KOCH

KOCH NITROGEN COMPANY

**CERTIFIED MAIL: RETURN RECIEPT REQUESTED:**

December 7, 2006

Andrea R. Stone 7005 0390 0006 6702 0100
Environmental Scientist
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

Director 7005 0390 0006 6702 2012
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 – Dodge City, Kansas
EPA ID NO. KSD044625010
Revised Pages for Sampling and Analysis Plan (SAP) – Andco Overflow, Recovery Well Pipeline Fracture and Pipe Union Failure Sites

Dear Ms. Stone:

Koch Nitrogen Company (KNC) has enclosed two copies of the revised pages that you requested in your approval letter of November 7, 2006. If you have any questions about the Plan, please contact AnnieLaurie Burke at (620) 227-8631, ext. 350.

Sincerely,

AnnieLaurie Burke, P. E.
Environmental Excellence Leader
KOCH NITROGEN COMPANY



Encs.: Revised pages from SAP (2 copies)

Cc w/o attachments:
Mostafa Kamal, Kansas Department of Health and Environment
Steve Ellingson, KMS Wichita (electronic copy)
Gary J. LeRock, KNC Dodge City

11559 U.S. Highway 50 ▪ P.O. Box 1337 ▪ Dodge City, Kansas 67801-1337
620/227-8631 ▪ FAX 620/227-6016

## *1.0 Introduction*

The Koch Nitrogen Plant (KNC) experienced three minor groundwater spills between June 24, 2005 and July 7, 2006. Each spill was reported to EPA and the area of each spill was documented by drawings, notes, and photographs.

On June 24, 2005, approximately 1,000 gallons of recovered groundwater was released (overflowed) from the Andco Clarifier Basin (Figure 1 and 2). The release occurred as the result of a shutoff malfunction during installation of a potable water supply line which KNC was installing for the Bogner family, whose well could potentially have been impacted by historical operations. An area operator noticed the overflow and immediately took action to stop the release by putting the recovery system in manual override to shutdown the pumps.

The surface area impacted by the Andco Clarifier Basin overflow is estimated at approximately 500 sq. feet. as depicted in Figure 1. The leak occurred over the Andco Clarifier Basin east wall along a 16 feet interval. The overflow traveled down the east wall onto the ground surface and developed into channel flow moving in a southeast direction. The width of the downgradient channel was estimated at approximately 5 feet and extended a distance of approximately 62 feet. The depth of the wetting front is estimated at less than 1 foot below ground surface based on the observed soil density, volume of water released, and the observed surface flow area.

On November 7, 2005, approximately 200 gallons of recovered groundwater was released from a subsurface pipe fracture in the vicinity of TW-09 (Figure 3). The pipe fracture was located approximately 4 feet below ground surface. An area operator noticed the pipe fracture and immediately took action to stop the release by turning the supply line off.

The estimated surface area of ground covered by the spill is approximately 70 sq. feet. The wetted surface consists of a surface area 10 feet by 5 feet centered on the break area and a channelized flow area 1 foot wide extending for approximately 20 feet topographical downgradient in a southeast direction. The depth of the impact in the channelized areas is estimated at less than 0.5 feet below ground surface based on observations of soils below the wetted areas as observed during excavation for pipe repairs. The depth of the wetting area at the pipe break extends less than 1 foot below the pipe break as observed during excavation and repair of the pipe.

## 2.1 Sampling Locations and Nomenclature

Sampling will be conducted in two phases. Phase 1 will focus on sampling locations directly downgradient of the overflow and within the primary surface flow channels as determined through the visual inspections and photographs. These areas received the longest contact time with the groundwater releases and therefore would show the greatest impacts, if any. Samples will be collected at four locations for each spill area. Three depth sampling intervals will be tested (0.5 feet, 1.0 feet, and 2.0 feet bgs). Sampling greater than 2 feet below ground surface near the pipeline and associated electrical lines is not proposed because of health and safety concerns. Table 2-1 lists the sampling locations and depth intervals for Phase 1 sampling. Figures 2, 3, and 4 denote the sampling locations in relation to site features.

