KOCH

KOCH NITROGEN COMPANY

April 30, 2007

Via Certified Mail No - Return Receipt Requested ***7005 0390 0006 6702 0377***

Director, RCRA Corrective Action & Permits Branch
Air, RCRA and Toxics Division
U.S. Environmental Protection Agency Region VII (EPA)
901 North Fifth Street
Kansas City, Kansas 66101 (2 copies)

RE: Koch Nitrogen Company – Dodge City, Kansas
EPA ID No. KSD044625010
Quarterly Progress Report for 1st Quarter 2007

476043

RCRA BARCODE

Ladies/Gentlemen:

In accordance with Section C.13 of the above referenced Permit, Koch Nitrogen Company (KNC) hereby submits the enclosed original and duplicate of the Quarterly Progress Report for the first quarter of 2007.

If you have any questions about the attachments, please do not hesitate to contact AnnieLaurie Burke at (620) 227-8631, ext. 350.

Sincerely,

Gary J. LeRock

Gary J. LeRock
Plant Manager

cc **via certified mail:** **7005 0390 0006 6702 0483**
Andrea Stone, U.S. Environmental Protection Agency – Region VII, Kansas City, KS
certified mail: **7005 0390 0006 6702 0537**
Kansas Department of Health and Environment, Bureau of Waste Management, Topeka, KS (KDHE)

cc:
Stephen B. Ellingson, KMS Wichita. KS (electronic copy)
AnnieLaurie Burke, KNC Dodge City, KS

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QUARTERLY PROGRESS REPORT
1ST QUARTER 2007

DODGE CITY NITROGEN PLAN
KOCH NITROGEN COMPANY

EPA ID NO. KSD044625010

APRIL 30, 2007

CERTIFICATION STATEMENT

In accordance with Sections B.2.b and B.22 of the Part II Permit, 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 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.

By: Gary J. LeRock

Gary J. LeRock
Plant Manager

A description of the work completed (Part II Permit Section C.13.a): This Quarterly Report covers activities in the first quarter of 2007, during which KNC accomplished the following work:

KNC completed the first quarter groundwater sampling in late March 2007.

KNC completed the test program for optimization of the existing recovery well and treatment system, for which KDHE issued a temporary authorization under the Part I Permit for this work by letter dated July 14, 2006. The well configurations and test dates for each configuration are summarized below.

Configuration No.	Description	Wells Shutdown	2006/ 2007 Schedule
1	Shutdown of select wells located upgradient and/or outside the suspected source areas	TW-16, TW-17, TW-19, TW-23, TW-36, TW-37, TW-38, TW-52, TW-55, TW-56, TW-76, and TW-78	Start: August 3 Finish: September 13 Duration: 6 weeks
2	Shutdown of select upgradient and cross gradient wells	Wells shutdown under configuration 1 plus TW-18, TW-39, TW-40, TW-48, TW-49, TW-51, TW-53, TW-54, TW-57, TW-58, TW-67, TW-73, TW-74, TW-75, TW-77, TW-86, TW-94	Start: September 14 Finish: October 26 Duration: 6 weeks
Shutdown Evaluation	Shut down of all wells	All	Start: October 28 Finish: October 31 Duration: 4 days
3	Minor modifications to Configuration 2	Wells shutdown under configuration 2 with TW-87 shutdown and TW-94, and TW-77 restarted.	Start: November 1 Finish: January 26 Duration: 12 weeks

No adverse groundwater impacts have been observed as a result of the optimization program. Total chromium (total Cr), dissolved chromium (dissolved Cr), and nitrate plus nitrite as N (NO2/NO3) concentrations have shown small fluctuations (upward and downward) during the optimization activities. The pumping system has been restored to its original condition and is operating according to the permit conditions.

