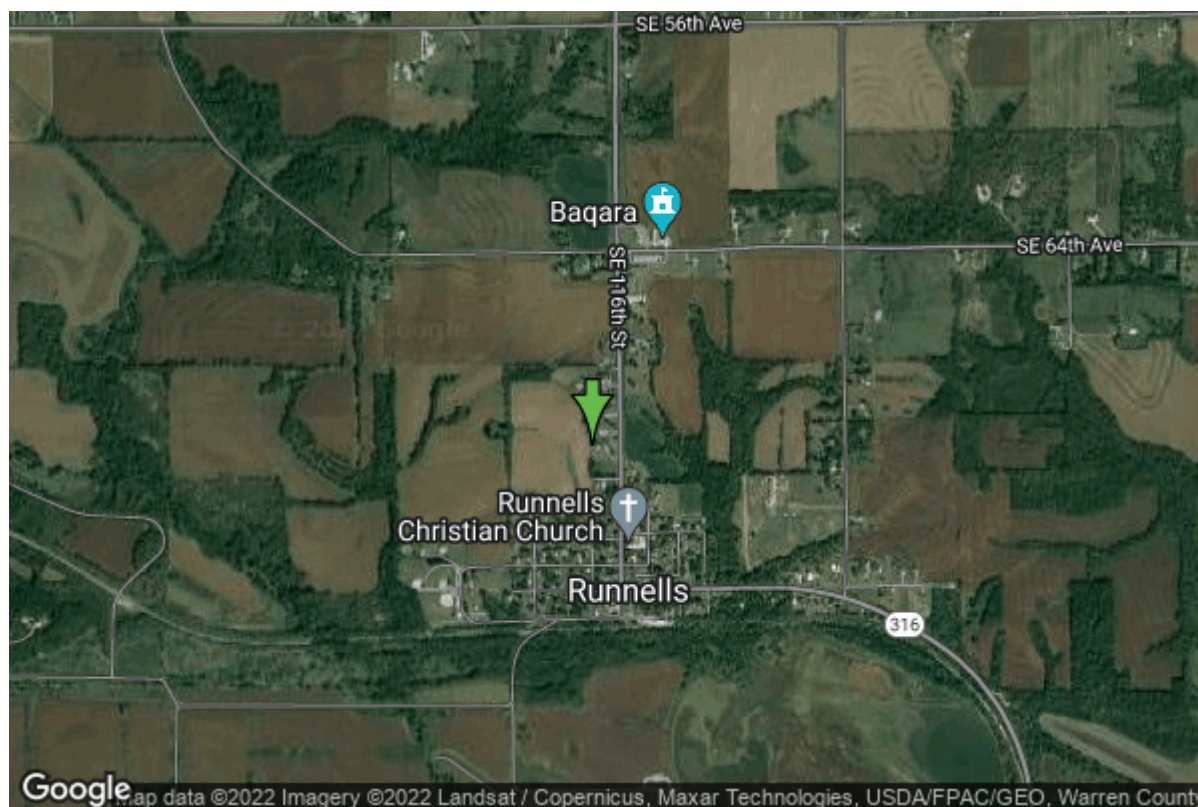


Well W#19417 Information



Date Received		State	Iowa
Owner Name	Runnells, City Of	County	Polk
Alt Name	#3	Quadrangle	Runnells, Iowa
WNumber	19417	Township	T78N
PWTS ID	0	Range	R22W
PWS ID	7774008	Section	35
Storet ID	0	Quarter	NW SE SE
SDWIS ID	2409000	Latitude	41.5157200000
USGS ID	0	Longitude	-93.3582500000
Project	Source Water Protection	Accuracy	
Operator	Unknown	UTM X	470107
		UTM Y	4596071

Site Type	Drilled hole	Drilling Company	Varner Well Co.
Well Status	Not Used	Drilling Date	06/06/1967
Field Located	No	Drilling Method	Rotary
Elevation	880 ft	Bedrock Depth	0 ft
Elevation Accuracy	Digital Elevation Model Accurate to 5 ft	Well Depth	2402 ft
Landscape Position	Unknown	Total Depth	2402 ft
		Well Types	Municipal, Public Supply
		Aquifers	Cambrian-Ordovician

Casing Construction Information

Date	06/06/1967	Casing Type	Steel
Start Depth	0.00 ft	End Depth	212.00 ft

Diameter	18.00 in	Amount	212.00 ft
Comments			

Date	06/06/1967	Casing Type	Steel
Start Depth	0.00 ft	End Depth	478.20 ft
Diameter	12.75 in	Amount	478.20 ft
Comments			

Date	06/06/1967	Casing Type	Steel
Start Depth	478.20 ft	End Depth	1970.00 ft
Diameter	8.63 in	Amount	1491.80 ft
Comments			

