



KOCH NITROGEN COMPANY

September 1, 2004

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ARTD/RCAP

Chief of the Hazardous Waste Permits Section  
Bureau of Waste Management  
Kansas Department of Health and Environment  
1000 SW Jackson, Suite 320  
Topeka, Kansas 66612-1366

Attn: Chief, RCRA Corrective Action and Permits Branch  
U.S. Environmental Protection Agency Region VII  
901 North Fifth Street  
Kansas City, Kansas 66101

**RE: Semi-Annual Groundwater Corrective Action Report  
Koch Nitrogen Company, Dodge City Nitrogen Plant  
EPA ID No. KSD044625010**

RCRA



520260

To Whom It May Concern:

In accordance with Section IV.E of the September 29, 2003 Hazardous Waste Management Facility Permit, Koch Nitrogen Company (KNC) is transmitting this Semi-Annual Groundwater Corrective Action Report for the Dodge City Nitrogen Plant. This report covers the period January through June, 2004.

In accordance with Section I.E.14 of the Permit, KNC is also providing a summary of potential instances of noncompliance, along with a description of planned changes in operating and maintenance procedures to resolve such issues and scheduled resolution dates. KNC also requests clarification on several items. Our review continues and KNC may add to the information in the supplement to this letter.

As you know, the previous environmental compliance manager is no longer with KNC. Our new environmental compliance manager is scheduled to begin work at the facility on September 7, 2004. We would appreciate the opportunity to meet with the Kansas Department of Health and Environment to introduce our new environmental compliance manager and discuss the items listed in the attachment after that date.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or

Kansas Department of Health and Environment  
Environmental Protection Agency Region VII  
September 1, 2004  
Page 2

those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions regarding this report or attachment, please do not hesitate to contact Katrina Krier at (620)227-8631, extension 120.

Sincerely,



Larry Angell  
Vice President

Encs.: Supplemental Information  
Semi-Annual Groundwater Corrective Report

cc: Everett Spellman, Kansas Department of Health and Environment, Topeka, Kansas  
Katrina Krier, Koch Nitrogen Company, Dodge City, Kansas  
Stephen B. Ellingson, Ph.D., Koch Mineral Services, Wichita, Kansas  
Frank VanRyn, Reiss Remediation, Wichita, Kansas

**SUPPLEMENTAL INFORMATION  
SUBMITTED WITH THE  
SEMI-ANNUAL GROUNDWATER CORRECTIVE ACTION REPORT  
Koch Nitrogen Company  
Dodge City, Kansas  
EPA ID No.KSD044625010  
September 1, 2004**

Pursuant to Section I. E. 14 of the Hazardous Waste Management Facility Permit, Part I (Part I Permit), Koch Nitrogen Company (KNC) is required to *“report all other instances of noncompliance not otherwise required to be reported above in Sections Permit Conditions IE.10 through I.E.13, at the time monitoring reports are submitted.”* This document is intended to provide information requested by Section I.E.14 of the Part I Permit.

In this document, KNC also provides a description of planned changes in operating and maintenance procedures to resolve any such issues, and scheduled resolution dates. In addition, KNC requests clarification on several permit items. We recognize that some clarifications may result in permit modifications. Finally, KNC has also identified issues that are not expressly referenced in the Part I Permit but that relate to the September 7, 2001 version of the Resource Conservation and Recovery Act (RCRA) Part B Permit Application. KNC is not certain that these issues would be subject to reporting under Section I.E.14 of the Part I Permit but is providing this for your information. KNC would appreciate the opportunity to meet with Kansas Department of Health and Environment (KDHE) to clarify these issues. Our review continues and KNC may add to the information in this document.

