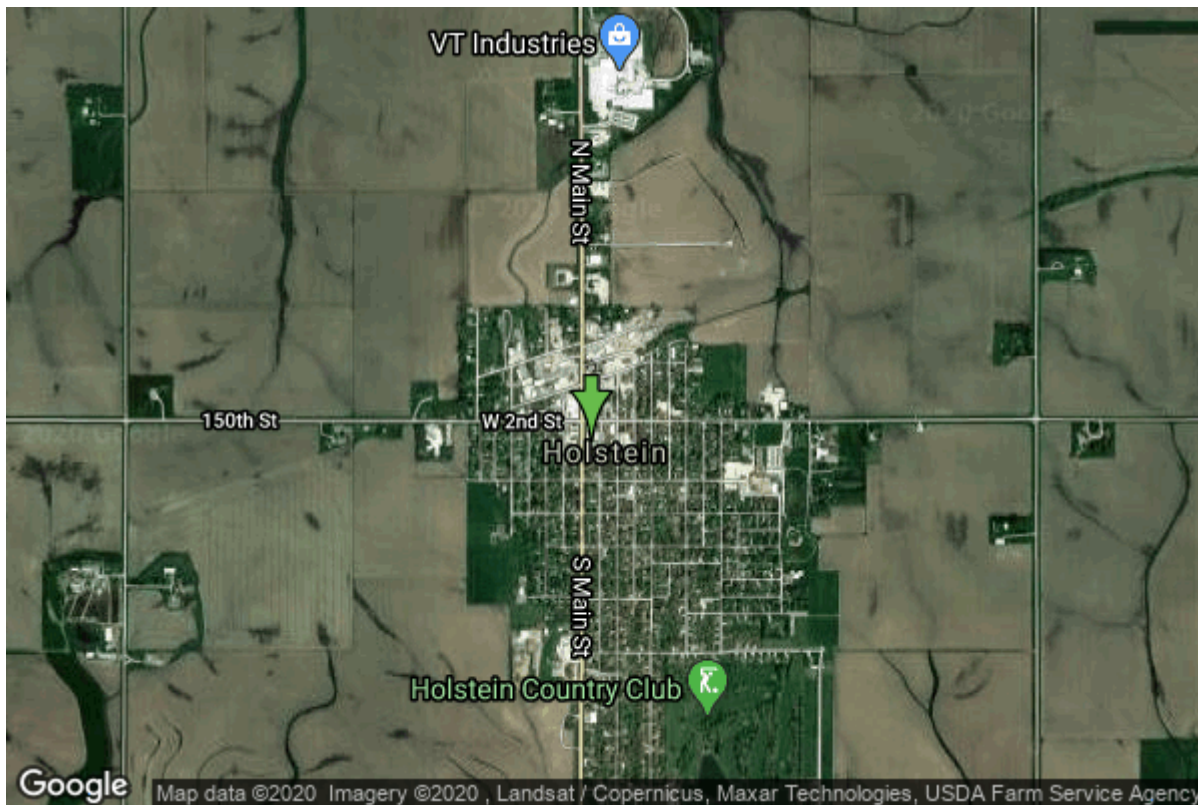


Well W#10 Information



Date Received		State	Iowa
Owner Name	Holstein, City Of	County	Ida
Alt Name	#2	Quadrangle	Holstein, Iowa
WNumber	10	Township	T89N
PWTS ID	0	Range	R40W
PWS ID	4721054	Section	35
Storet ID	0	Quarter	NW NW NW
SDWIS ID	0	Latitude	42.4886280000
USGS ID	0	Longitude	-95.5437090000
Project	Source Water Protection	Accuracy	
Operator	Unknown	UTM X	290949
		UTM Y	4707166

Site Type	Drilled hole	Drilling Company	Thorpe Well Co.
Well Status	Not Used	Drilling Date	08/01/1923
Field Located	No	Drilling Method	Unknown
Elevation	1453 ft	Bedrock Depth	420 ft
Elevation Accuracy	Digital Elevation Model	Well Depth	2040 ft
	Accurate to 5 ft	Total Depth	2040 ft
Landscape Position	Upland	Well Types	Municipal
		Aquifers	Cambrian-Ordovician, Dakota/Cretaceous, Devonian, Mississippian

