



KOCH NITROGEN COMPANY LLC

July 29, 2009

*Via Certified Mail Return Receipt Requested*

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

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**RE: Koch Nitrogen Company, LLC – Dodge City, Kansas  
EPA ID No. KSD044625010  
Quarterly Progress Report for Second Quarter 2009**

Ladies/Gentlemen:

In accordance with Section C.13 of the above referenced Permit, Koch Nitrogen Company, LLC (KNC) hereby submits the enclosed original and duplicate of the Quarterly Progress Report for the Second Quarter of 2009.

If you have any questions about the attachments, please contact AnnieLaurie Burke at (620) 227-8631, ext. 350.

Sincerely,

Gary J. LeRock  
Plant Manager

**cc** *UPS Tracking #:*  
Andrea Stone, U.S. Environmental Protection Agency  
Region VII, Kansas City, KS

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QUARTERLY PROGRESS REPORT  
2<sup>nd</sup> QUARTER 2009

DODGE CITY NITROGEN PLANT  
KOCH NITROGEN COMPANY, LLC

EPA ID NO. KSD044625010

July 29, 2009

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 second quarter of 2009, during which KNC accomplished the following work:

- KNC met with Andrea Stone and Randy Rohrman of EPA Region 7, and Everett Spellman of KDHE, at EPA's offices on May 15, 2009, to discuss the development of the groundwater characterization element of the Phase II site investigation. Upon receipt of KDHE's O&M report for the facility, KNC will finalize the monitoring well locations and complete this addendum to the workplan, as described below.
- The second quarter groundwater sampling event was completed on April 23, 2009. As requested by EPA, KNC has supplemented our approved SAP methods to include differentiation between trivalent chromium (Cr+3) and the hexavalent form (Cr+6), and between nitrate (NO3) and nitrite (NO2).
- Phase II RFI sampling from AOC-1 was completed during the second quarter. KNC resampled the AOC 1 locations from the Phase I RFI Work Plan. As discussed in the meeting of May 15 and EPA's recommendation at that time, the work at this AOC was moved up in the original schedule because of the change in Cr+6 observed in Well TW-01-A during the April 2009 sampling. The samples were analyzed for Total Chromium, Cr+3, Cr+6, NO3, and NO2. Results of the analyses are displayed in the attached figures.
- Phase II RFI sampling at SWMU 8 was completed during the second quarter. Results of the analyses are displayed in the attached figures.
- Phase II RFI sampling was initiated at SWMU 1 and AOC 5. These results will be analyzed and a report submitted.
- KNC continued engineering work in support of planned stormwater projects near the boundaries of various AOCs, SWMUs and monitoring/recovery system structures. The projects include the following;
  1. Sunflower Tank: repair walls and provide paved vehicular/pedestrian access into containment
  2. NH3 Process and Utility Area: grade area and provide drainage for runoff
  3. Drum Corral: pave area within corral and install perimeter berm
  4. Fire Engine Building: establish containment and repair paving
  5. Sanitary Lagoon: line north cell and maintain south cell for backup
- KNC began construction on two stormwater projects: the stabilization and repair of paving on the East Road (north of AOC-1 and the former CDU); and the installation of a roof and

retaining curb on the nonhazardous waste staging bunker (east of AOC-1 and south of the former CDU).

- KNC continued work on the project to line and repair the RO Equalization Basin. Bids on the liner and reinforcement were solicited and evaluated.
- KNC performed Slug Tests on select monitoring wells during the week of May 18, 2009. The results are summarized in Table 1 below.

**TABLE 1  
SLUG TEST ANALYSIS SUMMARY  
KOCH NITROGEN COMPANY DODGE CITY, KANSAS**

Well	Date Tested	BOUWER & RICE		HVORSLEV		MEAN VALUE OF HVORSLEV AND BOUWER & RICE	
		ft/day	cm/sec	ft/day	cm/sec	ft/day	cm/sec
TW-05 In	5/21/09	3.82	1.3E-03	4.49	1.6E-03	4.16	1.5E-03
TW-05 Out	5/21/09	4.29	1.5E-03	4.91	1.7E-03	4.60	1.6E-03
TW-11 In	5/20/09	4.19	1.5E-03	4.76	1.7E-03	4.48	1.6E-03
TW-11 Out	5/20/09	4.18	1.5E-03	4.73	1.7E-03	4.46	1.6E-03
TW-22 In	5/21/09	2.24	7.9E-04	2.69	9.5E-04	2.47	8.7E-04
TW-22 Out	5/21/09	1.56	5.5E-04	1.80	6.3E-04	1.68	5.9E-04
TW-63 In	5/21/09	1.99	7.0E-04	3.17	1.1E-03	2.58	9.1E-04
TW-63 Out	5/21/09	NA	NA	NA	NA	NA	NA
TW-79 In	5/20/09	1.06	3.7E-04	1.57	5.5E-04	1.32	4.6E-04
TW-79 Out	5/20/09	1.02	3.6E-04	1.51	5.3E-04	1.27	4.5E-04
TW-80 In	5/21/09	0.70	2.5E-04	0.99	3.5E-04	0.85	3.0E-04
TW-80 Out	5/21/09	0.76	2.7E-04	1.07	3.8E-04	0.92	3.2E-04
A-3B In	5/21/09	4.67	1.6E-03	4.68	1.7E-03	4.68	1.6E-03
A-3B Out	5/21/09	6.47	2.3E-03	6.31	2.2E-03	6.39	2.3E-03
B-1 In	5/21/09	2.11	7.4E-04	1.95	6.9E-04	2.03	7.2E-04
B-1 Out	5/21/09	2.19	7.7E-04	1.99	7.0E-04	2.09	7.4E-04
C-3B In	5/21/09	0.75	2.6E-04	0.73	2.6E-04	0.74	2.6E-04
C-3B Out	5/21/09	0.71	2.5E-04	0.68	2.4E-04	0.69	2.4E-04

Note: NA - Not analyzed as could not fit straight line through data.

