

WSMR 06



DEPARTMENT OF THE ARMY
U.S. ARMY GARRISON WHITE SANDS
100 Headquarters Avenue
WHITE SANDS MISSILE RANGE, NEW MEXICO 88002-5000

August 24, 2006

REPLY TO
ATTENTION OF

Public Works Directorate

Mr. James Bearzi
New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303



Subject: Submittal of WSMR NOD Response Table for IRP Site WSMR-85 (HELSTF Groundwater Study; multiple SWMUs)

Dear Mr. Bearzi:

Enclosed you will find the WSMR responses to your July 18, 2006 letter regarding WSMR IRP Site WSMR-85.

The response table (six pages) was completed in coordination with Ms. Cheryl Frischkorn of your Bureau. A complete revised plan will be submitted separately in the near future (estimated completion time is October 2006); however, to accommodate previously scheduled fieldwork activities related to this project, we have summarized our responses in the attached table in hopes that schedule delays will be avoided. We plan to begin implementing the related work plan next month.

Understanding that this project entails a large and complex area, we look forward to working with your staff in successfully completing this environmental investigation and move forward to a final resolution at each related unit within the HELSTF area.

The following certification is provided as required by our permit:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Copies furnished, with enclosure (1 print copy w/CD), to Ms. Cheryl Frischkorn, NMED-HWB; Mr. Chuck Hendrickson, Region VI EPA; Ms. Stephanie Sigler, U.S. Army Environmental Center; and, without enclosure, to Mr. John Kieling, NMED-HWB; and White Sands Technical Services, LLC.

Should you have any questions regarding this matter, please contact Mr. Jose Gallegos at (505) 678-1007.

Sincerely,

A handwritten signature in black ink that reads "Thomas A. Ladd". The signature is written in a cursive style with a large, prominent "T" and "L".

Thomas A. Ladd
Director, Public Works

Enclosure

Response to NMED NOD -- NOTICE OF DEFICIENCY (NOD) PHASE III RCRA FACILITY INVESTIGATION (RFI) WORK PLAN FOR THE HIGH ENERGY LASER SYSTEMS TEST FACILITY (HELSTF) SITES WHITE SANDS MISSILE RANGE EPA ID NO. NM2750211235 HWB-WSMR-05-002, July 18, 2006

This Response-to-Comments document is being prepared to facilitate a timely initiation of field activities. The RFI work Plan, itself, will be revised in accordance with these comments and resubmitted. ALSO SEE ATTACHED FIGURE, HLSF0090.

Comment Number	NMED Comments	WSMR Response	Discussion
1	<p>The Permittee states in Section 5.1.1 that prior to establishing new monitoring points, the top of the casing for all existing monitoring wells will be resurveyed to a common coordinate system.</p> <p>The Permittee must revise this section to state that all existing, as well as new, monitoring wells will be surveyed relative to a common coordinate system. In addition, all monitoring wells must have a permanent notch or other permanent mark fixed in the riser to provide reliable measuring points.</p>	Agreed	Section 5.1.1 of the Work Plan will be modified accordingly. In particular, all existing, as well as new, monitoring wells be surveyed relative to a common coordinate system. In addition, all monitoring wells will have a permanent notch or other permanent mark fixed in the riser to provide reliable measuring points.
2	<p>The Permittee states in the first paragraph of Section 5.1.4 that nine new monitoring wells will be installed. The next sentence states that nine wells will be installed in the regional aquifer and two of the nine will be installed in the lower perched water bearing zone, a total of 11 wells.</p> <p>The Permittee must resolve this discrepancy in the revised work plan.</p>	It has been WSMR's intent to install nine new monitor wells (eight in the regional aquifer, one in the lower perched aquifer). With the wells mentioned in Comment 14, below, a total of 13 wells will be installed.	Section 5.1.4 of the Work Plan will be modified accordingly. The eight (8) planned regional aquifer monitor wells, together with the four (4) additional regional aquifer monitor wells, will be explicitly identified, as will the one well to be installed in the lower perched system.
3	<p>The Permittee states in Section 5.2 that a scientifically and statistically valid soil investigation plan to determine the background concentrations of various inorganics at HELSTF will be developed and submitted to NMED for review and comment.</p> <p>The work plan must be revised to include a proposed date for submittal of this document in Table 5-1. Background values must be approved by NMED prior to their use.</p>	It is WSMR's intent to use the results of the Phase III investigation to establish background concentrations. Only if the data to be gathered prove insufficient to reliably establish background would a separate study be contemplated. It is not possible, <i>a priori</i> , to specify the outcome of that exercise. Therefore, a work plan would not be prepared until 1 April 2007.	Section 5.2 of the Work Plan will be modified accordingly. Background data gathered from the six (6) planned background soil borings will be evaluated utilizing the procedures provided in <i>Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites</i> , OSWER 9285.6-10, December 2002, and its accompanying EPA-provided computer program, ProUCL (ver. 3, April 2004, EPA/600/R04/079)
4	Table 5-1 (PRELIMINARY SCHEDULE — PHASE III RFI ACTIVITIES) shows that the Permittee submitted the Phase III	Agreed	Table 5-1 of the Work Plan will be modified to state that the

