

CORRECTION(S) TO WATER WELL RECORD (Form WWC-5)

(to rectify lacking or incorrect information)

LOCATION OF WATER WELL:	Fraction	Section	Township	Range
County: <u>Johnson</u>	<u>1/4 NE 1/4 NE 1/4 NE 1/4</u>	<u>30</u>	T <u>13</u> S	R <u>22</u> ☒ E ☐ W

Owner: USACE c/o Burns & McDonnell

Location was listed as:

Sec. _____ T _____ S R _____ ☐ E ☐ W

Fraction: _____

Location changed to:

Sec. _____ T _____ S R _____ ☐ E ☐ W

Fraction: _____

Other changes: Initial statements: HTW Drill Log Location: N 211684.7079 E 2850973.6487

Changed to: 38895208892 -95.009908295

Comments: Converted State Plane 1501-Kansas North NAD 27 to Geographic Decimal Degrees NAD 83.

Verification method: Corpscon 6.0.1

initials: df date: 04/14/2014

Submitted by: Kansas Geological Survey, Data Resources Library, 1930 Constant Ave., Lawrence, KS 66047-3726
to: Kansas Dept of Health & Environment, Bureau of Water, 1000 SW Jackson, Suite 420, Topeka, KS 66612-1367.

1 LOCATION OF WATER WELL: County: <u>Johnson</u>		Fraction <u>N 1/4 NE 1/4 NE 1/4</u>	Section Number <u>30</u>	Township Number T <u>13</u> S	Range Number R <u>22</u> <u>EX</u>
Distance and direction from nearest town or city street address of well if located within city? <u>Well # 96-19D at Sunflower AAP near DeSoto KS</u>					
2 WATER WELL OWNER: RR#, St. Address, Box # : City, State, ZIP Code		<u>USACE 90 Burns & McDonnell</u> <u>9400 Ward Parkway</u> <u>Kansas City MO 64114</u>			
3 LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX:		4 DEPTH OF COMPLETED WELL: <u>47</u> ft. ELEVATION:			
		Depth(s) Groundwater Encountered 1. _____ ft. 2. _____ ft. 3. _____ ft. WELL'S STATIC WATER LEVEL <u>47</u> 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 <u>10</u> in. to <u>34.5</u> ft., and <u>6</u> in. to <u>48</u> ft.			
		WELL WATER TO BE USED AS: 5 Public water supply 8 Air conditioning 11 Injection well 1 Domestic 3 Feedlot 6 Oil field water supply 9 Dewatering 12 Other (Specify below) 2 Irrigation 4 Industrial 7 Lawn and garden only <u>10</u> Monitoring well Was a chemical/bacteriological sample submitted to Department? Yes _____ (No) _____; If yes, mo/day/yr sample was submitted _____ Water Well Disinfected? Yes _____ (No) _____			
		5 TYPE OF BLANK CASING USED: 5 Wrought iron 8 Concrete tile CASING JOINTS: Glued _____ Clamped _____ 1 Steel 3 RMP (SR) 6 Asbestos-Cement 9 Other (specify below) Welded _____ <u>2</u> PVC 4 ABS 7 Fiberglass Threaded <u>X</u> Blank casing diameter <u>6</u> in. to <u>34.5</u> ft. Dia <u>2</u> in. to <u>+34" to 36.8</u> ft. Dia _____ in. to _____ ft. Casing height above land surface <u>34</u> in., weight _____ lbs./ft. Wall thickness or gauge No. <u>Sch 40</u>			
		TYPE OF SCREEN OR PERFORATION MATERIAL: <u>7</u> PVC 10 Asbestos-cement 1 Steel 3 Stainless steel 5 Fiberglass 8 RMP (SR) 11 Other (specify) _____ 2 Brass 4 Galvanized steel 6 Concrete tile 9 ABS 12 None used (open hole) SCREEN OR PERFORATION OPENINGS ARE: 5 Gauzed wrapped 8 Saw cut 11 None (open hole) 1 Continuous slot <u>3</u> Mill slot 6 Wire wrapped 9 Drilled holes 2 Louvered shutter 4 Key punched 7 Torch cut 10 Other (specify) _____			
SCREEN-PERFORATED INTERVALS: From <u>36.8</u> ft. to <u>46.8</u> ft. From _____ ft. to _____ ft.		From _____ ft. to _____ ft. From _____ ft. to _____ ft.			
GRAVEL PACK INTERVALS: From <u>33</u> ft. to <u>48.0</u> ft. From _____ ft. to _____ ft.		From _____ ft. to _____ ft. From _____ ft. to _____ ft.			
6 GROUT MATERIAL: 1 Neat cement <u>2</u> Cement grout <u>3</u> Bentonite 4 Other _____					
Grout Intervals: From <u>0</u> ft. to <u>34.5</u> ft. From <u>0</u> ft. to <u>33</u> ft. From _____ ft. to _____ ft.					
What is the nearest source of possible contamination:					
1 Septic tank 4 Lateral lines 7 Pit privy 10 Livestock pens 14 Abandoned water well 2 Sewer lines 5 Cess pool 8 Sewage lagoon 11 Fuel storage 15 Oil well/Gas well 3 Watertight sewer lines 6 Seepage pit 9 Feedyard 12 Fertilizer storage <u>16</u> Other (specify below) <u>Ammunition plant</u> 13 Insecticide storage					
Direction from well? _____ How many feet? _____					
FROM	TO	LITHOLOGIC LOG		FROM	TO
PLUGGING INTERVALS					
7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was <u>(1)</u> constructed, (2) reconstructed, or (3) plugged under my jurisdiction and was completed on (mo/day/year) <u>9/8/96</u> and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. <u>570</u> This Water Well Record was completed on (mo/day/yr) <u>11/27/96</u> under the business name of <u>AQUADRILL, INC.</u> by (signature) <u>Jeff Johnson</u>					