**POTENTIAL PART I PERMIT ISSUES and CLARIFICATIONS**

1. **Locking Well Caps.** Section II.C of the Part I Permit provides that the Permittee will comply with security provisions set out in Section D of the Part B Permit Application. Section D of the Part B Permit Application indicates that wells without recovery pumps will have locks (see page D-1). Currently, wells that have low-flow bladder pumps do not have locking mechanisms due to the presence of these pumps. KNC will install locks on these wells by December 31, 2004.
2. **Chaffin Well.** Attachment D of the Part I Permit and the September 7, 2001 RCRA Groundwater Sampling and Analysis Plan (SAP) (page 4) identifies ten private wells that are to be sampled quarterly. During the first and second quarters of 2004, the Chaffin private well was not sampled because the business ceased operating and the site was closed and not accessible by KNC. However, the site was made accessible to KNC and was available for sampling in third quarter of 2004.
3. **Screen Occlusion.** Section IV.D.3.d of the Part I Permit and SAP (page 13) provides that wells that occlude 10 percent or more will be redeveloped before the next sampling period. There are wells that meet this criterion that were not

redeveloped within the stated time frame including wells TW-47, TW-53, TW-60, TW-64, and A-3B. Wells that are occluded and that are scheduled for sampling in October 2004 will be redeveloped before the fourth quarter 2004 sampling event, which is scheduled for October 2004.

4. **Total Well Depth Measurements.** Sections IV.D.3.c and IV.D.4.a provide that total depth measurements shall be performed annually. Total well depths were not measured in 13 wells during April 2004. As noted below, there are dedicated pumps in some wells which preclude measurement of well depth without removal of the pumps. KNC seeks clarification that total depths in wells with dedicated pumps will be measured on the same schedule as recovery wells.
5. **Well Maintenance Log.** The SAP provides that documentation will be maintained for well maintenance and repairs (pages 10 and 13). Section IV.D.3.e of the Part I Permit states that written justification for any delay in repair must be included in the Semi-Annual Groundwater Corrective Action Report. There is no complete documentation onsite for certain well maintenance and repairs. Appendix A contains a typical Well Maintenance Log. KNC will complete a Well Maintenance Log for the fourth quarter 2004 sampling event, which is scheduled for October 2004. In the future, the facility will use a Well Maintenance Log to track well maintenance and repairs. KNC will also continue its review of available well maintenance information and add this information to a Well Maintenance Log by November 30, 2004.
6. **Inactive CDU Inspections.** Section II.D of the Part I Permit provides that the Permittee will comply with the Post Closure Inspection Plan in the RCRA Part B Application. The Post Closure Inspection Plan provides that the inactive Chromium Destruction Unit (CDU) will be inspected quarterly during the monitoring well inspections for any changes (see Part B Permit Application, Section G, page G-1). While the former CDU remained inactive during the first half of 2004, and is in the same condition as at the time of permit issuance, these inspections have not been documented. KNC continues to address the inactive CDU under the closure and post-closure plans in the Part I Permit. In the future, beginning with the fourth quarter 2004 sampling event, the inspection of the CDU will be documented at the time of quarterly monitoring well inspections. Appendix B contains an example of the field form to be used for this inspection. As noted below, KNC seeks clarification on the process that should be used to revise existing forms provided in the SAP.
7. **Groundwater Elevations.** Section IV.D.4.a of the Part I Permit and the SAP (page 9) require that groundwater surface elevations be measured quarterly. The groundwater elevation could not be recorded in well TW-25 during the first quarter 2004 sampling event because the gauging port was frozen shut. The groundwater elevation could not be recorded in well TW-78 during the second quarter 2004 sampling event because the groundwater level was below the top of the pump.

