

20 August 2008

**Navy Comments on Draft EPA Sampling Plan N62578.AR.002363
for Site 03 dated August 07, 2008 NCBC DAVISVILLE
NCBC Davisville, RI 5090.3a**

GENERAL COMMENTS

1. The Navy has major concerns with the documents provided by EPA and requests that BCT discussions take place prior to implementation.
2. The documents provided by EPA do not follow the UFP-QAPP format as many necessary details are not provided. Of specific concern is the lack of use of the DQO process that is necessary in understanding why this project is being proposed and how the data will be used for decision making at Navy sites. EPA has issued an OSWER directive 9272.0-17 dated June 07, 2005 requiring adherence to the Uniform Federal Policy for Quality Assurance Project Plans at Federal Facility Hazardous Waste Sites.
3. The EPA has developed this plan without any consultation of or input from the BCT.
4. EPA has submitted two different documents as "Sampling Plans". It is unclear and confusing which document controls, since the objectives of each plan are different. These documents should be merged into one cohesive plan.
5. No Project Action Limits (PALs) or Project Quality Objectives (PQOs) were included. PALs are necessary for identifying levels that analytical methods must meet and for identifying levels where an action would be required. PQOs (in the form of if/then qualitative and quantitative statements) are necessary to determine how the data will be used to make field decisions and future decisions.
6. For example, it is stated that "The EPA/Navy will rely on the data collected by EPA under this SAP to refine OU7 ground water monitoring design" (draft SAP.pdf, pg. 2, section B). This statement is not clear and the data usability in the Navy's IR program needs to be thoroughly discussed. How will data from passive water diffusion bag samplers (WDS) be compared to historic GW data collected for this OU? What levels of CVOCs will require a change in the Navy's ground water monitoring design?
7. As another example, it is stated that "If WDB samplers cannot be used, traditional sample collection methods will be conducted" (draft SAP.pdf, pg. 5, section 13). What are the parameters or field conditions that will be used to make this decision? How will the contingency traditional sample be collected and how will these samples differ from the way that the Navy has collected ground water data?
8. At our BCT meeting on 15 May 2008, the EPA RPM briefly mentioned this effort and stated that this work is "a research project". This was repeated in an e-mail from the EPA RPM on 11 August 2008. If so, then the SAP objectives (both of them) are incorrect. Please clarify and/or rewrite the plan objectives.
9. If this is a research project, please clarify if the EPA intends for this effort to become part of the Administrative Record for Site 03.

10. In the EPA's transmittal letter, various FFA clauses are cited as applying to the proposed work. Yet, if this is a research project, how does the FFA apply, since the FFA pertains to CERCLA clean-ups, not research?
11. If this is not a research project, then it is clearly an investigation of the Army FUDS Site NIKE PR-58 and not a Site 03 investigation as stated in the plan. In that case, please clarify how the FFA applies to an investigation of a non-Navy site where EPA does not have a formal regulatory oversight role.
12. Further, please clarify whether or not funding provided by the Navy for oversight of the Navy IR program is being used for this effort.
13. As indicated in the EPA's transmittal letter, FFA clause 9.1.d states that EPA may collect samples they deem necessary. Please explain why EPA has deemed these samples necessary. In other words, why are these samples necessary to support a remedial decision at Site 03, and why is it necessary for the EPA to collect samples instead of requesting the Navy collect them as part of its lead agency responsibility?
14. If EPA proceeds with this effort, the Navy repeats its previous request for split samples.

