MW 18D

WATER WELL RECORD Form WWC-5

Division of Water Resources App. No. ____

1 LOCATION OF WATER WELL: County: FORD | Fraction: SE¼ SE¼ NW¼ ¼ | 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: ..... (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 US 50
City, State, ZIP Code : DODGE CITY, KS 67801

3 LOCATE WELL WITH AN "X" IN SECTION BOX:

N / W / E / S; X in NW; 1 mile

4 DEPTH OF COMPLETED WELL 145' ft.
Depth(s) Groundwater Encountered (1) 139' 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 145' 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 140' 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 145' ft. to 140' ft., From ..... ft. to ..... ft.
From ..... ft. to ..... ft., From ..... ft. to ..... ft.
GRAVEL PACK INTERVALS: From 145' ft. to 138' 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 138' 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 WEST OF PLANT Distance from well ? 1000'

FROM	TO	LITHOLOGIC LOG	FROM	TO	LITHO. LOG (cont.) or PLUGGING INTERVALS
0	4	Topsoil	100	115	clay w/ caliche
4	53	clay	115	120	sandy clay
53	55	caliche	120	127	silt w/ sand
55	60	clay	127	132	sandy silt
60	63	caliche	132	139	sand
63	75	sand	139	143	silty sand
75	80	Sandy silt	143	148	clay & silt
80	90	clay w silt	148	155	shale
90	97	clay w sand			
97	100	Caliche			

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) 07/10/11 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. 993 This Water Well Record was completed on (mo/day/year) 09/19/11 under the business name of Cahoy Pump Service, Inc. by (signature) Shawn D. 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.

KSA 82a-1212

Check: ☑ White Copy, ☐ Blue Copy, ☐ Pink Copy

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

Geosyntec consultants

Borehole No. MW-18D

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:	10 July 2011

Depth (ft)	Water Level (ft)	Stratigraphy	Lithologic Description	Geologic Samples: Unified Soil Classification	Recovery (%)	Blowcount	PID (ppmv)	Soil Sample ID	Well Configuration	Comments
0			Topsoil, brown, dry, loose							Grout (0-132 ft bgs)
5			Clay, brown, dry, firm, low plasticity 10-30% caliche Very stiff		80					
10			Trace caliche, stiff	CL						
15			Clay, brown, moist, firm, high plasticity	CH						
20										Drilling fluid return observed from 15-25 ft bgs
25			Clay, trace caliche, brown, dry, hard, low plasticity Some caliche, very stiff	CL	70					
30										
35			Hard Trace silts, trace sands, pale brown, moist, soft							
40										
45			Clay, trace fine gravel caliche, light brown, moist, soft, high plasticity 20% caliche, light grayish green	CH	100					
50										Drilling fluid return observed from 45-55 ft bgs
55			Caliche and clay, somesands, pale brown, dry, firm							
			Clay, some caliche, trace sands, pale brown, dry, very stiff, low plasticity	CL						

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			Caliche, some clays, pale brown, dry, firm							
65			Poorly graded sand, some caliche, trace clays, light grayish brown, dry, stiff, some cementation		100					
			30% caliche, pale brown	SP						
70										- Drilling fluid return observed from 65-75 ft bgs
75			Sandy silt, trace clays, brown, dry, firm	ML						- Hard drilling; moderate rig chatter from 70-75 ft bgs
80			Clay with silt, some fine sands, light brown, dry, low plasticity	CL ML	100					
85										
90			Clay, trace silts, brown, dry, firm, low plasticity	CH						
			Clay and silt, some fine sands, light brown, dry, firm	CL ML						
95			Sandy clay, brown, dry, firm, medium plasticity, very fine to fine sands	CL						
			Silt with clay, light brown, firm, dry, low plasticity clays	ML						
100			Caliche, some clays, white, dry, firm							
			Clay with caliche, pale brown, dry, stiff, medium plasticity							
105			White to pale brown, dry, firm, low plasticity	CL	50					
110										- Hard drilling; moderate rig chatter from 105-115 ft bgs
115			Sandy clay, trace fine gravel caliche, light brown, moist to dry, firm, low plasticity, very fine to fine sands	CL						

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Depth (ft)	Water Level (ft)	Stratigraphy	Lithologic Description	Geologic Samples: Unified Soil Classification	Recovery (%)	Blowcount	PID (ppmv)	Soil Sample ID	Well Configuration	Comments
			Sand with silt, brown, dry, firm, very fine sands	SP						- Drilling fluid return observed from 115-125 ft bgs
			Silt with sand, some clays, brown, moist, soft	SM						
125			Wet	ML	100					
			Sandy silt, brown, moist to wet, firm, very fine sands	ML						
130										
			Poorly graded sand, some silts, trace clays, brown, moist to wet, fine to very fine sands							
135			Trace fine gravel caliche, tan brown, wet to saturated	SP						← Bentonite pellet seal
			Silty sand, trace fine gravel caliche, tan brown, wet, very fine sands	SM						
140										← 5-ft well screen from 140-145 ft bgs; silica sand filter pack
			Clay and silt, trace fine gravel orange shales, moist to dry, firm, low plasticity	CL ML	100					
145			Dry, stiff							
			Shale, dark red to orange, dry, stiff, weathered							← Bentonite pellet backfill
150			Some fine gravel caliche, yellow							
			Light gray, very hard							- Hard drilling; significant rig chatter from 145-155 ft bgs
155			Dark gray							
			Borehole depth 155.0 ft							
160										
165										
170										
175										

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