**Table 2.1 Sample Locations**

| Andco Overflow | Pipe Fracture | Union Failure | Description (bgs = below ground surface) |
|---|---|---|---|
| AO-01-01 | PF-01-01 | UF-01-01 | Grab sample at 0.5 ft bgs |
| AO-01-02 | PF-01-02 | UF-01-02 | Grab sample at 1.0 ft bgs |
| AO-01-03 | PF-01-03 | UF-01-03 | Grab sample at 2.0 ft bgs |
| AO-02-01 | PF-02-01 | UF-02-01 | Grab sample at 0.5 ft bgs |
| AO-02-02 | PF-02-02 | UF-02-02 | Grab sample at 1.0 ft bgs |
| AO-02-03 | PF-02-03 | UF-02-03 | Grab sample at 2.0 ft bgs |
| AO-03-01 | PF-03-01 | UF-03-01 | Grab sample at 0.5 ft bgs |
| AO-03-02 | PF-03-02 | UF-03-02 | Grab sample at 1.0 ft bgs |
| AO-03-03 | PF-03-03 | UF-03-03 | Grab sample at 2.0 ft bgs |
| AO-04-01 | PF-04-01 | UF-04-01 | Grab sample at 0.5 ft bgs |
| AO-04-02 | PF-04-02 | UF-04-02 | Grab sample at 1.0 ft bgs |
| AO-04-03 | PF-04-03 | UF-04-03 | Grab sample at 2.0 ft bgs |
| AO-05-01 | - | UF-05-01 | Grab sample at 0.5 ft bgs |
| AO-05-02 | - | UF-05-02 | Grab sample at 1.0 ft bgs |
| AO-05-03 | - | UF-05-03 | Grab sample at 2.0 ft bgs |
| AO-06-01 | - | UF-06-01 | Grab sample at 0.5 ft bgs |
| AO-06-02 | - | UF-06-02 | Grab sample at 1.0 ft bgs |
| AO-06-03 | - | UF-06-03 | Grab sample at 2.0 ft bgs |
| AO-07-01 | - | UF-07-01 | Grab sample at 0.5 ft bgs |
| AO-07-02 | - | UF-07-02 | Grab sample at 1.0 ft bgs |
| AO-07-03 | - | UF-07-03 | Grab sample at 2.0 ft bgs |

Unique alphanumeric identifications will be assigned to each sampling location. Sample designation, sampling time and date, sampling personnel, and analyses will also be recorded on the field records, sample labels, and chain-of-custody.

If results of Phase 1 sampling indicate chromium or nitrate/nitrite impacts above background levels, additional (Phase 2) sampling will be conducted to delineate the impacted area. Sampling locations and depths associated with Phase 2 will be provided as a separate submittal, if needed.

## 2.2 Sample Collection

Prior to commencement of field activities, field personnel will be trained on the requirements for data collection outlined in the FSP and QAPP to ensure the collection of representative data. All applicable health and safety procedures associated with the Koch Nitrogen Plant will be strictly followed during all sampling activities.

