

277759

County Mower
Quad Austin East
Quad ID 8B

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 07/24/2015
Update Date 08/26/2016
Received Date 05/11/2016

Well Name RETTERATH,	Township 103	Range 18	Dir W	Section 10	Subsection BDBCBB	Well Depth 320 ft.	Depth Completed 320 ft.	Date Well Completed 06/01/2015
Elevation 1233	Elev. Method LiDAR 1m DEM (MNDNR)				Drill Method Dual Rotary	Drill Fluid		
Address Contact 120 5TH AV SE BOCA RATON FL 33432						Use irrigation	Status Active	
						Well Hydrofractured? Yes ☐ No ☒	From	To
Stratigraphy Information						Casing Type Single casing	Joint Welded	
						Drive Shoe? Yes ☒ No ☐	Above/Below	
Geological Material						Casing Diameter	Weight	Hole Diameter
CLAY						16 in. To	157 ft. 62 lbs./ft.	16 in. To 157 ft.
CLAY W/GRAVEL						18	45	15 in. To 320 ft.
CLAY STICKY						45	90	
SAND, CLAY, GRAVEL						90	105	
SAND & GRAVEL						105	120	
CLAY & GRAVEL						120	127	
CLAY, SILT, HARDPAN						127	157	
LIMEROCK: FIRM						157	320	
						Open Hole From 157 ft. To 320 ft.		
						Screen? ☐	Type	Make
Static Water Level						14 ft.	land surface	Measure 06/01/2015
Pumping Level (below land surface)						123 ft.	2 hrs.	Pumping at 140 g.p.m.
Wellhead Completion						Pitless adapter manufacturer Model		
						☐ Casing Protection	☐ 12 in. above grade	
						☐ At-grade (Environmental Wells and Borings ONLY)		
Grouting Information						Well Grouted? ☒ Yes ☐ No ☐ Not Specified		
						Material	Amount	From To
						driven casing seal	4 Sacks	ft. 157 ft.
Nearest Known Source of Contamination						feet	Direction	Type
						Well disinfected upon completion?	☐ Yes ☐ No	
Pump ☒ Not Installed						Date Installed		
						Manufacturer's name		
						Model Number	HP	Volt
						Length of drop pipe	ft	Capacity g.p. Typ
Abandoned						Does property have any not in use and not sealed well(s)? ☐ Yes ☐ No		
Variance						Was a variance granted from the MDH for this well? ☐ Yes ☐ No		
Miscellaneous						First Bedrock Cedar Valley-Galena Aquifer Cedar Valley-		
						Last Strat Cedar Valley-Galena	Depth to Bedrock 157	ft
						Located by Minnesota Geological Survey		
						Locate Method Digitization (Screen) - Map (1:24,000) (15 meters or		
						System UTM - NAD83, Zone 15, Meters	X 501221	Y 4843221
						Unique Number Verification	Info/GPS from data	Input Date 07/12/2016
Angled Drill Hole								
Well Contractor						Sams Well Drilling, Inc. 3059 HOFMAN, R.		
						Licensee Business	Lic. or Reg. No.	Name of Driller

Minnesota Unique Well No.

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Well Name		Township	Range	Dir	Section	Subsection	Use	Status	Well Depth	Depth Completed	Date Well Completed			Lic/Reg. No.							
RETTERATH,		103	18	W	10	BDBCBB	irrigation	A	320 ft.	320 ft.	06/01/2015			3059							
Elevation	1233 ft.	Elev. Method		LiDAR 1m DEM (MNDNR)			Aquifer	Cedar Valley-Galena		Depth to Bedrock	157	ft	Open Hole	157	-	320	ft	Static Water Level	14	ft	
Field Located By		Minnesota Department of				Locate Method		Digitization (Screen) - Map (1:24,000) (15 meters				Universal Transverse Mercator (UTM) - NAD83 - Zone 15 -									
Unique No. Verified		Info/GPS from data source				Input Source		Minnesota Geological Survey				UTM Easting (X)		501221							
Geological Interpretation		Julia Steenberg				Input Date		07/12/2016				UTM Northing (Y)		484322							
Agency (Interpretation)												Interpretaion Method		Geologic study 1:24k to 1:100k							
						Depth (ft.)				Elevation (ft.)											
Geological Material		Color	Hardness	From	To	Thickness	From	To	Stratigraphy	Primary Lithology	Secondary		Minor Lithology								
CLAY		TAN		0	18	18	1233	1215	clay-brown	clay											
CLAY W/GRAVEL				18	45	27	1215	1188	pebbly sand/silt/clay	clay	gravel										
CLAY STICKY		DK. GRY		45	90	45	1188	1143	clay-gray	clay											
SAND, CLAY, GRAVEL				90	105	15	1143	1128	pebbly sand/silt/clay	sand	clay		gravel								
SAND & GRAVEL				105	120	15	1128	1113	sand +larger	sand	gravel										
CLAY & GRAVEL		BRN/TAN		120	127	7	1113	1106	pebbly sand/silt/clay	clay	gravel										
CLAY, SILT, HARDPAN		LT. TAN	SOFT	127	157	30	1106	1076	cly/snd/slt-no peb.-	clay	silt		sand								
LIMEROCK: FIRM		LT. GRY		157	320	163	1076	913	Cedar Valley-Galena	limestone	shale										
Minnesota Well Index - Stratigraphy Report									277759		Printed on 10/02/2026										