8. **Andco Effluent.** Section IV.C.1.c of the Part I Permit states that the Permittee shall operate the treatment system to treat the recovered groundwater in accordance with the Post Closure Plan set out in the Part B Permit Application. The Post Closure Plan in the Part B Permit Application states that samples will be collected during every 12-hour shift from the Andco treatment system (see Section F, page F-5). Historically the samples have been collected, although not in accordance with that schedule. Beginning August 24, 2004, a system has been designed to ensure that samples are collected during every 12-hour shift. Appendix C contains a sample form for use in recording these sampling events.
9. **Durco Filter.** Section IV.C.1.c of the Part I Permit states that the Permittee shall operate the treatment system to treat the recovered groundwater in accordance with the Post Closure Plan set out in the Part B Permit Application. The Post Closure Plan in the Part B Permit Application states that the Durco filter will be monitored for proper operation approximately once per day (see Section F, page F-6). Historically these inspections have been performed, but have not been documented. Beginning August 23, 2004, a system has been designed to ensure that these inspections are conducted. Appendix D contains a sample form for use to record proper operation of the Durco filter.
10. **Nitrogen Laboratory Method.** Section I.E.9.a of the Part I Permit specifies that chemical analyses must be those specified in the U.S. Environmental Protection Agency (EPA) Publication SW-846. The SAP indicates that the method to be used for nitrate plus nitrite analysis will be EPA Method 353.2, which is not a method provided by SW-846. Depending on the clarification relating to speciation set out in No. 11 below, KNC seeks to confirm that EPA Method 353.2 may be used for nitrite, nitrate and nitrate plus nitrite analysis.
11. **Nitrogen Species Measured.** Section I.E.9.a and Attachment D of the Part I Permit state that the Permittee shall determine the concentrations of “nitrate” throughout the compliance period and any extension due to corrective action implementation according to the schedule set out in the SAP. There is no reference to testing for “nitrite” in the Part I Permit. However, Attachment C of the Part I Permit specifies that the Ground Water Protection Standard (GWPS) will be nitrate plus nitrite as N (see Part I Permit Attachment C). Table 2.3 of the SAP specifies that the groundwater sampling parameters should include nitrate plus nitrite. KNC asks KDHE to clarify which species of nitrogen should be measured.
12. **Prior Well Abandonment.** Wells TW-6 and TW-50 were abandoned in 2001. Records of abandonment were submitted to KDHE with the annual groundwater monitoring report for 2001 and are currently reflected in KDHE’s records. A copy of well abandonment documents from the KDHE files is included as Appendix E. Wells TW-6 and TW-50 appear on Attachment D to the Part I Permit as “S” (supplemental) and “W” (water level measurements) wells. The Part I Permit specifies that these wells are part of the Supplemental Monitoring Well Network (see

Section IV.B.4 and Table 1). These wells are no longer available for any monitoring activity and have not been used for water level measurements since their abandonment in 2001. KNC seeks to confirm the status of these wells.

13. **Alternate Laboratory Use.** Section IV.C.3.b of the Part I Permit provides that the Permittee will comply with the Ground Water Monitoring Plan set out in the Part B Permit Application. The Ground Water Monitoring Plan in the Part B Permit Application identifies the laboratories that will perform the groundwater analytical work as the onsite laboratory, Continental Analytical Services, and Servitech (see Section E, page E-2). KNC is currently using Pace Analytical Services, Inc. (Lenexa, Kansas), a KDHE-certified laboratory, to perform analyses for chromium, volatile organic compounds, and nitrate plus nitrite. KNC has submitted to KDHE a copy of the Pace Analytical Services Quality Assurance/Quality Control Plan in the December 31, 2003 and May 4, 2004 revisions to the RCRA Part B Permit Application.
14. **Field/Laboratory Forms.** Part I Permit IV.C.3.b provides that the Permittee will comply with the Ground Water Monitoring Plan set out in the Part B Permit Application. The Ground Water Monitoring Plan in the Part B Permit Application states that the data will be reported on Field Sampling and Laboratory Results Data Sheets (see Section E, page E-2). Data are currently being reported electronically in the format requested by KDHE and on forms provided by the laboratory. In the future, KNC would like to use electronic data loggers to collect field information. KNC seeks approval from KDHE to provide data on forms other than the Field Sampling and Laboratory Results Data Sheets contained in the Part B Permit Application. This clarification was also requested in the December 31, 2003 and May 4, 2004 revisions to the RCRA Part B Permit Application that KNC submitted to KDHE.
15. **Purge Water Management.** The SAP provides that water purged from the wells will be collected and disposed into the onsite injection wells or to the sink in the onsite laboratory (pages 15-16). Well TW-79 is an offsite recovery well that is not pumped by KNC except during sampling events. A generator is brought to well TW-79 for purposes of pumping this well. The groundwater purged from this well during monitoring events is not collected for disposal, but is placed on the ground.
16. **Recovery Well Operation.** According to Table 2 in Section IV.C.1.a and Attachment D in the Part I Permit, well TW-2 has been identified in the Part 1 Permit as a recovery well. Well TW-2 has insufficient water to pump and therefore, cannot be operated as a recovery well.
17. **Records of Inspection.** Section IV.D.3.a of the Part I Permit provides that the wells will be inspected and the inspection documented. Well TW-66 was inadvertently omitted from the well inspection list for the first and second quarters of 2004, when the form was retyped, but has been added for all future inspections beginning in the third quarter of 2004.

