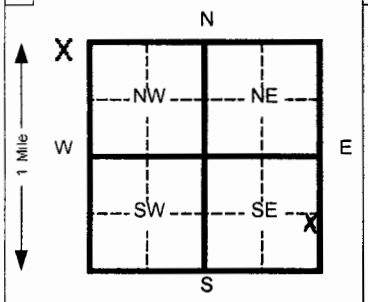
WATER WELL RECORD Form WWC-5 KSA 82a-1212 ID No. RRW3MN2

1 LOCATION OF WATER WELL: County: Harvey | Fraction: NE ¼ SE ¼ SE ¼ | Section Number: 23 | Township Number: T 23 S | Range Number: R 3 W

Distance and direction from nearest town or city street address of well if located within city?
835 feet north of center of Hwy. 50; 20 feet west of center of Willow Lake Road

2 WATER WELL OWNER: City of Wichita
RR#, St. Address, Box # : 6016 South Spring Road
City, State, ZIP Code : Halstead, Kansas 67056
Board of Agriculture, Division of Water Resources
Application Number:

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



4 DEPTH OF COMPLETED WELL 248 ft. ELEVATION: 1439
Depth(s) Groundwater Encountered 1 43 ft. 2 ft. 3 ft.
WELL'S STATIC WATER LEVEL 43 ft. below land surface measured on mo/day/yr 08/30/2006
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 8 in. to 248 ft. and in. to ft.
WELL WATER TO BE USED AS: 1 Domestic 3 Feed lot 5 Public water supply 6 Oil field water supply 7 Lawn and garden (domestic) 8 Air conditioning 9 Dewatering (10) Monitoring well 11 Injection well 12 Other (Specify below)
2 Irrigation 4 Industrial
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: (2) PVC | 1 Steel 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 X
Blank casing diameter 2 in. to 228 ft., Dia in. to ft., Dia in. to ft.
Casing height above land surface 0 in., weight 0.68 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: (3) Mill slot | 1 Continuous slot 2 Louvered shutter 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 228 ft. to 248 ft. From ft. to ft.
From ft. to ft. From ft. to ft.
GRAVEL PACK INTERVALS: From 221 ft. to 248 ft. From ft. to ft.
From ft. to ft. From ft. to ft.

6 GROUT MATERIAL: 1 Neat cement 2 Cement grout Bentonite 4 Other Volclay grout
Grout Intervals From 0 ft. to 221 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	CODE	LITHOLOGIC LOG	FROM	TO	PLUGGING INTERVALS
			See attached log			

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/yr) 08/31/2006 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. 102 This Water Well Record was completed on (mo/day/yr) 09/12/2006 under the business name of Layne Christensen Company by (signature)

INSTRUCTIONS: Please fill in blanks and circle the correct answers. Send three copies to Kansas Department of Health and Environment, Bureau of Water, 1000 S W Jackson St., Ste. 420, Topeka, Kansas 66612-1367. Telephone: 913-296-5545. Send one to WATER WELL OWNER and retain one for your records.

TEST HOLE REPORT

LAYNE Western, a Div. of
LAYNE Christensen
Wichita, Kansas

Contract Name: Wichita ASR	Test Hole No. RRW3 MN2
	Date: August 31, 2006
	Driller: Randy Crowl

Location of Test Hole:	Elevation of Test Hole:
	Static Water Level:
Page 1 of 3	Measured Hours After Completion

From	To	Description of Strata
0	5	brown, gray silty sandy clay, low to medium plastic
5	10	orange, silty sand, fine
10	15	orange silty sand, fine to coarse with gravel, slight clay
15	20	orange silty sand, fine to coarse with gravel, slight clay
20	25	orange, olive silty sand, fine to coarse with gravel, clay lens
25	30	orange sandy silty clay, medium plastic, sand lens
30	35	orange, clayey silty sand, fine to coarse with gravel, clay lens
35	40	orange, clayey silty sand, fine to coarse with gravel, clay lens
40	45	orange silty sand, fine to coarse with gravel, clay lens
45	50	orange silty sand, fine to coarse with gravel
50	55	orange silty sand, fine to coarse with gravel, slight clay
55	60	orange silty sand, fine to coarse with gravel, slight clay
60	65	orange silty sand, fine to coarse with gravel, slight clay
65	70	orange silty sand, fine to coarse with gravel, slight clay
70	75	orange silty sand, fine to coarse with gravel, slight clay
75	80	orange silty sand, fine to coarse with gravel
80	85	orange silty sand, fine to coarse with gravel
85	90	orange silty sand, fine to coarse with gravel
90	95	orange, olive silty sand, fine to coarse with gravel, clay lens

TEST HOLE REPORT

LAYNE Western, a Div. of
LAYNE Christensen
Wichita, Kansas

Contract Name: Wichita ASR	Test Hole No. RRW3 MN2
	Date: August 31, 2006
	Driller: Randy Crowl

Location of Test Hole:	Elevation of Test Hole:
	Static Water Level:
Page 2 of 3	Measured Hours After Completion

