

# THE MEMPHIS DEPOT TENNESSEE

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## ADMINISTRATIVE RECORD COVER SHEET

AR File Number 538

## TECHNICAL MEMORANDUM

H2MHILL

## Passive Soil Gas Survey at Dunn Field

PREPARED FOR: Dorothy Richards, CEHNC  
PREPARED BY: Tom Beisel, P.G.  
DATE: December 1, 1998

### Introduction

A passive gas survey was conducted at Dunn Field, Defense Distribution Depot Memphis Tennessee in August (Phase 1) and October (Phase 2) of 1998. The goal of this survey was to provide screening information on the potential sources of VOC contamination to groundwater at Dunn Field. The passive soil gas survey was completed in two phases. During the first phase 302 Gore-Sorber modules were installed. During the second phase 236 modules were installed. A total of 538 Gore-Sorber modules were installed. W. L Gore and Associates, Inc provided the passive soil gas modules and performed the module analysis.

### Procedures and Analyses

The passive soil gas modules were placed to a depth of three feet over a grid based on 50-foot centers in Areas A and B (avoiding the CWM and mustard disposal areas), 50 to 75 foot centers in Area C, and every 100 feet along the Area D fence. The passive soil gas modules in Area B were analyzed for chlorinated VOCs and chemical warfare materiel (CWM) breakdown products. The Area A soil gas modules were analyzed for CWM breakdown products and chlorinated VOCs. The Area C and Area D modules were analyzed for chlorinated VOCs.

