		
Screen: 29' of 30" diameter .04 slot		
Grout: 3/8" GRANULAR BENT. from 11 to 13.		
Grout: 1/4"-3/8" PEA GRAVEL from 13 to 81.		
Water from silty sand at 35' to 39'.		
Static level 9' below casing top which is 1' above GL		
Address of well: 301 E 500 N Rd. Sidell, IL		
Location source: Location from permit		
<b>Permit Date:</b> February 13, 2008	<b>Permit #:</b> 183-193	

<b>COMPANY</b> Skinner, Todd									
<b>FARM</b> Craddock, Steve									
<b>DATE DRILLED</b> February 14, 2008				<b>NO. 1</b>					
<b>ELEVATION</b> 689				<b>COUNTY NO.</b> 26362					
<b>LOCATION</b> NW NW NW									
<b>LATITUDE</b> 39.937222			<b>LONGITUDE</b> -87.879722						
<b>COUNTY</b> Vermilion		<b>API</b> 121832636200						<b>18 - 17N - 13W</b>	



State Plane Coordinates (Converted from Latitude, Longitude)  
 Illinois East Zone, NAD 83  
 N: 1,191,364  
 E: 1,111,448

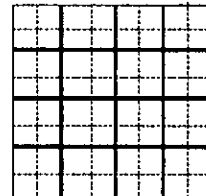
PRIVATE WATER WELL #4

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ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
topsoil	0	1
brown clay	1	14
gray sandy clay	14	26
rocks	26	27
gray clay	27	49
green clay	49	51
rocky gray clay	51	60
gray sand	60	62
gray clay	62	80
<b>Total Depth</b>		80
Casing: 6" PVC SDR 21 from -1' to 24' 36" CONCRETE from 24' to 80'		
Water from sand at 60' to 62'.		
Static level 18' below casing top which is 1' above GL		
Pumping level ' when pumping at 1 gpm for hours		
Permanent pump installed at 75' on May 3, 2008, with a capacity of 1 gpm		
Address of well: 1570 N 650 E Rd Sidell, IL		
Location source: Location from permit		
<b>Permit Date:</b> April 22, 2008		<b>Permit #:</b> 183-194

**COMPANY** Harper, David  
**FARM** Partenheimer, Jeff  
**DATE DRILLED** April 24, 2008 **NO.**  
**ELEVATION** **COUNTY NO.** 26492  
**LOCATION** SE SE NW  
**LATITUDE** 39.931984 **LONGITUDE** -87.871411  
**COUNTY** Vermilion **API** 121832649200 **18 - 17N - 13W**



State Plane Coordinates (Converted from Latitude, Longitude)  
 Illinois East Zone, NAD 83  
 N: 1,189,468  
 E: 1,113,789

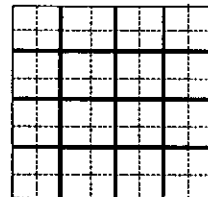
# PRIVATE WATER WELL #5

Page 1

## ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
top soil	0	1
yellow clay	1	10
brown clay, gravel streak at 15'	10	15
gravelly gray clay	15	23
interlayered gray clay w/fine gray silt	23	29
soft gray clay	29	90
interlayered silt, F-M sand	90	100
<b>Total Depth</b>		100
Casing: 5" SDR 21 PVC from 0' to 92'		
Screen: 8' of 5" diameter 10 slot		
Grout: SLURRY from 0 to 0.		
Water from sand at 90' to 100'.		
Static level 15' below casing top which is 1' above GL		
Pumping level 0' when pumping at 15 gpm for 1 hour		
Permanent pump installed at 60' on September 8, 1994, with a capacity of 10 gpm		
Address of well: Co. Rd. #200E & 700N		
Location source: Location from permit		
<b>Permit Date:</b> April 25, 1994	<b>Permit #:</b>	

**COMPANY** Sims, R. Marc Jr.  
**FARM** Chew, Todd #1  
**DATE DRILLED** May 24, 1994 **NO.**  
**ELEVATION** 0 **COUNTY NO.** 24031  
**LOCATION** NW NW NW  
**LATITUDE** 39.966525 **LONGITUDE** -87.89929  
**COUNTY** Vermilion **API** 121832403100



1 - 17N - 14W

State Plane Coordinates (Converted from Latitude, Longitude)  
 Illinois East Zone, NAD 83  
 N: 1,202,011  
 E: 1,105,909

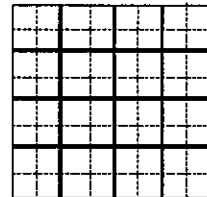
PRIVATE WATER WELL #0057

Page 1

ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
top soil	0	2
yellow clay	2	17
sandy clay	17	21
blue clay	21	32
limestone at	32	32
<b>Total Depth</b>		32
Casing: 6" PLASTIC from -1' to 11'		
36" CONCRETE from 11' to 32'		
Location source: Location from the driller		
<b>Permit Date:</b> December 19, 1988	<b>Permit #:</b> 008686	

**COMPANY** Reynolds, Joseph R.  
**FARM** Jenkins, Bobbi  
**DATE DRILLED** December 31, 1988 **NO.**  
**ELEVATION** 0 **COUNTY NO.** 23348  
**LOCATION** NE NE NW  
**LATITUDE** 39.966435 **LONGITUDE** -87.91127  
**COUNTY** Vermilion **API** 121832334800



2 - 17N - 14W

State Plane Coordinates (Converted from Latitude, Longitude)  
 Illinois East Zone, NAD 83  
 N: 1,201,962  
 E: 1,102,552

## PRIVATE WATER WELL #0060a

Page 1

## ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
top soil	0	2
yellow clay	2	10
sandy clay	10	19
hardpan	19	23
blue clay	23	40
<b>Total Depth</b>		40
Casing: 6" PLASTIC from -1' to 10'		
36" CONCRETE from 10' to 40'		
Size hole below casing: 0"		
Water from sandy clay at 19' to '.		
Location source: Location from permit		
<b>Permit Date:</b> September 29, 1982	<b>Permit #:</b> 104993	

COMPANY Reynolds, Joseph R.

FARM Waters, Dean

DATE DRILLED October 31, 1982

NO.

ELEVATION 0

COUNTY NO. 22640

LOCATION NE SE SE

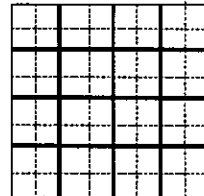
LATITUDE 39.955245

LONGITUDE -87.92052

COUNTY Vermilion

API 121832264000

3 - 17N - 14W



State Plane Coordinates (Converted from Latitude, Longitude)

Illinois East Zone, NAD 83

N: 1,197,874

E: 1,099,978

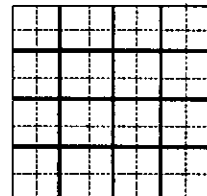


PRIVATE WATER WELL #0062d

Page 1 ILLINOIS STATE GEOLOGICAL SURVEY

Water Well for Business	Top	Bottom
clay	0	24
sand mix clay	24	26
glacial drift	26	49
<b>Total Depth</b>		49
Casing: 36" CONCRETE 250LB/FT from 1' to 49'		
Size hole below casing: 36"		
Water from sandy clay at 0' to 0'.		
Static level 12' below casing top which is 1' above GL		
Driller's Log filed		
<b>Permit Date:</b>	<b>Permit #:</b>	

**COMPANY** Ryan, John H.  
**FARM** 1st Natl. Bank Chicago  
**DATE DRILLED** March 1, 1977 **NO. 1**  
**ELEVATION** 0 **COUNTY NO.** 22133  
**LOCATION** 60'N line, 0'W line of NW SW NE  
**LATITUDE** 39.934095 **LONGITUDE** -87.909656  
**COUNTY** Vermilion **API** 121832213300



14 - 17N - 14W

State Plane Coordinates (Converted from Latitude, Longitude)  
 Illinois East Zone, NAD 83  
 N: 1,190,184  
 E: 1,103,060

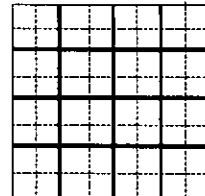
PRIVATE WATER WELL #10

Page 1

ILLINOIS STATE GEOLOGICAL SURVEY

Water Well for Business	Top	Bottom
lome	0	2
clay	2	19
gravel & sand	19	20
glacial & drift	20	39
gravel	39	39
<b>Total Depth</b>		39
Casing: 36" CONCRETE 250LB/FT from 1' to 39'		
Size hole below casing: 36"		
Water from sand & gravel at 19' to 20'.		
Static level 14' below casing top which is 1' above GL		
Location source: Location from the driller		
<b>Permit Date:</b>	<b>Permit #:</b>	

COMPANY Ryan, John H.  
 FARM 1st Natl. Bank Chicago  
 DATE DRILLED March 1, 1977 NO. 1  
 ELEVATION 0 COUNTY NO. 22134  
 LOCATION 60'S line, 0'W line of NW SW SW  
 LATITUDE 39.910758 LONGITUDE -87.919044  
 COUNTY Vermilion API 121832213400



23 - 17N - 14W

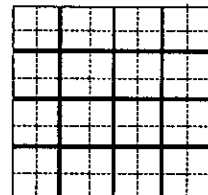
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 N: 1,181,670  
 E: 1,100,467

PRIVATE WATER WELL #SHREEVES 17-14-25

Page 1 ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
black dirt	0	2
brown clay	2	14
gray clay	14	56
sand	56	57
gray clay	57	65
<b>Total Depth</b>		65
Casing: 6" PVC SDR 21 from -1' to 26' 36" CONCRETE from 26' to 65'		
Grout: HOLE PLUG from 25 to 26.		
Water from sand at 56' to 57'.		
Address of well: same as above		
Location source: Location from permit		
Permit Date: March 23, 1999		Permit #: 183-102

**COMPANY** Reynolds Well Drilling  
**FARM** Shreeves, Bruce  
**DATE DRILLED** March 31, 1999 **NO.**  
**ELEVATION** 0 **COUNTY NO.** 25266  
**LOCATION** NE NE NW  
**LATITUDE** 39.908198 **LONGITUDE** -87.891731  
**COUNTY** Vermilion **API** 121832526600 **25 - 17N - 14W**



State Plane Coordinates (Converted from Latitude, Longitude)  
 Illinois East Zone, NAD 83  
 N: 1,180,775  
 E: 1,108,133

PRIVATE WATER WELL #12

Page 1

ILLINOIS STATE GEOLOGICAL SURVEY

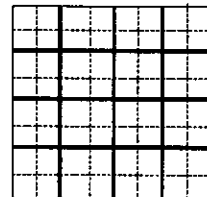
Private Water Well	Top	Bottom
top soil	0	3
yellow clay	3	12
blue clay	12	33
sand & gravel	33	36
blue clay	36	44
sand & gravel	44	50
blue clay	50	50
<b>Total Depth</b>		50
Location source: Location from the driller		
Permit Date:	Permit #:	

COMPANY owner  
 FARM Allerton

DATE DRILLED NO. 1  
 ELEVATION 0 COUNTY NO. 01347

LOCATION 169'S line, 11'W line of NE  
 LATITUDE 39.902062 LONGITUDE -87.928297

COUNTY Vermilion API 121830134700 27 - 17N - 14W



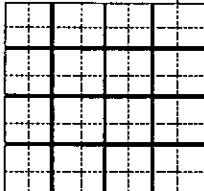
State Plane Coordinates (Converted from Latitude, Longitude)  
 Illinois East Zone, NAD 83  
 N: 1,178,491  
 E: 1,097,885

# PRIVATE WATER WELL #13

Page 1

## ILLINOIS STATE GEOLOGICAL SURVEY

<b>Municipal Water Supply</b>	<b>Top</b>	<b>Bottom</b>
top soil	0	1
brown silty clay w/gravel intermixed	1	17
gray silty clay soft	17	24
gray silty clay w/ gravel & cobbles	24	42
gray fine sand to med. gravel dirty	42	51
gray hard silty clay	51	54
<b>Total Depth</b>		54
Casing: 10" SCH 40 STEEL T&C from -2' to 41'		
Screen: 10' of 10" diameter .06 slot		
Grout: CEMENT from 0 to 20.		
Grout: CLAY from 20 to 23.		
Grout: BENTONITE CHIPS from 23 to 25.		
Water from sand & gravel at 0' to 0'.		
Static level 12' below casing top which is 0' above GL		
Pumping level 27' when pumping at 59 gpm for 1 hour		
Additional Lot: Subdivision:		
location info: ~10'E of well #1		
Location source: Location from the driller		
<b>Permit Date:</b> May 24, 1993		<b>Permit #:</b> E931525

