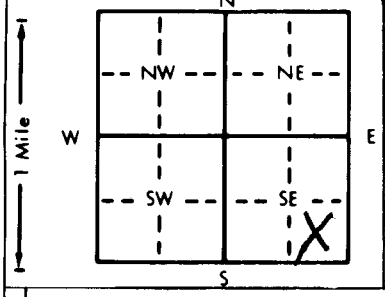
WATER WELL RECORD Form WWC-5 KSA 82a-1212

1 LOCATION OF WATER WELL: County: Jackson | Fraction: se ¼ ne ¼ se ¼ | Section Number: 16 | Township Number: T 6 S | Range Number: R 15 E/W

Distance and direction from nearest town or city street address of well if located within city?

2 WATER WELL OWNER: U.S.Army Corp of Engineers
RR#, St. Address, Box # : P.O.Box 59 Louisville Ky. 40201
City, State, ZIP Code :
Board of Agriculture, Division of Water Resources
Application Number:

3 LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX:



4 DEPTH OF COMPLETED WELL 25 ft. ELEVATION:
Depth(s) Groundwater Encountered 1. 13 ft. 2. ft. 3. ft.
WELL'S STATIC WATER LEVEL 17.31 ft. below land surface measured on mo/day/yr 4-03-02
Pump test data: Well water was n/a ft. after hours pumping gpm
Est. Yield gpm: Well water was ft. after hours pumping gpm
Bore Hole Diameter 8 in. to ft., and in. to 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 10 Monitoring well
Was a chemical/bacteriological sample submitted to Department? Yes No x; If yes, mo/day/yr sample was submitted
Water Well Disinfected? Yes No x

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
2 PVC 4 ABS 7 Fiberglass Threaded
Blank casing diameter 2 in. to ft., Dia in. to ft., Dia in. to ft.
Casing height above land surface in., weight lbs./ft. Wall thickness or gauge No. sch.40
TYPE OF SCREEN OR PERFORATION MATERIAL: 7 PVC
1 Steel 3 Stainless steel 5 Fiberglass 8 RMP (SR) 10 Asbestos-cement
2 Brass 4 Galvanized steel 6 Concrete tile 9 ABS 11 Other (specify)
12 None used (open hole)
SCREEN OR PERFORATION OPENINGS ARE: 5 Gauzed wrapped 8 Saw cut 11 None (open hole)
1 Continuous slot 3 Mill slot 6 Wire wrapped 9 Drilled holes
2 Louvered shutter 4 Key punched 7 Torch cut 10 Other (specify)
SCREEN-PERFORATED INTERVALS: From 25 ft. to 15 ft., From ft. to ft.
From ft. to ft., From ft. to ft.
GRAVEL PACK INTERVALS: From 25 ft. to 13 ft., From ft. to ft.
From ft. to ft., From ft. to ft.

6 GROUT MATERIAL: 1 Neat cement 2 Cement grout 3 Bentonite 4 Other cement/bentonite
Grout Intervals: From 11 ft. to 3 ft., From ft. to 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 16 Other (specify below)
13 Insecticide storage
Direction from well? How many feet?

FROM	TO	LITHOLOGIC LOG	FROM	TO	PLUGGING INTERVALS
10	20	topsoil,till			
20	25	till			

7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed, (2) reconstructed, or (3) plugged under my jurisdiction and was completed on (mo/day/year) 3-30-02 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/yr) 4-19-02
under the business name of Prosonic Corporation by (signature)

INSTRUCTIONS: Use typewriter or ball point pen. *PLEASE PRESS FIRMLY* and *PRINT* clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Bureau of Water, Topeka, Kansas 66620-0001. Telephone: 913-296-5545. Send one to WATER WELL OWNER and retain one for your records.