General Information

Unique Well ID:	277759	Well Name:	RETTERRATH, STEVE	County:	Mower	Aquifer:	Cedar Valley-Galena
Well Elevation (msl in feet):	1233	Drilled Depth (ft):	320	Well Completed (ft):	320	Date Drilled:	06/01/2015
Township:	103	Range:	18	Dir:	W	Section:	10
Subsection:	BDBCBB	Use:	irrigation	Well Status:	Active	Depth To Bedrock:	157
Driller:	Sams Well Drilling, Inc.	Entry Date:	07/24/2015	Update Date:	08/26/2016		

Related Resources:

[Go to MN Well Index Map](#) [Well Log Report](#) [Scanned Record\(s\)](#) [Stratigraphy Report](#)

More Details **Stratigraphy** **Address** **Chemical Data** **Construction** **Pump Test** **Static Water** **Comments**

Location Changes **Overview Map**

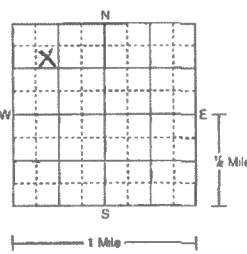
Test Date	Static level	Pump level	Hour Pumped	Flow Rate
06/01/2015	14	123	2	140

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MINNESOTA DEPARTMENT OF HEALTH WELL AND BORING RECORD Minnesota Statutes, Chapter 103I

277759
MINNESOTA UNIQUE WELL
AND BORING NO

799934

WELL OR BORING LOCATION				County Name Mower	
Township Name Lansing		Township No 103	Range No 18	Section No 10	Fracton SE 1/4 NW 1/4
GPS LOCATION Latitude 43 degrees 44 minutes 31 seconds 17 Longitude 92 degrees 59 minutes 5 seconds 52		House Number, Street Name, City, and ZIP Code of Well Location * Not Assigned Hwy 218		WELL/BORING DEPTH (completed) 320	
Show exact location of well/boring in section grid with "X"		Sketch map of well/boring location showing property lines, roads, buildings, and direction		DATE WORK COMPLETED June 1, 2015	
		State Hwy 2 Corn field Well		DRILLING METHOD ☐ Cable Tool ☐ Driven ☐ Auger ☒ Rotary ☐ Other	
PROPERTY OWNER'S NAME/COMPANY NAME Steve Retterath		Property owner's mailing address if different than well location address indicated above 120 SE 5th Avenue Suite 223 Boca Raton FL 33432		DRILLING FLUID From _____ ft To _____ ft	
WELL OWNER'S NAME/COMPANY NAME		Well/boring owner's mailing address if different than property owner's address indicated above 103-18-10 bdb elev. 123321 8-B		WELL HYDROFRACTURED? ☐ Yes ☒ No	
GEOLOGICAL MATERIALS		COLOR	FROM	TO	USE ☐ Domestic ☐ Monitoring ☐ Heating/Cooling ☐ Noncommunity PWS ☐ Environ Bore Hole ☐ Industry/Commercial ☐ Community PWS ☒ Irrigation ☐ Remedial ☐ Elevator ☐ Dewatering
clay	tan		0	18	CASING MATERIAL ☒ Steel ☐ Plastic
clay @ gravel			18	45	Drive Shoe? ☒ Yes ☐ No
clay	dark gray sticky		45	90	☐ Threaded ☒ Welded
sand, clay, gravel			90	105	HOLE DIAM 16 in To 157 ft
sand : gravel			105	120	15 in To 320 ft
clay : gravel	brown/tan		120	127	CASING Diameter Weight Specifications 16 in To 157 ft 62 lbs/ft A53B
clay, silt, hardpan	light tan	Soft, loose	127	157	SCREEN Make _____ Type _____ Slot/Gauze _____ Set between _____ ft and _____ ft
1.5' rock	light gray	firm	157	320	OPEN HOLE From 157 ft To 320 ft
REMARKS, ELEVATION, SOURCE OF DATA, etc. Not Enough Water			STATIC WATER LEVEL 14 ft ☒ Below ☐ Above land surface Date measured June 1, 2015		
MINN. DEPT OF HEALTH COPY			PUMPING LEVEL (below land surface) 123 ft after 2 hrs pumping 140 gpm		
799934			WELLHEAD COMPLETION ☐ Pitless/adaptor manufacturer _____ Model _____ ☐ Casing protection _____ ☐ 12 in above grade ☒ At-grade ☐ Well House ☐ Hand Pump		
			GROUTING INFORMATION (specify bentonite, cement-sand, neat-cement, concrete, cuttings, or other) Material _____ From _____ To _____ ft _____ Yds _____ Bags Material _____ From _____ To _____ ft _____ Yds _____ Bags Material _____ From _____ To _____ ft _____ Yds _____ Bags		
			NEAREST KNOWN SOURCE OF CONTAMINATION _____ feet _____ direction _____ type		
			Well disinfected upon completion? ☐ Yes ☐ No		
			PUMP ☒ Not installed Date installed _____		
			Manufacturer's name _____		
			Model Number _____		
			Length of drop pipe _____		
			Type ☐ Submersible ☐ L.S. Turbine ☐ Reciprocating		
			ABANDONED WELLS ☐ EMS Number _____		
			Does property have any not in use and not sealed well(s)? ☐ Yes ☐ No		
			VARIANCE ☐ Tag on Wall ☐ Tag Records		
			Was a variance granted from the MDH for this well? ☐ Yes ☐ No TN# _____		
			WELL CONTRACTOR CERTIFICATION This well was drilled under my supervision and in accordance with Minnesota Rules, Chapter 4725 The information contained in this report is true to the best of my knowledge		
			Licensee Business Name Sams Well Drilling Inc Lic or Reg No 1647		
			Certified Representative Signature Ray Hoffman Certified Rep No 1187 Date June 1, 2015		