

7/20/03-00331

St. Juliens Cr. GW Background WP.txt  
From: Richardson.Todd@epamail.epa.gov  
Sent: August 27, 2003 3:58 PM  
To: Friedmann, William/VBO  
Subject: St. Juliens Cr. GW Background WP

Hey Bill:

Forwarding Alvaro's comments of the Background GW WP Document. No further coments should be expected on the subject document.

Thanks for the reminder,

Todd Richardson  
Remedial Project Manager  
SF, Federal Facilities Section  
US EPA, Region III  
1650 Arch Street, Mail Code: 3HS13  
Philadelphia, PA 19103  
(215) 814-5264 Phone  
(215) 814-3051 Fax

----- Forwarded by Todd Richardson/R3/USEPA/US on 08/27/2003 03:37 PM

Alvaro Alvarado  
To: Todd Richardson/R3/USEPA/US  
07/20/2003 02:58  
cc:  
PM  
Subject: St. Juliens Cr. GW  
Background WP

Todd,

I have reviewed the Site Specific Work Plan and Sampling and Analysis Plan for the Basewide Groundwater Background Investigation Report for St. Juliens Creek Annex. My only comment centers around lack of rationale for taking more background samples. The report should clearly identify a goal and show how taking more samples will meet that goal. For example, I would like to know what statistical power we achieve with the current background samples, and what will it be after we take additional samples. We often aim for:

alpha 0.05 (type 1 error: 5% probability that we call a site contaminated when it is the same as background)

beta 0.20 (type 2 error: 20% probability that we call a site clean when it is really contaminated)

With the current data we can estimate the mean and standard deviation of the population. With this information we can calculate the number of

St. Juliens Cr. GW Background WP.txt  
samples needed to achieve an acceptable uncertainty in the data.

If you have any questions, please let me know.

Álvaro Alvarado, Ph.D.  
Toxicologist  
EPA Region III