Comments on Technical Memorandum, NCBC Site 03 Sampling and DPT Investigation Work Plan, August 2008

15. The objectives of the proposed work are not clearly defined. A more clear statement of objective(s) is needed, along with a description of how the data collected during this investigation will be used to improve the understanding of the conceptual site model for groundwater in this portion of the NCBC.
16. The scope of the proposed investigation suggests that what is being investigated is the extent of the plume emanating from the Nike Site. Therefore, it is misleading to characterize the investigation as a "Site 03 Sampling and DPT Investigation" when in fact the release being evaluated did not occur at Site 03 and all of the proposed DPT wells, except DPT-1, are upgradient or at most side gradient to Site 03.
17. In addition to investigating the downgradient, leading edge of the groundwater plume emanating from the Nike PR-58 site, it also appears that the emphasis is on determining the extent of a low-concentration plume. One of the benefits noted by EPA of a 5-foot screen is being able to more accurately delineate contaminant plumes at lower concentration ranges. While this does have some benefits from an RI perspective, delineation of the low-concentration, leading edge of a groundwater plume originating off Navy property does not benefit the work being performed at Site 03 by the Navy.
18. While bladder pumps are used throughout the Davisville Site, EPA does not appear to take into account that the bladder pumps are being used as part of low-flow groundwater sampling. The intent of low-flow sampling is to extract groundwater at an extremely low rate in order to minimize disturbances to the surrounding formation, resulting in groundwater being removed within a small vertical area. Therefore, it is not correct to

assume that a bladder pump will average a sample over the entire screened length when low-flow sampling is performed.

Although, groundwater does flow into the well over the entire screen length, the use of low-flow sampling isolates flow over a small portion of the screened well (usually set at a specific interval corresponding to a specified lithology or PID reading). It should also be noted that the only 25-foot wells at the site are open rock wells and therefore, actual "length" of open fractures transporting water into the well are much less than 25 feet.

If groundwater migrated throughout the entire screened zone at a fairly uniform rate when pumping under low-flow sampling, this would indicate that the lithology is generally uniform and consists of a modest to low permeability unit. If a more permeable lithology were present, flow would not occur over the whole screened zone as the low-flow pumping rate would focus the extraction in the area immediately adjacent to the pump. In either case, since the lithologies are uniform, contamination would not be missed since it would be distributed throughout the generally uniform formation.

In reality, few wells are screened in uniform materials of the same permeability. Variances in lithology thicknesses and permeabilities causes flow into the well to not be uniform across the well screen. Higher permeability units provide more water into the well versus the lower permeability units. If permeability contrasts between the two (or more) units is pronounced enough (generally two orders of magnitude or greater), most of the water in the well will originate from the higher permeability unit. Therefore, if most of the contamination were being transported in this zone, even if the intake of the low-flow pump were set outside of this unit, a comparable (within an order of magnitude) result should be observed.

Regardless of the actual conditions that occur at Site 03 on a well by well basis, considerations to how the bladder pump is operated with respect to well responses must be carefully considered.

19. EPA suggests that groundwater contamination is migrating preferentially within higher permeability units and/or fracture zones and that these pathways are potentially being missed by the current sampling program. Yet, the new wells being proposed with installation by DPT are not going to rely on subsurface information collected from those borings. No screening of the soils is planned other than for health and safety purposes. This is a serious oversight and discussions to remedy this issue should occur before the work is performed.
20. Introduction, 1st paragraph: The last sentence states "This work is being conducted in order to refine previously collected data at Site 03 with the intent to fill in data gaps regarding the quality of ground water migrating across Site 03 from the former Nike PR-58 site to the south and southeast directions." It is clear from this sentence that the purpose of this work is to investigate the downgradient edge of the groundwater plume that is migrating across Site 03 originating from the Nike Site. Please change the title of the investigation as appropriate to reflect that this investigation is associated with the PR-58 Nike site and not the Navy IR sites 01, 02, 03 or 04. While this area is upgradient from Site 16, no

reference is made that this is an objective of the investigation. If it is, please clarify.

21. Introduction, 2nd paragraph: The objective of this paragraph is to discuss the biases inherent in groundwater samples collected using bladder pumps. However, many of the factors provided in the discussion of representativeness would be present whether or not a bladder pump is used to collect the sample. For instance, well construction, length of screened interval, adequacy of well development, pumping rate/duration, and degree of heterogeneity in the formation are all potential sources of variability that would be present no matter which type of sampling equipment were used. This weakens the argument being made considerably.

