

MW 23D

WATER WELL RECORD

Form WWC-5

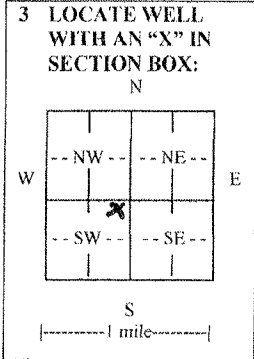
Division of Water Resources App. No.

1 LOCATION OF WATER WELL: County: Ford, Fraction: SE 1/4 SE 1/4 NW 1/4 1/4, Section Number: 22, Township No.: T 26 S, Range Number: R 24 E AW

Street/Rural Address of Well Location; if unknown, distance & direction from nearest town or intersection: If at owner's address, check here [X]. Global Positioning System (GPS) information: Latitude: Longitude: Elevation: Datum: Collection Method: Est. Accuracy:

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

GPS information: Latitude: Longitude: Elevation: Datum: Collection Method: Est. Accuracy:



4 DEPTH OF COMPLETED WELL: 176 ft. Depth(s) Groundwater Encountered (1): 155 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 176 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 1.71 ft., Diameter in. to ft., Diameter in. to ft. Casing height above land surface: 30 in., Weight: 0.682 lbs./ft., Wall thickness or gauge No.: SCH 40. TYPE OF SCREEN OR PERFORATION MATERIAL: Steel, Stainless Steel, PVC, 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 176 ft. to 171 ft., From ft. to ft., From ft. to ft. GRAVEL PACK INTERVALS: From 176 ft. to 169 ft., From ft. to ft., From ft. to ft.

6 GROUT MATERIAL: Neat cement, Cement grout, Bentonite, Other. Grout Intervals: From 169 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. Direction from well: SOUTH OF PLANT, Distance from well: 1000'

Table with columns: FROM, TO, LITHOLOGIC LOG, FROM, TO, LITHO. LOG (cont.) or PLUGGING INTERVALS. Rows include soil types like Topsoil, clay, silty clay, caliche, sandy silt, clay & silt, sand w/ silt, clay + silt, silt & clay.

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) 06/18/11 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) 9/19/11 under the business name of Canoy Pump Service, Inc. by (signature) Dan J. 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-23D**

**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> 18 June 2011

Depth (ft)	Water Level (ft)	Stratigraphy	Lithologic Description	Geologic Samples				Well Configuration	Comments
				Unified Soil Classification	Recovery (%)	Blowcount	PID (ppmv)		
0-5			Topsoil, brown, dry, loose						
5-10			Clay, trace caliche, dark brown, moist to dry, firm, stiff, low plasticity		33				← Grout (0-162 ft bgs)
10-15			5-10% caliche, some silts						
15-20				CL					
20-25					25				
25-35									
35-40			Silty clay, trace fine gravel caliche, brown, moist to dry, firm, low plasticity						
40-45				CL ML					
45-50			Clay, trace silts, brown, moist, soft to firm, high plasticity		60				
50-55				CH					

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

Borehole No. MW-23D

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>	18 June 2011

Depth (ft)	Water Level (ft)	Stratigraphy	Lithologic Description	Geologic Samples				Well Configuration	Comments
				Unified Soil Classification	Recovery (%)	Blowcount	PID (ppmv)		
				CH					
55			Clay and silt, brown, moist to dry, firm, low plasticity	CL ML					
60			Clay, brown, dry, hard, low plasticity	CL					
65			Caliche clay, light brown to white, dry, firm, low plasticity						
			Caliche, white, dry		75				
70			Sandy silt, brown, dry, soft, fine to very fine sands	ML					
75									
80			Clay and silt, trace fine gravel caliche, brown, moist to dry, firm, low plasticity	CL ML					
85					90				
90			Poorly graded sand with silt, trace fine gravel siltstone, trace clays, brown, moist to dry, firm, fine to very fine sands	SP SM					
			Clay and silt, trace fine gravel caliche, brown, moist to dry, firm, low plasticity	CL ML					
95			Silty clay, some very fine sands, brown, moist to dry, firm, low plasticity	CL					
			Silt and clay, trace very fine sands, brown, moist to dry, firm, low plasticity	CL ML					

-Drilling fluid return observed from 75-95 ft bgs

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Borehole No. MW-23D

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> 18 June 2011

Depth (ft)	Water Level (ft)	Stratigraphy	Lithologic Description	Geologic Samples				Well Configuration	Comments
				Unified Soil Classification	Recovery (%)	Blowcount	PID (ppmv)		
105				CL ML	30				
110									
115			Silt with sand, trace clays, pale brown to brown, dry, fine to medium sands	ML					-Drilling fluid return observed from 95-135 ft bgs
120			Clay, trace fine gravel caliche, trace silts, pale brown to light gray, moist to dry, medium plasticity	CL	50				
125			Silty sand, light brown to pale brown, moist to dry, fine to very fine sands						
130			Trace fine gravel caliche, trace clays	SM	100				
135			Clay with silt, trace fine gravel caliche, light brown, dry, soft, low plasticity	CL ML					
140			Silt, trace clays, medium brown, moist to dry, soft	ML	100				
145			Clay and silt, trace fine gravel caliche, dark yellowish gray, dry, firm, medium plasticity	CL ML					
			Poorly graded sand, trace silts, brown, wet, very fine to fine sands, cementitious	SP					
			Sandy silt, brown, moist to dry, firm	ML					
			Dry, stiff						

Report: MASTER (TR0109); File: C:\USERS\ARIVERA\DESKTOP\KANSAS\KCOCH.GPJ; 7/19/2011

**Borehole No. MW-23D**

**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>	18 June 2011

Depth (ft)	Water Level (ft)	Stratigraphy	Lithologic Description	Geologic Samples					Well Configuration	Comments
				Unified Soil Classification	Recovery (%)	Blowcount	PID (ppmv)	Soil Sample ID		
155			Silt with clay, medium brown, moist to dry, stiff	ML	100					
155			Silt, trace clays, trace fine gravel caliche, brown, moist to wet, firm	CL ML						
160			Saturated, soft							
165			Moist, firm		100				Bentonite pellet seal	
170			Wet, firm							
175			Moist						5-ft well screen from 171-176 ft bgs; silica sand filter pack	
175			Silt with clay, trace caliche, medium brown, moist to dry, stiff							
180				CL ML	20					
185			Shale, brownish yellow, dry, trace fine gravel, weathered Light gray, with some yellow						Bentonite pellet backfill	
190			Consolidated		100					
195			Borehole depth 195.0 ft						-Hard drilling; significant rig chatter from 185-195 ft bgs	

Report: MASTER (TR0199); File: C:\USERS\ARIVERA\DESKTOP\PIKANSAS\KCOCH.GPJ; 7/19/2011