<b>COMPANY</b>	Layne-Western Co.	
<b>FARM</b>	Allerton, Village of #3	
<b>DATE DRILLED</b>	May 21, 1993	
<b>ELEVATION</b>	0	
<b>LOCATION</b>	2492'S 2600'W NE/c	
<b>LATITUDE</b>	39.901907	
<b>COUNTY</b>	Vermilion	<b>NO.</b>
		<b>COUNTY NO.</b> 24329
		<b>LONGITUDE</b> -87.92824
		<b>API</b> 121832432900
		<b>27 - 17N - 14W</b>

State Plane Coordinates (Converted from Latitude, Longitude)  
 Illinois East Zone, NAD 83  
 N: 1,178,434  
 E: 1,097,902

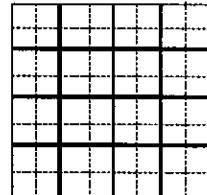
PRIVATE WATER WELL #14

Page 1

ILLINOIS STATE GEOLOGICAL SURVEY

Municipal Water Supply	Top	Bottom
no record	0	48
<b>Total Depth</b>		48
Casing: 10" INNER CASING from -2' to 33'		
Screen: 15' of 10" diameter 6 slot		
Static level 15' below casing top which is 0' above GL		
Permanent pump installed at 150' on , with a capacity of 50 gpm		
Address of well: E well of 2 S of town, 200' E of well#1		
Location source: Location from EPA		
<b>Permit Date:</b>	<b>Permit #:</b>	

**COMPANY** Layne Western  
**FARM** Allerto  
**DATE DRILLED** July 1, 1961 **NO. 2**  
**ELEVATION** 0 **COUNTY NO.** 25537  
**LOCATION** 2486'S 2529'W NE/c  
**LATITUDE** 39.901923 **LONGITUDE** -87.927988  
**COUNTY** Vermilion **API** 121832553700



27 - 17N - 14W

State Plane Coordinates (Converted from Latitude, Longitude)  
 Illinois East Zone, NAD 83  
 N: 1,178,440  
 E: 1,097,972

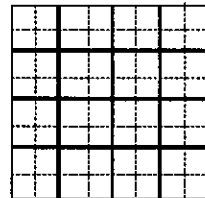
PRIVATE WATER WELL #15

Page 1

ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
topsoil	0	4
clay	4	24
hardpan	24	37
very hard limestone	37	56
black shale	56	62
coal	62	63
gray sandy shale water	63	118
<b>Total Depth</b>		118
Casing: 4" 11 LB. BLACK from -2' to 37'		
Size hole below casing: 4"		
Water from rock & shale at 37' to 118'.		
Static level 20' below casing top which is 2' above GL		
Pumping level 50' when pumping at 5 gpm for 3 hours		
Driller's Log filed		
Location source: Location from permit		
<b>Permit Date:</b> January 1, 1971	<b>Permit #:</b>	

**COMPANY** Wise, W. P.  
**FARM** Taylor, John L.  
**DATE DRILLED** January 1, 1972 **NO.**  
**ELEVATION** 0 **COUNTY NO.** 01753  
**LOCATION** 500'N line, 500'E line of SW  
**LATITUDE** 40.002794 **LONGITUDE** -87.873729  
**COUNTY** Vermilion **API** 121830175300



19 - 18N - 13W

State Plane Coordinates (Converted from Latitude, Longitude)  
 Illinois East Zone, NAD 83  
 N: 1,215,259  
 E: 1,113,006

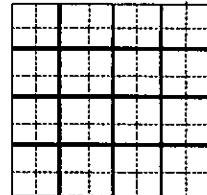
# PRIVATE WATER WELL #16

Page 1

## ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
top soil	0	2
yellow clay	2	19
blue clay	19	26
sand & gravel	26	27
blue clay	27	46
limestone at	46	46
<b>Total Depth</b>		46
Casing: 6" PLASTIC from -1' to 18'		
36" CONCRETE from 18' to 46'		
Location source: Location from the driller		
<b>Permit Date:</b> December 29, 1988	<b>Permit #:</b> 008684	

**COMPANY** Reynolds, Joseph R.  
**FARM** Trisler, James  
**DATE DRILLED** December 31, 1988      **NO.**  
**ELEVATION** 0      **COUNTY NO.** 23352  
**LOCATION** NE NE NW  
**LATITUDE** 39.981232      **LONGITUDE** -87.872842  
**COUNTY** Vermilion      **API** 121832335200



**31 - 18N - 13W**

State Plane Coordinates (Converted from Latitude, Longitude)  
 Illinois East Zone, NAD 83  
 N: 1,207,406  
 E: 1,113,295

PRIVATE WATER WELL #0241

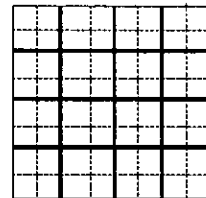
Page 1

ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
black dirt	0	2
yellow clay	2	12
gray clay	12	29
limestone - water	29	47
shale	47	68
<b>Total Depth</b>		68
Casing: 5" STEEL ASTM A53B from -1' to 31'		
Water from limestone at 31' to 48'.		
Static level 13' below casing top which is 1' above GL		
Pumping level 40' when pumping at 7 gpm for 2 hours		
Location source: Location from the driller		
Permit Date: March 29, 1999		
Permit #:		

COMPANY Harper, Jerry  
 FARM Thomas, Richard  
 DATE DRILLED May 17, 1999  
 ELEVATION 0  
 LOCATION SW SW SW  
 LATITUDE 39.968511  
 COUNTY Vermilion

NO.  
 COUNTY NO. 25353  
 LONGITUDE -87.880349  
 API 121832535300



31 - 18N - 13W

State Plane Coordinates (Converted from Latitude, Longitude)  
 Illinois East Zone, NAD 83  
 N: 1,202,761  
 E: 1,111,215

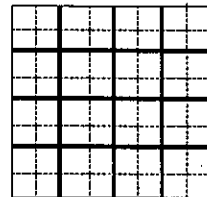


PRIVATE WATER WELL #19

Page 1 ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
top soil	0	1
yellow gravelly clay	1	11
blue sandy clay	11	47
limerock & sandstone	47	61
<b>Total Depth</b>		61
Casing: 6" 19 LB. DRIVE from 0' to 47'		
Size hole below casing: 6"		
Water from limerock sandstone at 47' to 61'.		
Static level 19' below casing top which is 1' above GL		
Pumping level 27' when pumping at 25 gpm for 1 hour		
Permanent pump installed at 41'		
Driller's Log filed		
Location source: Location from the driller		
Permit Date: November 13, 1975		Permit #: 42954

COMPANY Sims, Ronald M. Sr.  
 FARM Krukewitt, Don  
 DATE DRILLED November 19, 1975 NO. 1  
 ELEVATION 671GL COUNTY NO. 22042  
 LOCATION 2500'S line, 2600'W line of SW  
 LATITUDE 40.046923 LONGITUDE -87.910901  
 COUNTY Vermilion API 121832204200



2 - 18N - 14W

State Plane Coordinates (Converted from Latitude, Longitude)  
 Illinois East Zone, NAD 83  
 N: 1,231,283  
 E: 1,102,516

## PRIVATE WATER WELL #20

Page 1

## ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
clayey silt loam blk moist firm topsoil	0	1
silty clay brn moist, stiff, tr s tr gvl	1	12
silty clay gray moist stiff tr s tr gvl	12	22
sand gray sat fine-coarse tr gvl	22	24
silty clay gray moist v stiff lt s/ gvl	24	32
ls gray white weathered w/iron stng	32	33
<b>Total Depth</b>		33
Casing: 6" ASTM SDR 21 PVC F480 from 1' to 13' 30" FIBERGLASS SCREEN from 13' to 31'		
Screen: 8' of 30" diameter .04 slot		
Grout: GRAN BENTONITE from 11 to 12.		
Grout: PEA GRAVEL from 12 to 33.		
Water from sand at 22' to 24'.		
Static level 11' below casing top which is 1' above GL		
Address of well: same as above		
Location source: Location from permit		
Permit Date: November 6, 2006	Permit #: 183-183	

COMPANY Skinner, Todd

FARM Hess, Scott

DATE DRILLED November 7, 2006

NO. 1

ELEVATION 679

COUNTY NO. 26217

LOCATION SW SE SE

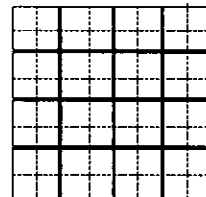
LATITUDE 40.041667

LONGITUDE -87.922778

COUNTY Vermilion

API 121832621700

3 - 18N - 14W



State Plane Coordinates (Converted from Latitude, Longitude)

Illinois East Zone, NAD 83

N: 1,229,353

E: 1,099,200

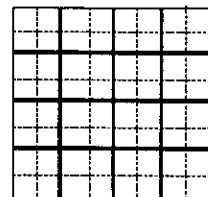
# PRIVATE WATER WELL #21

Page 1

## ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
top soil	0	2
yellow clay	2	17
sandy clay	17	19
hardpan	19	23
blue clay	23	79
gravel	79	80
<b>Total Depth</b>		80
Casing: 6" PLASTIC from -1' to 14' 36" CONCRETE from 14' to 80'		
Size hole below casing: 0"		
Water from gravel at 79' to '.		
Address of well: 606 West 3rd St.		
Location source: Location from permit		
Permit Date: December 27, 1985		Permit #: 121870

**COMPANY** Reynolds, Joseph R.  
**FARM** Wolf, Terry  
**DATE DRILLED** December 31, 1985      **NO.**  
**ELEVATION** 0      **COUNTY NO.** 22851  
**LOCATION** SW SE SE  
**LATITUDE** 40.040717      **LONGITUDE** -87.942569  
**COUNTY** Champaign      **API** 120192285100



4 - 18N - 14W

State Plane Coordinates (Converted from Latitude, Longitude)  
 Illinois East Zone, NAD 83  
 N: 1,228,982  
 E: 1,093,660



## PRIVATE WATER WELL #23

Page 1

## ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
top soil	0	3
yellow clay	3	17
blue clay	17	31
rock	31	36
<b>Total Depth</b>		36
Casing: 36" CONCRETE from 12' to 36'		
6" PLASTIC from -1' to 12'		
Location source: Location from the driller		
Permit Date: December 29, 1988		
Permit #: 008685		

COMPANY Reynolds, Joseph R.

FARM Cradock, William

DATE DRILLED December 31, 1988 NO.

ELEVATION 0 COUNTY NO. 23353

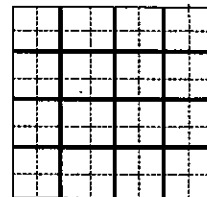
LOCATION NE NE NE

LATITUDE 40.024987 LONGITUDE -87.883556

COUNTY Vermilion

API 121832335300

13 - 18N - 14W



State Plane Coordinates (Converted from Latitude, Longitude)

Illinois East Zone, NAD 83

N: 1,223,330

E: 1,110,212

## PRIVATE WATER WELL #24

Page 1

## ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
top soil clay sand	0	15
blue sandy drift	15	23
brown lime water	23	27
black shale	27	35
grey muddy shale	35	46
coal	46	47
shaley lime	47	55
dark sandy shale pyrites.	55	62
<b>Total Depth</b>		62
Casing: 7" from 0' to 40'		
Water from brown lime at 24' to 27'.		
Static level 13' below casing top which is 0' above GL		
Pumping level 0' when pumping at 10 gpm for 0 hours		
Driller's Log filed		
Location source: Location from the driller		
<b>Permit Date:</b>	<b>Permit #:</b>	

COMPANY owner

FARM Prior, Loren

DATE DRILLED July 1, 1959

NO. 1

ELEVATION 0

COUNTY NO. 01384

LOCATION 200'S line, 200'E line of SW

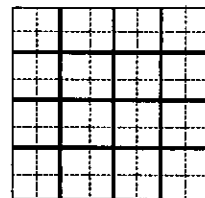
LATITUDE 40.011768

LONGITUDE -87.892463

COUNTY Vermilion

API 121830138400

13 - 18N - 14W



State Plane Coordinates (Converted from Latitude, Longitude)