It should be noted that the use of a bladder pump is only the physical means to extract the groundwater in order to collect the groundwater sample. The bladder pumps were used as part of low-flow sampling techniques. No analysis was provided suggesting that low-flow sampling procedures are inadequate and produce biased results.

22. Introduction, 3rd paragraph: The Navy does not agree that an "averaging" of contaminant concentrations from different zones across a screened interval is a significant issue if the EPA Region I *Low Stress (Low Flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells* (SOP #GW 0001) is utilized to collect samples. This procedure specifies the extraction of groundwater at a very low rate with the goal of achieving stable water quality parameters and minimizing drawdown. Therefore, the sample being collected using this procedure should be representative of the groundwater present within the depth interval immediately above and below the pump intake elevation. Significant intake of groundwater from the entire 10 (or even 5) foot screened interval is highly unlikely if the low stress (low flow) procedure is implemented correctly.

The appropriate length of a screen should be determined not by an assumption that shorter is better, but should be based on the subsurface conditions with respect to distribution of contamination in both the horizontal and vertical axes. In other words, a 5-foot well screen may be no more effective than a 10- or 20-foot screen if the subsurface conditions are a generally uniform sand where contamination occurs over 100 feet vertical zone. It is also possible that contamination can be missed in a 5-foot or even a 2-foot screened well if preferentially migrating along a more permeable or fracture zone that is only a few inches thick. It should also not be assumed that the highest contaminant concentrations occur in the more permeable or fracture zones and migrate only within them. In many "older" plumes, the higher contaminant concentrations actually occur in the less permeable materials or filled fractures immediately adjacent to the more permeable migration routes. In these cases, longer screen lengths are needed in order to properly assess the contamination as it currently occurs.

Please provide a more comprehensive, site-specific rationale demonstrating that 5-foot screens are more appropriate than 10-foot screens. Details should include analysis of drawdowns at wells observed during sampling events with respect to observed hydraulic conductivities as well as effects due to heterogeneities (particularly grain size variations and PID readings) within the observed screened intervals.

23. Introduction, 3rd paragraph: The last sentence of this paragraph is more to the point, and actually conflicts with the first sentence. Using the same sampling procedure, a contaminant concentration cannot be averaged over the screened interval and completely missed at the same time. As stated in the previous comment, the Navy does not believe that averaging is a significant concern. And while possible, completely missing a major source of contamination over a 10 foot interval is not likely, particularly at the distances of this investigation with respect to the source area.

24. Introduction, 4th paragraph: What is meant by the term "optimal delineation"? While the maximum concentration may or may not have been collected, what effect does this have on "optimal delineation"? Delineating a contaminant plume relies on data from multiple media types at many different locations both within and beyond of the extent of contamination. Whether or not the maximum concentration is collected and observed at the wells has little to do with whether or not the plume is delineated.

Please explain how variations in the volume of groundwater extracted prior to sample collection can result in non-representative concentrations. Groundwater samples are collected according to EPA Region I *Low Stress (Low Flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells* (SOP #GW 0001). While the volume may change from event to event, in all events, the groundwater is properly stabilized with respect to groundwater quality parameters.

No evidence has been provided to demonstrate that low-flow sampling procedures performed in a 10- to 25-foot well screen at Site 03 produces invalid results. Please provide this evidence before concluding that the samples collected from these screen lengths are not representative or biased.

25. Introduction, 5th paragraph: On Page 2, the EPA states that the current well network is inadequate to characterize the CVOC distribution to the south and southeast of the former PR-58 Nike Site, indicating that the proposed investigation is intended to characterize the extent of contamination that was released from the Nike PR-58 Site. As such, the title of the memorandum is misleading. Please change the title to accurately reflect the intentions of this investigation.

