

MW 19 D

WATER WELL RECORD

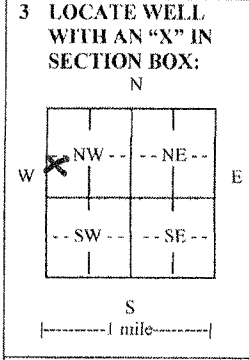
Form WWC-5

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 W

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 #: 11539 Hwy 50 City, State, ZIP Code : DODGE CITY KS 67801



3 LOCATE WELL WITH AN 'X' IN SECTION BOX: 4 DEPTH OF COMPLETED WELL: 159' ft. Depth(s) Groundwater Encountered (1) 35' 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 159' ft., and... in. to... ft. WELL WATER TO BE USED AS: [X] Public water supply [X] Geothermal [X] Injection well [] Domestic [] Feedlot [] Oil field water supply [] Dewatering [] Other (Specify below) [] Irrigation [] Industrial [] Domestic-lawn & garden [X] 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 [X] PVC [] Other CASING JOINTS: [] Glued [] Clamped [] Welded [X] Threaded Casing diameter 2" in. to 154' 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 [X] PVC [] Other (Specify) [] Brass [] Galvanized Steel [] None used (open hole) SCREEN OR PERFORATION OPENINGS ARE: [X] Continuous slot [] Mill slot [] Gauze wrapped [] Torch cut [] Drilled holes [] None (open hole) [] Louvered shutter [] Key punched [X] Wire wrapped [] Saw cut [] Other (specify) SCREEN-PERFORATED INTERVALS: From 159' ft. to 154' ft., From... ft. to... ft. From... ft. to... ft., From... ft. to... ft. GRAVEL PACK INTERVALS: From 159' ft. to 152' ft., From... ft. to... ft. From... ft. to... ft., From... ft. to... ft.

6 GROUT MATERIAL: [] Neat cement [X] Cement grout [] Bentonite [] Other Grout Intervals: From 159' 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 [X] Other (specify below) [] Sewer lines [] Cesspool [] Sewage lagoon [] Fuel storage [] Abandoned water well [] Watertight sewer lines [] Scepage pit [] Feedyard [] Fertilizer storage [] Oil well/gas well [] Chemical plant Direction from well West of Plant Distance from well 7,100'

LITHOLOGIC LOG table with columns FROM, TO, LITHO. LOG, FROM, TO, LITHO. LOG (cont.) or PLUGGING INTERVALS. Rows include Topsoil, clay, silt and clay, clay, sandy silt, sandy clay, sand, clay & sand, silt & clay, silt.

7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was [X] constructed, [] reconstructed, or [] plugged under my jurisdiction and was completed on (mo/day/year) 07/00/11 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, Inc. by (signature) Dan... [Signature]

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.

Borehole No. MW-19D

Borehole Log

Project No.: TXR0118	Location: Dodge City, KS
Client: Koch Nitrogen Company	Coordinates: Not Yet Surveyed
Logged By: Alex Rivera	Borehole Diameter: 6 inch
Drilling Company: Major Drilling	Site Datum:
Drilling Method: Rotasonic	Ground Surface Elevation: Not Yet Surveyed
Well Material: Not Applicable	Top PVC Casing Elevation:
	Completion Date: 8 July 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			Topsoil, brown, dry, loose							← Grout (0-145 ft bgs)
5			Clay, trace caliche, dark brown to brown, dry, very stiff, low plasticity		33					
10			Brown, moist, soft to firm, low to medium plasticity	CL	85					-Drilling fluid return observed from 15-35 ft bgs
15			Dry, firm, low plasticity							
20			Trace caliche, firm to stiff							
25			Some silts							
30			Trace caliche, very stiff							
35			Silt and clay, brown, dry, soft	CL ML						
40			Clay, some silts, dry, stiff, low plasticity	CL	100					-Drilling fluid return observed from 35-55 ft bgs
45			Trace caliche, light brown							
50			Trace very fine sands							
55			Caliche, some clays, white, dry, firm							
			Clay, pale brown, moist, soft, high plasticity	CH						
			Caliche, some clays, pale brown, dry, firm							

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Client: Koch Nitrogen Company	Coordinates: Not Yet Surveyed
Logged By: Alex Rivera	Borehole Diameter: 6 inch
Drilling Company: Major Drilling	Site Datum:
Drilling Method: Rotosonic	Ground Surface Elevation: Not Yet Surveyed
Well Material: Not Applicable	Top PVC Casing Elevation:
	Completion Date: 8 July 2011

Depth (ft)	Water Level (ft)	Stratigraphy	Lithologic Description	Geologic Samples				Well Configuration	Comments
				Unified Soil Classification	Recovery (%)	Blowcount	PID (ppmv)		
65			Poorly graded sand with silt, light brown, dry, fine to very fine sands, some cementation	SP SM	90				
			Caliche, sandy, white to pale brown, dry, hard						
70			Poorly graded sand with silt, some caliche, light to pale brown, dry, fine to very fine sands, moderate cementation	SP SM					
75			Silt and clay, trace very fine sands, brown, moist, soft	CL ML					
80			Silt, trace clays, tan brown, moist, firm	ML	90				
85			Poorly graded sand with silt, brown, moist, loose, fine sands	SP SM					
90			Clay and silt, some fine gravel caliche, brown, dry, stiff	CL ML					
			Caliche clay, pale brown, dry, firm, low plasticity	CL					
			Clay and silt, some fine gravel caliche, light brown to medium brown, dry, firm	CL ML					
			Silt with clay, some caliche, brown, firm, dry	ML					
95			Clay, some silts, trace caliche, light brown, dry, stiff, low plasticity	CL					
			Silt and clay, trace caliche, light brown, moist, firm	CL ML					
100			Medium brown, moist to dry						
			Trace fine gravel caliche, light pinkish brown						
105			Clay, 40% silts, trace fine gravel caliche, light pinkish brown, moist to dry, firm, low plasticity	CL	90				
			Some silts, light to pale brown, dry						
110			Sandy silt, light to medium brown, dry, firm, fine to very fine sands						
115			Light brown, moist, soft	ML					

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Well Material: Not Applicable	Top PVC Casing Elevation:
	Completion Date: 8 July 2011

Depth (ft)	Water Level (ft)	Stratigraphy	Lithologic Description	Geologic Samples				Well Configuration	Comments
				Unified Soil Classification	Recovery (%)	Blowcount	PID (ppmv)		
125			Sandy clay, trace silts, light brown, moist to dry, firm, low plasticity	CL CL					
130			Poorly graded sand, some clays, light brown, dry, fine to very fine sands, some cementation		90				
135			Trace silts, brown, medium dense, wet to saturated						
140				SP					
145			Some silts		100				
150			Trace silts, moist to wet						
155			Some silts, moist						
160			Clayey sand, brown, moist, fine to very fine sands	SC					
165			Sandy clay, trace fine gravel caliche, light brown, dry, stiff						
165			Trace fine gravel orange shale, very stiff	CL					
170			Shale, some red and orange, light gray, dry, hard, weathered Red shale Borehole depth 170.0 ft		100				
175									

- Drilling fluid return observed from 135-155 ft bgs

← Bentonite pellet seal

← 5-ft well screen from 154-159 ft bgs; silica sand filter pack

← Bentonite pellet backfill

- Hard drilling; significant rig chatter from 160-170 ft bgs

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