Grout Construction Information

Date	06/06/1967		
Grout Type	Cement	Grout Placement	Unknown
Start Depth	0.00 ft	End Depth	212.00 ft
Comments			

Log Information

Date	06/16/1967
Log Types	Pump Test
Prepared By	
Comments	

Date	06/01/1967
Log Types	Strip log
Prepared By	Northup, Richard Cox
Comments	

Date	
Log Types	Unknown
Prepared By	
Comments	

Stratigraphy Information

System	Quaternary		
Series			
Group			
Formation			
Member			
Submember			
Start Depth	0.00 ft	End Depth	5.00 ft

Contact Accuracy Penetration			
Primary Lithology	Soil Or Fill	Percent	100
Secondary Lithology	Unknown	Percent	0
Tertiary Lithology	Unknown	Percent	0
Comments			

System	Quaternary		
Series	Pleistocene Series		
Group	Wisconsinan Episode		
Formation	Peoria		
Member			
Submember			
Start Depth	5.00 ft	End Depth	20.00 ft
Contact Accuracy Penetration			
Primary Lithology	Loess	Percent	100
Secondary Lithology	Unknown	Percent	0
Tertiary Lithology	Unknown	Percent	0
Comments			

System	Pennsylvanian (Subsystem Of Carboniferous System)		
Series			
Group			
Formation			
Member			
Submember			
Start Depth	20.00 ft	End Depth	220.00 ft
Contact Accuracy Penetration			
Primary Lithology	Shale	Percent	0
Secondary Lithology	Sandstone	Percent	0
Tertiary Lithology	Unknown	Percent	0
Comments			

System	Mississippian (Subsystem Of Carboniferous System)		
Series			
Group			
Formation	St. Louis		
Member			
Submember			
Start Depth	220.00 ft	End Depth	290.00 ft
Contact Accuracy Penetration			
Primary Lithology	Limestone	Percent	0
Secondary Lithology	Sandstone	Percent	0
Tertiary Lithology		Percent	
Comments			

System	Mississippian (Subsystem Of Carboniferous System)		
Series			
Group			
Formation	Spergen		
Member			
Submember			
Start Depth	290.00 ft	End Depth	320.00 ft
Contact Accuracy			
Penetration			
Primary Lithology	Dolomite	Percent	100
Secondary Lithology		Percent	
Tertiary Lithology		Percent	
Comments			

System	Mississippian (Subsystem Of Carboniferous System)		
Series			
Group	Augusta		
Formation	Keokuk		
Member			
Submember			
Start Depth	320.00 ft	End Depth	412.00 ft
Contact Accuracy			
Penetration			
Primary Lithology	Dolomite	Percent	0
Secondary Lithology	Chert/Chalcedony	Percent	0
Tertiary Lithology		Percent	
Comments			

System	Mississippian (Subsystem Of Carboniferous System)		
Series			
Group	Augusta		
Formation	Burlington		
Member			
Submember			
Start Depth	412.00 ft	End Depth	518.00 ft
Contact Accuracy			
Penetration			
Primary Lithology		Percent	
Secondary Lithology		Percent	
Tertiary Lithology		Percent	
Comments			

System	Mississippian (Subsystem Of Carboniferous System)		
Series			
Group	Sub-Augusta		
Formation	Gilmore City		
Member	Iowa Falls Dolomite		
Submember			

Start Depth	518.00 ft	End Depth	552.00 ft
Contact Accuracy			
Penetration			
Primary Lithology	Dolomite	Percent	100
Secondary Lithology		Percent	
Tertiary Lithology		Percent	
Comments			

System	Mississippian (Subsystem Of Carboniferous System)		
Series			
Group	Sub-Augusta		
Formation	Maynes Creek		
Member	Eagle City		
Submember			
Start Depth	552.00 ft	End Depth	570.00 ft
Contact Accuracy			
Penetration			
Primary Lithology	Dolomite	Percent	0
Secondary Lithology	Limestone	Percent	0
Tertiary Lithology		Percent	
Comments			

System	Mississippian (Subsystem Of Carboniferous System)		
Series			
Group	Sub-Augusta		
Formation	Maynes Creek		
Member			
Submember			
Start Depth	570.00 ft	End Depth	614.00 ft
Contact Accuracy			
Penetration			
Primary Lithology	Dolomite	Percent	0
Secondary Lithology	Chert/Chalcedony	Percent	0
Tertiary Lithology		Percent	
Comments			

System	Mississippian (Subsystem Of Carboniferous System)		
Series			
Group	North Hill		
Formation			
Member			
Submember			
Start Depth	614.00 ft	End Depth	629.00 ft
Contact Accuracy			
Penetration			
Primary Lithology	Limestone	Percent	100
Secondary Lithology		Percent	
Tertiary Lithology		Percent	
Comments			