18. **Well Recovery Water.** The SAP states that water from recovery wells is described as either going for onsite reuse or to the onsite treatment system for disposal (Section E, page E-1, SAP page 2). Well TW-79 is identified in Section IV.C.1.a of the Part I Permit as an onsite recovery well that will not be pumped continuously. Water from this well is periodically used by the landowner for agricultural purposes. According to pumping records available for well TW-79, no water was pumped from the well in the first or second quarters of 2004, except during the sampling events.

## PART B PERMIT APPLICATION CLARIFICATIONS

Section I.A of the Part I Permit provides "*This Permit consists of the conditions contained herein, including those in any attachments; the Permit Application, including all revisions; and the applicable regulations contained in 40 CFR part 124, 260 through 264, 268, and 270.*"

The following actions have been identified as apparently inconsistent with the SAP included as part of the September 7, 2001 version of the Part B Permit Application. KNC is providing the following list in order to seek clarification of the applicability of certain requirements. KNC would appreciate the opportunity to meet with KDHE to clarify these issues.

1. **Effective Version.** Revisions to the SAP in Section E, Appendix F of the Part B Permit Application along with revisions to other parts of the Part B Permit Application were submitted to KDHE on December 31, 2003 and May 4, 2004. KNC seeks to confirm which version of the Part B Permit Application, particularly the SAP, is currently in effect and should be followed.
2. **Container Cleanliness Certification.** The SAP in Section E, Appendix F of the Part B Permit Application indicates that the field groundwater sampling file maintained onsite will include copies of laboratory statements of container cleanliness (see page 10). These records are received with shipments of laboratory containers but are not currently maintained onsite. The certificates will be maintained in the facility files beginning immediately with the next shipment of sample containers received for the fourth quarter 2004 sampling event.
3. **Alternate Field Meters.** The SAP in Section E, Appendix F of the Part B Permit Application provides that a multi-parameter water quality meter (MP20 Flow Cell) will be used during low-flow groundwater purging (see page 15). When the onsite MP20 Flow Cell is not operating during a sampling event, such as during the second quarter 2004 sampling event, the field sampling team will use an equivalent piece of equipment, a YSI Incorporated Model YSI 556 multiprobe system. KNC seeks to confirm that equivalent equipment may be substituted where necessary if the same quality of results can be achieved. This clarification was also requested in the December 31, 2003 and May 4, 2004 revisions to the RCRA Part B Permit Application.
4. **Form Revisions.** There are a number of forms included in the SAP to be used for recording information. KNC would like to revise these forms periodically to make them more useful. KNC asks KDHE to clarify the process to be used to revise the forms that were included in the Part B Permit Application.

APPENDIX A  
Well Maintenance Log

**Well Maintenance Log - Example Form**  
**Koch Nitrogen Company, Dodge City, Kansas**  
**EPA ID KSD44625010**  
**First Quarter 2004**

Well ID	Well Function					Inspect. Date	Repair Required	Work Needed / Work Performed	Inv. Order	Repairs Undertaken	Repairs Delayed	Repairs Complete	Photo
	M	R	S	P	W								
TW-1A		✓	✓		✓								
TW-2		✓	✓		✓								
TW-4		✓	✓		✓								
TW-5	✓				✓								
TW-6	Abandoned 2001					n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
TW-7		✓	✓		✓								
TW-8	✓	✓			✓								
TW-9		✓	✓		✓								
TW-10		✓	✓		✓								
TW-11	✓				✓								
TW-12			✓		✓								
TW-13		✓	✓		✓								
TW-14	✓	✓			✓								
TW-15			✓		✓								
TW-16	✓	✓			✓								
TW-17		✓	✓		✓								
TW-18		✓	✓		✓								
TW-19	✓	✓			✓								
TW-20		✓	✓		✓								
TW-21		✓	✓		✓								
TW-22	✓				✓								
TW-23	✓	✓			✓								
TW-24			✓		✓								
TW-25			✓		✓								
TW-26	✓	✓			✓								
TW-27		✓			✓								
TW-28	✓	✓			✓								
TW-29		✓	✓		✓								
TW-30	✓	✓	✓		✓								