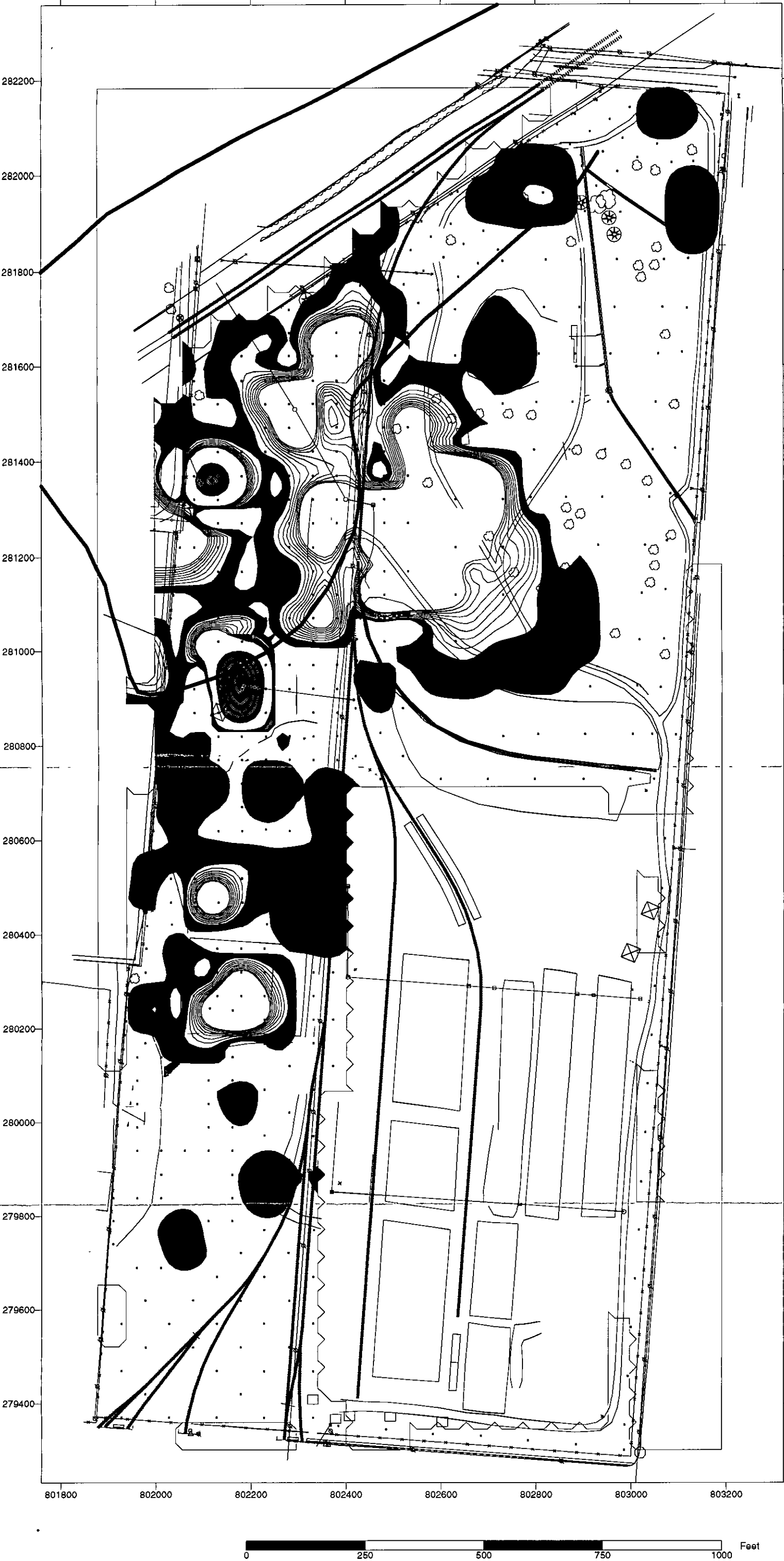
### Results

The VOC analytical results of the passive soil gas survey are presented on the attached figures. Analysis of the modules did not indicate the presence of CWM breakdown products outside the CWM and mustard disposal areas. The VOC analytical data were contoured and color-coded into three categories as described below:

- "Low" represents VOC detections up to one order of magnitude above the method detection limit (MDL).
- "Medium" represents detections between one and two orders of magnitude above the MDL.
- "High" represents detections two orders of magnitude above the MDL.

The soil gas data will be included in the amended RI/FS Work Plan as a guide to better focus the soil sampling activities planned for the RI/FS at Dunn Field. The amended RI/FS Work Plan will focus on the areas of Dunn Field indicating "Medium" to "High" soil gas VOC concentrations.