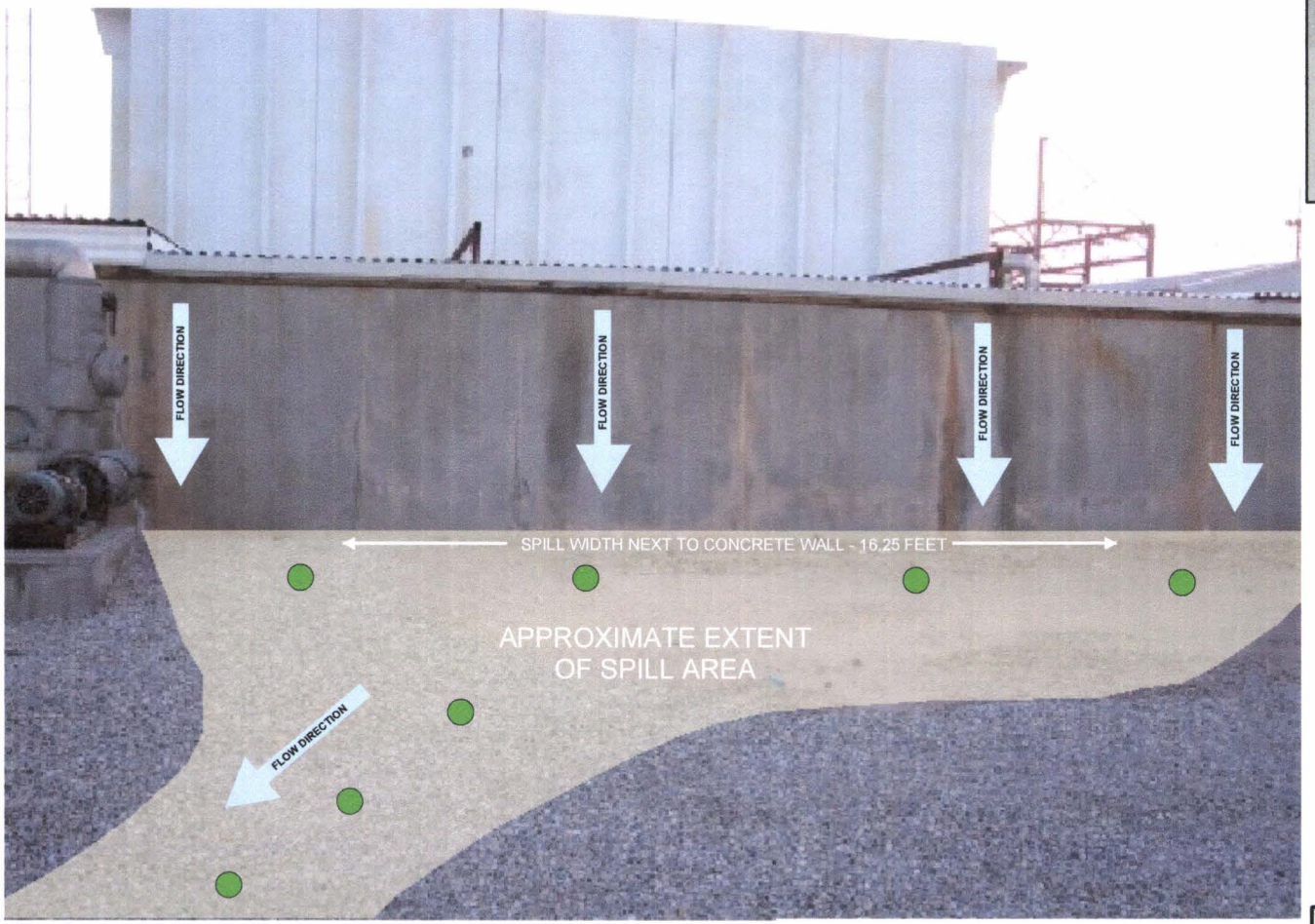
## 2.3 Sample Handling and Custody

Samples will be collected per the procedures discussed in the preceding sections. Sample collection containers will consist of one 4-ounce glass jar per sample. Procedures for the handling and transport of the samples will be in accordance with the recently developed RCRA Investigation Facility Sampling and Analyses Plan including the chain-of-custody procedures. Samples will be kept in a pre-cooled ice chest until samples are logged, placed on ice, transported to the laboratory.

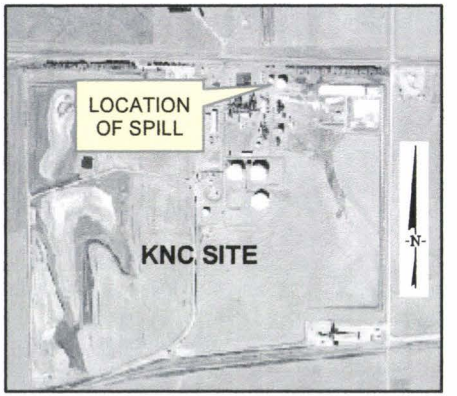
## 2.4 Laboratory Sample Analyses

Soil samples obtained during the investigation will be analyzed for total nitrate plus nitrite as N (USEPA Method 353.2) and total chromium (USEPA Method 6010B). Analyses for chromium using the TCLP or Synthetic Precipitation Leaching Procedure (SPLP) (USEPA Methods 1312 and 6010B)[2] may be completed pending the results of the total chromium analyses. All analyses will be completed by a Kansas State Certified laboratory.