Illinois East Zone, NAD 83

N: 1,218,502

E: 1,107,741

## PRIVATE WATER WELL #0250

Page 1

## ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
cly st lm: dk brn, mst, stf (topsoil)	0	2
sty cl: brn, mst, stf, tr s, tr Fe stn	2	14
sty cl: gry, mst, stf, tr s, tr gvl	14	20
cly st: gry, mst, fm	20	25
v sty cl: gry, mst, stf, tr s, tr gvl	25	46
v sty cl: gry brn, mst, hd, s, tr gvl	46	51
s: gry brn, sat, med grn, ltl gvl	51	52
v sty cl: gry brn, mst, hd w/l s cbbl	52	58
sh: dk gry, sty, med hd	58	60
<b>Total Depth</b>		60
Casing: 6" ASTM F-480 SDR21 PVC from -1' to 12'		
30" FIBERGLASS from 12' to 55'		
30" FIBERGLASS SCREEN from 46' to 55'		
Screen: 9' of 30" diameter .04 slot		
Grout: 3/8" GRAN BENT from 10 to 11.		
Grout: 1/4"-3/8" PEA GRAVEL from 11 to 25.		
Grout: 1/8"-1/4" BUCKSHOT from 25 to 60.		
Water from sand, tr gravel at 51' to 52'.		
Static level 26' below casing top which is 1' above GL		
Pumping level ' when pumping at 2 gpm for hours		
Address of well: same as above		
Location source: Location from permit		
Permit Date: August 8, 2007		Permit #: 183-189

COMPANY Skinner, Todd

FARM Clark, Carol

DATE DRILLED August 25, 2007

NO. 1

ELEVATION 702

COUNTY NO. 26313

LOCATION NE NE SE

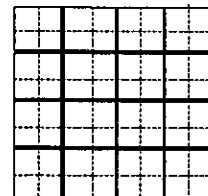
LATITUDE 40.018056

LONGITUDE -87.8825

COUNTY Vermilion

API 121832631300

13 - 18N - 14W



State Plane Coordinates (Converted from Latitude, Longitude)

Illinois East Zone, NAD 83

N: 1,220,806

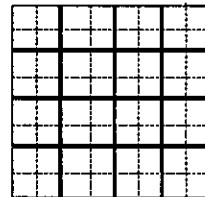
E: 1,110,521

PRIVATE WATER WELL #26

Page 1 ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
top soil	0	3
clay	3	12
muddy gravel	12	37
green muddy gravel	37	49
brown lime gravely	49	52
black shale	52	62
grey sandy shale	62	65
<b>Total Depth</b>		65
Casing: 6.25" from 0' to 52'		
Water from brown lime at 49' to 52'.		
Static level 14' below casing top which is 5' above GL		
Driller's Log filed		
Location source: Location from the driller		
<b>Permit Date:</b>	<b>Permit #:</b>	

COMPANY owner  
 FARM Parrish, J. J.  
 DATE DRILLED September 1, 1959 NO. 1  
 ELEVATION 0 COUNTY NO. 01385  
 LOCATION NW NW  
 LATITUDE 40.023592 LONGITUDE -87.917797  
 COUNTY Vermilion API 121830138500



14 - 18N - 14W

State Plane Coordinates (Converted from Latitude, Longitude)  
 Illinois East Zone, NAD 83  
 N: 1,222,775  
 E: 1,100,625

# PRIVATE WATER WELL #27

Page 1

## ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
topsoil	0	1
brown clay	1	12
gray clay	12	50
gray shale	50	57
coal	57	58
gray shale	58	76
sandstone	76	78
gray shale	78	126
red shale	126	133
gray shale	133	140
<b>Total Depth</b>		140
Casing: 5" PVC from 0' to 60' 5" PVC, SCREEN from 60' to 140'		
Screen: 40' of 5" diameter 40 slot		
Grout: BENSEAL from 0 to 60.		
Water from shale at 60' to 140'.		
Static level 5' below casing top which is 1' above GL		
Permanent pump installed at 125' on August 18, 2008, with a capacity of 10 gpm		
Location source: Location from permit		
Permit Date: August 12, 2008		Permit #: 183-197

<b>COMPANY</b>	Findlay, Terry A.	<table border="1" style="width: 100%; height: 100%; border-collapse: collapse;"> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table>																														
<b>FARM</b>	Dallas, Derek & Charity																															
<b>DATE DRILLED</b>	August 15, 2008																															
<b>ELEVATION</b>	NO. 1																															
<b>LOCATION</b>	SW SW NE																															
<b>COUNTY</b>	Vermilion																															
<b>LATITUDE</b>	40.020667	<b>LONGITUDE</b>	-87.910533																													
<b>COUNTY NO.</b>	26384	<b>API</b>	121832638400																													
		<b>14 - 18N - 14W</b>																														

State Plane Coordinates (Converted from Latitude, Longitude)  
 Illinois East Zone, NAD 83  
 N: 1,221,722  
 E: 1,102,665

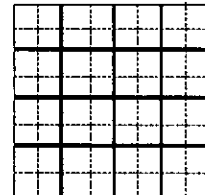
# PRIVATE WATER WELL #28

Page 1

## ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
top soil	0	2
yellow clay	2	17
sandy clay	17	23
hardpan	23	27
blue clay	27	45
<b>Total Depth</b>		45
Casing: 6" PLASTIC from -1' to 12' 36" CONCRETE from 0' to 12'		
Size hole below casing: 0"		
Water from sandy clay at 23' to '.		
Location source: Location from permit		
<b>Permit Date:</b> January 24, 1986		<b>Permit #:</b> 122056

**COMPANY** Reynolds, Joseph R.  
**FARM** Wienke, James  
**DATE DRILLED** December 30, 1985      **NO.**  
**ELEVATION** 0      **COUNTY NO.** 22846  
**LOCATION** NE NW SW  
**LATITUDE** 40.01731      **LONGITUDE** -87.916557  
**COUNTY** Vermilion      **API** 121832284600



**14 - 18N - 14W**

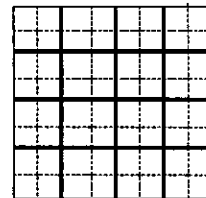
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 Illinois East Zone, NAD 83  
 N: 1,220,488  
 E: 1,100,983

PRIVATE WATER WELL #29

Page 1 ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
top soil	0	2
yellow clay	2	10
sandy clay	10	15
blue clay	15	21
sand & gravel	21	22
blue clay	22	35
shale	35	38
<b>Total Depth</b>		38
Casing: 6" PLASTIC from -1' to 11' 36" CONCRETE from 11' to 38'		
Size hole below casing: 0"		
Water from sand & gravel at 22' to '.		
Location source: Location from permit		
<b>Permit Date:</b> September 5, 1986	<b>Permit #:</b> 126567	

**COMPANY** Reynolds, Joseph R.  
**FARM** Wienke, James  
**DATE DRILLED** September 30, 1986 **NO.**  
**ELEVATION** 0 **COUNTY NO.** 22881  
**LOCATION** NE NW SW  
**LATITUDE** 40.01731 **LONGITUDE** -87.916557  
**COUNTY** Vermilion **API** 121832288100



14 - 18N - 14W

State Plane Coordinates (Converted from Latitude, Longitude)  
 Illinois East Zone, NAD 83  
 N: 1,220,488  
 E: 1,100,983

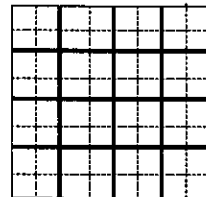
PRIVATE WATER WELL #30

Page 1

ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
top soil	0	3
clay sand	3	15
muddy sand	15	25
muddy sand & gravel	25	38
water sand & gravel	38	41
<b>Total Depth</b>		41
Casing: 7" from 0' to 41'		
Water from sand & gravel at 38' to 41'.		
Static level 12' below casing top which is 10' above GL		
Driller's Log filed		
Location source: Location from the driller		
<b>Permit Date:</b>	<b>Permit #:</b>	

**COMPANY** owner  
**FARM** Rool, W. D.  
**DATE DRILLED** July 1, 1959 **NO.** 1  
**ELEVATION** 0 **COUNTY NO.** 01386  
**LOCATION** NW SW  
**LATITUDE** 40.016401 **LONGITUDE** -87.91773  
**COUNTY** Vermilion **API** 121830138600 **14 - 18N - 14W**



State Plane Coordinates (Converted from Latitude, Longitude)  
 Illinois East Zone, NAD 83  
 N: 1,220,155  
 E: 1,100,656

## PRIVATE WATER WELL #31

Page 1

## ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
top soil	0	2
yellow clay	2	14
sandy clay	14	19
blue clay	19	38
sand & gravel	38	39
blue clay	39	49
sand	49	50
<b>Total Depth</b>		50
Casing: 6" PLASTIC from -1' to 14'		
36" CONCRETE from 14' to 50'		
Size hole below casing: 0"		
Water from sand at 39' to 50'.		
Location source: Location from permit		
<b>Permit Date:</b> November 29, 1984	<b>Permit #:</b> 115954	

COMPANY Reynolds, Joseph R.

FARM Krukewitt, Charles

DATE DRILLED November 30, 1984 NO.

ELEVATION 0 COUNTY NO. 23090

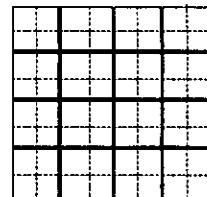
LOCATION SE NE SE

LATITUDE 40.015329 LONGITUDE -87.940105

COUNTY Champaign

API 120192309000

16 - 18N - 14W



State Plane Coordinates (Converted from Latitude, Longitude)

Illinois East Zone, NAD 83

N: 1,219,736

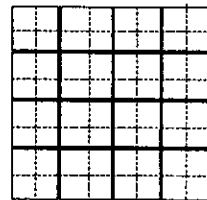
E: 1,094,391

PRIVATE WATER WELL #0124

Page 1 ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
black dirt	0	2
brown clay	2	34
gray clay	34	36
rock at	36	36
<b>Total Depth</b>		36
Casing: 6" PLASTIC from 0' to 16'		
36" CONCRETE from 16' to 20'		
Water from at 0' to 36'.		
Location source: Location from permit		
Permit Date: November 12, 1991	Permit #: 0230	

COMPANY Carey, Kevin V.  
 FARM Miller, Douglas C.  
 DATE DRILLED November 14, 1991 NO.  
 ELEVATION 0 COUNTY NO. 23446  
 LOCATION SE SE NE  
 LATITUDE 40.004918 LONGITUDE -87.883263  
 COUNTY Vermilion API 121832344600



24 - 18N - 14W

State Plane Coordinates (Converted from Latitude, Longitude)  
 Illinois East Zone, NAD 83  
 N: 1,216,019  
 E: 1,110,331



PRIVATE WATER WELL #0085a

Page 1 ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
top soil	0	3
clay	3	20
glacial drift	20	36
<b>Total Depth</b>		36
Casing: 10" PLASTIC from -1' to 10' 36" CONCRETE from 10' to 36'		
Size hole below casing: 0"		
Water from clay at 20' to 36'.		
Permanent pump installed at 29' on June 24, 1979, with a capacity of 12 gpm		
Location source: Location from permit		

Permit Date: June 12, 1979

Permit #: 86631

COMPANY Reynolds, Joseph R.

FARM Happ, Dennis

DATE DRILLED June 24, 1979

NO.

ELEVATION 0

COUNTY NO. 22669

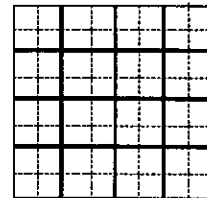
LOCATION NW NW SW

LATITUDE 39.988124

LONGITUDE -87.937407

COUNTY Vermilion

API 121832266900



27 - 18N - 14W

State Plane Coordinates (Converted from Latitude, Longitude)

Illinois East Zone, NAD 83

N: 1,209,830

E: 1,095,191



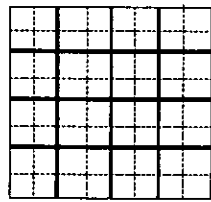


PRIVATE WATER WELL #37

Page 1 ILLINOIS STATE GEOLOGICAL SURVEY

Dry Hole	Top	Bottom
top soil	0	3
clay	3	18
muddy gravel - drift	15	40
hard sand - gravelly	40	42
muddy shale	42	56
dark gray shale	56	75
red rock	75	84
sandy shale	84	101
dark gray shale	101	105
<b>Total Depth</b>		105
Driller's Log filed		
Additional Lot: Subdivision:		
location info: 100' W of house		
<b>Permit Date:</b>	<b>Permit #:</b>	

COMPANY owner  
 FARM Place, Carl #1  
 DATE DRILLED February 1, 1964 NO. 1  
 ELEVATION 0 COUNTY NO. 01052  
 LOCATION NE NE SE  
 LATITUDE 39.9881 LONGITUDE -87.939787  
 COUNTY Champaign API 120190105200 28 - 18N - 14W



State Plane Coordinates (Converted from Latitude, Longitude)  
 Illinois East Zone, NAD 83  
 N: 1,209,818  
 E: 1,094,524

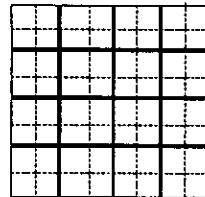


PRIVATE WATER WELL #0091a

Page 1 ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
top soil	0	2
yellow clay	2	14
sandy clay	14	19
hardpan	19	23
sand & gravel	23	25
blue clay	25	38
<b>Total Depth</b>		38
Casing: 6" PLASTIC from -1' to 12' 36" CONCRETE from 12' to 38'		
Size hole below casing: 0"		
Water from sand & gravel at 25' to '.		
Permanent pump installed at 32' on June 30, 1983, with a capacity of 10 gpm		
Location source: Location from permit		
Permit Date: June 16, 1983		Permit #: 107618

**COMPANY** Reynolds, Joseph R.  
**FARM** Edgar, Kizer  
**DATE DRILLED** June 30, 1983      **NO.**  
**ELEVATION** 0      **COUNTY NO.** 22670  
**LOCATION** NE NE SE  
**LATITUDE** 39.973651      **LONGITUDE** -87.920764  
**COUNTY** Vermilion      **API** 121832267000      **34 - 18N - 14W**



State Plane Coordinates (Converted from Latitude, Longitude)  
 Illinois East Zone, NAD 83  
 N: 1,204,578  
 E: 1,099,878

# PRIVATE WATER WELL #40

Page 1

## ILLINOIS STATE GEOLOGICAL SURVEY

Water Well	Top	Bottom
drift to 90	0	90
between gold-rd in clr pumy sto, no grit	90	154
<b>Total Depth</b>		154
Driller's Log filed Location source: Location from the driller		
Permit Date:	Permit #:	

COMPANY owner

FARM

DATE DRILLED

NO.