Log Information

Date 05/01/2007
Log Types Strip log
Prepared By Bounk, Michael Joseph
Comments

Date 03/27/1950
Log Types Strip log
Prepared By Parker, Mary Combs
Comments

Date 06/01/1939
Log Types Strip log
Prepared By Carmody, R.A.
Comments

Date
Log Types Drillers log
Prepared By Unknown
Comments

Stratigraphy Information

System Quaternary
Series
Group
Formation
Member
Submember
Start Depth 0.00 ft **End Depth** 10.00 ft
Contact Accuracy
Penetration
Primary Lithology Unknown **Percent** 0
Secondary Lithology Unknown **Percent** 0
Tertiary Lithology Unknown **Percent** 0
Comments

System Quaternary
Series Pleistocene Series
Group Pre-Illinoian
Formation
Member
Submember
Start Depth 10.00 ft **End Depth** 20.00 ft
Contact Accuracy
Penetration

Primary Lithology	Till - Oxidized And Unleached	Percent	100
Secondary Lithology		Percent	
Tertiary Lithology		Percent	
Comments			
System	Quaternary		
Series	Pleistocene Series		
Group	Pre-Illinoian		
Formation			
Member			
Submember			
Start Depth	20.00 ft	End Depth	30.00 ft
Contact Accuracy			
Penetration			
Primary Lithology	Till - Oxidized And Leached	Percent	75
Secondary Lithology	Till - Oxidized And Unleached	Percent	25
Tertiary Lithology		Percent	
Comments			
System	Quaternary		
Series	Pleistocene Series		
Group	Pre-Illinoian		
Formation			
Member			
Submember			
Start Depth	30.00 ft	End Depth	60.00 ft
Contact Accuracy			
Penetration			
Primary Lithology	Till - Oxidized And Unleached	Percent	100
Secondary Lithology		Percent	
Tertiary Lithology		Percent	
Comments			
System	Quaternary		
Series	Pleistocene Series		
Group	Pre-Illinoian		
Formation			
Member			
Submember			
Start Depth	60.00 ft	End Depth	70.00 ft
Contact Accuracy			
Penetration			
Primary Lithology	Till - Oxidized And Leached	Percent	100
Secondary Lithology		Percent	

Tertiary Lithology		Percent	
Comments			
System	Quaternary		
Series	Pleistocene Series		
Group	Pre-Illinoian		
Formation			
Member			
Submember			
Start Depth	70.00 ft	End Depth	90.00 ft
Contact Accuracy			
Penetration			
Primary Lithology	Till - Oxidized And Unleached	Percent	100
Secondary Lithology		Percent	
Tertiary Lithology		Percent	
Comments			
System	Quaternary		
Series	Pleistocene Series		
Group	Pre-Illinoian		
Formation			
Member			
Submember			
Start Depth	90.00 ft	End Depth	110.00 ft
Contact Accuracy			
Penetration			
Primary Lithology	Till - Unoxidized And Unleached	Percent	100
Secondary Lithology		Percent	
Tertiary Lithology		Percent	
Comments			
System	Quaternary		
Series	Pleistocene Series		
Group	Pre-Illinoian		
Formation			
Member			
Submember			
Start Depth	110.00 ft	End Depth	120.00 ft
Contact Accuracy			
Penetration			
Primary Lithology	Till - Oxidized And Unleached	Percent	100
Secondary Lithology		Percent	
Tertiary Lithology		Percent	
Comments			
System	Quaternary		

Series	Pleistocene Series		
Group	Pre-Illinoian		
Formation			
Member			
Submember			
Start Depth	120.00 ft	End Depth	140.00 ft
Contact Accuracy			
Penetration			
Primary Lithology	Till - Oxidized And Leached	Percent	100
Secondary Lithology		Percent	
Tertiary Lithology		Percent	
Comments			
System	Quaternary		
Series	Pleistocene Series		
Group	Pre-Illinoian		
Formation			
Member			
Submember			
Start Depth	140.00 ft	End Depth	150.00 ft
Contact Accuracy			
Penetration			
Primary Lithology	Till - Unoxidized And Unleached	Percent	70
Secondary Lithology	Till - Oxidized And Unleached	Percent	30
Tertiary Lithology		Percent	
Comments			
System	Quaternary		
Series	Pleistocene Series		
Group	Pre-Illinoian		
Formation			
Member			
Submember			
Start Depth	150.00 ft	End Depth	220.00 ft
Contact Accuracy			
Penetration			
Primary Lithology	Till - Oxidized And Unleached	Percent	100
Secondary Lithology		Percent	
Tertiary Lithology		Percent	
Comments			
System	Quaternary		
Series	Pleistocene Series		
Group	Pre-Illinoian		
Formation			

Member
Submember
Start Depth 220.00 ft **End Depth** 230.00 ft
Contact Accuracy
Penetration
Primary Lithology Till - Oxidized And Leached **Percent** 100
Secondary Lithology **Percent**
Tertiary Lithology **Percent**
Comments