As in 2007, the Navy will provide the U.S. Army Corp of Engineers access to Site 03 to perform any work they deem necessary to completely delineate that groundwater plume emanating from the Nike PR-58 Site.

26. Groundwater Sampling, 1st paragraph: Please provide the rationale based upon site-specific data that demonstrates that the more permeable zones contain the higher contaminant concentrations. If site-specific evidence cannot be provided, please re-write this section to reflect that the purpose is to evaluate whether the more permeable zones can contain the higher contaminant concentrations and this investigation is evaluating this potential pathway. At this point, no evidence has been provided demonstrating that the higher permeability lithologies (or fractures) currently preferentially provide the pathway to migrate the higher contaminant concentrations. Therefore, while it may be shown that samples are collected in a biased location, there is no evidence that this location is wrong.

27. Groundwater Sampling, 2nd paragraph: The Navy does not agree that variations in the volume of groundwater extracted from wells during sampling necessarily have the potential to dilute the contaminant concentrations in the sample. Further justification of this point is necessary. Additionally, no evidence has been provided to demonstrate that dilution occurs over the entire screen length under the current low-flow sampling procedures employed. Further elaboration on this point is warranted as well.
28. Groundwater Sampling, 3rd paragraph: Further detail regarding the criteria (i.e. project conditions and constraints) that will be used to determine the length of time which the samplers will be left in the well would be helpful. While the Navy appreciates that project conditions and constraints need to be considered, samples should not be collected if they do not meet the requirements of the data quality objectives.
29. Groundwater Sampling, 4th paragraph: Further detail regarding the procedures that will be used to remove, store, and replace the existing bladder pumps is necessary. The Navy is concerned that failure to properly decontaminate these dedicated bladder pumps and/or improper storage will impact future sampling results, rendering them questionable or unusable. The following procedures are provided to ensure the continued integrity of the Navy wells, and these procedures should be written into the EPA's plan:
- a) While no dedicated sampling equipment is permanently affixed to the riser pipes, it would not be uncommon to find that the caps have become wedged either to the top of the riser pipe and/or stick-up metal pipe. Care must be taken when attempting to loosen the pump set up to ensure that the cap does not break, resulting in either damage to the pumps or loss of equipment down the wells. Please do not pry or pull the pumps by the quick-connect designed for the air line. Even the slightest nick or deformation will cause the contacts to be compromised and make future low-flow sampling difficult.
 - b) Some pump set-ups in the rock wells are tightly affixed with a special metal hanging mechanism. Allen wrenches will be needed in order to remove the pump.
 - c) Bear in mind that some pump set-ups are quite long and as such, very heavy. In most cases, particularly the R wells, two people will be needed to remove the pump set-up.
 - d) Care needs to be taken when pulling the pump as not to damage the cap (even if they are easily removed) preventing exact replacement when PDB sampling is complete as the measuring point surveyed by the USACE in 2007 is referenced to the top of the cap. If it is deemed that the measuring point has moved more than 0.05 feet, the measuring point will need to be resurveyed at no expense to the Navy. Additionally, there is a short length of tubing with a screw-down cap. Please remove and keep with the pump set-up.
 - e) When lifting the pump out of the well, be mindful of the check valve in the upper 20 feet. It can snag on the sides of the riser pipe until clear of the well.

f) Care must be taken not to lay the pump set-ups on the ground, especially when working in asphalt parking lots with parked cars. If the pumps must be laid on the ground, they need to be placed on plastic sheeting.

g) Prior to placing the pump set-up in a labeled plastic bag for storage, the entire pump set-up should be wiped down to clean any accumulated sediments on the exterior of the pump. This includes not only the pump, but also the length of tubing. The wipe down procedure should be a three step process. First, a paper towel saturated with soapy water should loosen all surface dirt. Second, a paper towel saturated with isopropanol should finish cleaning the surface. Third, a paper towel saturated with DI water should be used to clean the soapy water and isopropanol. A bottle sprayer filled with DI can be used in lieu of step three if necessary.

h) Any fittings on the pump set-up should also be tightened.

i) Prior to replacing the pump set-up back in the well, the pump should again be cleaned in the three step process outlined in g). If this is not deemed necessary, please note why it was not done.

j) When replacing the pump set-up, ensure that the cap fits snug and returns to the same level prior to pump removal.

k) While this may seem like a pretty comprehensive technique to pulling a pump out of the ground, this is the technique that the Navy uses across the Davisville site and as such, needs to be done to ensure low-flow sampling results as well as synoptic water level results are accurate.

