IW 8

WATER WELL RECORD Form WWC-5 Division of Water Resources App. No.

1 LOCATION OF WATER WELL: County: Sedgwick

Fraction: NE ¼ NE ¼ NW ¼ SW ¼

Section Number: 3 Township No.: T 27 S Range Number: R 1 [X] E [ ] W

Street/Rural Address of Well Location; if unknown, distance & direction from nearest town or intersection: If at owner's address, check here [ ].
50' East of N. Minneapolis Street and 0' South of E. 25th Street N. Wichita, KS.

Global Positioning System (GPS) information:
Latitude: 37.72991100 (in decimal degrees)
Longitude: -97.31310830 (in decimal degrees)
Elevation:
Datum: [ ] WGS 84, [X] NAD 83, [ ] NAD 27
Collection Method:
[X] GPS unit (Make/Model: Garmin Nuvi)
[ ] Digital Map/Photo, [ ] Topographic Map, [ ] Land Survey
Est. Accuracy: [ ] <3 m, [ ] 3-5 m, [ ] 5-15 m, [ ] >15 m

2 WATER WELL OWNER: Union Pacific Railroad
RR#, Street Address, Box #: Jeff McDermott
City, State, ZIP Code: 1400 Douglas Street
Stop 1030, Omaha, NE, 68179-1030

3 LOCATE WELL WITH AN "X" IN SECTION BOX:

	N	
W	NW / NE / SW (X) / SE	E
	S	

|---------1 mile---------|

4 DEPTH OF COMPLETED WELL 34.0 ft.
Depth(s) Groundwater Encountered (1) ft. (2) ft. (3) ft.
WELL'S STATIC WATER LEVEL ft. below land surface measured on mo/day/yr
Pump test data: Well water was ft. after hours pumping gpm
EST. YIELD gpm. Well water was ft. after hours pumping gpm
Bore Hole Diameter 10 in. to 36 ft., and in. to ft.
WELL WATER TO BE USED AS: [ ] Public water supply [ ] Geothermal [X] Injection well [ ] Domestic [ ] Feedlot [ ] Oil field water supply [ ] Dewatering [ ] Other (Specify below) [ ] Irrigation [ ] Industrial [ ] Domestic-lawn & garden [ ] Monitoring well
Was a chemical/bacteriological sample submitted to Department? [ ] Yes [X] No
If yes, mo/day/yr sample was submitted
Water well disinfected? [ ] Yes [X] No

5 TYPE OF CASING USED: [ ] Steel [X] PVC [ ] Other
CASING JOINTS: [ ] Glued [ ] Clamped [ ] Welded [X] Threaded
Casing diameter 6 in. to 24 ft., Diameter in. to ft., Diameter in. to ft.
Casing height above land surface -6" in., Weight 5.4 lbs./ft., Wall thickness or gauge No. Sch 80
TYPE OF SCREEN OR PERFORATION MATERIAL:
[ ] Steel [X] Stainless Steel [X] PVC [ ] Other (Specify)
[ ] Brass [ ] Galvanized Steel [ ] None used (open hole)
SCREEN OR PERFORATION OPENINGS ARE:
[ ] Continuous slot [ ] Mill slot [ ] Gauze wrapped [ ] Torch cut [ ] Drilled holes [ ] None (open hole)
[ ] Louvered shutter [ ] Key punched [X] Wire wrapped [ ] Saw cut [ ] Other (specify)
SCREEN-PERFORATED INTERVALS: From 34 ft. to 24 ft., From ft. to ft.
From ft. to ft., From ft. to ft.
GRAVEL PACK INTERVALS: From 36 ft. to 21 ft., From ft. to ft.
From ft. to ft., From ft. to ft.

6 GROUT MATERIAL: [ ] Neat cement [X] Cement grout [ ] Bentonite [ ] Other
Grout Intervals: From 21 ft. to 4 ft., From ft. to ft., From ft. to ft.
What is the nearest source of possible contamination:
[ ] Septic tank [ ] Lateral lines [ ] Pit privy [ ] Livestock pens [ ] Insecticide storage [X] Other (specify below)
[ ] Sewer lines [ ] Cesspool [ ] Sewage lagoon [ ] Fuel storage [ ] Abandoned water well
[ ] Watertight sewer lines [ ] Seepage pit [ ] Feedyard [ ] Fertilizer storage [ ] Oil well/gas well Fuel
Direction from well Distance from well

FROM	TO	LITHOLOGIC LOG	FROM	TO	LITHO. LOG (cont.) or PLUGGING INTERVALS
0'	15'	clay			
15'	20'	clay, sand			
20'	34'	sand			
34'	36'	Shale			

7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was [X] constructed, [ ] reconstructed, or [ ] plugged under my jurisdiction and was completed on (mo/day/year) 9/8/13 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. 597. This Water Well Record was completed on (mo/day/year) 9-20-13 under the business name of Cascade Drilling L.P. by (signature)

INSTRUCTIONS: Use typewriter or ball point pen. *PLEASE PRESS FIRMLY* and *PRINT* clearly. Please fill in blanks and check the correct answers. Send three copies (white, blue, pink) to Kansas Department of Health and Environment, Bureau of Water, Geology Section, 1000 SW Jackson St., Suite 420, Topeka, Kansas 66612-1367. Telephone 785-296-5524. Send one copy to WATER WELL OWNER and retain one for your records. Include fee of $5.00 for each constructed well. Visit us at http://www.kdheks.gov/waterwell/index.html.