From	To	Description of Strata
95	100	orange, olive silty sand, fine to coarse with gravel, clay lens
100	105	orange, olive silty sand, fine, clay lens
105	110	olive, sandy silty clay, medium plastic, sand lens
110	115	olive silty sandy clay, medium plastic, fine to coarse, caliche
115	120	olive sandy silty clay, medium plastic, caliche
120	125	olive silty sandy clay, medium plastic, fine to coarse
125	130	olive silty sandy clay, medium plastic, fine to coarse
130	135	olive silty sand, fine to medium, slight clay
135	140	olive silty sand, fine to coarse, slight clay
140	145	olive silty sand, very fine to medium
145	150	olive silty sand, very fine to medium
150	155	olive silty sand, very fine to medium, slight clay
155	160	olive silty sand, very fine to medium, slight clay
160	165	olive, gray silty sand, very fine to medium, slight clay
165	170	olive, gray sandy silty clay, low to medium plastic
170	175	olive, gray silty clay, medium plastic, sand lens
175	180	olive, gray silty clay, medium plastic, sand lens
180	185	olive, gray sandy silty clay, medium plastic
185	190	olive, gray sandy silty clay, medium plastic

TEST HOLE REPORT

LAYNE Western, a Div. of
LAYNE Christensen
Wichita, Kansas

Contract Name: Wichita ASR	Test Hole No. RRW3 MN2
	Date: August 31, 2006
	Driller: Randy Crowl

Location of Test Hole:	Elevation of Test Hole:
	Static Water Level:
Page 3 of 3	Measured Hours After Completion

From	To	Description of Strata
190	195	olive, gray silty sandy clay, medium to plastic, fine to coarse
195	200	olive, gray silty sandy clay, medium to plastic, fine to coarse
200	205	olive, gray sandy silty clay, medium plastic
205	210	olive, gray sandy silty clay, medium plastic
210	215	olive, gray silty sand, fine to medium, slight clay
215	220	olive, gray silty sand, fine to coarse, slight clay
220	225	olive, gray, silty sand, fine to coarse, slight clay
225	230	olive, gray silty sand, fine to coarse with gravel, slight clay
230	235	olive, gray silty sand, fine to coarse, slight clay
235	240	olive, gray silty sand, fine to coarse with gravel, slight clay
240	245	olive, gray silty sand, fine to coarse with gravel, slight clay
245	250	olive, gray silty sand, fine to coarse with gravel, slight clay
250	255	dark gray shale

RW3MN2

K A N S A S

RODERICK L. BREMBY, SECRETARY

KATHLEEN SEBELIUS, GOVERNOR

DEPARTMENT OF HEALTH AND ENVIRONMENT

August 17, 2006

Burns McDonnell
Patrick Higgins
9400 Ward Parkway
Kansas City, MO 64114-3319

Re: Waiver request for flush mount monitoring well for **City of Wichita ASR Project.** Located in the SE 1/4 of the ~~SE~~ NE 1/4 of the SE 1/4 of the SE 1/4 of Section 23, Township 23 South, Range 3 West, Reno County.

Dear Mr. Higgins:

In accordance with Kansas Administrative Regulations **(K.A.R.) 28-30-9**, appealing regulations as stated in Article 30, your request for an exception to **K.A.R. 28-30-6(b)(1) and (e)** for authorization of **1** geotechnical wells to be constructed less than 12 inches above the **finished ground level** and less than 20 feet of grout if ground **water encountered less than 20' below the surface**, at the above-mentioned site is hereby granted subject to the following stipulations:

1. Monitoring wells included in this request will be grouted from a maximum of two feet below a ground surface to within one foot above the screened section.

2. The wellhead will be encased in an approved water resistant/proof manhole. The manhole will be encased in cement, which is to be domed or sloped to allow drainage away from the manhole, (refer to the attached diagram page 2).

DIVISION OF ENVIRONMENT
Bureau of Water
CURTIS STATE OFFICE BUILDING, 1000 SW JACKSON ST., STE 420, TOPEKA, KS 66612-1367
Voice 785-296-5500 Fax 785-296-0086 http://www.kdhe.state.ks.us

3. The casing of the monitoring well will be sealed with an approved water- tight lock able monitoring well caps (refer to the attached diagram).

4. A copy of this KDHE letter, approving your request for waiver of **K.A.R. 28-30-6(e)**, will be sent to KDHE attached to the water well record (WWC-5 Form) of the first well drilled under the granted waiver.

5. Upon completion of the project the wells covered by the waiver shall be plugged in accordance with **K.A.R. 28-30-7 (d).**

The decision to grant this waiver is based almost entirely on the data provided in your request. This waiver is to cover only the **1** wells mentioned and reportedly will be drilled by **Layne**. Kansas Water Well Contractor License **Number 102**. This waiver will become null and void if any of the information submitted in the request is found to be false or if the wells are not constructed in strict conformity to Kansas rules and regulations and the above mentioned, stipulations. Please contact Don Taylor, (785) 296-5522, if you have any questions or concerns pertaining to this matter.

Sincerely,

Don Taylor
Environmental Technician
Bureau of Water
Geology Section

DT: jf

cc: Cochran/Harper 1
South Central District Office

c:/taylor/Slurry Explosive Corporation