ELEVATION 688TM

COUNTY NO. 01156

LOCATION

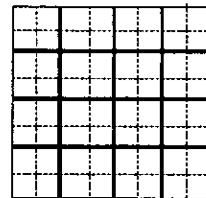
LATITUDE 39.97451

LONGITUDE -87.92904

COUNTY Vermilion

API 121830115600

34 - 18N - 14W



State Plane Coordinates (Converted from Latitude, Longitude)

Illinois East Zone, NAD 83

N: 1,204,881

E: 1,097,557

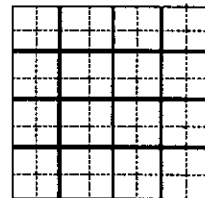
PRIVATE WATER WELL #0091b

Page 1

ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
soil	0	1
yellow clay	1	15
blue	15	30
lime (water 36-40)	30	50
dirty sandstone	50	60
shale	60	64
<b>Total Depth</b>		64
Casing: 7" 19# BLK STL SCH 40 from -2' to 344'		
" from 0' to 0'		
Size hole below casing: 6"		
Water from lime at 36' to 40'.		
Static level 17' below casing top which is 3' above GL		
Pumping level 32' when pumping at 8 gpm for 72 hours		
Driller's Log filed		
Location source: Platbook verified		
Permit Date: July 22, 1977		Permit #: 63951

COMPANY Baker, Earl Jr.  
 FARM Mohr, Gerhart & Mohr Bros.  
 DATE DRILLED August 15, 1977 NO. 1  
 ELEVATION 0 COUNTY NO. 22302  
 LOCATION 2600'S 330'W NE/c  
 LATITUDE 39.97465 LONGITUDE -87.920745  
 COUNTY Vermilion API 121832230200



34 - 18N - 14W

State Plane Coordinates (Converted from Latitude, Longitude)  
 Illinois East Zone, NAD 83  
 N: 1,204,942  
 E: 1,099,882

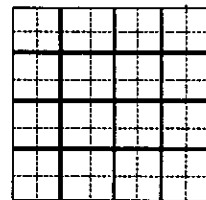
PRIVATE WATER WELL #42

Page 1

ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
S.S. #27424	0	0
no sample	0	25
till, calcareous, loam, Vandalia	25	30
sand, gravelly	30	35
till, calcareous, sty lm, 10YR4/2, Smithboro	35	40
till, calcareous, 2.5Y4-5/2	40	45
bedrock -varied (otherwise no record)	45	140
<b>Total Depth</b>		140
Sample set # 27424 (25' - 140') Received: January 1, 1957		
Location source: Location from the driller		
Permit Date: _____ Permit #: _____		

**COMPANY** owner  
**FARM** Warters, R. G.  
**DATE DRILLED** January 1, 1956 **NO.** 1-56  
**ELEVATION** 680TM **COUNTY NO.** 22193  
**LOCATION** SE SE SE  
**LATITUDE** 39.96834 **LONGITUDE** -87.901681  
**COUNTY** Vermilion **API** 121832219300 **35 - 18N - 14W**



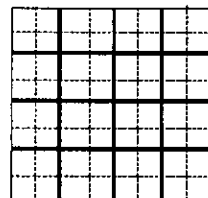
State Plane Coordinates (Converted from Latitude, Longitude)  
 Illinois East Zone, NAD 83  
 N: 1,202,669  
 E: 1,105,236

PRIVATE WATER WELL #0018

Page 1 ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
dark brown topsoil	0	1
brown till	1	18
brown sandy silt	18	19
brown till	19	21
gray till	21	74
<b>Total Depth</b>		74
Casing: 6" SDR 21 PVC from -1' to 16' 30" FIBERGLASS from 16' to 73'		
Grout: BENTONITE CHIPS from 14 to 15.		
Grout: BUCKSHOT 1/4" from 15 to 74.		
Water from brown sandy silt at 18' to 19'.		
Address of well: same as above		
Location source: Location from permit		
Permit Date: August 29, 2008	Permit #: 183-197	

**COMPANY** Wiesenhofer, Andrew  
**FARM** Easton, Keith  
**DATE DRILLED** October 7, 2008 **NO. 1**  
**ELEVATION** **COUNTY NO.** 26402  
**LOCATION** NW SW SW  
**LATITUDE** 39.97025 **LONGITUDE** -87.919417  
**COUNTY** Vermilion **API** 121832640200 **35 - 18N - 14W**



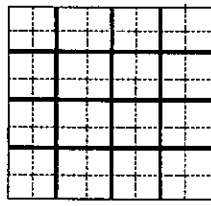
State Plane Coordinates (Converted from Latitude, Longitude)  
 Illinois East Zone, NAD 83  
 N: 1,203,341  
 E: 1,100,262

# PRIVATE WATER WELL #0044

Page 1                      **ILLINOIS STATE GEOLOGICAL SURVEY**

Private Water Well	Top	Bottom
soil & clay	0	31
sandy formation	31	41
clay	41	77
sandy formation	77	99
shale & sandstone	99	192
sandstone (water)	192	204
<b>Total Depth</b>		204
Casing: 4" STEEL from 0' to 194'		
Size hole below casing: 4"		
Water from sandstone at 192' to 204'.		
Static level 14' below casing top which is 0' above GL		
Pumping level 0' when pumping at 3 gpm for 0 hours		
Caliper Log filed		
Electric Log filed		
Natural Gamma Sensitivity Time Constant filed		
Driller's Log filed		
Location source: Location from the driller		
<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     Image viewing help: New users please read this.                 </div>		
GET IMAGE	Natural Gamma Sensitivity Time Constant	
GET IMAGE	Natural Gamma Sensitivity Time Constant	
GET IMAGE	Resistivity Log	
<b>Permit Date:</b>	<b>Permit #:</b>	

**COMPANY** Baker, Earl Jr.  
**FARM** Tighe, Tim  
**DATE DRILLED** December 31, 1950                      **NO. 1**  
**ELEVATION** 680TM    **COUNTY NO.** 22559  
**LOCATION** 225'S line, 150'W line of SW  
**LATITUDE** 39.968068                      **LONGITUDE** -87.899943  
**COUNTY** Vermilion                      **API** 121832255900                      **36 - 18N - 14W**



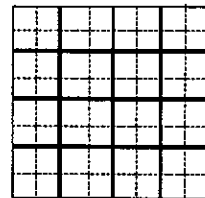
State Plane Coordinates (Converted from Latitude, Longitude)  
 Illinois East Zone, NAD 83  
 N: 1,202,572  
 E: 1,105,724

PRIVATE WATER WELL #45

Page 1 ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
black top soil	0	2
yellow sandy clay	2	18
gray clay sand	18	48
dark clay sand	48	62
grn clay sand & gvl	62	80
gray soft shale	80	90
bed rock	90	90
<b>Total Depth</b>		90
Casing: 6" ID STL 19# SCH 40 from 4' to 18'		
36" ID CONCRETE PIPE from 18' to 90'		
Size hole below casing: 0"		
Water from drift at 20' to 78'.		
Location source: Location from permit		
<b>Permit Date:</b> May 11, 1982	<b>Permit #:</b> 103416	

**COMPANY** Baker, Earl Jr.  
**FARM** Hackman, Thomas W.  
**DATE DRILLED** June 9, 1982 **NO. 1**  
**ELEVATION** 0 **COUNTY NO.** 22671  
**LOCATION** 100'S line, 100'W line of section  
**LATITUDE** 39.96772 **LONGITUDE** -87.90012  
**COUNTY** Vermilion **API** 121832267100



36 - 18N - 14W

State Plane Coordinates (Converted from Latitude, Longitude)  
 Illinois East Zone, NAD 83  
 N: 1,202,445  
 E: 1,105,675

Sunrise Coal, LLC  
Bulldog Mine  
Permit No. 429

# ATTACHMENT III-2B1b

RESIDENTIAL WATER USAGE

**SUNRISE COAL, LLC**  
**BULLDOG MINE**

**Water Source Data for Land Owners and Residents Within the Permit and Shadow Areas**

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Map Parcel No.	Surface Owner	Water Source	Well ID No.	ISGS Well Record County No.	Well Depth (feet)	Static Water Level (feet)	Sample Taken	Aquifer	Well Use	Ponds	Pond Use
1 76	Cunningham Children's Home Foundation	None None									
2 113 115 116	O'Neill Farms, C/O Scott O'Neill	None None None None									
3	Jack Smith	None									
4	Donald P. Allen	None									
5	Marilyn Craver, Trust	None									
6 12	Sunrise Coal, LLC	None None									
7	Sunrise Coal, LLC	None									
8	Sunrise Coal, LLC	Well	0008		33****	15.09	Yes	Unconsol	Domestic	N/A	N/A
9 10 19 45	Gary & Nedra Pridemore	Well*** None None None							Did not respond to water usage survey.		
11 42	Barbara Gerdes	None None									
13	Jeff Ward	Well*****	0013		86****	Unknown	Yes	Unconsol	Domestic	N/A	N/A
14 47	Joan F. & Harry Allen, Trust	None None									
15 31 32	Paul & Susan Messman	None None None									
16	Jean P. Zenke	None									
17	Jerry Messman	None									

\*Well not in service and owner requested not to sample.

\*\*Owner requested not to locate or sample well.

\*\*\*Owner did not respond to survey. The presence of a well is based on a visual inspection of the property or an assumption based on there being an occupied residence with no other known water resource available (i.e. municipal water supply).

\*\*\*\*Well depth based on owner information and could not be verified by Sunrise Coal; therefore, map depicts the well depth as unknown.

\*\*\*\*\*Unable to access well.

