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KOCH NITROGEN COMPANY LLC

April 20, 2012

UPS Tracking # ***1Z 693 661 03 9571 7075***

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

RE: Koch Nitrogen Company, LLC – Dodge City, Kansas
EPA ID No. KSD044625010
Quarterly Progress Report for First Quarter 2012

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 First Quarter of 2012.

If you have any questions about the attachments, please contact Elise Stucky-Gregg at (620) 371-7910.

Sincerely,

Michael J. Sherbak II
Plant Manager

cc w/ encl:

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Andrea Stone, U.S. Environmental Protection Agency
Region VII, Kansas City, KS

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QUARTERLY PROGRESS REPORT
1st QUARTER 2012

DODGE CITY NITROGEN PLANT
KOCH NITROGEN COMPANY, LLC

EPA ID NO. KSD044625010

April 20, 2012

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: Michael J. Sherbak II
Plant Manager

A description of the work completed (Part II Permit Section C.13.a): This Quarterly Report covers activities in the 1st quarter of 2012, during which KNC accomplished the following work:

- Although not a part of the Part II permit requirements, the first quarter groundwater sampling event was completed on January 24, 2012. 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).
- Following the August 30, 2010 inspection and repair of the liner of the Recovery RO Equalization Basin, KNC continued to monitor the leak detection system of the basin.
- By letter dated March 15, 2012, KNC submitted to EPA and KDHE, a summary of the Phase II RFI Work Plan soil analytical data and sampling locations as requested by EPA.
- During the week of March 19, 2012, KNC tested 3 methods for assessing the vertical distribution of nitrate and chromium in 3 existing non-recovery wells (TW-05, TW-80, and TW-15). Currently, KNC is evaluating the results and will summarize the findings as part of the 2nd Quarter Progress Report.

Summaries of all findings, including summaries of laboratory data (Part II Permit Section C.13.b): First quarter findings include the following:

- Laboratory results from the fourth quarter 2011 groundwater sampling event were evaluated during the quarter. The results were consistent with those of the previous quarter. Only small changes in chromium and nitrate concentrations were observed. KNC has sampled the new perimeter wells during the 3rd quarter 2011, 4th quarter, 2011 and 1st quarter 2012. Results from the new wells are displayed on the attached figure, "Groundwater Analytical Results For New Monitoring Wells" As stated in section 3.6 of the approved Phase II RFI Work Plan Addendum: Groundwater Characterization, KNC will continue to sample the wells quarterly for one year. As data become available, KNC will evaluate them and make recommendations to EPA and KDHE to finalize a sampling schedule for the wells.

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):

- On January 4, 2012 water was observed dripping from an open sample point on recovery well TW-85. The open valve was closed and the handle on the valve was removed to prevent an accidental opening in the future. Approximately 120 gallons of recovered groundwater were released to the ground. KNC notified EPA of the release by letter dated January 19, 2012. KNC and EPA agreed to include proposed soil sampling locations in the vicinity of the release when the Tier II sampling plan is revised.
- On January 31, 2012, a wet spot on the ground was observed near recovery well TW-19. It was determined that there was a leak at a valve connection on the recovery well piping. The valve was removed and the piping was capped. Approximately 200 gallons of

recovered groundwater were released to the ground. KNC notified EPA of the release by letter dated February 13, 2012. KNC and EPA agreed to include proposed soil sampling locations in the vicinity of the release when the Tier II sampling plan is revised.

- On February 23, 2012, maintenance contractors were excavating the recovery well piping to remove an unused section of piping at recovery well TW-36. During the excavation, the recovered groundwater header pipe was broken. Approximately 1100 gallons of recovered groundwater were released to the ground before flow was stopped and the piping repaired. KNC notified EPA of the release by letter dated February 24, 2012. KNC and EPA agreed to include proposed soil sampling locations in the vicinity of the release when the Tier II sampling plan is revised.

- During the 1st Quarter Groundwater Sampling event, 2 new perimeter wells (MW-24 MW-26), were observed to be dry. KNC is currently evaluating options for potential replacement of these wells.

