UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

AUG 13 1999

REPLY TO THE ATTENTION OF:

DW-8J

Mr. Tom Brent
Naval Surface Warfare Center
EPD, Code 095 B-3260
300 Highway 361
Crane, IN 47522-5001

Re: Work Plan Approval for Geophysical Investigation at McComish Gorge SWMU #4

Dear Mr. Brent:

The United States Environmental Protection Agency (U.S. EPA) has reviewed the U.S. Navy's Response to Comments on the Work Plan for Geophysical Investigation at McComish Gorge, SWMU #4, dated July 1999.

The U.S. EPA hereby approves the Work Plan. Please correct the Work Plan to reflect modifications made in the Response to Comments and note these modifications in the final report.

If you have any questions regarding this matter, please contact me at (312) 886-7890.

Regards,

Peter Ramanauskas
Environmental Engineer
WMB, IL/IN/MI Section

cc: Bill Gates, SOUTHDIV
James Ursic, USEPA

Brent Thomas J CNIN

From: Brent Thomas J CNIN
Sent: Monday, August 09, 1999 12:44 PM
To: Peter Ramanauskas (E-mail)
Cc: Bill Gates (E-mail); Karen Smecker (E-mail)
Subject: FW: Responses to EPA Comments

Peter:

As you can see, the response to comments on the McG Geophysical Workplan are attached to the following e-mail. This is a priority in order to keep on schedule at this SWMU. Please review & let us know your thoughts.

Thanks,
Tom

-----Original Message-----

From: **Smecker, Karen [SMTP:SmeckerK@ttnus.com] <mailto:[SMTP:SmeckerK@ttnus.com]>**
Sent: Friday, August 06, 1999 12:29 PM
To: 'Bill Gates'; 'Tom Brent'
Subject: Responses to EPA Comments

Bill, Tom,
Attached are the responses to EPA comments on the Draft Geophysical Work Plan for SWMU 4. Please forward them to the EPA with a note that we would like them to review the responses and get back to us on if the responses adequately address their comments. We would like to have resolution sometime next week. If we need to have a short conference call to discuss the outstanding issues, we can certainly do that. At this point, we are planning to start clearing activities for the survey on Aug 23 with the actual survey beginning on August 25.

Call me if you have questions.
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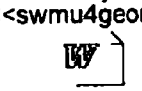

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RESPONSE TO COMMENTS
Work Plan for Geophysical Investigation
For Solid Waste Management Unit 4 (McComish Gorge)
Naval Surface Warfare Center
Crane, Indiana

COMMENT 1: Section 2.2: Before the survey is conducted, it is important define and consider the type of material used to cover the disposal area since highly conductive soils would tend to mask and limit instrument detection capabilities. The success of the Geonics EM-31 is dependent on significant changes in ground conductivity or magnetic permeability between the natural background and fill. If changes are minor, it will be difficult to detect anomalous areas. If highly conductive soils are present, one may consider the use of a Geonics EM-61 metal detection tool.

RESPONSE: The EM-31 will be set up to collect both ground conductivity and in-phase measurements. The in-phase response is particularly sensitive to buried metals. Therefore, we believe that the use of both measurements will adequately resolve anomalies associated with the disposal area and allow for identification of the extent of the disposal area. The use of the Geonics EM-61, which requires pulling the transmitter and receiver coils behind the operator, may be precluded based on site terrain.

COMMENT 2: Section 3.0: The proposed grid transects are very broad and will provide an extremely limited outline of any anomalies that are found. One may consider other minor transects, if anomalies are found to further delineate the data.

RESPONSE: A few additional transects will be added to the survey, and the transects will be placed 100 feet apart vs. 250 feet as proposed in the work plan. It is important to note that the purpose of this survey is not to map discrete anomalies, but rather to map a broad anomaly associated with a large fill area. However, the apparent boundary between the fill and undisturbed areas identified by the EM-31 along the transect line will be further investigated by walking with the EM-31 on either side of the transect line as site conditions allow and flagged / staked in the field. In this manner, the boundary will be adequately defined to satisfy the primary objectives of the survey, namely to locate the boundaries of the site, to identify an appropriate locations for the installation of an upgradient or additional site monitoring wells. The report summarizing the survey will include data obtained along the transect lines and a discussion of findings / measurements taken between the transect lines.

COMMENT 3: Section 3.0: Records should be investigated before the survey is initiated to determine if any utility (overhead or buried lines), communication or drainage features (metal/concrete culverts) are in the area

that may influence the data. In addition, any materials found at the surface during the EM-31 survey should be noted in the data and on a map in order not to confuse surface anomalies with buried anomalies.

RESPONSE: Utilities and other features will be identified to alleviate confusion with respect to anomaly resolution. Since the objective of the survey is to delineate the boundary of the fill area, and the boundary of the fill is probably not linear, it is unlikely that linear features such as buried utilities will be difficult to resolve from the fill area boundary.

COMMENT 4: Section 3.0: A background area should be selected so that EM-31 readings can be taken before and after the survey to verify that the instrument is in good working order. The EM-31 should not be operated if lightning is seen near the area since it may spike the data.

RESPONSE: Readings will be collected in a designated background area before and after the survey. The EM-31 will not be operated during an electrical storm in the area.

COMMENT 5: Section 3.0: Although GPS data will be collected in conjunction with the EM-31 data, additional positioning checks are advised. These positioning checks would consist of periodic way points evenly spaced throughout the grid (i.e. every 50, 100 or 200 foot intervals). At each interval, the EM-31's "marker" switch would be activated to record a mark on the data logger. These marks could then be used to help confirm the location of the individual data points. This procedure is especially helpful if the operator's traverse pace is interrupted or GPS data is unavailable due to dense vegetation canopy or other obstacles.

RESPONSE: Due to the uncertainty associated with acquisition of GPS data related to uneven or interrupted traverses as well as vegetation canopy, GPS data will not be collected. Instead, the survey will be conducted along traverses with a positioning check at a maximum of every 200 feet. Furthermore, if the pace is altered or interrupted along a transect line, notes and position verification will be placed into the data file using the data logger connected to the EM-31. As described in the Response to Comment 2, the apparent fill area boundary will be marked at locations between the transects as site conditions allow using flags or stakes during the geophysical survey, precluding the need for GPS data. This fill area boundary can then be surveyed by a land surveyor at a future date (possibly during the upcoming Risk Assessment field investigation), if it is determined necessary to do so.

COMMENT 6: Section 3.0: It may be helpful to take several additional readings over anomalous areas using the EM-31 in the horizontal dipole mode so that data can be compared with the vertical mode to provide an estimate as to anomaly depth.

RESPONSE: The objective of the survey is to delineate the fill area boundary. This will be accomplished using the EM-31 in the vertical dipole mode. Since the EM-31 averages the response over the effective depth of exploration, data collected in the vertical dipole mode is adequate to satisfy the objective of the survey.

COMMENT 7: Section 4.0: It is advisable that the name and version of the software used to interpret the data be documented in the final report.

RESPONSE: The software used will be the latest version of DAT31, provided by Geonics. This will be documented in the report.