*SUNRISE COAL, LLC*  
*BULLDOG MINE*

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18	Neal Easton, etal	Well***	0018	26402	74		No	Unconsol	Domestic	N/A	N/a
							Did not respond to water usage survey.				
20	William & Jeanette Hart	None									
21	Inuka, Inc.	None									
22	Eldon & Marjorie Craddock	Well***					Did not respond to water usage survey.				
23	J. Tyler & Timothy J. Trisler	None									
121		None									
26	Julie Catlett	None									
30		None									
27	Larry & Judy Frick	None									
28	Randy Frick	None									
29	Trisler Seed Farms, Inc.	None									
33	Jerry & Constance Messman	None									
34	Delores Hageman	None									
39		None									
36	Jay Hageman	Well***					Did not respond to water usage survey.				
89		None									
37	Doug & Connie Chew	None									
38	Eagco, Inc.	None									
90		None									
40	Linda Pierce	None									
41	Joseph Hageman	None									
43	Stewart Messman, etal	None									
44	Timothy & Pamela Tighe	Well**	0044	22559	204		No	Bedrock	Domestic	N/A	N/A
48	Christopher & Susan Harbourt	Well	0048		Unknown	6.9	Yes	Unknown	Domestic	N/A	N/A
49	Anthony & Tracey Beck	None									

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**SUNRISE COAL, LLC**  
**BULLDOG MINE**

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Map Parcel No.	Surface Owner	Water Source	Well ID No.	ISGS Well Record County No.	Well Depth (feet)	Static Water Level (feet)	Sample Taken	Aquifer	Well Use	Ponds	Pond Use
50	Sara Jo Cast	None									
51	First Midwest Trust	None									
52	First Midwest Trust	None									
53	Melissa Panzeca	None									
54	Busey Trust Co.	None									
55	Shirley Tighe	None									
56	Beck Ranch, LP	None									
58		None									
62		Well	0062a		175****	22	Yes	Unknown	Domestic	N/A	N/A
		Well	0062c		Unknown	7.3	Yes	Unconsol	Domestic	N/A	N/A
		Well	0062d	22133	49	8.2	Yes	Unconsol	Domestic	N/A	N/A
57	S. Shull	Well***	0057	23348	32		No	Unconsol	Domestic	N/A	N/A
Did not respond to water usage survey.											
59	Inuka, Inc.	None									
60	O.K.D. Farm, Inc.	Well	0060a	22640	40	3.49	Yes	Unconsol	Not In Use	N/A	N/A
		Well*****	0060b		203****	Unknown	Yes	Bedrock	Domestic	N/A	N/A
61	Julie A. Happ, est	Well**									
63	Marjorie Craddock	None									
64	Bruce & Douglas Darr	None									
65	Maddox Farms, Inc.	None									
66	Eldon Craddock	None									
67	Rodney & Britta Maddox	Well	0067		24****	4.2	Yes	Unconsol	Domestic	N/A	N/A
68	E. & E. Weidemann	None									
69	Scott Rowand	Well	0069	24574	23.5	18.9	Yes	Unconsol	Domestic	N/A	N/A
71	John & Janet Terry, Trust	None									
72	Linda McCrone	None									

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**BULLDOG MINE**

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Map Parcel No.	Surface Owner	Water Source	Well ID No.	ISGS Well Record County No.	Well Depth (feet)	Static Water Level (feet)	Sample Taken	Aquifer	Well Use	Ponds	Pond Use
73	Robert & Kathryn Banta	None									
74	Alexander Family Properties	Well***	Did not respond to water usage survey.								
75	Russell K. Newlin, etal	Well***	Did not respond to water usage survey.								
77	Beck's Superior Hybrids, Inc.	None									
78	Carl & Helen Burgener	None									
79	Dorothy L. Pepper	None									
80	Joe & Janet Ford	None									
81	Goodall Farms, Inc.	None									
82	Jeff & Debra Ford	None									
83	Beck's Superior Hybrids, Inc.	Well Well	0083a 0083b		60**** 30****	19.7 13.8	Yes Yes	Unconsol Unconsol	Domestic Domestic	N/A N/A	N/A N/A
84	Phyllis Sinclair	None									
85	Frieda Block	Well*** Well***	0085a 0085b	22669 01155	36 175		No No	Unconsol Bedrock	Unknown Unknown	N/A N/A	N/A N/A
Did not respond to water usage survey.											
86	Laverne Allen	Well	0086		Unknown	9.2	Yes	Unconsol	Domestic	N/A	N/A
87	Edgar & Rose Kizer	Well**									
88	Douglas O'Neill	None									
91	Gerhardt Mohr	Well*** Well***	0091a 0091b	22670 22302	38 64		No No	Unconsol Bedrock	Unknown Unknown	N/A N/A	N/A N/A
Did not respond to water usage survey.											
92	Lisbeth Zumkeller	None									
93	David Mohr	None									
94	Elizabeth Heskett	None									
95	Richard L. Knight	None									
96	Faye Messman	None									

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*BULLDOG MINE*

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97	Cecil Sy	Well Well	0097a 0097b		Unknown Unknown	9.21 9.85	Yes Yes	Unconsol Unconsol	Domestic Domestic	N/A N/A	N/A N/A
98 99	Roxie A. O'Neill, Trust	None None									
100	Kemberly A. Kensell	Well***	Did not respond to water usage survey.								
101	David & Geise, Trust	None									
104	James & Eleanor Smith, Trust	None									
105	N. Carver Jr.	None									
106	Marjorie & Walter Clem, etal	None									
107	Terry & Janice Wolfe, etal Trust	None									
108	Christopher & Jenny Kirschner	None									
109	Marilyn Dalenberg & Carol Ghiselli	None									
110	Frederick & Alice K. Messman, trust	None									
111	Robert & Marilyn Lee	None									
112	John Craver & Holly Diedrich	None									
114	Harold Reed	None									
117	Kenneth McElwee	None									
118	Cynthia Adkins	None									
119	Maplelawn Land, LLC	None									
120	James & Sheryll Craig	None									
122	Barbara Phillips Attn: Donald Allen Farm Mgr.	None									
123	Marital Non-X Trust Attn: Vernon Rohrscheib	None									

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**BULLDOG MINE**

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124	C. Douglas Miller	Well	0124	23446	36	8.39	Yes	Unconsol	Domestic	N/A	N/A
125	Donald Kizer, Trust	None									
126	Daisy Easton	None									
127	Carey Hall	None									
128	Michele Hall	None									
129	Timothy & Heidi Craddock	Well	0129		60****	20.1	Yes	Unknown	Domestic	N/A	N/A
130	Steven & Peggy Craddock	Well	0130	26362	81	38.5	Yes	Unconsol	Domestic	N/A	N/A
131	J & J Ford	None									
132	J. Trisler	None									
133	Matthew Stoudt & Kathryn Rainge	Well***									
Did not respond to water usage survey.											
134	David Reed	Well***									
Did not respond to water usage survey.											
135	John Patrick Ryan	Well***									
Did not respond to water usage survey.											
136	Troy Chew	Well***									
Did not respond to water usage survey.											
200	Robert Umbarger	Well	0200		26****	9.15	Yes	Unconsol	Domestic	N/A	N/A
201	Phyllis Sinclair	None									
202	Mary Umbarger	None									
203	Stephanie Spiros	None									
204	Steven & Brenda Woodworth	Well***									
Did not respond to water usage survey.											
205	Terry Wolf	None									
206	Samia Woodward	Well***									
Did not respond to water usage survey.											
207	James O. Smith	None									
208	James & Eleanor Smith	None									
209	P. William O'Neill, Trust	None									
210	B. Judith O'Neill	None									
211	George E. Heppe, III	None									

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**BULLDOG MINE**

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212	Dolores Berbaum	None									
213	Anita Marlowe	None									
214	Randy D. Allen	Well**									
215	Jerry & Constance Messman	None									
216	Deetta & Andy Place	None									
217	Merle W. Schweineke	Well***					Did not respond to water usage survey.				
218	Carol Snyder	None									
219	Robert G. Benschneider	Well***					Did not respond to water usage survey.				
220	Lee & Carol Esworthy	None									
221	William G. Shutt	None									
222	Orville & Mary Ann Rohl	None									
223	Willard Rothermel, Trust	None									
224	Glenn E. Rothermel	None									
225	Russell K. Newlin, etal	Well*									
226	Carl & Victor Smith	None									
232		None									
233		Well	0233		Unknown	10.77	Yes	Unknown	Domestic	N/A	N/A
227	Sharon E. Smith-Lacquet	None									
231		None									
228	Carole J. Gillenwater	None									
229	Farm Management Co.	None									
230	Herman Rohl, Estate	None									
234	Ray M. Struck	Well***					Did not respond to water usage survey.				
235	George & Sara Ford, Trust	Well***					Did not respond to water usage survey.				
236	Robert & Barbara Zamen, Trust	None									
237	Libbie Terry	None									

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238	Maddox Farms, Inc.	Well	Maddox Farms 17-13-6		Unknown	8.4	Yes	Unknown	Domestic	N/A	N/A
239	Karen George	None									
240	Bruce & Linda Shreeves	Well	Shreeves 17-14-25	25266	65	10.2	Yes	Unconsol	Domestic	N/A	N/A
241	Richard & Terri Thomas	Well	0241	25353	68	8.6	Yes	Bedrock	Domestic	N/A	N/A
242	Julie Catlett	Well	0242		Unknown	9.8	Yes	Unknown	Domestic	N/A	N/A
243	Edna Underwood	None									
244	Ralph Underwood	None									
245	Messman Brothers	None									
246	Martin Wienke, Est	None									
247	Barbara Shotts	None									
248	Barbara Bennett	None									
249	Bonnie Swaim	None									
250	Carol Clark	Well***	0250	26313	60		No	Unconsol	Domestic	N/A	N/A
Did not respond to water usage survey.											
251	Hanson Aggregate	None									
252	Marital Non-X Trust	None									
253	Edith Pletch	None									
254	Vernon Rohrscheib, Trust	None									
255	Orville Rohr	Well***									
Did not respond to water usage survey.											
256	James & Janice Wienke	None									
257	Donald Allen	None									
258	A. L. Bowen, Inc.	None									
260		None									

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Water Source Data for Land Owners and Residents Within the Permit and Shadow Areas

The Map Parcel Number corresponds with the property parcel numbers shown on the Hydrology Map and Shadow Area Map. The Well ID number corresponds with the well identification number shown on the Hydrology Map and Shadow Area Map, and/or with the Private Water Well Number shown on the well logs in Attachment III-2B1a. These well logs were obtained from the Illinois State Geological Survey website. Water sources listed as "None" are based on the response from the surface owner, a visual inspection of the property, or an assumption based on there being no structures on the property.

Map Parcel No.	Surface Owner	Water Source	Well ID No.	ISGS Well Record County No.	Well Depth (feet)	Static Water Level (feet)	Sample Taken	Aquifer	Well Use	Ponds	Pond Use
259	Robert & Joan Bryan	None									
261	Stuart & Linda Mayes	Well***	Did not respond to water usage survey.								
262	Farm Management Co.	None									

\*Well not in service and owner requested not to sample.

\*\*Owner requested not to locate or sample well.

\*\*\*Owner did not respond to survey. The presence of a well is based on a visual inspection of the property or an assumption based on there being an occupied residence with no other known water resource available (i.e. municipal water supply).

\*\*\*\*Well depth based on owner information and could not be verified by Sunrise Coal; therefore, map depicts the well depth as unknown.

\*\*\*\*\*Unable to access well.

*SUNRISE COAL, LLC*  
*BULLDOG MINE*

Water Source Data for Land Owners and Residents Within the Permit and Shadow Areas

The Map Parcel Number corresponds with the property parcel numbers shown on the Hydrology Map and Shadow Area Map. The Well ID number corresponds with the well identification number shown on the Hydrology Map and Shadow Area Map, and/or with the Private Water Well Number shown on the well logs in Attachment III-2B1a. These well logs were obtained from the Illinois State Geological Survey website. Water sources listed as "None" are based on the response from the surface owner, a visual inspection of the property, or an assumption based on there being no structures on the property.

Map Parcel No.	Surface Owner	Water Source	Well ID No.	ISGS Well Record County No.	Well Depth (feet)	Static Water Level (feet)	Sample Taken	Aquifer	Well Use	Ponds	Pond Use
	Bruce & Jessica Bryan	Well***	#22	25638	42		No	Unconsol	Domestic	N/A	N/A
			Did not respond to water usage survey.								
	Joe & Janet Ford	Well	Ford 17-13-7		Unknown		Yes	Unknown	Domestic	N/A	N/A

\*Well not in service and owner requested not to sample.

\*\*Owner requested not to locate or sample well.

\*\*\*Owner did not respond to survey. The presence of a well is based on a visual inspection of the property or an assumption based on there being an occupied residence with no other known water resource available (i.e. municipal water supply).

\*\*\*\*Well depth based on owner information and could not be verified by Sunrise Coal; therefore, map depicts the well depth as unknown.

\*\*\*\*\*Unable to access well.