Projected work for the next quarter (Part II Permit Section C.13.d): In the next quarter (Second Quarter 2012); KNC expects to conduct the following work under Part II of the permit:

- Although not a part of the Part II permit requirements, KNC intends to complete the Second Quarter 2012 Groundwater Sampling.

- KNC continues to monitor the leak detection system of the Recovery RO Equalization Basin. KNC intends to recommend system modifications and work with EPA and KDHE to implement these modifications.

- KNC intends to survey the newly installed perimeter wells.

- Additional VOC sampling was conducted during the second quarter of 2011 as part of the Phase II RFI Workplan Addendum: Groundwater Characterization. Based on the detection of VOCs in these wells, KNC is developing a strategy for additional delineation. In accordance with Section 4 of the Phase II RFI Work Plan Addendum: Groundwater Characterization, KNC will identify the proposed wells to the EPA and KDHE prior to performing this work.

- On August 8, 2011, KNC submitted a memo to the EPA presenting proposed Tier II soil sampling locations and the analytical program for additional delineation activities associated with approved Phase II Addendum of the RFI Workplan. Upon receipt of comments KNC will make revisions to the proposed Tier II soil sampling locations.

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
First QUARTER REPORT 2011
Koch Nitrogen Company, LLC
Dodge City, Kansas
EPA ID No. KSD044625010
April 20, 2012

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 previously been 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 recently suggested in informal discussions that there may be more effective approaches to managing the permit; for example, EPA indicates that they prefer to consolidate the two parts of the Permit. KNC looks forward to further discussions of these approaches to management of the Permit at the anticipated meeting with the Agencies. Based on the Agencies' input, KNC will then prepare the appropriate documents and submit them 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) 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.
    - 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 this quarterly sampling event. KNC will continue to monitor the Chaffin Well status, and, if conditions permit, the well will be sampled.
    - It has not been possible to sample the Dodge City Services well since 4th Quarter 2010. The current owner has closed the facility and KNC was unable to obtain access to the facility to collect a sample from this well. KNC will continue to

monitor the Dodge City Services 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 method. 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.

KDHE provided an O&M Inspection Report to KNC, dated September 3, 2009, which contained some items described as deficiencies and identified by KDHE relating to the groundwater monitoring system. It is not clear whether those items are required to be disclosed in this report, but in the interest of completeness, KNC includes below the one remaining item on which work is continuing.

#3. **Recommendation to propose static water level monitoring network separate from the existing recovery well network.** – In progress. To be proposed after evaluation of the work to be completed from the approved RFI Phase II Work Plan Addendum: Groundwater Characterization.