T13S-R22E - Sec. 30 - NE-NW-NE

HTW DRILLING LOG						HOLE NO. 96-19D	
1. COMPANY NAME BURNS & McDONNELL			2. DRILLING SUBCONTRACTOR AQUADRILL			SHEET 1 OF 8 SHEETS	
3. PROJECT 94-800-4-020-01 USSFRFI			4. LOCATION SUNFLOWER ARMY AMMUNITION PLANT				
5. NAME OF DRILLER J.H. Joslyn			6. MANUFACTURER'S DESIGNATION OF DRILL Gus Perk. Bui-ZZR, MOBILE B-57				
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT 8 1/4" I.D. Hollow Stem Augers (HSA) Kelly bit; Chisel & Becket Bit NO2 WIRELINE CORE BARREL ROTARY WASH 6" TRICONE			8. HOLE LOCATION N-218684.7079 E-2850973.0487				
			9. SURFACE ELEVATION 938.4				
12. OVERBURDEN THICKNESS 31.78'			15. DEPTH GROUNDWATER ENCOUNTERED 260'				
13. DEPTH DRILLED INTO ROCK 15.8			16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED 24.35' (from 195)				
14. TOTAL DEPTH OF HOLE 47.5			17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) None				
18. GEOTECHNICAL SAMPLES See log for 96-19S		DISTURBED NA		UNDISTURBED NA		19. TOTAL NUMBER OF CORE BOXES 3	
20. SAMPLES FOR CHEMICAL ANALYSIS See log for 96-19S		VOC NA		METALS NA		OTHER (SPECIFY) NA	
		OTHER (SPECIFY) NA		OTHER (SPECIFY) NA		21. TOTAL CORE RECOVERY 99%	
22. DISPOSITION OF HOLE Monitoring Well		BACKFILLED NA		MONITORING WELL 96-19D 96-13		23. SIGNATURE OF INSPECTOR J. Melton Jr.	
OTHER (SPECIFY) NA							
ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	0	See Log of 96-19S.	1552 B2 = 0 ppm C = 0 ppm LZL = 0% O2 = 20.5%	NA	NA	1552	1552 Begin drilling with 8 1/4" I.D. HSAs. Not sampling.
	1						
	2						
	3						
	4						
	5					1555	

HTW DRILLING LOG

HOLE NO.

96-190

PROJECT

94-800-4-020-01

USSFRFI

INSPECTOR

M. L. S. 2

SHEET 2
OF 8 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEO TECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	5	See log of 96-195	1607 ECM = 0.00m in 0.1, 0.2, 1.0 CL = 0% C ₂ = 20.8%			1609	Begin log 9-03-96 1607 Begin run 2 15 ft of HSA's on drill stem.
	6						
	7						
	8						
	9			N/A	N/A	N/A	
	10						
	11						
	12						
	13						
	14						

See next
page

PROJECT

94-800-4-020-01

USSFRFI

HOLE NO.