1125 E. Walnut Street  
Boonville, IN 47601

Sunrise Coal, LLC  
1183 East Canvasback Drive  
Terre Haute, IN 47802

Lab Number: 2011-3294-01  
Date Received: 11/11/2011  
Date Reported: 11/30/2011

### Sample Identification

Allerton Mine  
0008

Date Sampled: 11/10/2011  
Sampled by: HMS

### Sample Analysis

Parameter	Result	Method	Analyst	Analysis Date
Depth	15.09 feet		HMS	11/10/2011
pH	7.40 SU	SM 4500-H+ B	HMS	11/10/2011
Temperature	15.1 deg C	SM 2550 B	HMS	11/10/2011
Acidity, Total	<10 mg/L as CaCO <sub>3</sub>	SM 2310 B	MJL	11/21/2011
Alkalinity, Total	20 mg/L as CaCO <sub>3</sub>	SM 2320 B	MJL	11/21/2011
Chloride	10 mg/L	SM 4500-CL B	MJL	11/21/2011
Specific Conductivity	930 umho/cm	SM 2510 B	MJL	11/21/2011
Iron, Total	0.42 mg/L	EPA 200.7	MJL	11/19/2011
Hardness	380 mg/L as CaCO <sub>3</sub>	SM 2340 C	MJL	11/19/2011
Manganese, Total	0.029 mg/L	EPA 200.7	MJL	11/19/2011
Sulfate	29 mg/L	D51690,02	CCV	11/18/2011
Solids, Total Dissolved	540 mg/L	SM 2540 C	CCV	11/17/2011

Reviewed by

*Rodger Wilco*



1125 E. Walnut Street  
Boonville, IN 47601

Sunrise Coal, LLC  
1183 East Canvasback Drive  
Terre Haute, IN 47802

Lab Number: 2011-3342-01  
Date Received: 11/18/2011  
Date Reported: 1/3/2012

### Sample Identification

Allerton Mine  
0062A

Date Sampled: 11/16/2011  
Sampled by: \*\*\*

### Sample Analysis

Parameter	Result	Method	Analyst	Analysis Date
Depth	22.00 feet		***	11/16/2011
pH	8.26 SU	SM 4500-H+ B	***	11/16/2011
Acidity, Total	<10 mg/L as CaCO <sub>3</sub>	SM 2310 B	MJL	11/23/2011
Alkalinity, Total	160 mg/L as CaCO <sub>3</sub>	SM 2320 B	MJL	11/23/2011
Chloride	8 mg/L	SM 4500-CL B	MJL	11/23/2011
Specific Conductivity	1200 umho/cm	SM 2510 B	MJL	11/23/2011
Iron, Total	0.82 mg/L	EPA 200.7	MJL	12/1/2011
Hardness	112 mg/L as CaCO <sub>3</sub>	SM 2340 C	MJL	12/1/2011
Manganese, Total	0.017 mg/L	EPA 200.7	MJL	12/1/2011
Sulfate	250 mg/L	D51690,02	CCV	11/22/2011
Solids, Total Dissolved	720 mg/L	SM 2540 C	CCV	11/22/2011

Reviewed by

*Rodger Wilco*



1125 E. Walnut Street  
Boonville, IN 47601

Sunrise Coal, LLC  
1183 East Canvasback Drive  
Terre Haute, IN 47802

Lab Number: 2011-3361-01  
Date Received: 11/22/2011  
Date Reported: 1/3/2012

### Sample Identification

Allerton Mine  
0062C

Date Sampled: 11/16/2011  
Sampled by: HMS

### Sample Analysis

Parameter	Result	Method	Analyst	Analysis Date
Depth	7.30 feet		HMS	11/16/2011
pH	7.56 SU	SM 4500-H+ B	HMS	11/16/2011
Temperature	17.1 deg C	SM 2550 B	HMS	11/16/2011
Acidity, Total	<10 mg/L as CaCO <sub>3</sub>	SM 2310 B	MJL	11/23/2011
Alkalinity, Total	180 mg/L as CaCO <sub>3</sub>	SM 2320 B	MJL	11/23/2011
Chloride	<6 mg/L	SM 4500-CL B	MJL	11/23/2011
Specific Conductivity	990 umho/cm	SM 2510 B	MJL	11/23/2011
Iron, Total	0.43 mg/L	EPA 200.7	MJL	12/1/2011
Hardness	70 mg/L as CaCO <sub>3</sub>	SM 2340 C	MJL	12/1/2011
Manganese, Total	0.10 mg/L	EPA 200.7	MJL	12/1/2011
Sulfate	220 mg/L	D51690,02	CCV	11/22/2011
Solids, Total Dissolved	640 mg/L	SM 2540 C	CCV	11/22/2011

Reviewed by

*Rodger Wilks*



1125 E. Walnut Street  
Boonville, IN 47601

Sunrise Coal, LLC  
1183 East Canvasback Drive  
Terre Haute, IN 47802

Lab Number: 2011-3361-02  
Date Received: 11/22/2011  
Date Reported: 1/3/2012

### Sample Identification

Allerton Mine  
0062D

Date Sampled: 11/16/2011  
Sampled by: HMS

### Sample Analysis

Parameter	Result	Method	Analyst	Analysis Date
Depth	8.20 feet		HMS	11/16/2011
pH	8.05 SU	SM 4500-H+ B	HMS	11/16/2011
Temperature	18.0 deg C	SM 2550 B	HMS	11/16/2011
Acidity, Total	<10 mg/L as CaCO <sub>3</sub>	SM 2310 B	MJL	11/23/2011
Alkalinity, Total	230 mg/L as CaCO <sub>3</sub>	SM 2320 B	MJL	11/23/2011
Chloride	9 mg/L	SM 4500-CL B	MJL	11/23/2011
Specific Conductivity	1000 umho/cm	SM 2510 B	MJL	11/23/2011
Iron, Total	0.71 mg/L	EPA 200.7	MJL	12/1/2011
Hardness	290 mg/L as CaCO <sub>3</sub>	SM 2340 C	MJL	12/1/2011
Manganese, Total	0.12 mg/L	EPA 200.7	MJL	12/1/2011
Sulfate	270 mg/L	D51690,02	CCV	11/22/2011
Solids, Total Dissolved	630 mg/L	SM 2540 C	CCV	11/22/2011

Reviewed by

*Rodger Wilco*



1125 E. Walnut Street  
Boonville, IN 47601

Sunrise Coal, LLC  
1183 East Canvasback Drive  
Terre Haute, IN 47802

Lab Number: 2011-3342-04  
Date Received: 11/18/2011  
Date Reported: 1/3/2012

### Sample Identification

Allerton Mine  
0067

Date Sampled: 11/16/2011  
Sampled by: \*\*\*

### Sample Analysis

Parameter	Result	Method	Analyst	Analysis Date
Depth	4.20 feet		***	11/16/2011
pH	7.20 SU	SM 4500-H+ B	***	11/16/2011
Acidity, Total	<10 mg/L as CaCO <sub>3</sub>	SM 2310 B	MJL	11/23/2011
Alkalinity, Total	200 mg/L as CaCO <sub>3</sub>	SM 2320 B	MJL	11/23/2011
Chloride	8 mg/L	SM 4500-CL B	MJL	11/23/2011
Specific Conductivity	870 umho/cm	SM 2510 B	MJL	11/23/2011
Iron, Total	1.9 mg/L	EPA 200.7	MJL	12/1/2011
Hardness	280 mg/L as CaCO <sub>3</sub>	SM 2340 C	MJL	12/1/2011
Manganese, Total	0.087 mg/L	EPA 200.7	MJL	12/1/2011
Sulfate	130 mg/L	D51690,02	CCV	11/22/2011
Solids, Total Dissolved	450 mg/L	SM 2540 C	CCV	11/22/2011

Reviewed by

*Rodger Wilco*



1125 E. Walnut Street  
Boonville, IN 47601

Sunrise Coal, LLC  
1183 East Canvasback Drive  
Terre Haute, IN 47802

Lab Number: 2011-3342-03  
Date Received: 11/18/2011  
Date Reported: 1/3/2012

### Sample Identification

Allerton Mine  
0083A

Date Sampled: 11/16/2011  
Sampled by: \*\*\*

### Sample Analysis

Parameter	Result	Method	Analyst	Analysis Date
Depth	19.70 feet		***	11/16/2011
pH	7.23 SU	SM 4500-H+ B	***	11/16/2011
Acidity, Total	<10 mg/L as CaCO <sub>3</sub>	SM 2310 B	MJL	11/23/2011
Alkalinity, Total	210 mg/L as CaCO <sub>3</sub>	SM 2320 B	MJL	11/23/2011
Chloride	10 mg/L	SM 4500-CL B	MJL	11/23/2011
Specific Conductivity	1200 umho/cm	SM 2510 B	MJL	11/23/2011
Iron, Total	<0.1 mg/L	EPA 200.7	MJL	12/1/2011
Hardness	530 mg/L as CaCO <sub>3</sub>	SM 2340 C	MJL	12/1/2011
Manganese, Total	<0.01 mg/L	EPA 200.7	MJL	12/1/2011
Sulfate	190 mg/L	D51690,02	CCV	11/22/2011
Solids, Total Dissolved	620 mg/L	SM 2540 C	CCV	11/22/2011

Reviewed by

*Rodger Wilson*



1125 E. Walnut Street  
Boonville, IN 47601

Sunrise Coal, LLC  
1183 East Canvasback Drive  
Terre Haute, IN 47802

Lab Number: 2011-3342-02  
Date Received: 11/18/2011  
Date Reported: 1/3/2012

### Sample Identification

Allerton Mine  
0083B

Date Sampled: 11/16/2011  
Sampled by: \*\*\*

### Sample Analysis

Parameter	Result	Method	Analyst	Analysis Date
Depth	13.80 feet		***	11/16/2011
pH	7.48 SU	SM 4500-H+ B	***	11/16/2011
Acidity, Total	<10 mg/L as CaCO <sub>3</sub>	SM 2310 B	MJL	11/23/2011
Alkalinity, Total	180 mg/L as CaCO <sub>3</sub>	SM 2320 B	MJL	11/23/2011
Chloride	6 mg/L	SM 4500-CL B	MJL	11/23/2011
Specific Conductivity	920 umho/cm	SM 2510 B	MJL	11/23/2011
Iron, Total	0.12 mg/L	EPA 200.7	MJL	12/1/2011
Hardness	300 mg/L as CaCO <sub>3</sub>	SM 2340 C	MJL	12/1/2011
Manganese, Total	0.019 mg/L	EPA 200.7	MJL	12/1/2011
Sulfate	270 mg/L	D51690,02	CCV	11/22/2011
Solids, Total Dissolved	530 mg/L	SM 2540 C	CCV	11/22/2011

Reviewed by

*Rodger Wilco*



1125 E. Walnut Street  
Boonville, IN 47601

Sunrise Coal, LLC  
1183 East Canvasback Drive  
Terre Haute, IN 47802

Lab Number: 2011-3294-02  
Date Received: 11/11/2011  
Date Reported: 11/30/2011

### Sample Identification

Allerton Mine  
~~M26~~ 0086

Date Sampled: 11/10/2011  
Sampled by: HMS

### Sample Analysis

Parameter	Result	Method	Analyst	Analysis Date
Depth	9.20 feet		HMS	11/10/2011
pH	7.22 SU	SM 4500-H+ B	HMS	11/10/2011
Temperature	17.4 deg C	SM 2550 B	HMS	11/10/2011
Acidity, Total	<10 mg/L as CaCO <sub>3</sub>	SM 2310 B	MJL	11/21/2011
Alkalinity, Total	140 mg/L as CaCO <sub>3</sub>	SM 2320 B	MJL	11/21/2011
Chloride	<6 mg/L	SM 4500-CL B	MJL	11/21/2011
Specific Conductivity	720 umho/cm	SM 2510 B	MJL	11/21/2011
Iron, Total	1.9 mg/L	EPA 200.7	MJL	11/19/2011
Hardness	280 mg/L as CaCO <sub>3</sub>	SM 2340 C	MJL	11/19/2011
Manganese, Total	0.061 mg/L	EPA 200.7	MJL	11/19/2011
Sulfate	8 mg/L	D51690,02	CCV	11/18/2011
Solids, Total Dissolved	410 mg/L	SM 2540 C	CCV	11/17/2011

Reviewed by

*Rodger Wilko*



1125 E. Walnut Street  
Boonville, IN 47601

Sunrise Coal, LLC  
1183 East Canvasback Drive  
Terre Haute, IN 47802

Lab Number: 2011-3294-03  
Date Received: 11/11/2011  
Date Reported: 11/30/2011

### Sample Identification

Allerton Mine  
~~BY~~ 0097a

Date Sampled: 11/10/2011  
Sampled by: HMS

### Sample Analysis

Parameter	Result	Method	Analyst	Analysis Date
Depth	9.21 feet		HMS	11/10/2011
pH	7.37 SU	SM 4500-H+ B	HMS	11/10/2011
Temperature	14.6 deg C	SM 2550 B	HMS	11/10/2011
Acidity, Total	<10 mg/L as CaCO <sub>3</sub>	SM 2310 B	MJL	11/21/2011
Alkalinity, Total	180 mg/L as CaCO <sub>3</sub>	SM 2320 B	MJL	11/21/2011
Chloride	10 mg/L	SM 4500-CL B	MJL	11/21/2011
Specific Conductivity	760 umho/cm	SM 2510 B	MJL	11/21/2011
Iron, Total	0.15 mg/L	EPA 200.7	MJL	11/19/2011
Hardness	310 mg/L as CaCO <sub>3</sub>	SM 2340 C	MJL	11/19/2011
Manganese, Total	0.014 mg/L	EPA 200.7	MJL	11/19/2011
Sulfate	30 mg/L	D51690,02	CCV	11/18/2011
Solids, Total Dissolved	420 mg/L	SM 2540 C	CCV	11/17/2011