In association with the optimization test program, KNC gathered data to evaluate system performance and upgrades. KNC is evaluating these data, will include a detailed technical report describing the scope of the project, the study findings, and other related information, as part of the RCRA Interim Measures (IM) Report. Severe weather during the first quarter delayed completing some of the testing and evaluation to be covered in the IM Report. These elements have now been completed, and KNC will submit the IM report during the second quarter of 2007

KNC completed installation of the Dakota well at SWMU 4. Work included borehole installation, down hole gamma logging, log interpretation and analyses, water sampling at select intervals, and well completion.

The partially-drilled and steel cased Dakota well was perforated and completed as a large diameter Ogallala well.

Although not a part of the corrective action program, KNC performed soil sampling associated with the Andco Clarifier Basin Overflow, Pipe Fracture, and Pipe Union Failure groundwater releases. Sampling was completed on January 19, 2007.

Summaries of all findings, including summaries of laboratory data (Part II Permit Section C.13.b): The following summarizes our technical findings during the first quarter:

Laboratory results from the March 2007 sampling event were received. The results are being evaluated and will be provided in the second quarter 2007 report.

A Dakota borehole at SWMU 4 was completed to a depth of approximately 512 feet below ground surface (BGS). Gamma logging was completed in the open borehole to identify potential water bearing zones. Six zones were identified, four of which had a high probability of producing groundwater. Groundwater sampling was attempted from the uncased borehole at all these zones/intervals using a dual packer system. The intervals included two identified as potentially impacted by the former nearby disposal well, at approximately 350 feet and 500 feet bgs. Four of the six zones, as predicted, were water-bearing. Laboratory results from the sampling showed no VOCs or dissolved Cr present above the limits of detection. Low levels of total Cr were present in some samples due to the presence of fine silts from the uncased borehole, ranging from 0.025 to 0.15 mg/l. The detected levels of nitrate + nitrite as N ranged from 0.44 to 0.69 mg/l, as shown in the table below:

sample	interval	Total Cr	Dissolved Cr	NO2/NO3	VOC
RG-07-03-208	210 to 220 feet	0.15	nd	0.47	nd
RG-07-03-255	255 to 265 feet	0.025	nd	0.69	nd
RG-07-03-364	360 to 370 feet	0.039	nd	0.44	nd
RG-07-03-380	390 to 400 feet	0.039	nd	0.63	nd
RG-07-03-380 Dup		0.05	nd	0.68	nd
no water	458 to 468 feet				
no water	502 to 512 feet				

After consultation with EPA and KDHE, it was determined that it was possible to complete two wells within the borehole, enabling future sampling of two of the water-bearing zones (255 and 390 feet bgs). KNC then conducted an additional packer test between the two zones to confirm they were isolated by a confining layer and separated by an interval of greater than 100 feet. The wells were completed with 2-inch Schedule 80 PVC casing. The screen intervals were set to coincide with the two lowermost water producing zones. Additional details of the Dakota borehole logging, sampling, laboratory results, and well installation will be provided in the IM report.

The partially-drilled and steel cased Dakota well still remaining from original (August 2006) attempted drilling activities was backfilled to the base of the Ogallala aquifer. The steel casing was perforated within the saturated zone of the Ogallala using explosive charges. The steel cased and perforated borehole was completed as a 6-inch diameter well, with the potential of being used as a future recovery well when optimization of the system is completed. Additional information regarding the well will be provided as part of the IM report.

Sampling associated with the Andco Clarifier Basin Overflow, Pipe Fracture, and Pipe Union Failure recovered groundwater releases was completed on January 19, 2007. The Andco Clarifier Basin Overflow, Pipe Fracture, and Pipe Union Failure groundwater sampling locations and sampling results are summarized in Figures 1, 2, 3, and 4. The results were compared to threshold background levels developed from the RCRA Investigation Background Study. Measured concentrations are less than or just slightly above the applicable thresholds. No adverse impacts from the spills were observed. No additional vertical or lateral delineation or remediation is required. A separate report will be submitted during the second quarter of 2007 for this work.