Well ID	Well Function					Inspect. Date	Repair Required	Work Needed / Work Performed	Inv. Order	Repairs Undertaken	Repairs Delayed	Repairs Complete	Photo
	M	R	S	P	W								
TW-31		✓	✓		✓								
TW-36	✓	✓			✓								
TW-37	✓	✓			✓								
TW-38	✓	✓			✓								
TW-39	✓	✓			✓								
TW-40	✓	✓			✓								
TW-46	✓	✓			✓								
TW-47			✓		✓								
TW-48		✓	✓		✓								
TW-49	✓	✓			✓								
TW-50	Abandoned 2001					n/a	n/a	n/a	n/a	n/a	n/a	n/a	
TW-51		✓	✓		✓								
TW-52	✓	✓			✓								
TW-53		✓	✓		✓								
TW-54		✓	✓		✓								
TW-55		✓	✓		✓								
TW-56	✓	✓			✓								
TW-57		✓	✓		✓								
TW-58	✓	✓			✓								
TW-59			✓		✓								
TW-60			✓		✓								
TW-61			✓		✓								
TW-62			✓		✓								
TW-63	✓				✓								
TW-64		✓	✓		✓								
TW-65		✓	✓		✓								
TW-66		✓	✓		✓								
TW-67		✓	✓		✓								
TW-68	✓	✓			✓								
TW-69		✓	✓		✓								
TW-70		✓	✓										
TW-71		✓	✓		✓								
TW-72		✓	✓		✓								
TW-73	✓	✓			✓								
TW-74	✓	✓			✓								

Well ID	Well Function					Inspect. Date	Repair Required	Work Needed / Work Performed	Inv. Order	Repairs Undertaken	Repairs Delayed	Repairs Complete	Photo
	M	R	S	P	W								
TW-75		✓	✓		✓								
TW-76	✓	✓			✓								
TW-77	✓	✓			✓								
TW-78	✓	✓			✓								
TW-79	✓	✓			✓								
TW-80	✓				✓								
TW-81A			✓		✓								
TW-82		✓	✓		✓								
TW-83		✓	✓		✓								
TW-84	✓	✓			✓								
TW-85		✓	✓		✓								
TW-86		✓	✓		✓								
TW-87	✓	✓			✓								
TW-88		✓	✓		✓								
TW-89	✓	✓			✓								
TW-90		✓	✓		✓								
TW-91	✓	✓			✓								
TW-92		✓	✓		✓								
TW-93	✓	✓			✓								
TW-94	✓	✓			✓								
A-1			✓		✓								
A-2			✓		✓								
A-3B	✓				✓								
B-1	✓				✓								
B-2			✓		✓								
C-1			✓		✓								
C-2			✓		✓								
C-3B	✓				✓								
CP-1					✓								
CP-2					✓								
CP-3	✓				✓								
CP-4					✓								
CP-5					✓								
Bogner	✓			✓									
Buehne	✓			✓									

Well ID	Well Function					Inspect. Date	Repair Required	Work Needed / Work Performed	Inv. Order	Repairs Undertaken	Repairs Delayed	Repairs Complete	Photo
	M	R	S	P	W								
Chaffin	✓			✓									
Tawzer	✓			✓									
Coker	✓			✓									
Conrardy	✓			✓									
Feed Mill	✓			✓									
Lix	✓			✓									
ByProducts	✓			✓									
Maxwell	✓			✓									

**Well Function:**

- M = Monitoring
- R = Recovery
- S = Supplemental
- P = Private
- W = Water Level

APPENDIX B  
Inactive CDU Inspection Form

FORM 3  
MONITORING WELL INSPECTION SHEET

KOCH NITROGEN COMPANY

SAMPLING QUARTER \_\_\_\_\_, YEAR \_\_\_\_\_

DODGE CITY NITROGEN PLANT

INSPECTOR \_\_\_\_\_

WELL NO.	INSPECTION						DEFICIENCIES NOTED
	CASING	CAP	COVER	PAD	LOCKS	OTHER	
B-1							
B-2							
C-1							
C-2							
C-3B							
CP-1							
CP-2							
CP-3							
CP-4							
CP-5							

Note: If well component is in good condition, place a check in the appropriate column.  
Note any damage in the space provided. If additional space is needed, report additional repair needs in the Daily Log Form

Description of Maintenance Work Provided \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Former CDU Inspection Yes No  
Structural Integrity (i.e. broken concrete, cracks)  
Physical/Operational Changes since last inspection?  
Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date Completed \_\_\_\_\_ Inspector \_\_\_\_\_