KSA 82a-1212

ARCADIS

Sample/Core Log

Boring/Well: IW-8 Project/No.: 29th & Grove / KC001648.0001.00003 Page 1 of 2

Site Location: 25th d Minnesota - SE cor Drilling Started: 1239 9/8/2013 Drilling Completed: 1615 9/8/2013

Total Depth Drilled: 36 Feet Hole Diameter: 10 inches Type of Sample/ Coring Device: Core barrel

Length and Diameter of Coring Device: 10' x 4" Sampling Interval: 10 feet

Land-Surface Elev.: 1317 feet ☐ Surveyed ☑ Estimated Datum: GL

Drilling Fluid Used: Potable Water Drilling Method: Rotosonic

Drilling Contractor: Cascade Drilling Driller: Roy Bockenberger Helper: Ron Walkovick

Prepared By: Larry Benalken Hammer Weight: — Hammer Drop: — ins.

Sample/Core Depth (feet below land surface) From	To	Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 Inches	Sample/Core Description
Surf	5	—	—	Hydro Knifed – Not logged
5	15	10.5	—	CL Lean clay, v dk grey (10YR3/1) stiff to very stiff, slightly plastic, dry, no PID response at 9' grade to CL lean clay, dk brown 10YR3/3, stiff, slightly plastic, dry, no PID response, at 12' grade to CL/CH, lean clay, brown (10YR 4/3), soft, moderately plastic, moist no PID response -
15	25'	6'	—	ML Sandy Silt, brown (10YR 4/3) soft, non-plastic dry no PID response, at 15.5 grade to SP, Silty Sand v fine to fine grain sand w/ 20% silt, loose, dry to moist at 17.5 SW, well graded sand, fine to coarse grained, rounded 90% qtz, wet, loose, no PID response (logged from next core) at ~23.5-24' CH, Fat
25	35'	13'	—	clay, pale brown (10YR 6/2) soft, moderately plastic no PID response at 24' - SP fine to medium rounded sand, 95% qtz, loose, wet, no PID response no app. bedding - lt. yell brown (10YR6/3)
				SP as above at 32.5 grade to SW well graded sand fine to coarse sand, rounded 80% qtz, loose, wet at 34' abrupt

ARCADIS

Sample/Core Log (Cont.d)

Boring/Well: IW-8

Prepared by: L. Benolken

Sample/Core Depth (feet below land surface) From	To	Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 Inches	Sample/Core Description
				gradl to CL, lean clay, weathered shale, olive brown
				(2.5Y 4/4), v. stiff, non-plastic, poorly bedded, dry, no
				PID response

ARCADIS

Well Construction Log
(Unconsolidated)

LAND SURFACE

Flush Mount

bentonite chips

4.0

10 inch diameter drilled hole

Well casing, 6 inch diameter, Sch 80 PVC

☐ Backfill

☒ Grout Neat cement

20.5 ft*

Fine Sand

Bentonite ☐ slurry

21 ft* ☐ pellets

24 ft*

Well Screen, 6 inch diameter SS304 V-wire, 0.040 slot

☐ Gravel Pack

☒ Sand Pack #40 Red Flint

☐ Formation Collapse

34 ft*

36 ft*

Measuring Point is Top of Well Casing Unless Otherwise Noted.

* Depth Below Land Surface

Project 29th St Grove (UPRR) KC001648.0001.00003 Well IW-8

Town/City Wichita

County Sedgwick State KS

Permit No. Wichita C230477

Land-Surface (LS) Elevation and Datum:

1317 feet ☐ Surveyed ☒ Estimated

Installation Date(s) 9/8/2013

Drilling Method Rotosonic

Drilling Contractor Cascade Drilling

Drilling Fluid Potable water

Development Technique(s) and Date(s)

Fluid Loss During Drilling 280 gallons

Water Removed During Development ____ gallons

Static Depth to Water ____ feet below M.P.

Pumping Depth to Water ____ feet below M.P.

Pumping Duration ____ hours

Yield ____ gpm Date ____

Specific Capacity ____ gpm/ft

Well Purpose Injection testing

Remarks

Prepared by Larry Bendken