KNC also completed installation of the new reverse-osmosis (RO) unit, which replaced the older Andco unit, for more effective treatment of the recovered water. Preliminary testing by the manufacturer showed removal of chromium and nitrate in the range of 95%

Summaries of all problems or potential problems encountered during the reporting period and actions taken to rectify problems (Part II Permit Section C.13.c): No significant problems were encountered during this period. As discussed with the Agency representatives throughout the completion of the field activities as described above, procedures described in the SAP have required revision due to field conditions and other factors in order to implement the RFI program, consistent with the project objectives. This list will be included in the IM Report to be submitted during the second quarter.

Projected work for the next quarter (Part II Permit Section C.13.d): In the next quarter, KNC expects to conduct the following work under Part II of the permit:

During the second quarter, KNC will complete the evaluation of all data from the field investigation and the optimizations study, and will submit the IM Report.

Although not a part of the corrective action investigation requirements, KNC will also submit a detailed report of the investigation of the Andco and other recovered water releases.

KNC will also complete the second quarter groundwater sampling event.

Any instances of noncompliance with Part II of this permit not otherwise required to be reported pursuant to Part II Permit Conditions B.18 (Part II Permit Section C.13.e): To the extent that the Part II Permit includes requirements to continue implementation of the existing groundwater monitoring, recovery, and treatment system, supplemental information regarding potential instances of noncompliance are described in the attached document.

SUPPLEMENTAL INFORMATION
SUBMITTED WITH THE
FIRST QUARTER REPORT 2007
Koch Nitrogen Company
Dodge City, Kansas
EPA ID No. KSD044625010
April 30, 2007

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 I.E.10 through I.E.13, at the time monitoring reports are submitted."

The following items have been previously discussed with the Agencies, who have indicated that they do not consider these to be deviations. However, because there are inconsistencies between certain of the permit documents, or between the language in these documents and best practices (e. g., use of most recent and accurate analytical methods), KNC is listing these items to meet the intent of Section I.E. 14 of the Part I permit.

KNC submitted to KDHE a request for modifications to the Permit to ensure consistency of wording and to clarify the acceptable use of alternate methods. KNC appreciates the input and comments from KDHE concerning this submittal. Based on that input, KNC will finalize this request and submit it for approval.

1. **Private Wells**. 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. Plumbing at the Coker well has been disconnected and it was not sampled during 2007. KNC will arrange for plugging and abandonment of the well after arrangements are made with the owner. The Cokers have been connected to the City of Dodge City water system since the fall of 2004. It was not possible to sample the Chaffin well during the first quarter, as previously noticed to KDHE. The Chaffin property has been leased to a new tenant, who has cut off electrical power to the well.

2. **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. This latter Method was used until 2206. Because the current preferred method is Standard Methods 4500-NO3 F (most recent edition), KNC began the use of this method in 2007. The conflict among the permit condition, the SAP requirement, and the preference for most recent methods is being resolved by the referenced permit modification.

3. **Nitrogen Species Measured**. Section I.E.9.a and Attachment D of the Part I Permit states 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 has since 2004 analyzed for nitrate plus nitrite as N.

4. **Field/Laboratory Forms**. 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 states that the data will be reported on Field Sampling and Laboratory Results Data Sheets (see Section E, p. E-2). KDHE has clarified that any format that includes all required data is acceptable. The requested permit modifications allow for format flexibility.

5. **Recovery Well Operation**. Wells TW-2 , 4 and 8, and TW-79 have been identified in the Part I Permit as recovery wells (Part I Table 1 IV.C.1.a and Attachment D). KNC has noted previously, and KDHE and EPA have acknowledged, that TW-2 and TW-79 are not used for recovery, due to insufficient water level and the original well design, respectively. As previously noted, Wells TW-4 and TW-8, currently have insufficient water levels for recovery. Well TW-36 was found during the first quarter of 2007 to have a water level that has dropped below the well pump. The drop in water level in certain Plant wells correlates with a regional drop in water levels. The optimization of the recovered water system will resolve the conflict between the permit conditions and the current condition of these wells.

6. **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 of SAP). The Agencies a have previously acknowledged that nonfunctional equipment should be replaced with newer equipment that offer a higher degree of accuracy and reliability.