29. Groundwater Sampling, 5th paragraph: The first full sentence on Page 3 suggests that non-standard dimension samplers may need to be used, but the next sentence states that standard 24-inch length by 1.25-inch diameter samples should be suitable. Please clarify.

It should also be noted that a 24-inch in length PDB may actually sample water over a larger vertical section than a bladder pump in a 10-foot well utilizing low-flow sampling techniques. For instance, if a 6-inch permeable sand layer within low permeability silt were being targeted, the bladder pump would better isolate this small vertical zone as compared to the PDB. Therefore, the actual lengths of the PDBs should be considered "flexible" and on a well by well basis in order to ensure it matches to the targeted vertical zone of interest.

30. Groundwater Sampling, 5th paragraph: There is no discussion of how EPA will determine whether there is vertical circulation of groundwater within wells due to thermal stratification, which will impact how the samplers will be deployed. Please provide.

31. Groundwater Sampling, 6th paragraph: Please provide a reference for the recent monitoring well integrity testing discussed in this paragraph.

32. Groundwater Sampling, 6th paragraph: The recommendation to use peristaltic pumps if PDBs are unable to be deployed seems inconsistent with previous EPA Region I guidance. Additionally, peristaltic pumps extract groundwater at the same operational rates as bladder pumps and as such,

would produce the same "problems" that EPA is attempting to avoid. Please clarify how a peristaltic pump operating at the same groundwater extraction rate would not "average" the water across the well screen as claimed to occur with the bladder pump. Note that the Navy acknowledges that moving the intake to a more permeable area within the screen zone will focus the extraction at that location.

Further, the decision to sample wells that appear to be obstructed, damaged, or silted in is inconsistent with EPA recommendations at other IR sites at Davisville. Note that the Navy supports the use of existing monitoring wells in cases where the presence of minor defects will not impact the quality or representativeness of the groundwater sample that is collected.

33. Groundwater Sampling, 7th paragraph: There is no discussion of how EPA will verify that the diffusion bag samplers will be deployed at the correct depth. Will measurement be taken from the bottom or the top of the well? This is crucial to ensure that the data collected are from the targeted interval. This should be a significant concern of this work plan since the objective of the study is to target specific, discrete zones within the screened interval. Failure to place the samplers at the targeted depths, and failure to document that they are placed at the targeted depth, will make interpretation of the data difficult.

Variances in depth of wells between what is provided on well logs and more recent reports is most likely due to well collapse, silting in of the well, etc. However, since EPA plans to field verify well depths, sampling pumps and intakes prior to placement of the PDBs, any necessary corrections due to assumptions in the work plan can be made. It should be noted that the intakes of the bladder pumps occur at the bottom of the pump (the depth to intake is not the top of the pump).

What type of rope will be used to hang the PDB's? Stainless steel?

34. Groundwater Sampling, 8th paragraph: The end of the second sentence states that this investigation is a "re-sampling program". Please re-write this sentence to be more consistent with the stated objectives of the work plan as this investigation is not a re-sampling event.

The last sentence of this paragraph is inconsistent with EPA's position on investigations conducted at other IR sites at Davisville. Note that the Navy supports the use of direct push technology as a relatively quick, inexpensive, and useful tool to collect soil and groundwater data from the overburden.