APPENDIX C  
Andco Effluent Measurement Form

# Andco Effluent

(RCRA Part B Application, Post-Closure Plan, Section F)

Year: \_\_\_\_\_ Month: \_\_\_\_\_ Checked By: \_\_\_\_\_

Date	Day Shift			Night Shift		
	Chromium	Amps	Comments	Chromium	Amps	Comments
1						
2						
3						
4						
5						
6						
7						
8						
9						
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11						
12						
13						
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APPENDIX D  
Durco Filter Operation Form

## KNC Durco Filter Daily Check

(RCRA Part B Application, Post-Closure Plan, Section F)

**If not operating properly notify Maintenance and Compliance Manager**

Year: \_\_\_\_\_ Month: \_\_\_\_\_ Checked By: \_\_\_\_\_

Date	Day Shift			Night Shift		
	Delta P	Proper Operation	Comments	Delta P	Proper Operation	Comments
1		Yes No			Yes No	
2		Yes No			Yes No	
3		Yes No			Yes No	
4		Yes No			Yes No	
5		Yes No			Yes No	
6		Yes No			Yes No	
7		Yes No			Yes No	
8		Yes No			Yes No	
9		Yes No			Yes No	
10		Yes No			Yes No	
11		Yes No			Yes No	
12		Yes No			Yes No	
13		Yes No			Yes No	
14		Yes No			Yes No	
15		Yes No			Yes No	
16		Yes No			Yes No	
17		Yes No			Yes No	
18		Yes No			Yes No	
19		Yes No			Yes No	
20		Yes No			Yes No	
21		Yes No			Yes No	
22		Yes No			Yes No	
23		Yes No			Yes No	
24		Yes No			Yes No	
25		Yes No			Yes No	
26		Yes No			Yes No	
27		Yes No			Yes No	
28		Yes No			Yes No	
29		Yes No			Yes No	
30		Yes No			Yes No	
31		Yes No			Yes No	

APPENDIX E  
Well Abandonment Forms  
(TW-6 and TW-50)



Scan of WWC5 Form

#6

WATER WELL LOGGED Form WWC-5 (SA 9/24-1912)

LOCATION OF WATER WELL: Fraction Section Number Township Number Range Number  
 COUNTY: WOOD 08 1/4 SE 1/4 NE 1/4 22 22 22 22 22

Distance and direction from nearest town or city street address of well if located within city?  
 FROM WOOD CITY - 4 MILES EAST ON HIGHWAY 20

WATER WELL OWNER: CARLTON H. BYRHOFF JR. Well # 60  
 264, E. Adams, Box 9 : 11510 HIGHWAY 20  
 City, State, ZIP code : WOOD CITY, KS 67381- Board of Agriculture, Division of Water Resources  
 Application Number:

WELL TYPE: DOMESTIC USE  
 DEPTH OF COMPLETED WELL IN FEET: 0  
 DEPTH OF CONDUIT ENCOUNTERED: 0 ft. 1. 0 ft. 2. 0 ft. 3. 0 ft.  
 WELLS STATIC WATER LEVEL: 0 ft. below land surface measured on 12/22/01  
 Pump test data: Well water was 0 ft. after 0 hours pumping @ (gpm)  
 Estimated Yield: 0 gpm Well water was 0 ft. after 0 hours pumping @ (gpm)  
 Bore Hole Diameter: in. to 0 ft., and in. to 0 ft.  
 WELLS WATER USE: DOMESTIC  
 Was a chemical/bacteriological sample submitted to department? No  
 If yes, on/day/yr sample was submitted Water well disinfected? No

TYPE OF CASE CASING USED: RCP (SA) CASING JOISTS: CLOSED  
 Inside casing diameter: 5 in. to 55 ft., Dia in. to 0 ft., Dia in. to 0 ft.  
 Casing height above land surface: 0 in., height 0 ft./ft. Well thickness or gauge No.  
 TYPE OF SCREEN OR PERFORATION MATERIAL:  
 SCREEN OR PERFORATION OPERATING AREA:

SCREEN PERFORATION INTERVALS:  
 From 0 ft. to 0 ft., From 0 ft. to 0 ft., From 0 ft. to 0 ft.  
 CENTRAL PILE INTERVALS:  
 From 0 ft. to 0 ft., From 0 ft. to 0 ft., From 0 ft. to 0 ft.