96-190

HTW DRILLING LOG

HOLE NO.
96-19D

PROJECT
94-800-4-020-01 USSFRFI

INSPECTOR
J. Mullin Jr.

SHEET 3
OF 8 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	14	See log of 96-19S.		N/A	N/A	N/A	
	15		1629 CUM - 0 ppm in BH, B ₂ , C L ₂ L = 0% Q ₂ = 20.8%	N/A	N/A	1617 1629	1629 Begin run 3; 30 ft HSAs on drill stem.
	16						
	17						
	18						
	19						
	20						
	21						
	22						
	23						

HTW DRILLING LOG							HOLE NO. 96-19D
PROJECT 94-800-4-020-01 USSRFI			INSPECTOR J. Melvin Rice			SHEET OF 8 SHEETS	
ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	23	See log of 96-195.					
	24						
	25		See previous page	N/A	N/A	N/A	
	26						
	27						
	28	SAND, trace silt (5%), pale yellow (2.5 Y 7/3), wet, poorly graded, ^{low density} subrounded to rounded, medium grained (SP) E Glacial outwash	DUM = Oppm in Bt, B2, S LCL = 0% O ₂ = 20.8%	N/A	N/A	1639 1653 3 5 4 5 0.9/20	1653 Start continuous sampling with 2' x 1 7/8" I.D split spoons.
	29						
	30		Bt = Oppm B2 = Oppm LCL = 0% O ₂ = 20.8% S = Oppm	N/A	N/A	1713 1722	
	31	SAND, trace silt, Brown (10 YR 5/3), wet, well graded, ^{low density} subangular to subrounded, fine to medium grained (SW) E Glacial outwash		N/A	N/A	12 14 83 0.9/20	Note: this sand, although mostly medium grained, is coarser than the sand above
	32	LIMESTONE	Bt = Oppm	N/A	N/A	1741 1756	1741 1756

HTW DRILLING LOG

HOLE NO.
96-19D

PROJECT
94-800-4-020-01 USSRFI

INSPECTOR
M. M. L. L. L.

SHEET 5
OF 8 SHEETS

ELEV. a	DEPTH	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	32	LIMESTONE	UCL=0% C2=20.8%	LA	NA	1750 Gmt 905-10 1900	1750 1750 Begin Run 6 NCL. Last spec went to 31.75' Hit bullock like 1900 TD = 32.4' New. Driller's detector 1915 supplies 1900-1900 Install 34.5' of 6" Schedule 40 PVC Casing. 1940 Casing installed. will grout tomorrow 9-04-96 0750 Mixing 1st batch of grout as follows: 3-44-lb bags of Loxstar Portland Cement (TYPE I); 14.5 lb Benseac brand bentonite; 2 gal water (7 9/16) 0750 Tried 1st batch of grout into hole. 0800-0815 Pulling augers 0820 Insert tremie pipe mix & tremie 3 additional batches of grout (same mix as batch 1). 0835 Checking casing for plumbness.
	33	See page 6 for Rock Description.					
	34						
	35						
	36						
	37		0815 OVM=0ppm Bit=0ppm B2=0ppm UCL=0% C2=20.8%				