35. Table 1: A detailed review of the PDB sample placement rationale and depth measurements was not performed; however a cursory review shows that detailed justifications are not always provided for their placements. For instance, for MW03-12D, no rationale was provided why the PDB should be set 4 feet lower in an already highly fractured rock environment. Was significant staining observed, smaller, more crushed rocks, etc. the justification?

At some entries where deep and rock wells occur, there are indications of areas not being monitored. Since EPA is not suggesting that these zones

be targeted for sampling, further explanations concerning why these zones are referenced but not requiring monitoring is necessary.

According to Table 1, PGU-Z3-07D has never been sampled. Please clarify if EPA intends on developing the well and if so, please provide details on how this will be performed. Well development is necessary regardless of the style of sampling performed.

The Navy is interested to see whether sampling from a different depth will have significant ramifications on the interpretation of the conceptual site model. However, there is no discussion of whether the sampling data collected using diffusion bags will be comparable to data collected with bladder pumps, or whether the EPA intends to make these comparisons. In order to make a true comparison of diffusion bag sampling data to data collected during the Navy's Interim Groundwater Sampling Program, a diffusion bag should be placed at the depth of the Navy's pump intake and a sample collected and analyzed from this depth. Further discussion on data collection and interpretation are necessary prior to sample collection.

36. Direct Push Technology Monitoring Wells, 1st paragraph: In this paragraph, a data gap (large area without well coverage) to the southwest of monitoring well MW-111D/R is discussed and Figure 2 shows several proposed wells in this area. Many of these wells are outside of the Site 03 area and, given what is known about the release(s) that may have occurred at Site 03 and the pattern of groundwater flow in this area, data collected from these wells is not likely to influence remedial decisions for Site 03.
37. Direct Push Technology Monitoring Wells, 3rd paragraph: It is clear from this paragraph that soils will not be logged during soil boring advancement to provide documentation of lithologies encountered in the targeted areas. In addition, real-time PID screening of subsurface soils will also not be performed. This is a serious flaw in the design of the work plan with respect to installation of temporary wells. The first paragraph of the section (top of the page) states that EPA believes that there is insufficient coverage to assess groundwater quality in this area. While consulting existing borings and seismic logs can be beneficial to potentially anticipate what lithologies may be encountered in this area, without visual logging and PID screening of the subsurface soils, there will be no confidence that the wells are accurately placed within the subsurface to make any conclusion of the data collected, particularly when anticipating short screen lengths and preferential flow (i.e. short vertical thickness of migrating contamination).
38. Direct Push Technology Monitoring Wells, 3rd paragraph: The Navy has used PID field screening data to identify contaminated zones in soil borings advanced during previous investigations at NCBC Davisville. The decision not to collect field screening data (jar headspace or other method) is questionable in that an opportunity to collect potentially useful data with minimal additional cost is being missed.
39. Direct Push Technology Monitoring Wells, 4th paragraph: See Comment 11. Without screening the subsurface soils, it cannot be known whether the PDBs are optimally placed or what length of PDB should be used.

