

WATER WELL RECORD

Form WWC-5

Division of Water Resources App. No.

1 LOCATION OF WATER WELL: County: <u>Douglas</u>	Fraction <u>NE 1/4 NE 1/4 NW 1/4 NW 1/4</u>	Section Number <u>12</u>	Township No. <u>T 15 S</u>	Range Number <u>R 18 E</u>
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Street/Rural Address of Well Location; if unknown, distance & direction from nearest town or intersection: If at owner's address, check here
Kansas 5 + N 200th Road
1700' West

Global Positioning System (GPS) information:
Latitude: 38.7677286 (in decimal degrees)
Longitude: -95.3672301 (in decimal degrees)
Elevation:

2 WATER WELL OWNER: USACE Kansas City District
RR#, Street Address, Box #: 601 E. 12th St.
City, State, ZIP Code: Kansas City, MO. 64106

Datum: WGS 84, NAD 83, NAD 27
Collection Method:
 GPS unit (Make/Model:)
 Digital Map/Photo, Topographic Map, Land Survey
Est. Accuracy: <3 m, 3-5 m, 5-15 m, >15 m

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

	X	
NW		NE
SW		SE

W E

S
1 mile

4 DEPTH OF COMPLETED WELL 35 ft.

Depth(s) Groundwater Encountered (1)..... ft (2)..... ft (3)..... ft

WELL'S STATIC WATER LEVEL..... 19 ft. below land surface measured on mo/day/yr. 9-16-15

Pump test data: Well water was..... 19 ft. after..... 1.5 hours pumping..... 18 gpm

EST. YIELD..... 10 gpm. Well water was..... 33 ft. after..... 1.2 hours pumping..... 10 gpm

Bore Hole Diameter 6 in. to 3.5 ft., and in. to ft.

WELL WATER TO BE USED AS: Public water supply Geothermal 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 No

If yes, mo/day/yr sample was submitted.....

Water well disinfected? Yes No

5 TYPE OF CASING USED: Steel PVC Other

CASING JOINTS: Glued Clamped Welded Threaded

Casing diameter 2 in. to 2.5 ft., Diameter in. to ft., Diameter in. to ft.

Casing height above land surface..... 1.5 in., Weight 70 lbs./ft., Wall thickness or gauge No. 5.4, 40

TYPE OF SCREEN OR PERFORATION MATERIAL:
 Steel Stainless Steel 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 Wire wrapped Saw cut Other (specify)

SCREEN-PERFORATED INTERVALS: From..... 2.5 ft. to 3.5 ft., From ft. to ft.
From..... ft. to ft., From ft. to ft.

GRAVEL PACK INTERVALS: From..... 2.3 ft. to 3.5 ft., From ft. to ft.
From..... ft. to ft., From ft. to ft.

6 GROUT MATERIAL: Neat cement Cement grout Bentonite Other

Grout Intervals: From..... 1 ft. to 2.0 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 Other (specify below)
 Sewer lines Cesspool Sewage lagoon Fuel storage Abandoned water well
 Watertight sewer lines Sepage pit Feedyard Fertilizer storage Oil well/gas well

Direction from well Distance from well

FROM	TO	LITHOLOGIC LOG	FROM	TO	LITHO. LOG (cont.) or PLUGGING INTERVALS
0	8'	Brown silt w clay			
8-11	11	Yellow limestone			
11	16	Brown silty clay			
16-	21	Black gray shale			
21-	33	lime stone			
33	38	gray silt stone			

7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was constructed, reconstructed, or plugged under my jurisdiction and was completed on (mo/day/year) 9/15/2015 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) 9/15/2015 under the business name of Cascade Drilling L.P. by (signature) Russ Smith

INSTRUCTIONS: Use typewriter or ball point pen. PLEASE PRESS FIRMLY and PRINT clearly. Please fill in blanks and check the correct answers. Send one copy 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.kdheksa.gov/waterwell/index.html>

Bureau of Water
Geology and Well Technology Section
1000 SW Jackson St, Ste 420
Topeka, KS 86612-1367



Phone: 785-296-3565
Fax: 785-296-5509
pchaffee@kdheks.gov
www.kdheks.gov

Susan Mosier, MD, Secretary

Department of Health & Environment

Sam Brownback, Governor

July 31, 2015

Joshua Boeckmann
Corps of Engineers, KC District
Department of the Army
635 Federal Building
601 E. 12th St
Kansas City, MO 64106-2824

