

MW 02

WATER WELL RECORD

Form WWC-5

Division of Water Resources App. No.

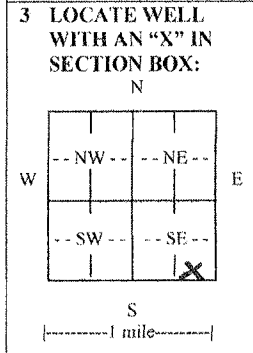
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1 LOCATION OF WATER WELL: County: <b>FORD</b>	Fraction <b>SW 1/4 SW 1/4 SW 1/4</b> 1/4	Section Number <b>15</b>	Township No. <b>T 26 S</b>	Range Number <b>R 24</b> <input type="checkbox"/> E <input checked="" type="checkbox"/> W
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Street/Rural Address of Well Location; if unknown, distance & direction from nearest town or intersection: If at owner's address, check here

Global Positioning System (GPS) information:  
 Latitude: ..... (in decimal degrees)  
 Longitude: ..... (in decimal degrees)  
 Elevation: .....  
 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

2 WATER WELL OWNER: **KOCH NITROGEN**  
 RR#, Street Address, Box #: **11559 Hwy 50**  
 City, State, ZIP Code: **DOODGE CITY, KS 67801**



4 DEPTH OF COMPLETED WELL ..... ft.

Depth(s) Groundwater Encountered (1) **96'** 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 **6"** in. to **119'** 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 **114'** ft., Diameter ..... in. to ..... ft., Diameter ..... in. to ..... ft.

Casing height above land surface **36"** in., Weight **0.682** lbs./ft., Wall thickness or gauge No. **SCH 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 **119'** ft. to **114'** ft., From ..... ft. to ..... ft.  
 From ..... ft. to ..... ft., From ..... ft. to ..... ft.

GRAVEL PACK INTERVALS: From **119'** ft. to **112'** 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 **108'** ft. to **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  Seepage pit  Feedyard  Fertilizer storage  Oil well/gas well **chemical plant**

Direction from well **NORTH OF PLANT** Distance from well **800'**

FROM	TO	LITHOLOGIC LOG	FROM	TO	LITHO. LOG (cont.) or PLUGGING INTERVALS
0	4	Topsoil	83	89	Caliche
4	43	Clay	89	97	Sand w/ silt
43	52	Caliche	97	113	Silt w/ sand
52	57	Sand w/ silt and clay	113	115	poorly graded sand
57	60	Clay w/ sand	115	117.5	poorly graded sand w/ silt
60	66	Caliche	117.5	118.5	silty sand
66	68	Clay w/ sand	118.5	120	clay w/ silt
68	73	Caliche	120	125	shale
73	79	Clay w/ caliche			
79	83	Clay w/ sand			

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) **05/20/11** and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. **793** This Water Well Record was completed on (mo/day/year) **09/19/11** under the business name of **Canoy Pump Service, LLC** by (signature) **Steve Canoy**

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 785-296-5522. 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>.

Original Returned to Sender for Correction Date: 9-26-11

Borehole No. MW-02

Borehole Log

<b>Project No.:</b>	TXR0118	<b>Location:</b>	Dodge City, KS
<b>Client:</b>	Koch Nitrogen Company	<b>Coordinates:</b>	Not Yet Surveyed
<b>Logged By:</b>	Alex Rivera	<b>Borehole Diameter:</b>	6 inch
<b>Drilling Company:</b>	Major Drilling	<b>Site Datum:</b>	
<b>Drilling Method:</b>	Rotosonic	<b>Ground Surface Elevation:</b>	Not Yet Surveyed
<b>Well Material:</b>	Not Applicable	<b>Top PVC Casing Elevation:</b>	
		<b>Completion Date:</b>	20 May 2011

