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September 24, 1993

Jeff Hadravsky

Dr. Peter Culver, P.E.
U. S. Environmental Protection Agency
Region VII Superfund Section
726 Minnesota Avenue
Kansas City, Kansas 66101

Project: ARCS Regions VI, VII, & VIII, Contract No. 68-W9-0021
DCN: 7760-013-G3-RT-CVWN
Subject: Site Inspection Report for the Cresco Water Supply Site, Cresco, Iowa
(CERCLIS ID No. IAD981716918)

Dear Dr. Culver:

CDM Federal Programs Corporation (CDM Federal) is pleased to submit for your review the Site Inspection (SI) Report and SI Worksheet for the Cresco Water Supply, Cresco, Iowa.

The Cresco Water Supply site is centered around Municipal Wells 1 and 2 which previously have been found to be contaminated with tetrachloroethylene (PCE), trichloroethene (TCE), and 1,1,1-trichloroethane (TCA). The site is located in the southwest portion of Cresco, Howard County, Iowa. The 1990 census reports a population for Cresco as 3,530 and a Howard County average persons per household as being 2.48. The site is located in the southwest quadrant of Township 99 North, Range 11 West, Section 23. The municipal water system is currently comprised of 2 blended wells serving an estimated population of 3,530 persons. The municipal wells serving Cresco, Iowa, are finished in the Cambrian and Ordovician aquifer including the Prairie du Chien dolomite, Jordan Sandstone, and St. Lawrence dolomite. An aquitard (the Brainard Member Shale) occurs at a depth ranging from 100 to 235 feet below ground surface. Groundwater is the sole source for potable water in the Cresco area.

The HRS score is based on the fact that up until 1987, three municipal water wells were operating simultaneously (Nos. 1, 2, and 3), and that two of the wells contained PCE, TCE, and TCA contamination as evidenced by laboratory analytical data for the period between 1979 to 1987. The score was calculated utilizing laboratory data obtained on June 2, 1993, but with reference to three wells operating in 1987; calculations were based on 1987 water distribution conditions.

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The HRS score supported by analytical data which identifies an observed release to groundwater for this site is 50.0. The HRS score indicates continued sampling activities for Municipal Wells 3 and 4. The groundwater migration pathway is believed to be in a southeasterly direction. An observed release to groundwater has been identified.

The dominating pathway is groundwater with a score of 100. This pathway reflects the number of targets that utilized drinking water while Municipal Well Nos. 1 and 2 were in operation (prior to April 1987). There is a possibility that contaminated groundwater could interact with surface water via migration through a karst terrain and enter surface water through springs. However, this information could not be factored into the HRS score for the surface water pathway because the SI worksheets do not allow for this scenario. Therefore, the surface water pathway was scored 0. (A regional investigation conducted in 1988 indicated no PCE contamination at several springs.) Soil and air exposure pathways are not suspected to pose a threat to the environment or human health and were both scored 0.

Groundwater Pathway

A score of 100 was calculated for this pathway and is supported by a documented release to groundwater by laboratory reports dating back to 1979. By utilizing water distribution conditions of 1987 the score was driven by a Level I release. If 1993 water distribution conditions were used, the pathway score would be calculated as 21.0 and the overall HRS score would be 2.29. However, if PCE contamination were to reach Municipal Well 4, and be evaluated as an observed release the pathway score would be 100. The nearest municipal well (No. 4) is located approximately 2,000 feet downgradient from Municipal Wells 1 and 2 and is located in karst terrain. Currently the groundwater flow pattern is suspected to be in a southeasterly direction; from Wells 1 and 2 toward Well 4. Since the area is in a Karst terrain, it is possible for contaminants to flow to the municipal wells and contaminate the drinking water supply. PCE contamination has been encountered in Municipal Wells 1 and 2 though a confining geologic units, the Brainard Shale, exists. The presence of contamination below this shale unit (aquitard) demonstrates that the upper and lower aquifers are interconnected. PCE could move below the confining shale just as it has for Wells 1 and 2.

Surface Water Pathway

A score of 0 was calculated for this pathway. The possibility of a groundwater to surface water exchange exists through the migration of groundwater through a karst terrain and its release to surface water by way of springs along the Turkey River. However, a regional investigation conducted in 1988 by the Iowa Department of Natural Resources indicated that there was no evidence of PCE contamination in the various springs that were sampled.

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Cresco, Iowa, is outside the 500-year floodplain. Surface drainage is controlled by city storm sewers and routed south of Cresco. There are no known surface water intakes within the 15-mile pathway extension. There were no surface water samples collected.

Soil and Air Exposure Pathway

A score of 0 was entered for these pathways. No residential soil samples were collected for this SI nor were any air quality samples collected due to the focus of the investigation concerning the identified groundwater release. The potential for an observed air release for this site is low. Contaminants detected at the site are believed to be limited to subsurface soil and groundwater.

Recommendations

Based on analytical data collected during this SI and data collected during previous investigations, an observed release to groundwater has been identified. There are identified Level I targets using 1987 water distribution conditions and a potential for future Level I targets if contaminants reach Municipal Well 4. Therefore, continued sampling of Municipal Wells 3 and 4 should be considered as well as continued sampling of monitoring wells installed in the vicinity of Cresco Cleaners.

Ownership concerning two registered wells within city limits was not available during SI activities. Attempts should be made to determine if these wells are private drinking water wells. However, all residents within city limits should be on the city water supply, thus eliminating the need for private drinking water wells within city limits. If these wells prove to be in use at this time, consideration should be made to sample these wells to determine if contaminants have reached the wells.

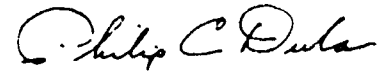
If you have any questions, please call me at 492-8181.

Sincerely,

CDM FEDERAL PROGRAMS CORPORATION



Michael P. Gagne
Site Manager



Philip C. Dula, P.G., CHMM
Project Manager

cc: DC
RF

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