Reviewed by

*Rodger Wilco*



1125 E. Walnut Street  
Boonville, IN 47601

Sunrise Coal, LLC  
1183 East Canvasback Drive  
Terre Haute, IN 47802

Lab Number: 2011-3294-04  
Date Received: 11/11/2011  
Date Reported: 11/30/2011

### Sample Identification

Allerton Mine  
~~332~~ 0097b

Date Sampled: 11/10/2011  
Sampled by: HMS

### Sample Analysis

Parameter	Result	Method	Analyst	Analysis Date
Depth	9.85 feet		HMS	11/10/2011
pH	7.34 SU	SM 4500-H+ B	HMS	11/10/2011
Temperature	13.5 deg C	SM 2550 B	HMS	11/10/2011
Acidity, Total	<10 mg/L as CaCO <sub>3</sub>	SM 2310 B	MJL	11/21/2011
Alkalinity, Total	160 mg/L as CaCO <sub>3</sub>	SM 2320 B	MJL	11/21/2011
Chloride	12 mg/L	SM 4500-CL B	MJL	11/21/2011
Specific Conductivity	700 umho/cm	SM 2510 B	MJL	11/21/2011
Iron, Total	<0.1 mg/L	EPA 200.7	MJL	11/19/2011
Hardness	320 mg/L as CaCO <sub>3</sub>	SM 2340 C	MJL	11/19/2011
Manganese, Total	<0.01 mg/L	EPA 200.7	MJL	11/19/2012
Sulfate	10 mg/L	D51690,02	CCV	11/18/2011
Solids, Total Dissolved	410 mg/L	SM 2540 C	CCV	11/17/2011

Reviewed by

*Rodger Wilko*



1125 E. Walnut Street  
Boonville, IN 47601

Sunrise Coal, LLC  
1183 East Canvasback Drive  
Terre Haute, IN 47802

Lab Number: 2012-1331-01  
Date Received: 3/23/2012  
Date Reported: 4/23/2012

### Sample Identification

Allerton Mine  
Site 0048

Date Sampled: 3/22/2012  
Sampled by: HMS

### Sample Analysis

Parameter	Result	Method	Analyst	Analysis Date
Depth	6.90 feet		HMS	3/22/2012
pH	7.52 SU	SM 4500-H+ B	HMS	3/22/2012
Temperature	12.9 deg C	SM 2550 B	HMS	3/22/2012
Acidity, Total	<10 mg/L as CaCO <sub>3</sub>	SM 2310 B	MJL	3/26/2012
Alkalinity, Total	250 mg/L as CaCO <sub>3</sub>	SM 2320 B	MJL	3/26/2012
Chloride	240 mg/L	SM 4500-CL B	MJL	3/26/2012
Specific Conductivity	1400 uS/cm	SM 2510 B	MJL	3/26/2012
Iron, Total	<0.1 mg/L	EPA 200.7	MJL	3/30/2012
Hardness	490 mg/L as CaCO <sub>3</sub>	SM 2340 C	MJL	3/30/2012
Manganese, Total	<0.01 mg/L	EPA 200.7	MJL	3/30/2012
Sulfate	30 mg/L	D51690,02	CCV	3/23/2012
Solids, Total Dissolved	820 mg/L	SM 2540 C	CCV	3/23/2012
Coliform, E. Coli	<10 CFU/100 mL	EPA 1603	MLI	3/22/2012



1125 E. Walnut Street  
Boonville, IN 47601

Sunrise Coal, LLC  
1183 East Canvasback Drive  
Terre Haute, IN 47802

Lab Number: 2012-1331-02  
Date Received: 3/23/2012  
Date Reported: 4/23/2012

### Sample Identification

Allerton Mine  
Site 0241

Date Sampled: 3/22/2012  
Sampled by: HMS

### Sample Analysis

Parameter	Result	Method	Analyst	Analysis Date
Depth	8.60 feet		HMS	3/22/2012
pH	7.43 SU	SM 4500-H+ B	HMS	3/22/2012
Temperature	15.1 deg C	SM 2550 B	HMS	3/22/2012
Acidity, Total	<10 mg/L as CaCO <sub>3</sub>	SM 2310 B	MJL	3/26/2012
Alkalinity, Total	320 mg/L as CaCO <sub>3</sub>	SM 2320 B	MJL	3/26/2012
Chloride	<6 mg/L	SM 4500-CL B	MJL	3/26/2012
Specific Conductivity	630 uS/cm	SM 2510 B	MJL	3/26/2012
Iron, Total	1.1 mg/L	EPA 200.7	MJL	3/30/2012
Hardness	210 mg/L as CaCO <sub>3</sub>	SM 2340 C	MJL	3/30/2012
Manganese, Total	0.045 mg/L	EPA 200.7	MJL	3/30/2012
Sulfate	2 mg/L	D51690,02	CCV	3/23/2012
Solids, Total Dissolved	340 mg/L	SM 2540 C	CCV	3/23/2012

Reviewed by

*Rodger Wilson*



1125 E. Walnut Street  
Boonville, IN 47601

Sunrise Coal, LLC  
1183 East Canvasback Drive  
Terre Haute, IN 47802

Lab Number: 2012-1331-03  
Date Received: 3/23/2012  
Date Reported: 4/23/2012

### Sample Identification

Allerton Mine  
Wienke 18-14-14

Date Sampled: 3/22/2012  
Sampled by: HMS

### Sample Analysis

Parameter	Result	Method	Analyst	Analysis Date
Depth	7.80 feet		HMS	3/22/2012
pH	7.68 SU	SM 4500-H+ B	HMS	3/22/2012
Temperature	16.0 deg C	SM 2550 B	HMS	3/22/2012
Acidity, Total	<10 mg/L as CaCO <sub>3</sub>	SM 2310 B	MJL	3/26/2012
Alkalinity, Total	260 mg/L as CaCO <sub>3</sub>	SM 2320 B	MJL	3/26/2012
Chloride	23 mg/L	SM 4500-CL B	MJL	3/26/2012
Specific Conductivity	610 uS/cm	SM 2510 B	MJL	3/26/2012
Iron, Total	<0.1 mg/L	EPA 200.7	MJL	3/30/2012
Hardness	290 mg/L as CaCO <sub>3</sub>	SM 2340 C	MJL	3/30/2012
Manganese, Total	<0.01 mg/L	EPA 200.7	MJL	3/30/2012
Sulfate	6 mg/L	D51690,02	CCV	3/23/2012
Solids, Total Dissolved	300 mg/L	SM 2540 C	CCV	3/23/2012

Reviewed by

*Rodger Wilco*



1125 E. Walnut Street  
Boonville, IN 47601

Sunrise Coal, LLC  
1183 East Canvasback Drive  
Terre Haute, IN 47802

Lab Number: 2012-1331-04  
Date Received: 3/23/2012  
Date Reported: 4/23/2012

### Sample Identification

Allerton Mine  
Site 0200

Date Sampled: 3/22/2012  
Sampled by: HMS

### Sample Analysis

Parameter	Result	Method	Analyst	Analysis Date
Depth	9.15 feet		HMS	3/22/2012
pH	7.40 SU	SM 4500-H+ B	HMS	3/22/2012
Temperature	15.5 deg C	SM 2550 B	HMS	3/22/2012
Acidity, Total	<10 mg/L as CaCO <sub>3</sub>	SM 2310 B	MJL	3/26/2012
Alkalinity, Total	370 mg/L as CaCO <sub>3</sub>	SM 2320 B	MJL	3/26/2012
Chloride	35 mg/L	SM 4500-CL B	MJL	3/26/2012
Specific Conductivity	830 uS/cm	SM 2510 B	MJL	3/26/2012
Iron, Total	0.80 mg/L	EPA 200.7	MJL	3/30/2012
Hardness	280 mg/L as CaCO <sub>3</sub>	SM 2340 C	MJL	3/30/2012
Manganese, Total	0.025 mg/L	EPA 200.7	MJL	3/30/2012
Sulfate	5 mg/L	D51690,02	CCV	3/23/2012
Solids, Total Dissolved	430 mg/L	SM 2540 C	CCV	3/23/2012

Reviewed by

*Rodger Wilco*



1125 E. Walnut Street  
Boonville, IN 47601

Sunrise Coal, LLC  
1183 East Canvasback Drive  
Terre Haute, IN 47802

Lab Number: 2011-3342-05  
Date Received: 11/18/2011  
Date Reported: 1/3/2012

### Sample Identification

Allerton Mine  
Maddox Farms 17-13-6

Date Sampled: 11/16/2011  
Sampled by: \*\*\*

### Sample Analysis

Parameter	Result	Method	Analyst	Analysis Date
Depth	8.40 feet		***	11/16/2011
pH	7.30 SU	SM 4500-H+ B	***	11/16/2011
Acidity, Total	<10 mg/L as CaCO <sub>3</sub>	SM 2310 B	MJL	11/23/2011
Alkalinity, Total	250 mg/L as CaCO <sub>3</sub>	SM 2320 B	MJL	11/23/2011
Chloride	9 mg/L	SM 4500-CL B	MJL	11/23/2011
Specific Conductivity	990 um ho/cm	SM 2510 B	MJL	11/23/2011
Iron, Total	0.92 mg/L	EPA 200.7	MJL	12/1/2011
Hardness	330 mg/L as CaCO <sub>3</sub>	SM 2340 C	MJL	12/1/2011
Manganese, Total	0.12 mg/L	EPA 200.7	MJL	12/1/2011
Sulfate	140 mg/L	D51690,02	CCV	11/23/2011
Solids, Total Dissolved	540 mg/L	SM 2540 C	CCV	11/22/2011

Reviewed by

*Rodger Wilho*



1125 E. Walnut Street  
Boonville, IN 47601

Sunrise Coal, LLC  
1183 East Canvasback Drive  
Terre Haute, IN 47802

Lab Number: 2011-3342-06  
Date Received: 11/18/2011  
Date Reported: 1/3/2012

### Sample Identification

Allerton Mine  
Shreeves 17-14-25

Date Sampled: 11/16/2011  
Sampled by: \*\*\*

### Sample Analysis

Parameter	Result	Method	Analyst	Analysis Date
Depth	10.20 feet		***	11/16/2011
pH	7.72 SU	SM 4500-H+ B	***	11/16/2011
Acidity, Total	<10 mg/L as CaCO <sub>3</sub>	SM 2310 B	MJL	11/23/2011
Alkalinity, Total	100 mg/L as CaCO <sub>3</sub>	SM 2320 B	MJL	11/23/2011
Chloride	<6 mg/L	SM 4500-CL B	MJL	11/23/2011
Specific Conductivity	630 umho/cm	SM 2510 B	CCV	11/23/2011
Iron, Total	0.86 mg/L	EPA 200.7	MJL	12/1/2011
Hardness	220 mg/L as CaCO <sub>3</sub>	SM 2340 C	MJL	12/1/2011
Manganese, Total	0.047 mg/L	EPA 200.7	MJL	12/1/2011
Sulfate	88 mg/L	D51690,02	CCV	11/22/2011
Solids, Total Dissolved	370 mg/L	SM 2540 C	CCV	11/22/2011

Reviewed by

*Rodger Wilks*



1125 E. Walnut Street  
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Sunrise Coal, LLC  
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Terre Haute, IN 47802

Lab Number: 2011-3158-01  
Date Received: 10/24/2011  
Date Reported: 5/1/2012

### Sample Identification

Allerton Mine  
0013

Date Sampled: 10/20/2011  
Sampled by: HMS

### Sample Analysis

Parameter	Result	Method	Analyst	Analysis Date
Depth	NA feet		HMS	10/20/2011
pH	7.22 SU	SM 4500-H+ B	HMS	10/20/2011
Temperature	15.1 deg C	SM 2550 B	HMS	10/20/2011
Acidity, Total	<10 mg/L as CaCO <sub>3</sub>	SM 2310 B	MJL	10/31/2011
Alkalinity, Total	82 mg/L as CaCO <sub>3</sub>	SM 2320 B	MJL	10/31/2011
Chloride	<6 mg/L	SM 4500-CL B	MJL	10/31/2011
Specific Conductivity	690 umho/cm	SM 2510 B	MJL	10/31/2011
Iron, Total	0.23 mg/L	SM 3500-FE B	MJL	11/3/2011
Hardness	150 mg/L as CaCO <sub>3</sub>	SM 2340 C	MJL	11/3/2011
Manganese, Total	<0.01 mg/L	SM 3500-MN B	MJL	11/3/2011
Sulfate	80 mg/L	D51690,02	CCV	10/25/2011
Solids, Total Dissolved	420 mg/L	SM 2540 C	CCV	10/25/2011

Revised Report 5/1/2012: Updated sample identification.