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	RFI Work Plan in April 2005. The date on the cover of the work plan is August 2005 and the date of the submittal cover letter is September 2005. Revise Table 5-1 to include the correct date of work plan submittal as September 2005.		work plan was submitted in September 2005.
5	The title for Figure 6-9 reads "SWMUs 31 and 31 — PROPOSED SOIL BORING SAMPLE LOCATIONS." The Permittee must revise the title to read "SWMUs 31 and 32 - PROPOSED SOIL BORING SAMPLE LOCATIONS."	Agreed	Figure 6-9 caption will be modified to read "SWMUs 31 and 32 - PROPOSED SOIL BORING SAMPLE LOCATIONS."
6	Some of the concentrations in Table 6-2 (MAXIMUM CONCENTRATIONS FOR SELECT INDICATOR PARAMETERS — HMW-01 THRU 04) are in bold font, but no explanation is given for the bold lettering. If the use of bold font was intentional, the Permittee must revise the work plan to provide an explanation of the bold lettering in Table 6-2.	The bolded entries denote observations in excess of the cited standard. The same comment and Response applies to Table 6-3.	Tables 6-2 and 6-3 of the Work Plan will be modified to explain that the bolded entries denote observations in excess of the cited standard.
7	The presence of trees that have grown through the liners, and tears have been observed suggest that the liners installed in SWMUs 27 through 30 have been compromised The Permittee must revise the work plan to include whether they plan to repair the lagoons liners.	WSMR has no plans to repair the lagoon liners as part of the proposed Phase III RCRA Facility Investigation.. WSMR is planning a construction project to build <u>replacement</u> lagoons at a site south of the present facility. Execution is pending final Army approval and funding.	Section 6.4 of the Work Plan will be modified to explain the current status of the lagoons.
8	The Permittee must include information regarding all piezometers and HELSTF-wells (i.e., PZ-1, HELSTF-1, and HELSTF-3) in Table 4-2.	Table 4-2 contains data on existing <u>monitor</u> wells, only. Results from these wells comprise the data discussed in subsequent sections.	No change is required. All available data on wells to be utilized in the Phase III study are discussed in Section 7 and the Attachments.
9	The Permittee states in Section 6.9.2 (Investigation and	The discussion will be revised	Section 6.9.2 of the Work Plan