40. Direct Push Technology Monitoring Wells, 5th paragraph: Many of the proposed DPT monitoring wells occur within a heavily utilized NORAD parking lot. Since the Navy has long-term monitoring to perform across the Davisville Site that involves close coordination with NORAD, please make every effort to comply with their requests when performing the DPT work in their lot.
41. Direct Push Technology Monitoring Wells, 6th paragraph: If the target depths are subject to modification, please provide more details concerning the vertical thicknesses of the zones being targeted. Additionally, please provide a technical discussion why a 10-foot well utilizing low-flow sampling procedures would result in a groundwater sample that is a "problem" when the zone is at least several feet thick.
42. Direct Push Technology Monitoring Wells: There is no mention of the procedures that will be used to decontaminate down-hole tools to prevent cross-contamination between sampling intervals and between boring locations. Please provide details concerning the decontamination procedures. Additionally, since the decontamination of the DPT tools will generate Investigative derived waste, the submitted work plan needs to include plans for dealing with IDW including signature for waste manifests by the property owner.
43. Table 2: The rationale for the placement of screens for the DPT wells rely heavily on previous PID screening data, however no field screening is planned for this effort. The placement of 5-foot screens to target a very specific depth interval without field screening data from that specific boring will be difficult and there will be no evidence to verify that the most contaminated interval was properly targeted.
44. Table 2: The foot note mentions that the actual well placement may vary depending upon subsurface conditions encountered. However, there is no mention of how many attempts will be made at each location to achieve the desired depth of the boring.
45. Table 2, DPT-01: The rationale explains that PIDs in the range of 2 to 3 ppm were recorded over a large interval. Based on this information, a longer screen length would be more appropriate to ensure that the impacted areas are fully contained within the screen zone. Placement of the PDB should be at the maximum PID location.
46. Table 2, DPT-03, DPT-04 and DPT-06: A wide gap is referenced in the rationale for these locations. Given this wide gap, subsurface soils need to be collected and analyzed (visual description of lithologies and PIDs) to ensure that the wells are properly screened and PDB is accurately placed to intercept the area of most impacted soils and groundwater.
47. Table 2: There is no discussion regarding whether the DPT wells will be abandoned or made permanent. If abandoned, a procedure should be provided. If made permanent, details of the well construction should be provided.
48. Coordination: The Navy would appreciate the opportunity to take part in any discussions involving changes to the PDB well sampling and DPT monitoring wells.

Comments on Sampling and Analysis Plan (SAP) Revision (0) July 2008

49. There is no location for Navy to approve of the Sample Analysis Plan (SAP). There is also no record of scoping sessions where Navy gave concurrence with the SAP.
50. Cover page should include a signature block for the project QA person.
51. In Section 8b, Data Useage, the SAP reads "The EPA/Navy will rely on the data collected by the EPA under this SAP to refine OU7 groundwater monitoring design". The Navy does not agree with this statement and has not been consulted with on the need for this data or the development of the SAP.
52. Background Data on which sampling routing is planned is not provided with the SAP.
53. In the table in Section 10, Key project personnel, the following should be added:
- Rich Gottlieb, RIDEM Lead Regulator for NIKE PR-58
 - Maryellen Iorio, ACOE RPM, NIKE PR-58
 - Steve King, QDC, Property Owner
 - John Reiner, North Kingstown, Property Owner
54. Who has the decision authority concerning the use of water diffusion bag samplers (WDS)? Scenarios were given in which the WDS might be left for a longer period of time or abandoned and low-flow bladder pumps would be used. Who makes these changes and what criteria are used to make them.
55. How would data taken with a WDS be compared with prior data taken with low-flow bladder pumps?
56. When was the last time these wells were sampled? If longer than one year, how will comparison be made? Conventional low flow sampling should be conducted in conjunction with deployment of PDB's to allow for a meaningful comparison of the data.
57. Insufficient discussion concerning avoidance of contamination and decontamination process.
58. Insufficient field quality control samples are taken. No blanks are included with the sampling.
59. Plan states that ten percent of samples are being sent to fixed lab. Are the samples pre-determined before analysis or chosen based upon analytical results?
60. Analytical list needs to be specific. Are TCL VOAs being analyzed at fixed lab?
61. What is the source of the two hour holding time for CVOCs?

62. How are results from the fixed lab and the mobile lab being compared? What are the differences in the analytical methods? For Navy to use the data, a Navy reviewed lab would have to be used.
63. Need project specific quality control criteria. If certain compounds are known to be outside the goals, what are their limits and are those limits acceptable for this project? How are laboratory equipment (both mobile and fixed) maintained?
64. Incomplete information for Field Log Book and sample labels. What information is being recorded in log and on labels? Are water parameter (D/O, pH, etc.) samples being collected?
65. Section 13, Sampling Procedures states that traditional sampling with a 3 well volume purge may be conducted. Accordingly, plan needs to include discussion on how will IDW be handled and disposed of in coordination with the property owner.