- KNC performed the biennial bladder pump calibration on May 19, 2009. The new pump settings will be used beginning with the 3<sup>rd</sup> Quarter Sampling Event in July.
- KNC installed well protection panels around select wells in the second quarter. The panels are intended to protect the wells from wind-blown debris damage and vehicle traffic.
- KNC submitted the 2008 Annual Ground Water Corrective Action Report on April 30, 2009.

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

- KNC evaluated laboratory results from the soil sampling at AOC-1 and SWMU 8 conducted in the second quarter. The speciation of chromium and nitrogen-bearing compounds enabled a better understanding of the observed distribution of these compounds at these locations. The results are consistent with KNC's understanding of the probable historical source of chromium releases, and with current understanding of the behavior of chromium and nitrates in the environment, as described in the 1st Quarter 2009 Progress Report. The analytical results are displayed in the attached figures.
- Laboratory results from the second quarter 2009 groundwater sampling event were also evaluated during that quarter. The results were consistent with those of the previous quarter. Only small changes in chromium and nitrate concentrations were observed.

**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 reporting period.

**Projected work for the next quarter (Part II Permit Section C.13.d):** In the next quarter (third quarter 2009), KNC expects to conduct the following work under Part II of the permit:

- KNC will continue sampling of AOCs and SWMUs in accordance with the Phase II RFI Work Plan.
- Based on discussions at the meeting of May 15, subsequent communications, and the extension letter of July 10, 2009, KNC will incorporate the recommendations from KDHE's O&M report and will finalize the groundwater addendum to the approved Phase II work plan within 30 days of receiving KDHE's report,
- KNC will coordinate sampling at the sites of the miscellaneous small spills with the main elements of the Phase II field investigation. Sampling at these sites will be performed in accordance with Addendum No. 1 to the RFI Phase II Sampling and Analysis Plan. KNC will prepare an addendum to address the leakage from the pump and valve failure at recovery well TW-83, which was discovered during the third quarter, as previously noticed to EPA and KDHE.
- The schedule for the field work for lining and repair of the RO Equalization Basin will be coordinated with the planned turnaround outage to minimize the downtime for the RO treatment unit. KNC anticipates that all of the physical repairs will be completed by the end of the outage in late October.
- Although not a part of the Part II permit requirements, KNC anticipates that the Third Quarter Groundwater Sampling will be started during the week of July 20, 2009 and completed by the end of July.

**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 is described in the attached document.

**SUPPLEMENTAL INFORMATION  
SUBMITTED WITH THE  
SECOND QUARTER REPORT 2009  
Koch Nitrogen Company, LLC  
Dodge City, Kansas  
EPA ID No. KSD044625010  
July 29, 2009**

Pursuant to Section I.E. 14 of the Hazardous Waste Management Facility Permit, Part I (Part I Permit), Koch Nitrogen Company, LLC (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 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.

KDHE and KNC have previously discussed and revised a request for modifications to the Part I Permit to ensure consistency of wording and to clarify the acceptable use of alternate methods. KDHE and EPA have previously suggested in informal discussions that there may be more effective approaches to managing the permit; for example, EPA has indicated that they prefer to consolidate the two parts of the Permit. At a meeting of May 15, 2009, KDHE indicated that its forthcoming O&M report will propose some recommended changes to Part 1 of the permit. When KNC receives the report, a discussion will be initiated concerning the most appropriate method for addressing the updating of the permit.

1. **Private Wells.** Attachment D of the Part I Permit, and the September 7, 2001 RCRA Groundwater Sampling and Analysis Plan (SAP) (page 4) identify ten private wells that are to be sampled quarterly.
  - Plumbing at the Coker well was disconnected in 2005, and the well has not been sampled since that time. The Cokers have been connected to the City of Dodge City water system since the fall of 2004.
  - The Bogners have been connected to the City of Dodge City water system since the fall of 2005. KNC continues to sample their well, where the analyte of concern is nitrogen species above the MCL. During the second quarter sampling event, Mr. Bogner indicated that he had not used the well in recent months. The levels of N compounds present (<50 mg/l) remain under the concentrations that would result from normal fertilizer application. .
  - It has not been possible to sample the Chaffin well since 2007, as previously noticed to KDHE. The current owner still had electrical power to the site turned off during the 2<sup>nd</sup> quarter sampling. KNC will continue to monitor the Chaffin Well status, and, if conditions permit, the well will be sampled.

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. Based on direction from the Agencies, KNC is using the latest approved methods for all analytes. In addition, at the direction of EPA, KNC began nitrate-nitrite speciation on these compounds. KNC anticipates that the small inconsistency among the permit conditions, the SAP requirement, and the Agencies' preference for most recent methods, and perhaps expanded methods, will be resolved by the selection of the agreed-upon permit management option.
3. **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 has analyzed for nitrate plus nitrite as N since 2004. As noted above, KNC is currently speciating nitrate and nitrite at the direction of EPA in addition to the analysis previously agreed on.
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. KNC anticipates that this issue will be resolved by the selection of the permit management option referenced above.
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, the regional drop in water level has caused the level in several of the monitoring/recovery wells to fall below the well pump, making it impossible to continue to utilize these wells for recovery and sampling. KNC has noted previously that the regional drop had impacted wells TW-4, TW-8, TW-36, and the "CP" wells. KNC will continue to document any wells that are affected by the regional water table changes.
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 have previously acknowledged that nonfunctional equipment should be replaced with newer equipment that offers a higher degree of accuracy and reliability.