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	<p>Regulatory History) that the Phase II RFI supports conclusions that there is no significant subsurface degradation.</p> <p>The Permittee must clarify this statement by identifying what is or is not degrading in the subsurface.</p>	<p>for clarity.</p>	<p>will be modified to more expansively discuss this issue.</p>
10	<p>The Permittee points out in the work plan that no work is proposed for SWMU 141; however, the Permittee identifies data gaps regarding a potential release of VOCs from SWMtJ 141 and that this release will be investigated as part of the SWMU 148 activities. The soil borings proposed to investigate SWMU 148 are insufficient to characterize a release at SWMU 141.</p> <p>The Permittee must revise the work plan to include additional soil borings located to the south and west of SWMU 141 (Equipment Storage Area).</p>	<p>Three additional borings to 50 feet, identified as SB-37 to -39 on the accompanying figure, will be added to the program and sampled as suggested in Comment 15.</p>	<p>Section 6.10 of the Work Plan will be modified to incorporate the three borings and their agreed-to sampling program..</p>
11	<p>The Permittee must revise the work plan to state that additional samples will be collected at deeper intervals if contamination is detected at the deepest proposed sampling interval.</p>	<p>The investigation depth of 50 feet was selected on the basis of exploring down to, but not through, the lower perched system. Drilling through the base of the perched zone would likely result in substantial leakage, contaminating both any samples recovered and the underlying materials. Further, little, if any, contamination will be field-determined, making it difficult to "chase" pollutants.</p>	<p>Section 7.1 of the Work Plan will be modified to more fully discuss the selected depth of investigation..</p>
12	<p>The second paragraph in Section 6.15.6 does not match Figure 6-38 or Table 7-1. The Permittee states that five soil samples will be collected at SWMU 146. Figure 6-38 shows five proposed soil boring locations. The Permittee indicates in Table 7-1 that five soil samples will be collected from five separate borings at SWMU 146.</p> <p>The Permittee must clarify this inconsistency in the revised</p>	<p>WSMR intends to collect five samples from each borehole.</p>	<p>Section 6.15.6 of the Work Plan will be modified to make the sampling program unambiguously state that five samples will be collected from each borehole..</p>

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	work plan.		
13	<p>The Permittee states in Section 7.1 (Soil Sampling) that background soil borings will be drilled to a depth of approximately 10 feet below the ground surface and all other borings will be drilled to a depth of approximately 50 feet below the ground surface.</p> <p>The Permittee must revise the work plan to state that soil samples will be compared to background samples with similar lithologies. This may require the Permittee to drill the background borings to greater depths to reach the appropriate lithologies.</p>	WSMR plans to drill the background borings to 50 feet.	Section 7.1 of the Work Plan will be modified to explicitly state that soil borings SB01 – 06 will be drilled to 50 feet.
14	<p>NMED has determined that there are several considerable gaps in the current/proposed ground water monitoring system at HELSTF. The Permittee must install additional monitoring wells at the following approximate locations to better define the extent of various contaminants and to define the extent of both perched aquifers:</p> <p>East of SWMUs 149, 151, and 152 to determine if there has been a release to the ground water from the three septic systems;</p> <p>East to southeast of the sewage lagoons to determine if there has been a release to the regional aquifer and to determine the extent of nitrate;</p> <p>Approximately 200 feet directly east of proposed soil boring SB-18 to monitoring the regional aquifer in this area; and</p> <p>West of DRW-16 and DRW-17.</p> <p>See enclosed map for approximate well locations.</p>	The additional monitor wells will be installed as recommended. The wells are identified as HMW60 – 63 on the accompanying figure. Based on the 27 July teleconference, all will be completed in the regional aquifer at approximately 80 feet below the land surface.	Section 6.21 of the Work Plan will be modified to incorporate the four (4) additional wells and their agreed-to sampling program..
15	<p>NMED has determined that some constituents must be added to the analyte list for various soil samples and monitoring wells. The Permittee must revise related tables and figures accordingly. The Permittee must revise the work plan to include:</p> <p>adding the extended VOC list, SVOCs, chromium, and hexavalent chromium to the monitoring list for monitoring well DRW-8;</p> <p>adding the extended VOC list, Diesel Range Organics (DRO),</p>	<p>The additional constituents will be added to the analytical schedule as recommended.</p> <p>The “extended VOC list” noted merely consists of the standard SW846 SW8260B analytical schedule, as currently presented on table 7-2(B), page 162 of the</p>	The respective sections of the Work Plan, especially Section 7.0, will be modified accordingly. In particular, the work plan will be modified by: adding VOCs, SVOCs, and chromium to the monitoring list for monitoring well DRW-8; adding VOCs, Diesel Range

