

MW 22 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 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. 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

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

4 DEPTH OF COMPLETED WELL: 131 ft. Depth(s) Groundwater Encountered (1) 129 ft. (2) 75 ft. (3) ft. WELL'S STATIC WATER LEVEL: ft. below land surface measured on mo/day/yr. Pump test data: Well water was... EST. YIELD... gpm. Well water was... Bore Hole Diameter... 6 in. to 1.31 ft. and... WELL WATER TO BE USED AS: Public water supply, Geothermal, Injection well, Domestic, Feedlot, Oil field water supply, Dewatering, Other, Irrigation, Industrial, Domestic-lawn & garden, Monitoring well. Was a chemical/bacteriological sample submitted to Department? If yes, mo/day/yr sample was submitted. Water well disinfected?

5 TYPE OF CASING USED: Steel, PVC, Other. CASING JOINTS: Glued, Clamped, Welded, Threaded. Casing diameter... 2 in. to 126 ft., Diameter... in. to... ft., Diameter... in. to... ft. Casing height above land surface... 36 in., Weight... lbs./ft., Wall thickness or gauge No. SC40. TYPE OF SCREEN OR PERFORATION MATERIAL: Steel, Stainless Steel, PVC, Brass, Galvanized Steel, None used. SCREEN OR PERFORATION OPENINGS ARE: Continuous slot, Mill slot, Gauze wrapped, Torch cut, Drilled holes, Louvered shutter, Key punched, Wire wrapped, Saw cut, Other. SCREEN-PERFORATED INTERVALS: From 131 ft. to 126 ft., From... ft. to... ft., From... ft. to... ft. GRAVEL PACK INTERVALS: From 131 ft. to 129 ft., From... ft. to... ft., From... ft. to... ft.

6 GROUT MATERIAL: Neat cement, Cement grout, Bentonite, Other. Grout Intervals: From 121 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, 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 EAST OF PLANT Distance from well 7,100 ft.

Table with columns: FROM, TO, LITHOLOGIC LOG, FROM, TO, LITHO. LOG (cont.) or PLUGGING INTERVALS. Rows include: 0-4 Topsoil, 4-7 clay, 7-13 silty sand, 13-22 clay + caliche, 22-25 caliche, 25-44 clay, sand, silts & caliche, 44-55 clay w/ silt, 55-66 Sand w/ some clay, 66-71 clayed sand, 71-115 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) 05/24/2011... and this record is true to the best of my knowledge and belief, Kansas Water Well Contractor's License No. 723... This Water Well Record was completed on (mo/day/year) 09/11/2011... under the business name of Cahoy Pump Service, Inc. by (signature) Darin K. Cahoy.

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-22D

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:	Rotosonic	Ground Surface Elevation:	Not Yet Surveyed
Well Material:	Not Applicable	Top PVC Casing Elevation:	
		Completion Date:	24 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		
			<u>Topsoil</u> , brown, moist							
5			Clay, few silts, brown, moist, firm, low plasticity Light brown	CL						← Grout (0-121 ft bgs)
10			<u>Silty sand</u> , brown, dry, very fine sands	SM	100					
15			<u>Clay and caliche</u> , 60% clays, 40% caliche, brown, dry, very stiff <u>Caliche and clay</u> , 50% caliche, 50% clay, pale brown, moist	CL						
20			<u>Caliche</u> , white, trace clays, some fine sands, dry Some clays, hard							
25			<u>Clay with sand</u> , brown to light brown, dry, low plasticity, very hard, cementitious	CL	100					
30			<u>Poorly graded sand</u> , some caliche, few clays, light brown, dry	SP						
35			<u>Clay with sand</u> , brown to light brown, dry, low plasticity, very hard, cementitious	CL						
35			<u>Caliche</u> , white, 10% clays, some fine sands, dry							
35			Clay, few silts, medium brown to brown, moist, medium plasticity	CL SP SC						
35			<u>Poorly graded sand with clay</u> , 10% caliche, brown, moist							
40			<u>Poorly graded sand</u> , few clays, 5% caliche, trace fine gravel, light brown, dry	SP						
45			<u>Clay with silt</u> , medium brown, moist, low plasticity		80					
50			Brown, dry to moist	CL						
55			<u>Poorly graded sand</u> , medium brown, some light pink clays, moist	SP						

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Borehole No. MW-22D

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: 24 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		
65			Clay with sand, medium brown, moist, medium plasticity	CL	100					
			Poorly graded sand, few clays, medium brown, moist, very fine sands	SP						
			Sand with clay							
			Pale brown, 20% clays							
70			Clayey sand, pale brown, moist, very fine sands	SC						
75			Poorly graded sand with silt, brown, dry, very fine sands, slightly cementitious							
			Light brown, moist							
85			Trace pockets of dark gray clay		95					
			Medium brown							
90			Trace pockets of dark gray clay	SP						
				SM						
95			Wet							
100			Trace pockets of dark gray clay							
105			Moist, trace fine gravel		100					
110			Trace caliche, trace gravel							
115			Silt with sand, some clays, trace fine gravel, medium brown, moist	ML						
			Caliche, some silts and very fine sands, medium brown, moist	CL						

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Drilling Method: Rotasonic	Ground Surface Elevation: Not Yet Surveyed
Well Material: Not Applicable	Top PVC Casing Elevation:
	Completion Date: 24 May 2011

Depth (ft)	Water Level (ft)	Stratigraphy	Lithologic Description	Geologic Samples				Well Configuration	Comments
				Unified Soil Classification	Recovery (%)	Blowcount	PID (ppmv)		
125			Clay and silts, 15% sands, brown-dark orange, moist, low plasticity	ML	100				Bentonite pellet seal
			Caliche, some clays, white, dry						
130			Few orange silts and clays						5-ft well screen from 126-131 ft bgs; silica sand filter pack
			Red, dry, firm	CL					
135			Silt, 20% caliche, orange, dry						-Hard drilling from 135-145 ft bgs
			Caliche, light gray, dry						
140			Sandstone, orange, moist	ML	100				Bentonite pellet backfill
			Clay, light gray, some orange silts, few very fine sands, moist, low plasticity						
145			Sandstone, few fine gravel, medium brown, moist						
			Silt with sand, medium brown, moist	ML					
150			Caliche, some clays, orange-brown, dry						
			Silt with sand, orange-brown, moist						
155			Shale, light gray to orange, dry, firm, slightly weathered						
			Sandstone, medium brown, moist						
160			Shale, light gray, dry, very hard		100				
			Dark gray to black						
165			Dark gray						
			Sandstone, orange-brown, moist						
170			Dark gray with red						
			Borehole depth 145.0 ft						

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