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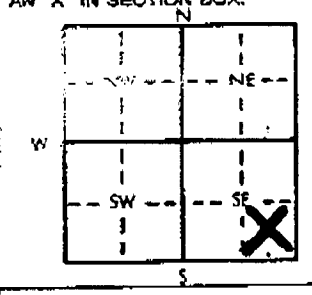
WATER WELL RECORD Form WWC-5 KSA 82a-1212

1 LOCATION OF WATER WELL: County: Jackson | Fraction: NW ¼ SE ¼ SE ¼ | Section Number: 16 | Township Number: T 6 S | Range Number: R 15 E/W

Distance and direction from nearest town or city street address of well if located within city?

2 WATER WELL OWNER: U.S. Army Corps of Engineers
RR#, St. Address, Box #: P.O. Box 59, Louisville, KY 40201
City, State, ZIP Code:
Board of Agriculture, Division of Water Resources Application Number:

3 LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX:



4 DEPTH OF COMPLETED WELL ..... ft. ELEVATION: .....
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 ..... in. to ..... ft., and ..... in. to ..... ft.
WELL WATER TO BE USED AS: 1 Domestic 2 Irrigation 3 Feedlot 4 Industrial 5 Public water supply 6 Oil field water supply 7 Lawn and garden only 8 Air conditioning 9 Dewatering 10 Monitoring well 11 Injection well 12 Other (Specify below) .....
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: 1 Steel 2 PVC 3 RMP (SR) 4 ABS 5 Wrought iron 6 Asbestos-Cement 7 Fiberglass 8 Concrete tile 9 Other (specify below) .....
CASING JOINTS: Glued ..... Clamped ..... Welded ..... Threaded .....
Blank casing diameter ..... in. to ..... ft., Dia ..... in. to ..... ft., Dia ..... in. to ..... ft.
Casing height above land surface ..... in., weight ..... lbs./ft. Wall thickness or gauge No. .....

6 TYPE OF SCREEN OR PERFORATION MATERIAL: 1 Steel 2 Brass 3 Stainless steel 4 Galvanized steel 5 Fiberglass 6 Concrete tile 7 PVC 8 RMP (SR) 9 ABS 10 Asbestos-cement 11 Other (specify) ..... 12 None used (open hole)
SCREEN OR PERFORATION OPENINGS ARE: 1 Continuous slot 2 Louvered shutter 3 Mill slot 4 Key punched 5 Gauzed wrapped 6 Wire wrapped 7 Torch cut 8 Saw cut 9 Drilled holes 10 Other (specify) ..... 11 None (open hole)
SCREEN-PERFORATED INTERVALS: From ..... ft. to ..... ft., From ..... ft. to .....
From ..... ft. to ..... ft., From ..... ft. to .....
GRAVEL PACK INTERVALS: From ..... ft. to ..... ft., From ..... ft. to .....
From ..... ft. to ..... ft., From ..... ft. to .....

7 GROUT MATERIAL: 1 Neat cement 2 Cement grout 3 Bentonite 4 Other ..... From ..... ft. to ..... ft., From ..... ft. to ..... ft., From ..... ft. to .....
Grout Intervals: From ..... ft. to ..... ft., From ..... ft. to ..... ft., From ..... ft. to .....
What is the nearest source of possible contamination: 1 Septic tank 2 Sewer lines 3 Watertight sewer lines 4 Lateral lines 5 Cess pool 6 Seepage pit 7 Pit privy 8 Sewage lagoon 9 Feedyard 10 Livestock pens 11 Fuel storage 12 Fertilizer storage 13 Insecticide storage 14 Abandoned water well 15 Oil well/Gas well 16 Other (specify below) .....
Direction from well? How many feet?

FROM	TO	LITHOLOGIC LOG	FROM	TO	PLUGGING INTERVALS

8 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed, (2) reconstructed, or (3) plugged under my jurisdiction and was completed on (mo/day/year) ..... and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. ..... This Water Well Record was completed on (mo/day/yr) ..... under the business name of ..... by (signature) .....

INSTRUCTIONS: Use typewriter or ball point pen. PLEASE PRESS FIRMLY and PRINT clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Bureau of Water, Topeka, Kansas 66620-0001. Telephone: 913-296-5545. Send one to WATER WELL OWNER and retain one for your records.