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	<p>and Gasoline Range Organics (GRO) to the monitoring list for samples collected from boring SB-10; adding the extended VOC list, DRO, and GRO to the analyte list for water collected from wells DRW-1 through 6, DRW-8, and HCF-8 ; adding nitrate-nitrite as N to the monitoring list for water collected from HMW-19; adding VOCs, RCRA metals, DRO, and GRO to the monitoring list for samples collected from soil borings described in COMMENT 10; adding the same constituents listed for well HCF-1 to the monitoring list for wells HCF4, HCF-6, and HCF-9; adding all RCRA metals to the monitoring list for wells HMW-25 through 28, HWM18b, HMW-7, and HELSTF-I; adding all RCRA metals to the monitoring list for wells HWM-20 through 24, HMW-5, HMW-6b, and HWM-55; adding all RCRA metals to the monitoring list for wells HMW-39 through 41, HMW-43, DRW-9, DRW-10, and DRW-12; adding all RCRA metals to the monitoring list for soil borings SB-25 and SB-27; and adding all RCRA metals to the monitoring list for soil borings SB-7 through SB-9.</p>	<p>work plan.</p> <p>As previously discussed with NMED, analysis for hexavalent chrome in groundwater is not needed – all Cr in water is assumed to be Cr+6.</p>	<p>Organics (DRO), and Gasoline Range Organics (GRO) to the monitoring list for samples collected from boring SB-10; adding VOCs, DRO, and GRO to the analyte list for water collected from wells DRW-1 through 6, DRW-8, and HCF-8 ; adding nitrate-nitrite as N to the monitoring list for water collected from HMW-19; adding VOCs, RCRA metals, DRO, and GRO to the monitoring list for samples collected from soil borings described in COMMENT 10; adding the same constituents listed for well HCF-1 to the monitoring list for wells HCF4, HCF-6, and HCF-9; adding all RCRA metals to the monitoring list for wells HMW-25 through 28, HWM18b, HMW-7, and HELSTF-I; adding all RCRA metals to the monitoring list for wells HWM-20 through 24, HMW-5, HMW-6b, and HWM-55; adding all RCRA metals to the monitoring list for wells HMW-39 through 41, HMW-43, DRW-9, DRW-10, and DRW-12; adding all RCRA metals to the monitoring list for soil borings SB-25 and SB-27; and adding all RCRA metals to the monitoring list for soil borings SB-7 through SB-9.</p>

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16	<p>The Permittee suggests that porous and/or leaking sewer and water mains may be influencing contaminant migration at HELSTF.</p> <p>The Permittee must revise the work plan by supplying maps/figures/schematics that show the locations of all water lines, sewer lines, utility lines, feed lines, and any other waste water drain lines.</p>	<p>At the present time, no data are in our possession. Archives will be searched and available data will be assembled and incorporated in the work plan.</p>	<p>The Work Plan will be modified accordingly – most likely by providing additional attachments, based on what data are discovered.</p>
17	<p>The Permittee suggests in Section 6.25 that Voluntary Corrective Actions (VCA) are being considered for three sites at HELSTF.</p> <p>The Permittee should be aware that VCA documents' (work plans and reports) will no longer be an option under the revised fee regulations at 20.4.2 NMAC. Since the HELSTF project is fairly large and complex, the Permittee will be required to prepare a Corrective Measures Study (CMS) for submittal to NMED.</p>	<p align="center">Noted</p>	<p>Section 6.25 of the work Plan will be deleted.</p>