[2] Approach described in the January 2004 CDU Closure Plan to evaluate direct contact and potential leaching to groundwater.




**VIEW OF EAST SIDE OF CLARIFIER BASIN AND SPILL AREA**

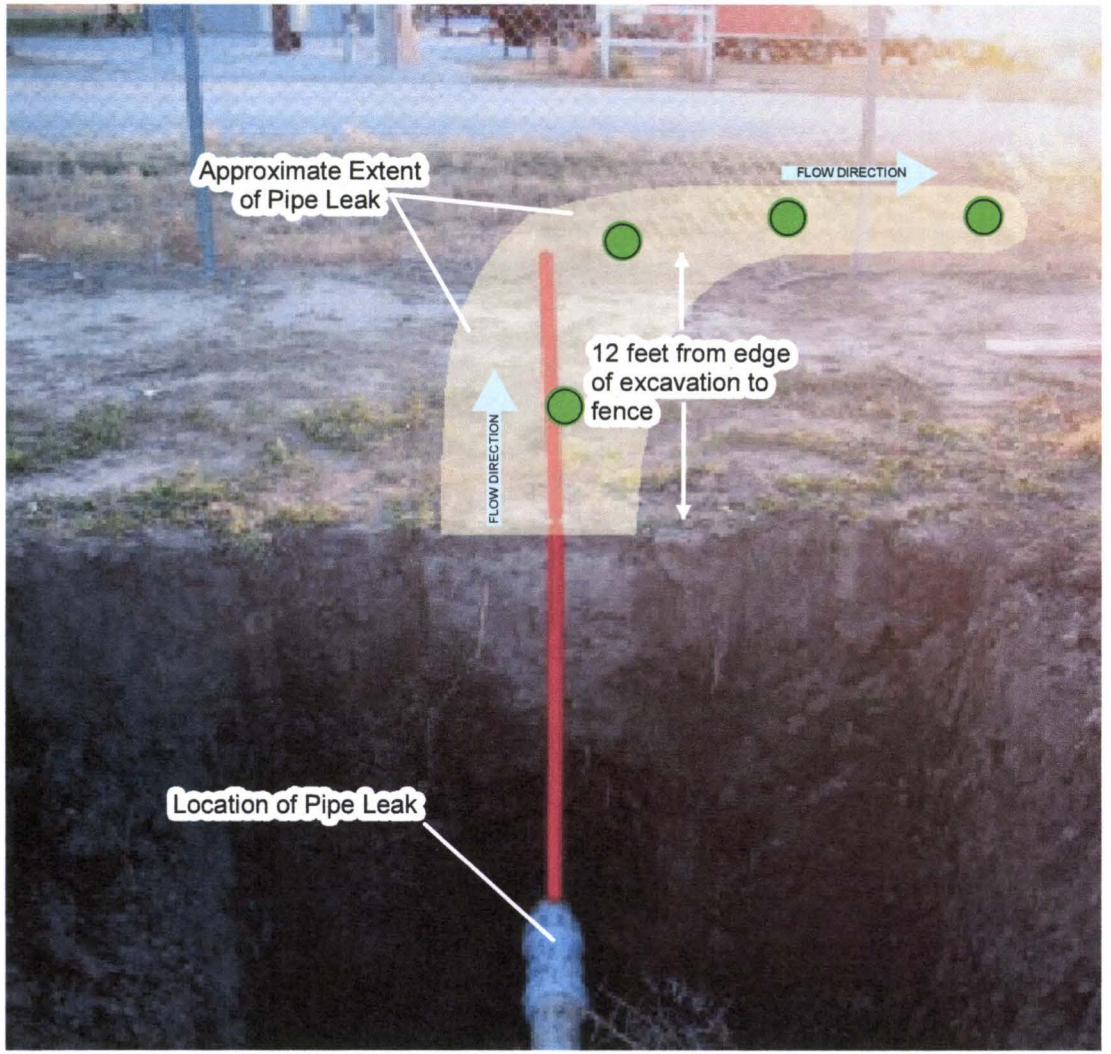



## LEGEND

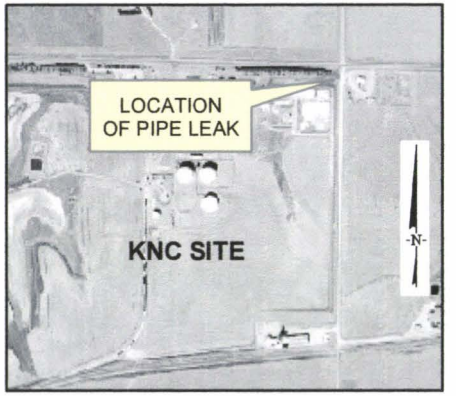
- PROPOSED SAMPLING LOCATION

**OVERFLOW AREAS, FLOW DIRECTIONS, AND SAMPLING LOCATIONS**

| | |
|---|---|
| PREPARED FOR: | KOCH NITROGEN COMPANY<br>11550 US HIGHWAY 50 - P.O. BOX 1337<br>DODGE CITY, KS 67801 |
| PREPARED BY: | GeoStat |
| PROJECT NO. | FIGURE NO. 2 |
| DATE. JULY 2005 | FILE NO. |




**SAMPLING LOCATIONS - LOOKING EAST**





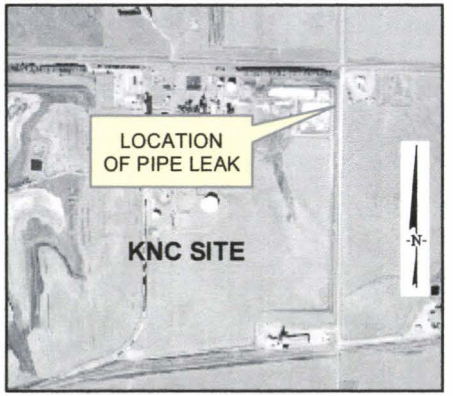