HTW DRILLING LOG

Hole No. MW-913

1. Company Name Ellis Environmental Group, LC	2. Drilling Subcontractor Prosonic	Sheet 1 of Sheets 4
3. Project Forbes Atlas S-9	4. Location Holton, Kansas	
5. Name of Driller Bear	6. Manufacturers Designation of Drill Hawk 70-150	
7. Sizes and Types of Drilling and Sampling Equipment: Sonic; Sonic; 8 inch outer core, 6 inch inner core barrel; 6 inch stainless steel core barrel	8. Hole Location MW-913	
	9. Surface Elevation 1005	
	10. Date started 3-30-02	11. Date Completed 3-30-02
12. Overburdened Thickness undetermined	15. Depth Ground Water Encountered 13 ft/bgs	
13. Depth Drilled into Rock 0	16. Depth to Water and Elapsed Time after Drilling Completed 17.31, 4-3-02 @ 0730	
14. Total Depth of Hole 25 ft	17. Over Water Level Measurements (Specify)	

18. Geotechnical Samples	Disturbed	Undisturbed	19. Total Number of Core Boxes			
0	0	0	0			
20. Samples for Chemical Analysis	VOC	Metals	Other (Specify)	Other (Specify)	Other (Specify)	21. Total Core Recovery 100%
MWS-913-01,02, 03,	3	0			0	
22. Disposition of Hole	Backfilled	Monitoring Well	Other (Specify)	23. Signature of Inspector		
Converted to monitoring well	NO	MW-913	Forbes Atlas S-9			

Elev a	Depth b	Lith	Descriptions of Materials c	Field Screening Results d	Geo-Tech Sample or Core Box No. e	Analytical Sample No. f	Pocket Penetrometer g	Remarks h
998.0	0.0		TOPSOIL: CL, rounded to subangular rock fragments throughout, dry to moist, medium plasticity, silty clay, brown, 10YR 4/3, roots and small pebbles throughout, no odor.		100% recovered		2.50 TFS	
997.0	1.0		TILL-CL: blocky, dry to moist, medium plasticity, soft, silty clay, yellowish brown 2.5Y 5/2, roots throughout, small rounded pebbles throughout, occassional iron oxide staining, no odor.			MWS-913-01, 3-30-02 @ 1510, 1-2 ft	3.75 TFS	
996.0	2.0							
			TILL-CH: moist, high plasticity, stiff, silty clay, dark yellowish brown 10YR 4/4, slickensides, no odor					
995.0	3.0		TILL-CH: dry to moist, high plasticity, stiff, silty clay, olive 5Y 5/3 mottled with very dark gray 5Y 3/1 clay, occassional calcareous nodules, small rounded to subrounded pebbles throughout, occassional iron oxide staining at joining surfaces (4.5 ft), rounded gravel from 7 to 7.7 ft, no odor.					
994.0	4.0					MWS-913-02, 3-30-02 @ 01520, 4-5 ft		
993.0	5.0			Headspace: 35.20 ppm	100% recovered			
992.0	6.0					MWS-913-03, 3-30-02 @	3.50 TFS	

