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**DCNROC3-05-ID-238**

November 16, 2001

Mr. Robert Thomson  
3HS13  
EPA Region 3  
1650 Arch Street  
Philadelphia, PA 19103-2029

Reference: **EPA Contract No. 68-W-00-108; EPA Work Assignment No. 3-05; Former Nansemond Ordnance Depot, Suffolk, Virginia; Trip Report for Suspect Tunnel Location Survey at Nansemond River/General Electric Beachfront; Task 6 Deliverable.**

Dear Mr. Thompson:

Enclosed please find the Trip Report for Suspect Tunnel Location Survey at the Nansemond River/General Electric Beachfront (Trip Report).

This Trip Report is being forwarded to you through electronic mail (via the Internet) in WordPerfect® Version 9.0 format. A hard copy of the evaluation will also be submitted with this cover letter. If you have any questions, please call John Fellingner at (856) 878-0988, or myself at (703) 818-3244.

Sincerely,

Mohamed Nur  
Regional Manager

cc: J. McKenzie, EPA RPO (letter only)  
TL Project Staff  
Patricia Brown-Derocher/TL Central Files

**FORMER NANSEMOND ORDNANCE DEPOT  
SUFFOLK, VIRGINIA**

**TRIP REPORT FOR  
SUSPECT TUNNEL LOCATION SURVEY AT  
NANSEMOND RIVER/GENERAL ELECTRIC BEACHFRONT**

Submitted to:

Mr. Robert Thomson  
Remedial Project Manager  
U.S. EPA Region 3  
1650 Arch Street  
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Submitted by:

TechLaw, Inc.  
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EPA Work Assignment No.	03-05
Contract No.	68-W-00-108
TechLaw PM	Mohamed Nur
Telephone No.	703/818-1000
EPA WAM	Robert Thomson
Telephone No.	215/814-3357

November 16, 2001

## **1.0 INTRODUCTION**

The United States Environmental Protection Agency (EPA) Federal Facilities Section directed TechLaw, Inc., under EPA Contract No. 68-W-00108 and EPA Work Assignment 3-05 to conduct a survey for a suspect underground tunnel system at the Nansemond River/General Electric Beachfront. This trip report presents an overview of the tunnel location investigation activities.

## **2.0 BACKGROUND**

The study area is located near the site of a former renovation plant, within the former boundary of Former Nansemond Ordnance Depot (FNOD). Preliminary investigations of this property have been conducted by UXB International (UXB), the U.S. Army Corps of Engineers (COE), EPA, and the Virginia Department of Environmental Quality (VaDEQ).

An investigation was conducted on April 19, 2000, by UXB while performing anomaly investigations for COE. During these operations, a concrete structure approximately 4 feet across its top and widening to 6 feet across its bottom and 8 feet deep was discovered. Approximately 30 feet of the structure were uncovered, running parallel to a row of existing buildings, including Building Q-28. The potential tunnel was oriented so that it extended toward what is now a truck driving school in one direction and toward the James River in the opposite direction. The ends of the structure were not found in either direction during this investigation. Depth to groundwater was estimated at 9 feet bgs.

On August 30, 2000, the EPA Remedial Project Manager (RPM), and representatives of both COE Norfolk District and VaDEQ, performed a site reconnaissance of an area near FNOD Building Q-28. It was learned that an underground tunnel system used for gun and munitions storage might have existed in this area. No physical evidence of tunnels was found during this reconnaissance.

On February 6, 2001, the EPA RPM and a representative of Gannett Fleming (a subcontractor to TechLaw Inc.) visited the Center for Information Technology building to explore the possible existence of an underground tunnel system connected to the building's basement. Major modifications had been made to the building since the FNOD operation period, and no evidence of the tunnels was found. Person(s) interviewed indicated that the building may have had an emergency escape tunnel to provide officers and their families access off the base in the event of an attack.

On April 26, 2001, the EPA RPM requested that the TechLaw team further investigate the extent of the buried concrete structure uncovered during the April 19, 2000 investigation.

## **3.0 SITE ACTIVITIES**

On October 3, 2001 TechLaw representatives Mr. John Fellingner and Mr. Mike Garner met with Mr. Harry Wheeler of Gannett Fleming, and were given a tour of the Nansemond Project Site. During the tour, a discussion on the proposed tunnel survey was conducted. Mr. Wheeler summarized interviews with past residents and workers who indicated the possibility of a tunnel existing adjacent to old building Q-28. This area adjacent to this building had been investigated by UXB International for the COE for possible unexploded ordnance (UXO) contamination in April 2000. During this UXO investigation a concrete structure had been located. A portion of this structure was excavated to a depth of eight (8) feet and found to be solid concrete with rebar

reinforcement beginning at a depth of two feet below ground surface. Using a magnetometer, a surface search was conducted to determine the approximate length and width of the structure. UXB personnel located an additional thirty (30) feet of solid magnetic contact and at this point the operation was terminated. No UXO or UXO related material was located at this area.