LEGEND

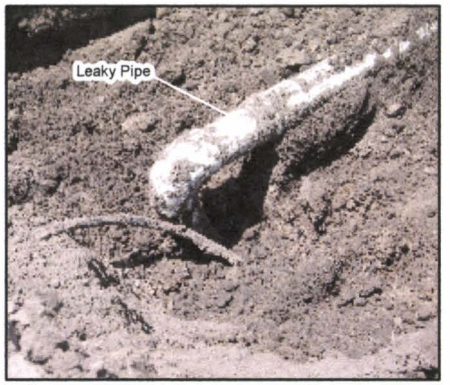
PROPOSED SAMPLING LOCATION

**PIPE FRACTURE AREA**

| | |
|---|---|
| PREPARED FOR: KOCH NITROGEN COMPANY, 11559 US HIGHWAY 50 - P.O. BOX 1337, DODGE CITY, KS 67801 | |
| PREPARED BY: GeoStat | |
| PROJECT NO. | FIGURE NO. 3 |
| DATE. JANUARY 2006 | FILE NO. |


**SAMPLING LOCATIONS - LOOKING NORTHEAST**




LEGEND

PROPOSED SAMPLING LOCATION

**UNION FAILURE AREA**

| | |
|---|---|
| PREPARED FOR: KOCH NITROGEN COMPANY<br>11550 US HIGHWAY 50 - P.O. BOX 1337<br>DODGE CITY, KS 67801 | |
| PREPARED BY: GeoStat | |
| PROJECT NO. | FIGURE NO. 4 |
| DATE. NOVEMBER 2006 | FILE NO. |