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HTW DRILLING LOG

Hole No. MW-913

1. Project Forbes Atlas S-9

2. Inspector Jeffrey Finn

Sheet 2 of Sheets 4

Elev a	Depth b	Descriptions of Materials c	Field Screening Results d	Geo-Tech Sample or Core Box No. e	Analytical Sample No. f	Pocket Penetrometer g	Remarks h
991.0	7.0				3-30-02 @ 1545, 13-14 ft		
990.0	8.0	TILL-SP: sand lense, moist, fine silty sand, olive yellow 2.5Y 6/6, well graded, poorly sorted				0.50 TFS	
		TILL-CH: moist, high plasticity, silty clay, light olive brown 2.5Y 5/4, small rounded pebbles and gravel throughout, occasional calcareous nodules, black stains in joints. soil becomes slightly sandy and platy from 12 to 12.7 ft.				3.50TFS	
989.0	9.0		Headspace: 45.10 ppm				
988.0	10.0						
987.0	11.0					3.30 TFS	
986.0	12.0					3.70 TFS	
985.0	13.0	TILL-SP: sand lense, moist to wet, fine silty sand, dark yellowish brown 10YR 4/6, well graded, poorly sorted, iron oxide stained.					groundwater was first encountered at approximately 13 ft/bgs
		TILL-CH: moist, high plasticity, very stiff, silty clay, yellowish brown 10 YR 5/8 mottled with gray 2.5Y 6/1, weathered rock fragments throughout, no odor.					
984.0	14.0					2.50 TFS	
		TILL-SP: sand lense, wet, fine silty sand, yellowish brown 10YR 5/6, well graded, poorly sorted..					
983.0	15.0	TILL-CH: moist, high plasticity, very stiff, silty clay, yellowish brown 10 YR		100% recovered		3.00 TFS	

HTW DRILLING LOG

Hole No. MW-913

1. Project Forbes Atlas S-9 | 2. Inspector Jeffrey Finn | Sheet 3 of Sheets 4

Elev a	Depth b	Descriptions of Materials c	Field Screening Results d	Geo-Tech Sample or Core Box No. e	Analytical Sample No. f	Pocket Penetrometer g	Remarks h
		stiff, silty clay, yellowish brown 10 YR 5/6, weathered rock fragments and small pebbles throughout, occassional calcareous nodules, no odor.					
982.0	16.0	TILL-SP: sand lense, wet, fine silty sand, yellowish brown 10YR 5/6, well graded, poorly sorted..				2.50 TFS	
		TILL-CH: dry to moist, high plasticity, stiff, silty clay, olive 5Y 5/3 mottled with very dark gray 5Y 3/1 clay, occassional calcareous nodules, small rounded to subrounded pebbles throughout, occassional iron oxide staining at joining surfaces (4.5 ft), rounded gravel from 7 to 7.7 ft, no odor.					
981.0	17.0		Headspace: 370.00 ppm			2.50 TFS	
		TILL-CL: moist, dark yellowish brown 10YR 4/6 mottled with light brownish gray 10 YR 6/2, iron oxide staining, small rounded pebbles throughout, occassional calcareous nodules, weathered rock fragments.				4.50 TFS	
980.0	18.0						
		TILL-CL: sand content increased, low plasticity.				3.75 TFS	
979.0	19.0						
		TILL-CL: moist, hard, medium plasticity, silty clay, light olive brown 5Y 5/2 , iron oxide staining throughout, small rounded pebbles throughout, vertical joints stained reddish black.				4.50 TFS	
978.0	20.0						
977.0	21.0	TILL-CL: moist, very stiff, medium plasticity, silty clay, light olive brown 2.5Y 5/4 with vertical joints filled with gray 2.5Y 5/1clay, trace a small amount of sandy clay, weathered rocks throughout, also traces of olive yellow 2.5Y 6/8 sandy clay.	Headspace: 0.00 ppm			3.50 TFS	
976.0	22.0						
975.0	23.0	TILL-CL: moist ,very stiff, medium plasticity, silty clay, olive 5Y 5/4, mottled with reddish brown 7.5 YR 4/4 and very dark gray 7.5YR 3/1, weathered rock fragments scattered throughout, wet, iron stained joints.				3.75 TFS	well set @ 22.86 ft/bgs, 3.60 ft. of riser
974.0	24.0	TILL-CH: moist, high plasticity, hard.					

HTW DRILLING LOG

Hole No. MW-913

1. Project Forbes Atlas S-9

2. Inspector Jeffrey Finn

Sheet 4 of Sheets 4

Elev a	Depth b	Descriptions of Materials c	Field Screening Results d	Geo-Tech Sample or Core Box No. e	Analytical Sample No. f	Pocket Penetrometer g	Remarks h
973.0	25.0	TILL-CH: moist, high plasticity, hard, silty clay, gray 2.5Y 5/1 with a vertical seam of softer grayish brown 2.5Y 5/2, wet clay	Headspace: 0.00 ppm			>4.50 TFS	