



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 7

11201 Renner Boulevard
Lenexa, Kansas 66219

NOV 21 2012

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Article Number: 7010 2780 0001 2211 9177

Mr. Michael J. Sherbak II
Plant Manager
Koch Nitrogen Company, Dodge City Plant
11559 U.S. Highway 50
P.O. Box 1337
Dodge City, Kansas 67801-1337

RE: Approval w/comments of KNC's revised Phase II RFI Work Plan Addendum: Tier II Soil Sampling Work Plan and Letter dated July 26, 2012
Koch Nitrogen Company Dodge City Plant
EPA I.D. # KSD044625010

Dear Mr. Sherbak:

The U.S. Environmental Protection Agency Region 7 is in receipt of Koch Nitrogen Company, LLC (KNC's) revised Phase II RFI Work Plan Addendum: Tier II Soil Sampling Work Plan dated July 2012 (Tier II WP).

The U.S. EPA is hereby approving the Tier II WP referenced above with the following enclosed comments. Please submit replacement pages within fourteen (14) days of certified receipt of this letter. Add a revised date at the bottom of each replacement page.

KNC may commence field work at its earliest convenience.

If you have any questions regarding this letter or enclosure, I may be reached at (913) 551-7662 or by email at stone.andrear@epa.gov.

Sincerely,

A handwritten signature in black ink that reads "Andrea R. Stone".

Andrea R. Stone
Project Manager/Environmental Scientist
Air and Waste Management Division
Waste Remediation and Permitting Branch

Enclosure (1)

cc: Everett Spellman, KDHE (w/encl.)
Elise Stucky-Gregg, KNC (w/encl.)
Cory Zellers, KNC (w/encl.)
Warren Brady, Geosyntec Consultants



ENCLOSURE

Project Manager Comments:

1. Section 1.2 Approach, Page 2, first group of bulleted items: Please add a reference to the EPA Regional Screening Levels (RSLs) after volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and sulfate. Please submit a replacement page with the changes.
2. Section 2.0 Nitrate + Nitrite as N Soil Sampling, Page 4, Last Paragraph: Reference is made to installing three well clusters (MW-27, MW-28 and MW-29) previously identified in the Phase II RFI Work Plan Addendum: Groundwater Characterization (KNC, 2010b) after completion of the deep soil borings at locations S1K(Deep), S2K(Deep) and S2L(Deep). Please add a reference in this section to the Figure where the three well clusters (MW-27, MW-28 and MW-29) will be located/installed. Please submit a replacement page with the changes, and include the new Figure.
3. Section 3.0 Chromium Soil Sampling, Page 5, Second Paragraph, Last sentence: The last sentence states, "These borings will be advanced 4 ft bgs." Four (4) feet bgs will not characterize the vertical and horizontal extent of the hexavalent chromium. In all locations where hexavalent chromium was previously detected and in additional spots check to account for the lower RSL for hexavalent chromium, KNC must define the vertical and horizontal extent of contamination. Please revise this section and the appropriate Figures, and submit replacement pages.
4. Section 3.0 Chromium Soil Sampling, Page 5, Third Paragraph, First and Second Sentences: Reference is made to deep borings S1KDEEP, S2KDEEP and A1GDEEP. Please add a reference to this paragraph that identifies the figure(s) where the deep borings will be located. Please submit a replacement page. Please see Geologist's comment regarding A1GDEEP below.
5. Section 6.0 Previously Reported Spills of Recovery Well Water, Page 8: This section describes the previously reported spills. In accordance with KNC's October 5, 2012 notification of approximately 400 gallons of recovered groundwater from the recovery well piping/header near TW-30. In accordance with KNC's Part II permit, Permit Condition C.4, KNC has notified EPA, and the EPA has determined that this spill/release will need to be investigated. Please add this new spill location to this section (6.0) and show its location on the appropriate Figure. Please revise the appropriate section, figures, tables and appendices.
6. Figures: There are sampling locations that were agreed to in our meeting of June 15, 2012, that are missing on the respective figures. Included below is a Table showing the missing sampling locations. Please revise the appropriate figures with the indicated sampling location(s) and send in replacement figures for the affected figures.

| Figure | Constituent | Missing sampling location |
|-----------------|--|---|
| B-4 | Nitrate + Nitrite (as N) | Between S2I and S2F; straight out from the 93.1 level of N. |
| B-5 & B-6 | Nitrate + Nitrite (as N) | Sampling location S1F was agreed to go all the way down. Please add to maps starting with B-7. |
| B-21 & B-22 | N | Location S11E is missing from this figure. It was agreed to be located to the right of S11B, at the corner of the lime drying bed. |
| New Figure B-23 | N | This figure does not show any sampling locations. |
| C-4, & C-5 | Total Chromium and Hexavalent Chromium | On the left side of this map, there is a green dot with 13,000 total chromium (hexavalent chromium not sampled). This location is only shown on these two maps, and that location is not sampled after that. This location needs to be sampled for total and hexavalent chromium all the way down until non-detect to determine why this location is extremely high for total chromium. |

Geologist Comments:

1. Attachment A, Page 6, Koch Response to Specific Comment 8:

Koch states that they are proposing to advance a deep boring (A1GDEEP) within AOC-1 in order to profile total and hexavalent chromium to groundwater and install a new well. The EPA has several comments on this proposal as follows:

- a. The location for A1GDEEP is shown on Figure 4. Please also show its location on a larger scale figure of AOC-1 such as Figure 2.
- b. Table 1 on page 6 indicates that A1GDEEP will be terminated at 60 feet. If the intention is to convert A1GDEEP to a monitoring well, this should be shown on Table 1 by indicating that soil sampling will be terminated at the water table, and specifying the proposed screened interval for the monitoring well.
- c. For the purpose of a final remedy, one of the EPA's major concerns is to what degree AOC-1 may represent a potential source of chromium in groundwater over time as a result of infiltrating precipitation leaching chromium from the vadose zone and migrating to groundwater. Sampling the vadose zone as proposed in Table 1 will provide valuable information regarding the distribution of hexavalent and trivalent chromium from the near surface where the spills occurred through the entire vadose zone to groundwater. The EPA would recommend that Koch evaluate whether there may be other parameters to evaluate such as oxidation-reduction potential, cation exchange capacity, pH, and others during sampling of the vadose zone that may provide additional information regarding the fate and transport of any additional chromium that may migrate through infiltrating precipitation in the future.
- d. The EPA believes the extensive characterization of the distribution of hexavalent and trivalent chromium as proposed by Koch will be very valuable. The EPA believes that locating the boring as close as possible to the largest spill of chromic acid will provide "worst case scenario" information regarding AOC-1 and provide valuable information to support a final remedy decision. The EPA is aware of the problems of locating any borings in AOC-1 due to the active processes in the area as well as the presence of utilities, and is only recommending locating the boring near the major spill within the physical constraints of working in this area. Also, it would be very helpful if Koch would also illustrate on the large-scale figure requested above the locations of the historic spills of chromic acid/sodium dichromate.