MW-01

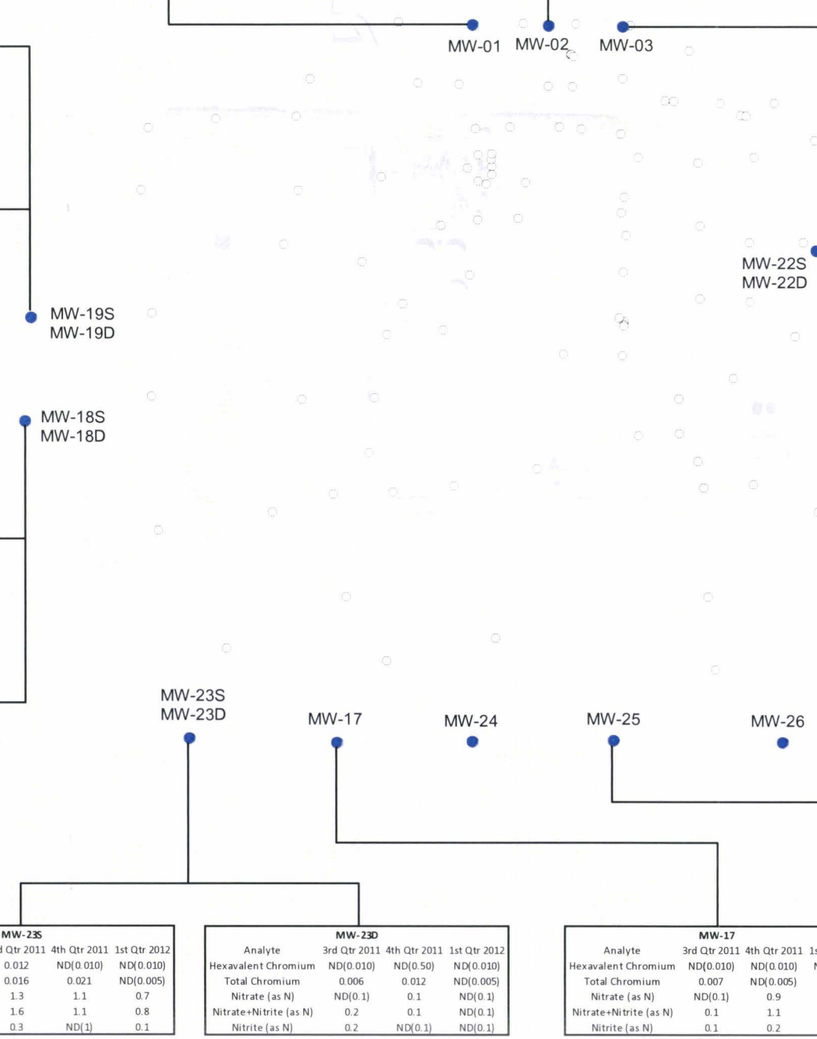
Analyte	3rd Qtr 2011	4th Qtr 2011	1st Qtr 2012
Hexavalent Chromium	ND(0.040)	ND(0.010)	ND(0.010)
Total Chromium	0.009	ND(0.005)	ND(0.005)
Nitrate (as N)	ND(0.1)	1.0	0.5
Nitrate+Nitrite (as N)	0.2	1.0	1.0
Nitrite (as N)	0.2	ND(0.1)	0.5

MW-02

Analyte	3rd Qtr 2011	4th Qtr 2011	1st Qtr 2012
Hexavalent Chromium	ND(0.010)	ND(0.010)	ND(0.010)
Total Chromium	ND(0.005)	0.025	0.011
Nitrate (as N)	0.9	1.6	1.3
Nitrate+Nitrite (as N)	1.0	1.8	1.3
Nitrite (as N)	0.1	0.2	ND(0.1)

MW-03

Analyte	3rd Qtr 2011	4th Qtr 2011	1st Qtr 2012
Hexavalent Chromium	ND(0.020)	0.025	ND(0.010)
Total Chromium	0.045	0.007	ND(0.005)
Nitrate (as N)	ND(0.1)	ND(0.1)	ND(0.1)
Nitrate+Nitrite (as N)	0.1	0.1	0.5
Nitrite (as N)	0.1	0.1	0.5



MW-19S

Analyte	3rd Qtr 2011	4th Qtr 2011	1st Qtr 2012
Hexavalent Chromium	ND(0.010)	ND(0.010)	ND(0.010)
Total Chromium	ND(0.005)	0.008	ND(0.005)
Nitrate (as N)	7.1	33	69
Nitrate+Nitrite (as N)	7.5	35.5	71.3
Nitrite (as N)	0.4	2.5	2.3

MW-19D

Analyte	3rd Qtr 2011	4th Qtr 2011	1st Qtr 2012
Hexavalent Chromium	ND(0.010)	ND(0.010)	ND(0.010)
Total Chromium	ND(0.005)	ND(0.005)	ND(0.005)
Nitrate (as N)	27	38	48
Nitrate+Nitrite (as N)	30.4	42.2	51.1
Nitrite (as N)	3.4	4.2	3.1

MW-22S

Analyte	3rd Qtr 2011	4th Qtr 2011	1st Qtr 2012
Hexavalent Chromium	ND(0.010)	ND(0.010)	ND(0.010)
Total Chromium	0.019	ND(0.005)	0.006
Nitrate (as N)	1.2	1.6	2.8
Nitrate+Nitrite (as N)	1.4	1.9	3.2
Nitrite (as N)	0.2	0.3	0.4

