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Department of Energy

Ohio Field Office
Fernald Closure Project
175 Tri-County Parkway
Springdale, Ohio 45246
(513) 648-3155

MAR 2 2 2005

Mr. James A. Saric, Remedial Project Manager
United States Environmental Protection Agency
Region V, SR-6J
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

DOE-0198-05

Mr. Tom Schneider, Project Manager
Ohio Environmental Protection Agency
401 East 5th Street
Dayton, Ohio 45402-2911

Dear Mr. Saric and Mr. Schneider:

TRANSMITTAL OF RESPONSE TO OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) COMMENT ON THE 2003 SITE ENVIRONMENTAL REPORT COMMENT RESPONSES

Reference: Letter, T. Schneider to W. Taylor, "Comments – Response to DOE's Transmittal to OEPA's Responses to OEPA Comment on the 2003 SER," dated January 3, 2005

This letter transmits the subject document to the U.S. Environmental Protection Agency (EPA) and Ohio Environmental Protection Agency (OEPA) for review and approval. The subject document is in response to OEPA's comment (Reference) and the discussions during the March 8, 2005 meeting. This letter also serves to summarize other on-site disposal facility (OSDF) items discussed during the March 8, 2005 meeting held between EPA, OEPA, DOE, and Fluor Fernald personnel. Groundwater Certification (i.e., abandonment of monitoring wells), which was also discussed at the meeting, will be dealt with under a separate transmittal.

The following is a list of items agreed upon during the March 8 OSDF meeting:

1) Ion monitoring will be conducted, as identified in the enclosed comment response.

2) In general from a statistical stand-point, steady-state conditions in the groundwater (perched water and Great Miami) have not been reached regarding OSDF monitoring. Therefore, baseline conditions cannot be established at this time. Although steady-state conditions, which are a requirement of control charting, have not been reached, for informational purposes control charts will continue to be prepared and included in the annual site environmental reports for the horizontal till wells and the Great Miami Aquifer wells, as required. Control limits will be based on all data (i.e., data through 2004 is considered baseline sampling data for Cells 1 through 5). A note will be included on control charts to indicate that steady-state conditions have not been reached and that control limits are not considered valid at this time. It is expected that when sufficient data have been collected to indicate that a steady-state condition has been reached, final control limits will then be determined. For an example control chart, refer to Figure 1 in Enclosure 2.

3) Turbidity versus uranium concentration plots, which were included in the 2003 Site Environmental Report (Attachment A.5.4), will not be included in future annual reports.

4) Although it was agreed upon that in general steady-state conditions have not been reached, "baseline"/initial sampling information will continue to be summarized to EPA and OEPA. The OSDF Groundwater/Leak Detection and Leachate Monitoring Plan (GLWMP) indicated that this information would be provided in technical memoranda. Instead, it was agreed upon that this information would be provided in the annual site environmental reports. Cells 4 and 5 "baseline" information will be provided in the 2004 Site Environmental Report.

5) Information that is available on construction material and its potential impacts to monitoring constituents (e.g., boron and sulfate) will be included in annual site environmental reports.

   It should be noted that after the March 8 meeting, DOE decided that it would be beneficial to perform leach tests on the crushed stone used in the leachate collection system, the leak detection system, and the cap drainage layer to obtain further geochemical information. This information will be provided through IEMP reports as it becomes available.

6) The OSDF GWLMP will be updated as necessary to reflect the above information for inclusion in the Legacy Management and Institutional Control Plan. Additionally, the plan (GWLMP) will identify that there is institutional knowledge regarding the various complexities associated with the leak detection and data evaluation processes and this information should be considered during future post-closure evaluations (issue identified by OEPA).

If you have any questions or require additional information, please contact Johnny Reising at (513) 648-3139 or Ed Skintik at (513) 246-1369.