System Quaternary
Series Pleistocene Series
Group Pre-Illinoian
Formation
Member
Submember
Start Depth 230.00 ft **End Depth** 300.00 ft
Contact Accuracy
Penetration
Primary Lithology Till - Oxidized And Unleached **Percent** 100
Secondary Lithology **Percent**
Tertiary Lithology **Percent**
Comments

System Quaternary
Series Pleistocene Series
Group Pre-Illinoian
Formation
Member
Submember
Start Depth 300.00 ft **End Depth** 370.00 ft
Contact Accuracy
Penetration
Primary Lithology Till - Oxidized And Leached **Percent** 100
Secondary Lithology **Percent**
Tertiary Lithology **Percent**
Comments

System Quaternary
Series Pleistocene Series
Group Pre-Illinoian
Formation
Member
Submember
Start Depth 370.00 ft **End Depth** 380.00 ft
Contact Accuracy

Penetration			
Primary Lithology	Till - Oxidized And Unleached	Percent	100
Secondary Lithology		Percent	
Tertiary Lithology		Percent	
Comments			
System	Quaternary		
Series	Pleistocene Series		
Group	Pre-Illinoian		
Formation			
Member			
Submember			
Start Depth	380.00 ft	End Depth	410.00 ft
Contact Accuracy			
Penetration			
Primary Lithology	Unknown	Percent	0
Secondary Lithology	Unknown	Percent	0
Tertiary Lithology	Unknown	Percent	0
Comments			
System	Quaternary		
Series	Pleistocene Series		
Group	Pre-Illinoian		
Formation			
Member			
Submember			
Start Depth	410.00 ft	End Depth	420.00 ft
Contact Accuracy			
Penetration			
Primary Lithology	Till - Oxidized And Leached	Percent	100
Secondary Lithology		Percent	
Tertiary Lithology		Percent	
Comments			
System	Cretaceous		
Series			
Group	Fort Benton ("Lower Colorado ")		
Formation	Dakota		
Member			
Submember			
Start Depth	420.00 ft	End Depth	610.00 ft
Contact Accuracy			
Penetration			
Primary Lithology	Shale	Percent	70
Secondary Lithology	Sandstone	Percent	15
Tertiary Lithology	Sandstone	Percent	15
Comments			

System Mississippi (Subsystem Of Carboniferous System)
Series
Group
Formation
Member
Submember
Start Depth 610.00 ft **End Depth** 720.00 ft
Contact Accuracy
Penetration
Primary Lithology Ls/Dol Mixed **Percent** 50
Secondary Lithology Sandstone **Percent** 40
Tertiary Lithology Chert/Chalcedony **Percent** 10
Comments

System Devonian
Series
Group Yellow Spring (New Albany)
Formation
Member
Submember
Start Depth 720.00 ft **End Depth** 730.00 ft
Contact Accuracy
Penetration
Primary Lithology Sandstone **Percent** 60
Secondary Lithology Shale **Percent** 40
Tertiary Lithology Unknown **Percent** 0
Comments

System Devonian
Series
Group Yellow Spring (New Albany)
Formation Lime Creek
Member
Submember
Start Depth 730.00 ft **End Depth** 1025.00 ft
Contact Accuracy
Penetration
Primary Lithology Dolomite **Percent** 90
Secondary Lithology Shale **Percent** 7
Tertiary Lithology Sandstone **Percent** 3
Comments

System Ordovician
Series
Group
Formation Maquoketa
Member
Submember

Start Depth	1025.00 ft	End Depth	1137.00 ft
Contact Accuracy			
Penetration			
Primary Lithology	Dolomite	Percent	80
Secondary Lithology	Chert/Chalcedony	Percent	20
Tertiary Lithology	Unknown	Percent	0
Comments			

System	Ordovician		
Series			
Group			
Formation	Maquoketa		
Member	Elgin Limestone		
Submember			
Start Depth	1070.00 ft	End Depth	1150.00 ft
Contact Accuracy			
Penetration			
Primary Lithology	Dolomite	Percent	0
Secondary Lithology	Chert/Chalcedony	Percent	0
Tertiary Lithology	Shale	Percent	0
Comments			

System	Ordovician		
Series			
Group	Galena		
Formation			
Member			
Submember			
Start Depth	1137.00 ft	End Depth	1355.00 ft
Contact Accuracy			
Penetration			
Primary Lithology	Dolomite	Percent	95
Secondary Lithology	Chert/Chalcedony	Percent	5
Tertiary Lithology	Unknown	Percent	0
Comments			