Depth (ft)	Water Level (ft)	Stratigraphy	Lithologic Description	Geologic Samples					Well Configuration	Comments
				Unified Soil Classification	Recovery (%)	Blowcount	PID (ppmv)	Soil Sample ID		
0-5			Topsoil, brown, moist							← Grout (0-109 ft bgs)
5-10			Clay, brown, moist, stiff, medium plasticity		75					
10-15			Medium brown Light brown 40% caliche 15% caliche Brown, moist, soft, low plasticity, 40% silts							- Drilling fluid return observed
15-25				CL	75					
25-30			30% caliche 40% caliche Caliche clay, 50% caliche, 50% clay							
30-35			Light brown, moist, firm, low plasticity, 30% fine sands							
35-40			Caliche clay, pale brown, moist, 50% caliche, 50% clay Clay, pale brown, moist, soft, high plasticity							
40-45			Caliche, some fine sands, white, moist, firm		100					- Drilling fluid return observed; slow advancement
45-50			30% clay							
50-55			Poorly graded sand with silt and clay, medium brown, moist, 5% caliche	SP SM						
55-60			Clay with sand, 30% fine sands, medium brown, moist, low plasticity, soft, few silts	CL						
60-65			Caliche, some fine sands, white, moist, firm, some pale brown clays With red-brown very fine sands, few clays		100					- Notable rig chatter, intermittent 55-65 ft bgs
65-70			Clay with sand, 10% caliche, red-brown, moist, low plasticity, soft	CL						
70-75			Caliche, white, moist, hard, 5% red-brown fine sands, few clays							
75-80			Clay with caliche, red-brown, moist, firm, some fine	CL						

Report: MASTER (TR0196): File: C:\USERS\ARIVERA\DESKTOP\KANSAS\KCOCH.GPJ: 7/19/2011

Borehole No. MW-02

Borehole Log

<b>Project No.:</b> TXR0118	<b>Location:</b> Dodge City, KS
<b>Client:</b> Koch Nitrogen Company	<b>Coordinates:</b> Not Yet Surveyed
<b>Logged By:</b> Alex Rivera	<b>Borehole Diameter:</b> 6 inch
<b>Drilling Company:</b> Major Drilling	<b>Site Datum:</b>
<b>Drilling Method:</b> Rotasonic	<b>Ground Surface Elevation:</b> Not Yet Surveyed
<b>Well Material:</b> Not Applicable	<b>Top PVC Casing Elevation:</b>
	<b>Completion Date:</b> 20 May 2011

Depth (ft)	Water Level (ft)	Stratigraphy	Lithologic Description	Geologic Samples				Well Configuration	Comments
				Unified Soil Classification	Recovery (%)	Blowcount	PID (ppmv)		
80			sands Poorly graded sand with clay, 30% fine sands, red-brown, moist, trace silts	SP SC					-Slight rig chatter 74-75 ft bgs
			Clay with sand, 30% very fine sands, brown, moist, low plasticity, stiff	CL					
85			Caliche, some fine sands, white, dry, very hard		100				
90			Poorly graded sand with silt, medium brown, moist, trace clays	SP SM					
95			Brown, saturated						
100			Silt with sand, brown, wet, trace clays Moist						
105				SM	100				
110									
115			Poorly graded sand, trace silts, medium brown, wet, very fine sands	SP					
			Poorly graded sand with silt, orange with gray, moist, very fine sands	SP SM					
120			Gray with orange, moist	SM					
			Silty sand, orange, wet, very fine sands	CL	100				
			Gray						
125			Clay with silt, trace shale, light gray, moist, low plasticity, soft						
			Shale, gray, trace red weathered shale, very hard						
			Very dark gray, moist, very hard						
130			Borehole depth 125.0 ft						
135									
140									
145									

Report: MASTER (TR0198); File: C:\USERS\ARIVERA\DESKTOP\KANSAS\KCOCH.GPJ; 7/19/2011

← Bentonite pellet seal

← 5-ft well screen from 114-119 ft bgs; silica sand filter pack

← Bentonite pellet backfill

Drilling fluid return observed; moderate rig chatter at 122 ft bgs