Mr. Wheeler stated that in reviewing aerial photographs of the building Q-28 area, there was what appeared to be a blast deflector wall at the Q-28 facility in the same location as the concrete structure detected by UXB and that it was possible that the subsurface concrete contact was a support foundation for this blast deflector wall. The purpose of the TechLaw area survey was to determine the total size of the subsurface structure and attempt to determine what this contact might be. The TechLaw survey was conducted using a Schonstedt Magnetometer Model 72 CX (Schonstedt). Attachment 1 contains photographs of the northern and southern search areas adjacent to building Q-28.

TechLaw began the survey by locating the original UXB dig site. The original site was located in the northern search area beginning approximately 15 feet from the Q-28 access road (Attachment 1, Photo 1-1). The southern most edge of the subsurface contact was located and Mr. Garner began walking a line in a northerly direction following the magnetic soundings of the Schonstedt. At approximately 75 feet from the starting point, Mr. Garner reached the end of the contact signature. Mr. Garner then proceeded to the approximate center of the contact and began walking an east-west pattern to determine a possible width of the subsurface contact. Using this method, and moving the pattern to the northern most contact point, it was determined that the subsurface contact was approximately 12-feet in width.

After completing the sweep in northern search area, Mr. Garner began a search of the southern portion of the assigned area (Attachment 1, Photo 1-2). This search was initiated at the Q-28 access roadway and proceeded south, again using the Schonstedt. It was immediately apparent that the subsurface contact in the northern search area did not extend to the southern search area. The only contacts located during the southern area search were surface rebar and other metallic scrap, clearly visible in the surface soils and high grass, which were located in the southwestern edge of the southern search area.

A search was also conducted beyond the edge of the northernmost contact point, moving north toward the Nansemond River. No additional subsurface contacts were detected during this survey beyond the northernmost contact in the northern search area.

#### **4.0 CONCLUSIONS AND RECOMMENDATIONS**

The magnetometer survey conducted by TechLaw, Inc., verified the presence of a continuous underground anomaly east of the Q-28 building. This anomaly is approximately 75 feet in length, running north/south and approximately 12 feet wide. There is no indication that the anomaly extends, or previously extended beyond the north/south limits established by this survey. Based upon the findings of this investigation, review of the aerial photography provided by Mr. Wheeler, shallow depth to groundwater, and the previous UXB area survey, it appears that the subsurface concrete contact is associated with a support foundation, rather than a tunnel system. Unless additional information is obtained, we would not recommend further investigations for an underground tunnel in this area.

Attachments: 1 - Photographic Log

**ATTACHMENT 1**

**PHOTOGRAPHIC LOG**



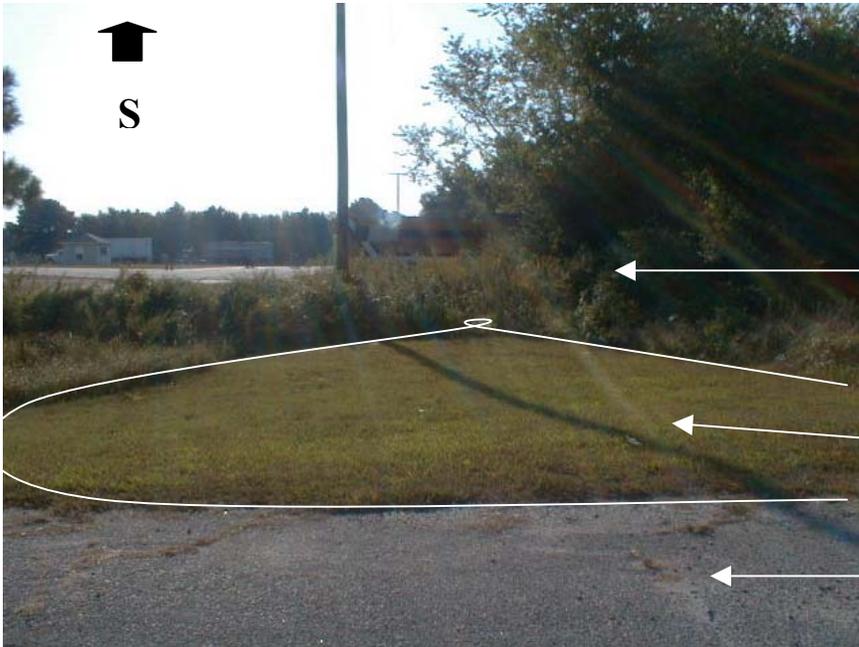
**Photo 1-1 Suspected tunnel location at the Northern Search Area.**

**Search Area for Suspect Tunnel**

**Driveway from Q-28 to Main Rd**

**Bldg Q-28 Pad**

Photograph taken by Mr. Garner  
3 October 2001  
Photo taken from Southern Search Area looking north.



**Photo 1-2 View of Southern Search Area**

**Large area used for discarding rebar and other materials**

**Area checked for possible continuation of tunnel**

**Driveway from Bldg Q-28 to Main Road**

Photograph taken by Mr. Garner  
3 October 2001  
Photo taken from edge of Northern Search area looking south.