Sincerely,

William J. Taylor
Director

FCP:Skintik

Enclosure: As Stated

cc w/enclosures:
D. Lojek, OH/FCP
J. Reising, OH/FCP
J. Powell, DOE-LM
T. Schneider, OEPA-Dayton (three copies of enclosure)
M. Murphy, USEPA-V, AE-17J
G. Jablonowski, USEPA-V, SR-6J
M. Cullerton, Tetra Tech
F. Bell, ATSDR
M. Shupe, HSI GeoTrans
R. Vandegrift, ODH
AR Coordinator, Fluor Fernald, Inc./MS78

cc w/o enclosure:
K. Alkema, Fluor Fernald, Inc., MS 1
J. Chiou, Fluor Fernald, Inc., MS64
W. Hertel, Fluor Fernald, Inc., MS99
F. Johnston, Fluor Fernald, Inc., MS99
D. Powell, Fluor Fernald, Inc., MS64
C. Tabor, Fluor Fernald, Inc., MS12
ECDC, Fluor Fernald, Inc., MS52-7

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RESPONSE TO
OHIO ENVIRONMENTAL PROTECTION AGENCY
COMMENT ON THE
2003 SITE ENVIRONMENTAL REPORT
COMMENT RESPONSES

FERNALD CLOSURE PROJECT
FERNALD, OHIO

MARCH 2005

U.S. DEPARTMENT OF ENERGY

RESPONSE TO OHIO ENVIRONMENTAL PROTECTION AGENCY COMMENT ON THE 2003 SITE ENVIRONMENTAL REPORT COMMENT RESPONSES (51350-RP-0024, REVISION 0, FINAL)

COMMENTS:

1. Commenting Organization: Ohio EPA Commenter: GeoTrans, Inc.
Section #: Attachment A.5 Pg #: A.5-6 Line #: 32 Code: C
Original Comment #: 4

Comment: Common monitoring in perched groundwater at the OSDF is proposed to verify that groundwater aging is occurring at the site and to determine when aging effects have dissipated in order that meaningful background characterization for OSDF leachate constituents can occur. The common ion data are not proposed as an expansion of the constituent monitoring list for the facility. Once background for leachate constituents is established and an appropriate statistical procedure (such as control charts) is implemented, common ion monitoring will no longer be necessary. These key points have been clearly stated in our original comment and in our response to DOE's initial response. Common ion monitoring is inexpensive to perform and is not subject to the same interpretation problems as are leachate constituents. Leachate constituents tend to have much higher concentrations in the waste material relative to background soils and any increase in their concentrations in the waste material relative to background soils and any increase in their concentrations in perched groundwater could be the result of a leak from the facility rather than groundwater aging. DOE has yet to propose an alternative approach to characterize leachate constituent background in the perched zone or to provide legitimate justification why common ion monitoring will not work for this purpose. The key points from DOE's latest response, however, are provided below along with our responses:

- The original constituent list was established in the OSDF Groundwater/Leak Detection and Leachate Monitoring Plan and was based on rigorous evaluation.

The original constituent list is entirely appropriate for leachate monitoring purposes and is not at issue in the original comment. The common ions are not intended to be used for leachate monitoring but are intended to verify the presence of groundwater aging and to assess when statistically-based leachate monitoring data analysis can be implemented.

- Most cells are far into the construction process and the ability to estimate baseline conditions for conditions for common ions is not possible.

The monitoring data presented in the 2003 Site Environmental Report and in the 2004 Mid-Year Summary Report indicate that perched groundwater constituent concentrations are likely continuing to be affected by groundwater aging. In fact, DOE indicates groundwater aging is actively occurring in the monitoring results' discussions in the SER. The proposed common ion monitoring strategy is, therefore, entirely appropriate given the current construction status of the OSDF.

- The primary constituents monitored are sufficient for leak detection; they are the constituents that have the greatest potential for significant differences between the horizontal till wells and leachate.

As stated above, the purpose of common ion monitoring is not leak detection but the assessment of groundwater aging in the perched groundwater.

- It is hard to detect a system leak in the perched groundwater and a substantial difference in concentration would be needed for detection to occur.

Response: Eight rounds of samples will be collected and analyzed for ions (i.e., sodium, calcium, magnesium, manganese, potassium, iron, chloride, sulfate, phosphate, alkalinity, and pH) from each cell's LCS, LDS, and HTW. Data will be reviewed and reported through the annual site environmental reports to determine the usefulness in the overall OSDF data evaluation process.