System	Ordovician		
Series			
Group	Galena		
Formation	Decorah		
Member			
Submember			
Start Depth	1355.00 ft	End Depth	1425.00 ft
Contact Accuracy			
Penetration			
Primary Lithology	Shale	Percent	70
Secondary Lithology	Dolomite	Percent	15
Tertiary Lithology	Sandstone	Percent	15
Comments			

System	Ordovician		
Series			
Group	Galena		
Formation	Platteville		
Member			
Submember			
Start Depth	1425.00 ft	End Depth	1450.00 ft
Contact Accuracy			
Penetration			
Primary Lithology	Dolomite	Percent	45
Secondary Lithology	Sandstone	Percent	35
Tertiary Lithology	Shale	Percent	20
Comments			

System	Ordovician		
Series			
Group	Ancell		
Formation	St. Peter Sandstone		
Member			
Submember			
Start Depth	1450.00 ft	End Depth	1480.00 ft
Contact Accuracy			
Penetration			
Primary Lithology	Sandstone	Percent	60
Secondary Lithology	Dolomite	Percent	35
Tertiary Lithology	Shale	Percent	5
Comments			

System	Ordovician		
Series			
Group	Prairie Du Chien		
Formation			
Member			
Submember			
Start Depth	1480.00 ft	End Depth	1620.00 ft
Contact Accuracy			
Penetration			
Primary Lithology	Dolomite	Percent	80
Secondary Lithology	Chert/Chalcedony	Percent	10
Tertiary Lithology	Sandstone	Percent	10
Comments			

System	Cambrian		
Series			
Group			
Formation	Jordan		
Member			
Submember			

Start Depth	1620.00 ft	End Depth	1677.00 ft
Contact Accuracy			
Penetration			
Primary Lithology	Sandstone	Percent	60
Secondary Lithology	Dolomite	Percent	40
Tertiary Lithology	Unknown	Percent	0
Comments			

System	Cambrian		
Series			
Group			
Formation	St. Lawrence		
Member			
Submember			
Start Depth	1677.00 ft	End Depth	1728.00 ft
Contact Accuracy			
Penetration			
Primary Lithology	Dolomite	Percent	85
Secondary Lithology	Limestone	Percent	15
Tertiary Lithology	Shale	Percent	0
Comments			

System	Cambrian		
Series			
Group	Tunnel City		
Formation	Lone Rock		
Member			
Submember			
Start Depth	1728.00 ft	End Depth	1880.00 ft
Contact Accuracy			
Penetration			
Primary Lithology	Shale	Percent	85
Secondary Lithology	Dolomite	Percent	15
Tertiary Lithology	Unknown	Percent	0
Comments			

System	Cambrian		
Series			
Group	Tunnel City		
Formation	Wonewoc		
Member			
Submember			
Start Depth	1880.00 ft	End Depth	1890.00 ft
Contact Accuracy			
Penetration			
Primary Lithology	Dolomite	Percent	60
Secondary Lithology	Sandstone	Percent	40
Tertiary Lithology	Unknown	Percent	0
Comments			

System Cambrian
Series
Group Tunnel City
Formation Bonneterre/Eau Claire Undiff.
Member
Submember
Start Depth 1890.00 ft **End Depth** 1970.00 ft
Contact Accuracy
Penetration
Primary Lithology Shale **Percent** 70
Secondary Lithology Dolomite **Percent** 30
Tertiary Lithology Unknown **Percent** 0
Comments

System Cambrian
Series
Group Tunnel City
Formation Mt. Simon
Member
Submember
Start Depth 1970.00 ft **End Depth** 2030.00 ft
Contact Accuracy
Penetration
Primary Lithology Sandstone **Percent** 100
Secondary Lithology Unknown **Percent** 0
Tertiary Lithology Unknown **Percent** 0
Comments

System Proterozoic
Series
Group
Formation
Member
Submember
Start Depth 2030.00 ft **End Depth** 2040.00 ft
Contact Accuracy
Penetration
Primary Lithology Igneous/Metamorphic **Percent** 0
Secondary Lithology Unknown **Percent** 0
Tertiary Lithology Unknown **Percent** 0
Comments

Chip Storage Information

Date
Storage WA2-3,4 **Bin**
Number of Boxes 2 **Number of Samples** 190

Sample Intervals	0	Sample Gaps	0-10
Sample Top	10 ft	Sample Bottom	2040 ft
Washed Top	0 ft	Washed Bottom	0 ft
Duplicate Storage	WS: CE14-2		
Comments			

<https://www.ihr.uiowa.edu/igs/geosam/well/10/general-information>