DEPT. BACTERIAL TESTS:  
 Great intervals: From 0 ft. to 0 ft., From 0 ft. to 0 ft., From 0 ft. to 0 ft.  
 What is the nearest source of possible contamination: NONE  
 Direction from well? Not any feet?

FROM	TO	LITHOLOGIC LOG	FROM	TO	PERFORATION INTERVALS
			0	4	TOP SOIL & CLAY
			4	15	DESCHUTE GRAY
			15	19	WELL SAND
			19	23	WHITE SAND
			23	25	WELL SAND
			0	0	
			0	0	
			0	0	
			0	0	

INSTALLATION OF WELL OR SCREENING: This water well was plugged under by jurisdiction and was completed on (on/day/year) 11/01/01 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. 179  
 This Water Well Record was completed on (on/day/yr) 12/22/01  
 under the business name of JOE'S WELL SERVICE, INC. by (signature) *Quintin Creek*

Kansas Geological Survey  
 Comments to webadmin@kgs.ku.edu  
 URL=http://www.kgs.ku.edu/Magellan/WaterWell/index.html  
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#50



Scan of WWC5 Form

WATER WELL RECORD Form WWC-5 USA 82-1212

LOCATION OF WATER WELL: COUNTY: MOH	Fraction NE 1/4 SE 1/4 NE 1/4	Section Number 15	Township Number 16 N	Range Number 8 E																																																																		
Distance and direction from nearest town or city street address of well if located within city? FROM MOORE CITY - 1 MILES EAST ON HIGHWAY 50																																																																						
WATER WELL OWNER: FARMLAND INV. HYDROGEN ET 804 St. Address, box # : 1650 HIGHWAY 50 City, State, ZIP code : MOORE CITY, KS 67001- Board of Agriculture, Division of Water Resources Application Number:																																																																						
LOCATE WELL'S LOCATION WITH AS TO 1/4 SECTION BOX:																																																																						
<table border="1"> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>					1	2	3	4	5	6	7	8																																																										
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DEPTH OF COMPLETE WELL 360 DISTINCTION: 0 Depth(s) Groundwater Encountered 0 ft. 0 ft. 0 ft. 0 ft. 0 ft.																																																																						
WELL'S STATIC WATER LEVEL 82 ft. below land surface measured on m/d/y/y: 11/01/01 Pump Schedule: Well water was 0 ft. after 0 hours pumping 0 gpm Estimated Yield 0 gpm Well water ran 0 ft. after 0 hours pumping 0 gpm																																																																						
Hole Size Diameter in. to 4 1/2, and in. to 0 ft.																																																																						
WELL WATER USE: DOMESTIC Has a chemical/bacteriological sample submitted to department? No If yes, m/d/y/y sample was submitted later well disinfected? Yes																																																																						
TYPE OF BLANK CASING TUBE: TUB Blank casing diameter 4 in. to 310 ft., dia in. to 0 ft., Dia in. to 0 ft. Casing height above land surface 0 in., weight 0 lbs/ft. Wall thickness or gauge No.																																																																						
TYPE OF SCREEN OR PERFORATION MATERIAL: SCREEN OR PERFORATION OPENING SIZE:																																																																						
SCREEN PERFORATION INTERVALS: FROM 0 ft. to 0 ft., FROM 0 ft. to 0 ft. CRUISED BACK INTERVALS: FROM 0 ft. to 0 ft., FROM 0 ft. to 0 ft.																																																																						
SCREEN MATERIAL: BENTONITE Screen intervals: FROM 0 ft. to 0 ft., FROM 0 ft. to 0 ft., FROM 0 ft. to 0 ft. Seal to the nearest source of possible contamination: NONE Direction from well? How many feet? 0																																																																						
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WELLSHOWER'S OR WORKER'S CERTIFICATION: This water well was plugged under jurisdiction and was completed on (m/d/y/y): 11/01/01 and this record is now to the best of my knowledge and belief. Kansas Water Well Driller's License No. 199 This water well record was completed on (m/d/y/y): 08/22/01 under the license name of JOE'S WELL SERVICE, INC. by (signature) <i>Joel Crick</i>																																																																						

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