Subject: Waiver Request – Flush-Mount Well Completion of Groundwater Monitoring Wells at the Former Forbes Atlas Missile Site S-2, E 750 Rd, Baldwin City, Douglas County, KS

Dear Mr. Boeckmann,

On July 16, 2015, the Kansas Department of Health and Environment, Bureau of Water (KDHE-BOW), received the above referenced request for waiver for five (5) shallow monitoring wells to be installed at the above referenced site. KDHE-BOW has reviewed the waiver request materials and provides approval to complete the proposed groundwater monitoring wells at grade (flush-mount).

In accordance with K.A.R. 28-30-6(s), please provide a scaled map showing the locations and latitude and longitude coordinates for each monitoring well to KDHE-BOW along with the water well record (WWC-5 Form) for one of the five wells completed under this waiver. Please include information on the flush-mount well completion method in appropriate areas of each WWC-5 Form as well as the name of the approving KDHE contact person.

While requests for waiver to allow less than the minimum grout interval of 20 feet (K.A.R. 28-30-6(b)(1)) are not required if the grout modification is based solely on targeting shallow groundwater, the reason for modifying the grout interval must be indicated on the WWC-5 Forms for the appropriate wells. Information provided in your request adequately justifies the shallow nature of the proposed monitoring wells.

If you have any questions concerning this letter or if you need assistance, feel free to contact me by telephone (785-296-3565), fax (785-296-5509), or email (pchaffee@kdheks.gov).

Sincerely,

Pamela K. Chaffee, P.G., Chief, Water Well Unit
Geology & Well Technology Section, Bureau of Water
Kansas Department of Health and Environment
1000 SW Jackson, Suite 420
Topeka, KS 66612-1367

Copy: File – BOW-GWIS-Douglas County



DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, KANSAS CITY DISTRICT
636 FEDERAL BUILDING
801 E 12TH STREET
KANSAS CITY MO 64106-2824

July 14, 2015

Environmental Programs Branch
Planning, Programs and Project Management Division

Kansas Department of Health and Environment (KDHE)
Bureau of Water – Geology Section
1000 S.W. Jackson, Suite 420
Topeka, Kansas 66612-1367

Ms. Pamela Chaffee:

Submitted for your review is a request for a waiver to allow the installation of flush mount groundwater monitoring wells. The U.S. Army Corps of Engineers (USACE), Kansas City District and its subcontractors will be performing Remedial Investigation activities at the former Forbes Atlas Missile Site S-2 located in Douglas County, Kansas. Field activities are being conducted in accordance with a Work Plan (WP) approved by KDHE and Environmental Protection Agency (EPA). To complete the investigation, 5 shallow permanent groundwater monitoring wells will be installed by a KDHE-licensed Water Well Contractor (KS #597, Steve Johnson). The wells will be placed in the parcels identified in Figure 1 and as depicted on Figure 2. The shallow wells will have a target depth of 30 feet and will have 10-foot screens. The depth of the shallow monitoring wells and screen placement will be determined in the field based on the observed saturated zone in cores to be collected from the well boreholes and the depth of perched groundwater encountered during drilling. Previous studies at this site have measured the shallow groundwater levels ranging from 7 to 9 feet below ground surface (bgs). These conditions will likely result in screens being placed at shallow depths bgs that will not allow for a full 20 feet of grout to be placed in the remainder of the borings. The wells will be grouted from the bentonite seal above the screen and filter pack to approximately 1 foot bgs as shown in Figure 3. If settling occurs after removal of drilling tools, additional grout will be added. The shallow monitoring wells will be completed as flush-mount wells, each with a 8-inch diameter protective cover, a 2-foot x 2-foot square concrete pad, and expandable well plug. The flush-mount installation was requested by the property owners.

Please see the next page for site information. If you have any questions, please contact me at (816) 389-3328 or by email at Joshua.R.Boeckmann@usace.army.mil.

Sincerely,

BOECKMANN.JOSHUA
A.RYAN.1385638406

Josh R. Boeckmann
Project Manager

Digitally signed by
BOECKMANN.JOSHUA.RYAN.1385638406
DN: c=US, o=U.S. Government, ou=DoD,
ou=PKI, ou=USA,
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