HTW DRILLING LOG

HOLE NO. 96-19D

PROJECT 94-800-4-020-01 USSFRFI

INSPECTOR *John R. Hoff*

SHEET 6 OF 8 SHEETS

ELEV. a	DEPTH	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	32						7/21/46 BEGIN CORING 1450
	33	LIMESTONE (MEDIUM GRAY (N5), FRESH, MODERATE STRONG, MICROCRYSTALLINE MATRIX W/SOME (20%) CLAY, SOME TO ABUNDANT (3-40%) FOSSILS: BRACHIOPODS, PELECYPODS, FUSULINIDS, CRINOID STems, TRACE SHALE CLASTS? [SOUTH BEND LIMESTONE]	BH = 0.0 BZ = 0.0 S = 0.0	NA	NA	RUN 2.0 BOX 1 2.0	FRACTURE FRACTURE BOTTOM OF CASING
	34	SANDSTONE, DARK GRAY (N3) FRESH, WEAK, WET, FINE TO VF GRAINED, RTZ, TRACE MICA, SOME (30-40%) CLAY & SILT, FOSSIL FRAGMENTS - SHELL?, ORGANIC DEBRIS, SURROUNDED WELL SORTED GRADES INTO INTERBEDDED SANDSTONE/SHALE THINLY BEDDED, BICTURBATED IN ONE ZONE	LEL = 0.0% O ₂ = 20.9				FRACTURE FRACTURE H40 END RUN 34.5
	35	SANDSTONE BECOMES MODERATELY STRONG, SHALE IS WEAK, NUMEROUS SMALL FRACTURES - FOSSIL CONTENT DECREASES TO ZERO @ 34.0' bgs, (JUST ABOVE BICTURBATED ZONE) [ROCK LAKE SHALE]	BH = 0.0 BZ = 0.0 S = 0.0 LEL = 0.0% O ₂ = 20.9				FRACTURE FRACTURE FRACTURE FRACTURE FRACTURE
	36						
	37						
	38	SHALE, CALCAREOUS PALE YELLOWISH BROWN (10YR6/2) TO BLACK (N1) TO MEDIUM BLUISH GRAY (5.5G6/1) THINLY LAMINATED, MODERATELY STRONG TO VERY WEAK, TRACE TO SOME (0-30%) SHALE CLASTS [ROCK LAKE SHALE]		NA	NA	RUN BOX 2 10.0 10.0	FRACTURE FRACTURE FRACTURE FRACTURE FRACTURE
	39						
	40	LIMESTONE, LIGHT GRAY (N7) FRESH MODERATELY STRONG, MASSIVE TO THICKLY BEDDED, MICROCRYSTALLINE MATRIX, SOME (20%) CLAY & CLAY SEAMS/PARTINGS, TRACE ORGANIC MATTER (1%), SOME FOSSILS (30-90%) PELECYPODS, BRACHIOPODS, RECRYSTALLIZED ALGAL REMAINS, CRINOID, FUSULINIDS - CONCENTRATED AT CLAY SEAMS, TRACE TO SOME SPARRY CALCITE IN MATRIX (10-20%) TRACE (1%) VUGS PARTIALLY FILLED W/SPARRY CALCITE.					HIGHLY FRACTURED ZONE FRACTURE
	41						CLAY SEAM

HTW DRILLING LOG							HOLE NO. 96-19D
PROJECT 94-800-4-020-01 USSRFI			INSPECTOR <i>Alvin R. Hoff</i>		SHEET OF 7 SHEETS B		
ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	41	Same as previous [STONE Limestone]	BH=0.0 BE=0.0 S=0.0				CLAY SEAMS
	42		LEL=0.9 O ₂ =20.8	NA	NA		-SILT -CLAY SEAMS -CLAY PARTING
	43						
	44						-FRACTURE -CLAY SEAM 1510 @ 44.5' END RUN
	45		BH=0.0 BE=0.0 S=0.0				-FRACTURE CONTAINS VF QZ SAND & SILT
	46		LEL=0.9 O ₂ =20.9	NA	NA	RUN BOX 3	-CLAY SEAM -FRACTURE
	47					2.9 3.0	-CLAY SEAM CLOSED FRACTURE -FRACTURE
							-HEALED FRACTURE 1535 @ 47.5'
	48		Bottom of Hole 47.5'				
	49						
	50						

HTW DRILLING LOG							HOLE NO. 96-19D
PROJECT 94-800-4-020-01 USSRFI			INSPECTOR SUZANNE BAILEY		SHEET 8 OF 8 SHEETS		
ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
							9-8-96 Began reaming borehole with 6 5/8" Tri-cone button bit on Eus Pech Brat 22-R 1335 Began reaming borehole 1414 Stopped reaming at 47.8 ft bgs. 48.0 1416 Installed 10.0 ft of 2" diam Sch 40 PVC, 0.01" slotted well screen with 0.2" threaded end cap and 40.0 ft of PVC riser. 1435 15' Tremied 14.5 ft of 20/40 grade silica sand filter pack (Northern gravel) to 33 ft. 1444 Surging filter pack with surge block. 1454 SAND SETTLED TO 34.0 ft bgs after surging, added more sand to 33 ft. bgs. 1459 Added Baroid Holeplug bentonite chips (4.0 ft) to 29.0 ft bgs 1505 Cut off 0.4 ft. riser. Stidcup is 2.8 ft.