Action: As indicated in the comment response.

ENCLOSURE 2

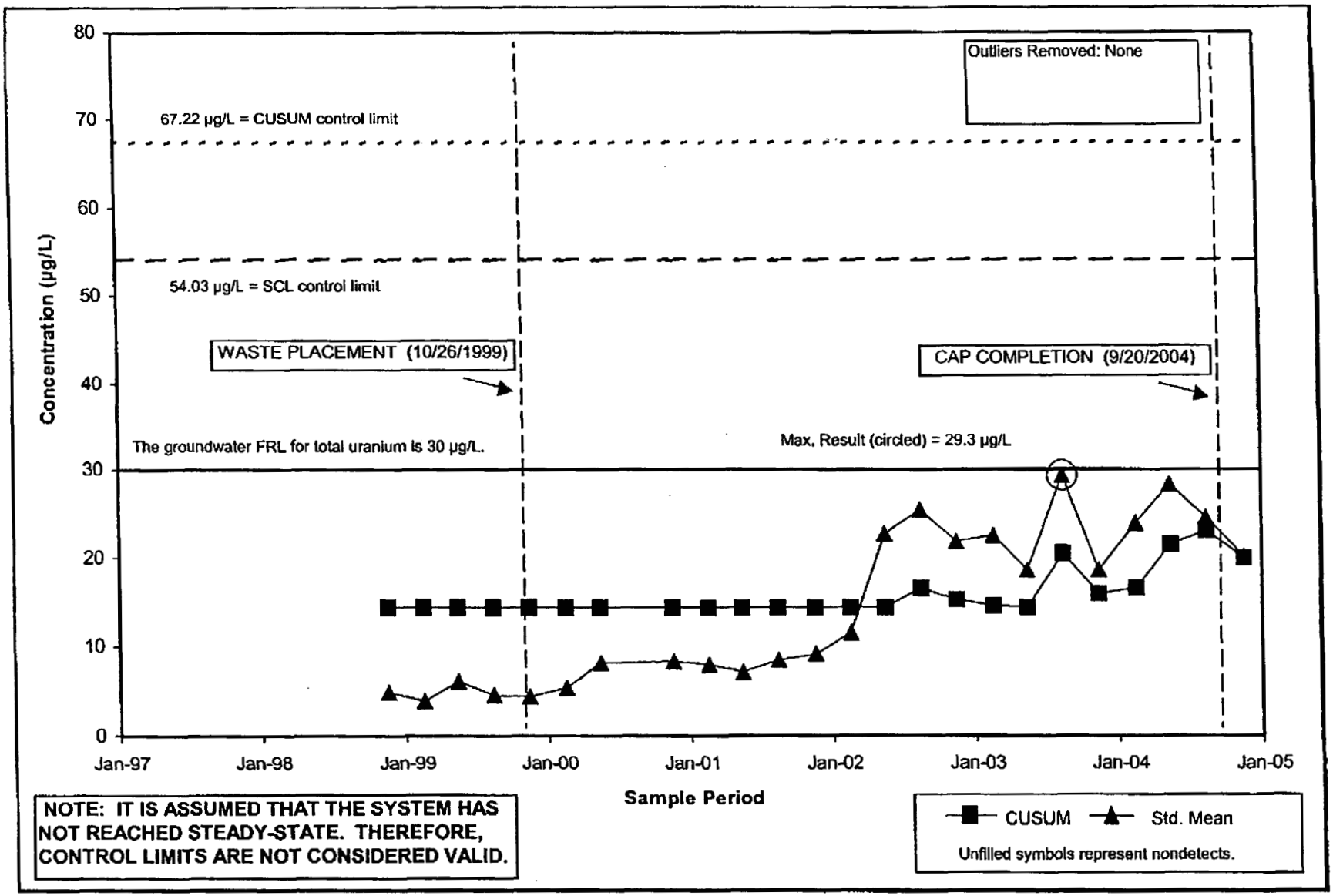

FIGURE 1. TOTAL URANIUM CONTROL CHART FOR CELL 3 HTW (Well 12340)