System	Mississippian (Subsystem Of Carboniferous System)		
Series			
Group	North Hill		
Formation	Prospect Hill		
Member			
Submember			
Start Depth	629.00 ft	End Depth	635.00 ft
Contact Accuracy			
Penetration			
Primary Lithology	Siltstone	Percent	100
Secondary Lithology		Percent	
Tertiary Lithology		Percent	
Comments			

System	Devonian		
Series			
Group	Yellow Spring (New Albany)		
Formation	Maple Mill		
Member			
Submember			
Start Depth	635.00 ft	End Depth	690.00 ft
Contact Accuracy			
Penetration			
Primary Lithology	Shale	Percent	100
Secondary Lithology		Percent	
Tertiary Lithology		Percent	
Comments			

System	Devonian		
Series			
Group	Yellow Spring (New Albany)		
Formation	Lime Creek		
Member			
Submember			
Start Depth	690.00 ft	End Depth	802.00 ft
Contact Accuracy			
Penetration			
Primary Lithology	Limestone	Percent	0
Secondary Lithology	Dolomite	Percent	0
Tertiary Lithology	Shale	Percent	0
Comments			

System	Unknown		
Series			
Group			
Formation			
Member			
Submember			

Start Depth	802.00 ft	End Depth	1180.00 ft
Contact Accuracy			
Penetration			
Primary Lithology	Ls/Dol Mixed	Percent	0
Secondary Lithology	Gypsum/Anhydrite	Percent	0
Tertiary Lithology	Chert/Chalcedony	Percent	0
Comments			

System	Devonian		
Series			
Group	Wapsipinicon		
Formation			
Member			
Submember			
Start Depth	1180.00 ft	End Depth	1250.00 ft
Contact Accuracy			
Penetration			
Primary Lithology	Dolomite	Percent	0
Secondary Lithology	Gypsum/Anhydrite	Percent	0
Tertiary Lithology	Chert/Chalcedony	Percent	0
Comments			

System	Silurian		
Series			
Group			
Formation	Laporte City		
Member			
Submember			
Start Depth	1250.00 ft	End Depth	1302.00 ft
Contact Accuracy			
Penetration			
Primary Lithology	Chert/Chalcedony	Percent	100
Secondary Lithology		Percent	
Tertiary Lithology		Percent	
Comments			

System	Ordovician		
Series			
Group			
Formation	Maquoketa		
Member	Neda		
Submember			
Start Depth	1302.00 ft	End Depth	1346.00 ft
Contact Accuracy			
Penetration			
Primary Lithology	Shale	Percent	100
Secondary Lithology		Percent	
Tertiary Lithology		Percent	
Comments			

System	Ordovician		
Series			
Group			
Formation	Maquoketa		
Member	Ft. Atkinson Limestone		
Submember			
Start Depth	1346.00 ft	End Depth	1510.00 ft
Contact Accuracy			
Penetration			
Primary Lithology	Dolomite	Percent	0
Secondary Lithology	Shale	Percent	0
Tertiary Lithology	Chert/Chalcedony	Percent	0
Comments			

System	Ordovician		
Series			
Group			
Formation	Maquoketa		
Member	Elgin Limestone		
Submember			
Start Depth	1510.00 ft	End Depth	1600.00 ft
Contact Accuracy			
Penetration			
Primary Lithology	Chert/Chalcedony	Percent	0
Secondary Lithology	Dolomite	Percent	0
Tertiary Lithology		Percent	
Comments			

System	Unknown		
Series			
Group			
Formation			
Member			
Submember			
Start Depth	1600.00 ft	End Depth	1675.00 ft
Contact Accuracy			
Penetration			
Primary Lithology	Dolomite	Percent	0
Secondary Lithology	Limestone	Percent	0
Tertiary Lithology	Chert/Chalcedony	Percent	0
Comments			

System	Ordovician		
Series			
Group	Galena		
Formation	Dunleith		
Member			
Submember			

Start Depth	1675.00 ft	End Depth	1767.00 ft
Contact Accuracy			
Penetration			
Primary Lithology	Dolomite	Percent	0
Secondary Lithology	Chert/Chalcedony	Percent	0
Tertiary Lithology		Percent	
Comments			

System	Ordovician		
Series			
Group	Galena		
Formation	Decorah		
Member	Ion		
Submember			
Start Depth	1767.00 ft	End Depth	1780.00 ft
Contact Accuracy			
Penetration			
Primary Lithology	Limestone	Percent	0
Secondary Lithology	Dolomite	Percent	0
Tertiary Lithology	Shale	Percent	0
Comments			

