UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

Reply To
Attn Of: ECL-113

December 4, 2000

Ms. Kathleen Hain, Manager
Environmental Restoration Program
U.S. Department of Energy
Idaho Operations Office
785 DOE Place
Idaho Falls, Idaho 83402

Re: *Operable Unit 3-14 Tank Farm Soil and Groundwater Remedial Investigation/ Feasibility Study Work Plan (Draft Final)*; Injection Well Field Sampling Plan additional comments

Dear Ms. Hain,

Enclosed are additional comments on the Injection Well Field Sampling Plan provided to EPA by Gannett Fleming. These comments were generated from a review of new information added to the sampling plan that was not discussed during the initial comment resolution period.

I look forward to a quick resolution of these comments in conjunction with ongoing efforts to resolve issues on the sampling plan raised by IDEQ. Please call me at (206) 553-0040 if there are any questions.

Sincerely,

Kathy Ivy
Remedial Project Manager

Enclosure

cc: Margie English, IDEQ
Tally Jenkins, DOE-ID

INTRODUCTION

At the direction of the United States Environmental Protection Agency (EPA), Gannett Fleming reviewed the *Operable Unit 3-14 Tank Farm Soil and Groundwater Remedial Investigation/Feasibility Study Work Plan (Draft), Attachment C,* titled *Injection Well Phase 1Field Sampling Plan for Operable unit 3-14* and dated October 2000 by Bechtel BWXT Idaho, for the US Department of Energy. This sampling plan was reviewed for technical and regulatory sufficiency.

The following general comments are followed by specific comments on this document.

GENERAL COMMENTS

1. The sampling plan does not discuss field screening of drill cuttings and potential sample collection activities at depths associated with the two casing failures that were documented during the active service life of CCP 23. The casing "disintegration" occurred at depths above the water table and above the 420 foot interbed and residual contamination may be present above or within the interbed sediments. Over time the interbeds and any perched water above them could act as a secondary source of contaminants to the Snake River Plain Aquifer (SRPA).

2. The sampling plan mentions possible alternative sampling techniques in response to poor core recovery but provides options that are described as modifications of the coring operation. Additional sampling tools and techniques should be considered in the plan in the event that the sludge and sediment in the well bore are not consolidated sufficiently to be retained and retrieved in a core barrel type sampler. Alternative or contingency sampling devices and techniques should be discussed as part of the plan as the sediment in the well may have a more fluid consistency that the abandonment grout and may not be able to be retrieved as cores.

SPECIFIC COMMENTS

1. **Section 4.1.1, Pages 4-1, Second to Last Paragraph.** The text describes the grouting mixture as Type I or Type II cement, 5% granular sodium bentonite, and 7 to 9 Gallons of water per 94-lb bag of cement. What measurements will be made in the field to assure that the grout mixture will meet these specifications? A grout mixture with appropriate strength sealing properties should be verified during well grouting operations.

2. **Section 4.1.1, Pages 4-2, First Paragraph.** The text mentions the potential for deteriorated well casing to be present below the 450 foot level. Please discuss any contingency for a milling operation, for example, if there is sufficient metal (casing pieces or other scrap) encountered downhole so as to render the coring technique ineffective at penetrating this material.

3. **Section 4.1.1, Pages 4-3, Third and Fifth Paragraph.** The text in the third paragraph states "...changing drilling fluid (water) circulation..." and in the fifth paragraph that "Drilling and coring will be accomplished with air as the circulating fluid." Please clarify which circulation technique will be used for drilling in the different portions of the well.

In the opinion of GF, water circulation will be necessary for efficient coring in the portion of the well abandoned with grout. Below the bottom of the grout however water circulation will disturb, liquify and dilute the silty material that is to be collected from the well bottom. This will further complicate the successful retrieval of the sediment samples from this zone.

4. **Section 4.2, Page 4-5, Figure 4-2.** The diagram of the conceptual coring and monitoring well design shows the monitoring wells constructed with 6-inch diameter stainless steel well screen from 460 to 600 feet below ground level. This design will connect the portions of the aquifer from above and below the HI Interbed and has the potential to allow contaminant migration between the two zones. Please provide additional details and rational for the design of these monitoring wells.

5. **Section 4.2.1, Page 4-7, Last Paragraph.** The text states that "Install a granular filter pack with clean silica sand of 8x12 size....". Sand and gravel grain size is generally specified in thousands of an inch (.046 to .008 for instance, the range for coarse sand) or by a mesh number, referring to standard sieve screen sizes (#14 through #65 for coarse sand).

In addition, please include the specification for the screen slot size as the slot size ,and the sandpack size should be appropriate to each other and the formation for the most efficient water production with a minimum of turbidity in the samples.