MW-22D

Analyte	3rd Qtr 2011	4th Qtr 2011	1st Qtr 2012
Hexavalent Chromium	ND(0.010)	ND(0.010)	ND(0.010)
Total Chromium	ND(0.005)	ND(0.005)	0.005
Nitrate (as N)	1.2	1.8	2.3
Nitrate+Nitrite (as N)	1.4	2.1	2.4
Nitrite (as N)	0.2	0.3	0.1

MW-18S

Analyte	3rd Qtr 2011	4th Qtr 2011	1st Qtr 2012
Hexavalent Chromium	ND(0.010)	ND(0.010)	ND(0.010)
Total Chromium	0.023	0.008	0.008
Nitrate (as N)	32	27	44
Nitrate+Nitrite (as N)	35.8	33.4	45
Nitrite (as N)	3.8	6.4	1.0

MW-18D

Analyte	3rd Qtr 2011	4th Qtr 2011	1st Qtr 2012
Hexavalent Chromium	ND(0.010)	ND(0.010)	ND(0.010)
Total Chromium	ND(0.005)	ND(0.005)	ND(0.005)
Nitrate (as N)	6.1	3.1	2.3
Nitrate+Nitrite (as N)	6.6	4.1	4.8
Nitrite (as N)	0.5	1.0	2.5

MW-25

Analyte	3rd Qtr 2011	4th Qtr 2011	1st Qtr 2012
Hexavalent Chromium	dry	0.015	ND(0.010)
Total Chromium	dry	0.006	ND(0.005)
Nitrate (as N)	dry	6.5	0.2
Nitrate+Nitrite (as N)	dry	9.5	0.4
Nitrite (as N)	dry	3.0	0.2

MW-23S

Analyte	3rd Qtr 2011	4th Qtr 2011	1st Qtr 2012
Hexavalent Chromium	0.012	ND(0.010)	ND(0.010)
Total Chromium	0.016	0.021	ND(0.005)
Nitrate (as N)	1.3	1.1	0.7
Nitrate+Nitrite (as N)	1.6	1.1	0.8
Nitrite (as N)	0.3	ND(1)	0.1

MW-23D

Analyte	3rd Qtr 2011	4th Qtr 2011	1st Qtr 2012
Hexavalent Chromium	ND(0.010)	ND(0.50)	ND(0.010)
Total Chromium	0.006	0.012	ND(0.005)
Nitrate (as N)	ND(0.1)	0.1	ND(0.1)
Nitrate+Nitrite (as N)	0.2	0.1	ND(0.1)
Nitrite (as N)	0.2	ND(0.1)	ND(0.1)

MW-17

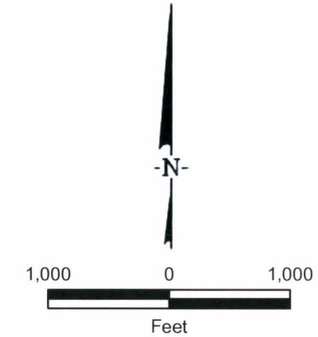
Analyte	3rd Qtr 2011	4th Qtr 2011	1st Qtr 2012
Hexavalent Chromium	ND(0.010)	ND(0.010)	ND(0.010)
Total Chromium	0.007	ND(0.005)	0.007
Nitrate (as N)	ND(0.1)	0.9	0.9
Nitrate+Nitrite (as N)	0.1	1.1	1.0
Nitrite (as N)	0.1	0.2	0.1

LEGEND

- ● NEW MONITORING WELL INSTALLED IN 2011
- ○ OTHER WELL WITHIN STUDY AREA

NOTES:

1. ALL RESULTS ARE mg/L.
2. WELL MW-25 WAS DRY IN THIRD QUARTER 2011.
3. WELLS MW-24 AND MW-26 WERE DRY IN ALL THREE QUARTERS.
4. ND = NOT DETECTED AT RESPECTIVE DETECTION LIMIT.



GROUNDWATER ANALYTICAL RESULTS FOR NEW MONITORING WELLS

PREPARED BY:

KOCH
KOCH NITROGEN COMPANY
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DODGE CITY, KS 67801

PROJECT.	FIGURE NO.
DATE. APR 2012	FILE NO.