System	Ordovician		
Series			
Group	Galena		
Formation	Decorah		
Member	Guttenberg		
Submember			
Start Depth	1780.00 ft	End Depth	1787.00 ft
Contact Accuracy			
Penetration			
Primary Lithology	Limestone	Percent	0
Secondary Lithology	Shale	Percent	0
Tertiary Lithology		Percent	
Comments			

System	Ordovician		
Series			
Group	Galena		
Formation	Decorah		
Member	Spechts Ferry		
Submember			
Start Depth	1787.00 ft	End Depth	1793.00 ft
Contact Accuracy			
Penetration			
Primary Lithology	Shale	Percent	100
Secondary Lithology		Percent	
Tertiary Lithology		Percent	
Comments			

System	Ordovician		
Series			
Group	Galena		
Formation	Platteville		
Member	Mcgregor		
Submember			
Start Depth	1793.00 ft	End Depth	1810.00 ft
Contact Accuracy			
Penetration			
Primary Lithology	Limestone	Percent	0
Secondary Lithology	Dolomite	Percent	0
Tertiary Lithology		Percent	
Comments			

System	Ordovician		
Series			
Group	Galena		
Formation	Platteville		
Member	Pecatonica		
Submember			
Start Depth	1810.00 ft	End Depth	1818.00 ft
Contact Accuracy			
Penetration			
Primary Lithology	Dolomite	Percent	100
Secondary Lithology		Percent	
Tertiary Lithology		Percent	
Comments			

System	Ordovician		
Series			
Group	Ancell		
Formation	Glenwood		
Member	Harmony Hill		
Submember			
Start Depth	1818.00 ft	End Depth	1823.00 ft
Contact Accuracy			
Penetration			
Primary Lithology	Shale	Percent	100
Secondary Lithology		Percent	
Tertiary Lithology		Percent	
Comments			

System	Ordovician		
Series			
Group	Ancell		
Formation	St. Peter Sandstone		
Member			
Submember			

Start Depth	1823.00 ft	End Depth	1858.00 ft
Contact Accuracy Penetration			
Primary Lithology	Sandstone	Percent	100
Secondary Lithology		Percent	
Tertiary Lithology		Percent	
Comments			

System Series	Ordovician		
Group Formation	Prairie Du Chien		
Member	Shakopee		
Submember	Willow River		
Start Depth	1858.00 ft	End Depth	2030.00 ft
Contact Accuracy Penetration			
Primary Lithology	Dolomite	Percent	0
Secondary Lithology	Sandstone	Percent	0
Tertiary Lithology	Chert/Chalcedony	Percent	0
Comments			

System Series	Ordovician		
Group Formation	Prairie Du Chien		
Member	Shakopee		
Submember	New Richmond		
Start Depth	2030.00 ft	End Depth	2110.00 ft
Contact Accuracy Penetration			
Primary Lithology	Dolomite	Percent	0
Secondary Lithology	Sandstone	Percent	0
Tertiary Lithology		Percent	
Comments			

System Series	Ordovician		
Group Formation	Prairie Du Chien		
Member	Oneota		
Submember			
Start Depth	2110.00 ft	End Depth	2310.00 ft
Contact Accuracy Penetration			
Primary Lithology	Dolomite	Percent	0
Secondary Lithology	Chert/Chalcedony	Percent	0
Tertiary Lithology		Percent	
Comments			

System	Cambrian		
Series			
Group			
Formation	Jordan		
Member			
Submember			
Start Depth	2310.00 ft	End Depth	2330.00 ft
Contact Accuracy			
Penetration			
Primary Lithology	Dolomite	Percent	0
Secondary Lithology	Sandstone	Percent	0
Tertiary Lithology		Percent	
Comments			

System	Cambrian		
Series			
Group			
Formation	St. Lawrence		
Member			
Submember			
Start Depth	2330.00 ft	End Depth	2402.00 ft
Contact Accuracy			
Penetration			
Primary Lithology	Dolomite	Percent	100
Secondary Lithology		Percent	
Tertiary Lithology		Percent	
Comments			

Water Production Information

Date	06/06/1967	Start Time	
Aquifer	Unknown		
Static Water Level	162.00 ft	Yield	1050 gallons per minute
Pumping Water Level	188 ft	Yield Method	Unknown
Measurement	Unknown	Pump Test	Yes
Pump Method	Unknown	Duration	0 mins
Comments			

Chip Storage Information

Date	05/02/1967		
Storage	PL6-970,971	Bin	
Number of Boxes	2	Number of Samples	254
Sample Intervals	10	Sample Gaps	0-190,225-240,400-540,2360-2402
Sample Top	190 ft	Sample Bottom	2360 ft

Washed Top	190 ft	Washed Bottom	2360 ft
Duplicate Storage			
Comments			

<https://www.ihr.uiowa.edu/igs/geosam/well/19417/general-information>