Reviewed by

*Rodger Wilder*



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Sunrise Coal, LLC  
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Terre Haute, IN 47802

Lab Number: 2012-1399-03  
Date Received: 4/5/2012  
Date Reported: 5/1/2012

### Sample Identification

Allerton Mine  
0060A

Date Sampled: 4/5/2012  
Sampled by: HMS

### Sample Analysis

Parameter	Result	Method	Analyst	Analysis Date
Depth	3.49 feet		HMS	4/5/2012
pH	7.51 SU	SM 4500-H+ B	HMS	4/5/2012
Temperature	13.9 deg C	SM 2550 B	HMS	4/5/2012
Acidity, Total	<10 mg/L as CaCO <sub>3</sub>	SM 2310 B	MJL	4/18/2012
Alkalinity, Total	260 mg/L as CaCO <sub>3</sub>	SM 2320 B	MJL	4/18/2012
Chloride	29 mg/L	SM 4500-CL B	MJL	4/18/2012
Specific Conductivity	730 uS/cm	SM 2510 B	MJL	4/18/2012
Iron, Total	0.13 mg/L	EPA 200.7	MJL	4/12/2012
Hardness	330 mg/L as CaCO <sub>3</sub>	SM 2340 C	MJL	4/12/2012
Manganese, Total	0.025 mg/L	EPA 200.7	MJL	4/12/2012
Sulfate	54 mg/L	D51690,02	CVV	4/11/2012
Solids, Total Dissolved	360 mg/L	SM 2540 C	CCV	4/11/2012

Reviewed by

*Rodger Wilson*



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Terre Haute, IN 47802

Lab Number: 2012-1399-04  
Date Received: 4/5/2012  
Date Reported: 5/1/2012

### Sample Identification

Allerton Mine  
0060B

Date Sampled: 4/5/2012  
Sampled by: HMS

### Sample Analysis

Parameter	Result	Method	Analyst	Analysis Date
Depth	n/a feet		HMS	4/5/2012
pH	7.72 SU	SM 4500-H+ B	HMS	4/5/2012
Temperature	14.0 deg C	SM 2550 B	HMS	4/5/2012
Acidity, Total	<10 mg/L as CaCO <sub>3</sub>	SM 2310 B	MJL	4/18/2012
Alkalinity, Total	390 mg/L as CaCO <sub>3</sub>	SM 2320 B	MJL	4/18/2012
Chloride	<6 mg/L	SM 4500-CL B	MJL	4/18/2012
Specific Conductivity	810 uS/cm	SM 2510 B	MJL	4/18/2012
Iron, Total	0.15 mg/L	EPA 200.7	MJL	4/12/2012
Hardness	120 mg/L as CaCO <sub>3</sub>	SM 2340 C	MJL	4/12/2012
Manganese, Total	0.050 mg/L	EPA 200.7	MJL	4/12/2012
Sulfate	12 mg/L	D51690,02	CVV	4/11/2012
Solids, Total Dissolved	400 mg/L	SM 2540 C	CCV	4/11/2012

Reviewed by

*Rodger Wilco*



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Terre Haute, IN 47802

Lab Number: 2011-3424-03  
Date Received: 12/2/2011  
Date Reported: 1/5/2012

### Sample Identification

Allerton Mine  
0069

Date Sampled: 12/1/2011  
Sampled by: HMS

### Sample Analysis

Parameter	Result	Method	Analyst	Analysis Date
Depth	18.90 feet		HMS	12/1/2011
pH	7.34 SU	SM 4500-H+ B	HMS	12/1/2011
Temperature	11.6 deg C	SM 2550 B	HMS	12/1/2011
Acidity, Total	<10 mg/L as CaCO <sub>3</sub>	SM 2310 B	MJL	12/9/2011
Alkalinity, Total	84 mg/L as CaCO <sub>3</sub>	SM 2320 B	MJL	12/9/2011
Chloride	<6 mg/L	SM 4500-CL B	MJL	12/9/2011
Specific Conductivity	410 um ho/cm	SM 2510 B	MJL	12/9/2011
Iron, Total	0.12 mg/L	EPA 200.7	MJL	12/13/2011
Hardness	94 mg/L as CaCO <sub>3</sub>	SM 2340 C	MJL	12/13/2011
Manganese, Total	<0.01 mg/L	EPA 200.7	MJL	12/13/2011
Sulfate	60 mg/L	D51690,02	CCV	12/8/2011
Solids, Total Dissolved	220 mg/L	SM 2540 C	CCV	12/8/2011

Reviewed by

*Rodger Wilho*



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Lab Number: 2012-1399-01  
Date Received: 4/5/2012  
Date Reported: 5/1/2012

### Sample Identification

Allerton Mine  
0124

Date Sampled: 4/5/2012  
Sampled by: HMS

### Sample Analysis

Parameter	Result	Method	Analyst	Analysis Date
Depth	8.39 feet		HMS	4/5/2012
pH	7.30 SU	SM 4500-H+ B	HMS	4/5/2012
Temperature	12.7 deg C	SM 2550 B	HMS	4/5/2012
Acidity, Total	<10 mg/L as CaCO <sub>3</sub>	SM 2310 B	MJL	4/18/2012
Alkalinity, Total	320 mg/L as CaCO <sub>3</sub>	SM 2320 B	MJL	4/18/2012
Chloride	19 mg/L	SM 4500-CL B	MJL	4/18/2012
Specific Conductivity	670 uS/cm	SM 2510 B	MJL	4/18/2012
Iron, Total	0.13 mg/L	EPA 200.7	MJL	4/12/2012
Hardness	330 mg/L as CaCO <sub>3</sub>	SM 2340 C	MJL	4/12/2012
Manganese, Total	0.086 mg/L	EPA 200.7	MJL	4/12/2012
Sulfate	4 mg/L	D51690,02	CVV	4/11/2012
Solids, Total Dissolved	360 mg/L	SM 2540 C	CCV	4/11/2012

Reviewed by

*Rodger Wilson*



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Lab Number: 2011-3424-02  
Date Received: 12/2/2011  
Date Reported: 1/5/2012

### Sample Identification

Allerton Mine  
0129

Date Sampled: 12/1/2011  
Sampled by: HMS

### Sample Analysis

Parameter	Result	Method	Analyst	Analysis Date
Depth	20.10 feet		HMS	12/1/2011
pH	7.21 SU	SM 4500-H+ B	HMS	12/1/2011
Temperature	14.9 deg C	SM 2550 B	HMS	12/1/2011
Acidity, Total	<10 mg/L as CaCO <sub>3</sub>	SM 2310 B	MJL	12/9/2011
Alkalinity, Total	180 mg/L as CaCO <sub>3</sub>	SM 2320 B	MJL	12/9/2011
Chloride	6 mg/L	SM 4500-CL B	MJL	12/9/2011
Specific Conductivity	950 umho/cm	SM 2510 B	MJL	12/9/2011
Iron, Total	0.14 mg/L	EPA 200.7	MJL	12/13/2011
Hardness	230 mg/L as CaCO <sub>3</sub>	SM 2340 C	MJL	12/9/2011
Manganese, Total	0.062 mg/L	EPA 200.7	MJL	12/13/2011
Sulfate	80 mg/L	D51690,02	CCV	12/20/2011
Solids, Total Dissolved	540 mg/L	SM 2540 C	CCV	12/8/2011

Reviewed by

*Rodger Wilko*



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Lab Number: 2011-3424-01  
Date Received: 12/2/2011  
Date Reported: 1/5/2012

### Sample Identification

Allerton Mine  
0130

Date Sampled: 12/1/2011  
Sampled by: HMS

### Sample Analysis

Parameter	Result	Method	Analyst	Analysis Date
Depth	38.50 feet		HMS	12/1/2011
pH	7.22 SU	SM 4500-H+ B	HMS	12/1/2011
Temperature	17.0 deg C	SM 2550 B	HMS	12/1/2011
Acidity, Total	<10 mg/L as CaCO <sub>3</sub>	SM 2310 B	MJL	12/9/2011
Alkalinity, Total	140 mg/L as CaCO <sub>3</sub>	SM 2320 B	MJL	12/9/2011
Chloride	<6 mg/L	SM 4500-CL B	MJL	12/9/2011
Specific Conductivity	660 umho/cm	SM 2510 B	MJL	12/9/2011
Iron, Total	0.12 mg/L	EPA 200.7	MJL	12/13/2011
Hardness	10 mg/L as CaCO <sub>3</sub>	SM 2340 C	MJL	12/13/2011
Manganese, Total	0.084 mg/L	EPA 200.7	MJL	12/13/2011
Sulfate	20 mg/L	D51690,02	CCV	12/8/2011
Solids, Total Dissolved	320 mg/L	SM 2540 C	CCV	12/8/2011

Reviewed by

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Lab Number: 2011-3424-05  
Date Received: 12/2/2011  
Date Reported: 1/5/2012

### Sample Identification

Allerton Mine  
0233

Date Sampled: 12/1/2011  
Sampled by: HMS

### Sample Analysis

Parameter	Result	Method	Analyst	Analysis Date
Depth	10.77 feet		HMS	12/1/2011
pH	7.16 SU	SM 4500-H+ B	HMS	12/1/2011
Temperature	13.3 deg C	SM 2550 B	HMS	12/1/2011
Acidity, Total	<10 mg/L as CaCO <sub>3</sub>	SM 2310 B	MJL	12/9/2011
Alkalinity, Total	130 mg/L as CaCO <sub>3</sub>	SM 2320 B	MJL	12/9/2011
Chloride	6 mg/L	SM 4500-CL B	MJL	12/9/2011
Specific Conductivity	710 umho/cm	SM 2510 B	MJL	12/13/2011
Iron, Total	<0.1 mg/L	EPA 200.7	MJL	12/13/2011
Hardness	190 mg/L as CaCO <sub>3</sub>	SM 2340 C	MJL	12/13/2011
Manganese, Total	0.022 mg/L	EPA 200.7	MJL	12/13/2011
Sulfate	60 mg/L	D51690,02	CCV	12/8/2011
Solids, Total Dissolved	370 mg/L	SM 2540 C	CCV	12/8/2011

Reviewed by

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Lab Number: 2011-3424-04  
Date Received: 12/2/2011  
Date Reported: 1/5/2012

### Sample Identification

Allerton Mine  
0242

Date Sampled: 12/1/2011  
Sampled by: HMS

### Sample Analysis

Parameter	Result	Method	Analyst	Analysis Date
Depth	9.80 feet		HMS	12/1/2011
pH	7.15 SU	SM 4500-H+ B	HMS	12/1/2011
Temperature	11.1 deg C	SM 2550 B	HMS	12/1/2011
Acidity, Total	<10 mg/L as CaCO <sub>3</sub>	SM 2310 B	MJL	12/9/2011
Alkalinity, Total	92 mg/L as CaCO <sub>3</sub>	SM 2320 B	MJL	12/9/2011
Chloride	<6 mg/L	SM 4500-CL B	MJL	12/9/2011
Specific Conductivity	450 umho/cm	SM 2510 B	MJL	12/9/2011
Iron, Total	<0.1 mg/L	EPA 200.7	MJL	12/13/2011
Hardness	120 mg/L as CaCO <sub>3</sub>	SM 2340 C	MJL	12/9/2011
Manganese, Total	0.032 mg/L	EPA 200.7	MJL	12/13/2011
Sulfate	51 mg/L	D51690,02	CCV	12/8/2011
Solids, Total Dissolved	270 mg/L	SM 2540 C	CCV	12/8/2011

Reviewed by

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Lab Number: 2012-1399-02  
Date Received: 4/5/2012  
Date Reported: 5/1/2012

### Sample Identification

Allerton Mine  
Ford 17N-13W-7

Date Sampled: 4/5/2012  
Sampled by: HMS

### Sample Analysis

Parameter	Result	Method	Analyst	Analysis Date
Depth	7.04 feet		HMS	4/5/2012
pH	7.49 SU	SM 4500-H+ B	HMS	4/5/2012
Temperature	12.4 deg C	SM 2550 B	HMS	4/5/2012
Acidity, Total	<10 mg/L as CaCO <sub>3</sub>	SM 2310 B	MJL	4/18/2012
Alkalinity, Total	220 mg/L as CaCO <sub>3</sub>	SM 2320 B	MJL	4/18/2012
Chloride	<6 mg/L	SM 4500-CL B	MJL	4/18/2012
Specific Conductivity	470 uS/cm	SM 2510 B	MJL	4/18/2012
Iron, Total	0.11 mg/L	EPA 200.7	MJL	4/12/2012
Hardness	250 mg/L as CaCO <sub>3</sub>	SM 2340 C	MJL	4/12/2012
Manganese, Total	<0.01 mg/L	EPA 200.7	MJL	4/12/2012
Sulfate	4 mg/L	D51690,02	CVV	4/11/2012
Solids, Total Dissolved	200 mg/L	SM 2540 C	CCV	4/11/2012

Reviewed by

*Rodger Wilco*