PCE

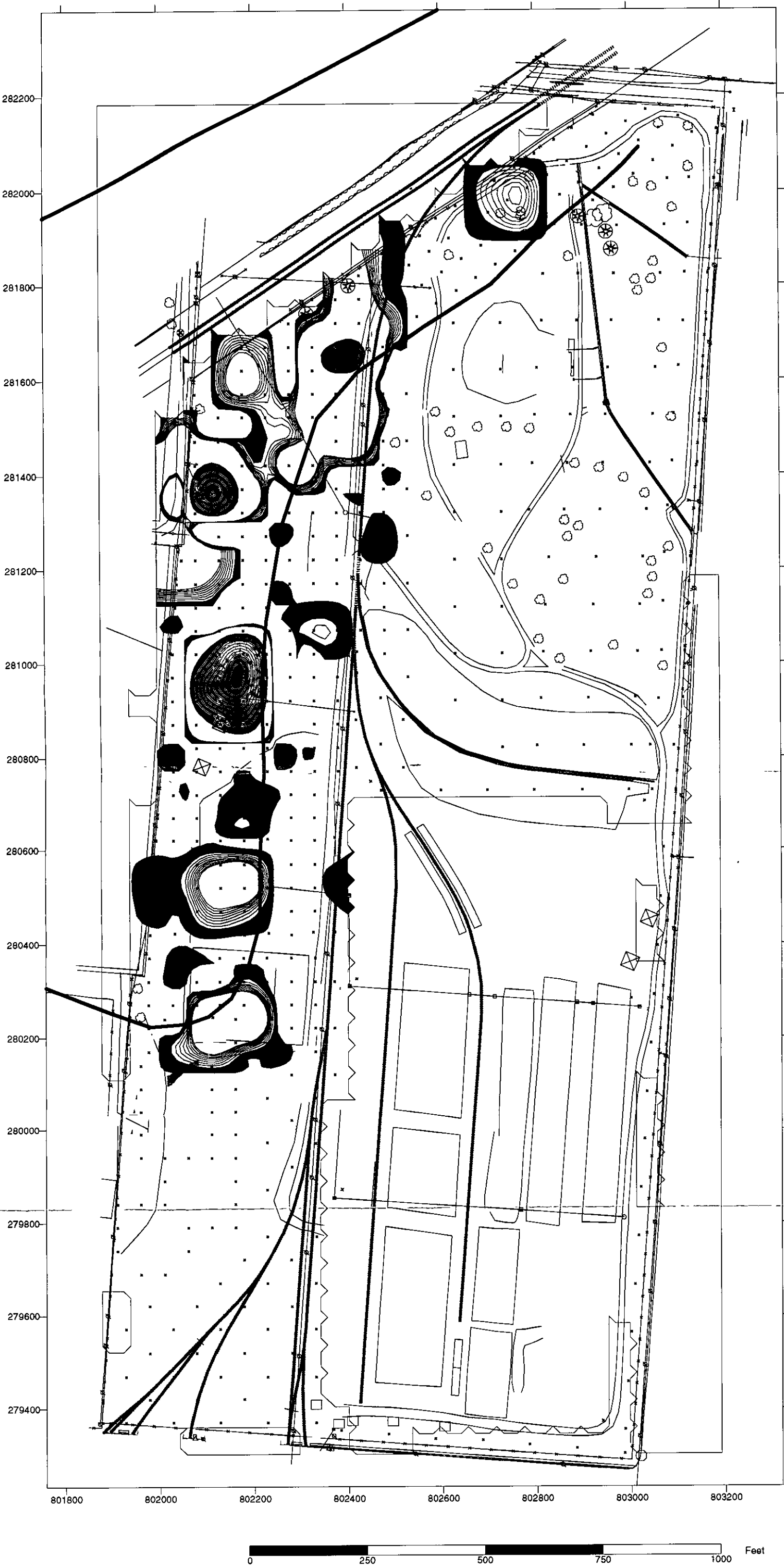


Passive Soil Gas  
Concentration Contours

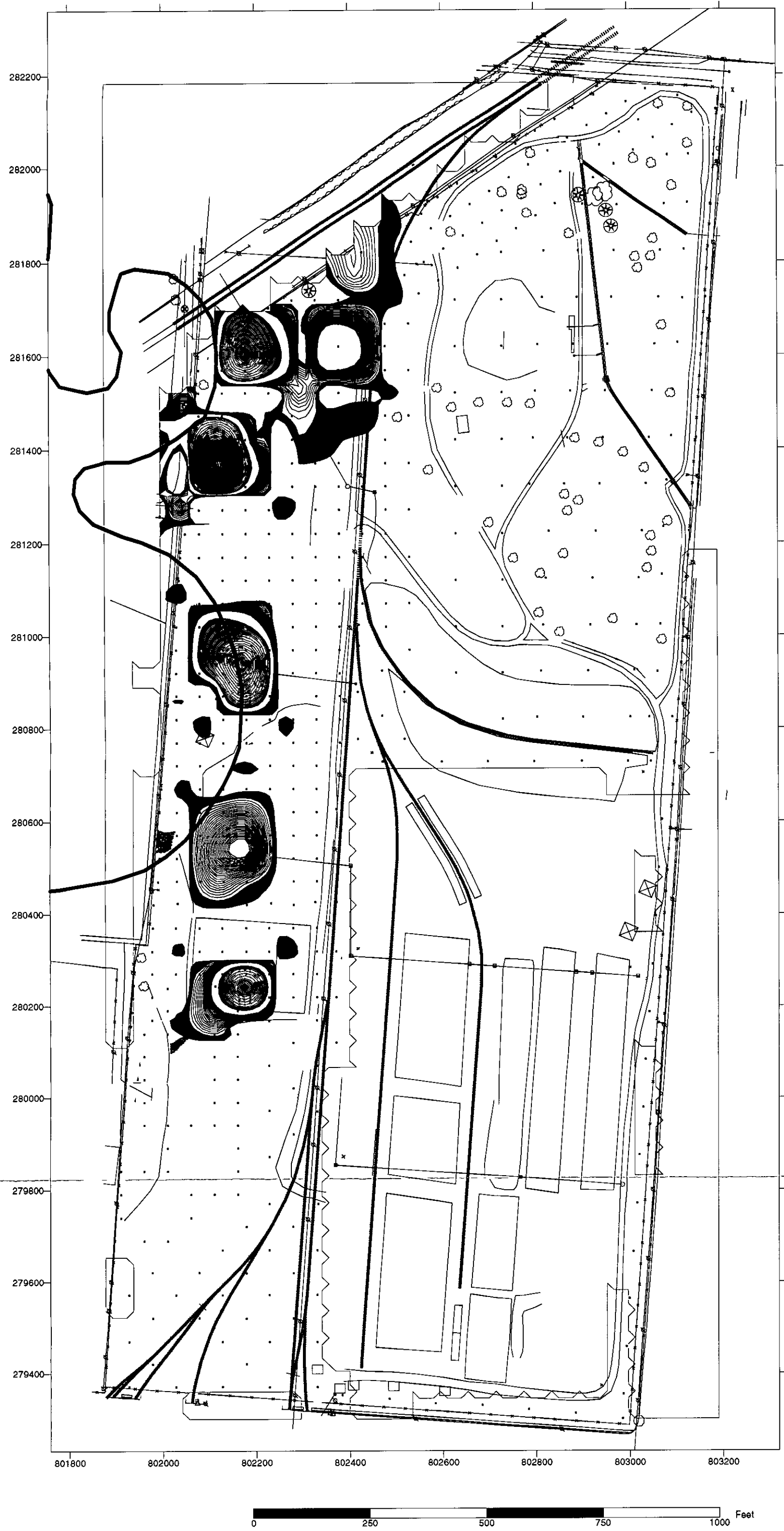
- High (> 3.0 ug)
- Moderate (0.3 - 3.0 ug)
- Low (0.03 - 0.3 ug)
- Extent of PCE  
in Fluvial Aquifer

Projection Tennessee State Plane  
Zone 5301  
Datum NAD 27  
X,Y Units Feet

TCE



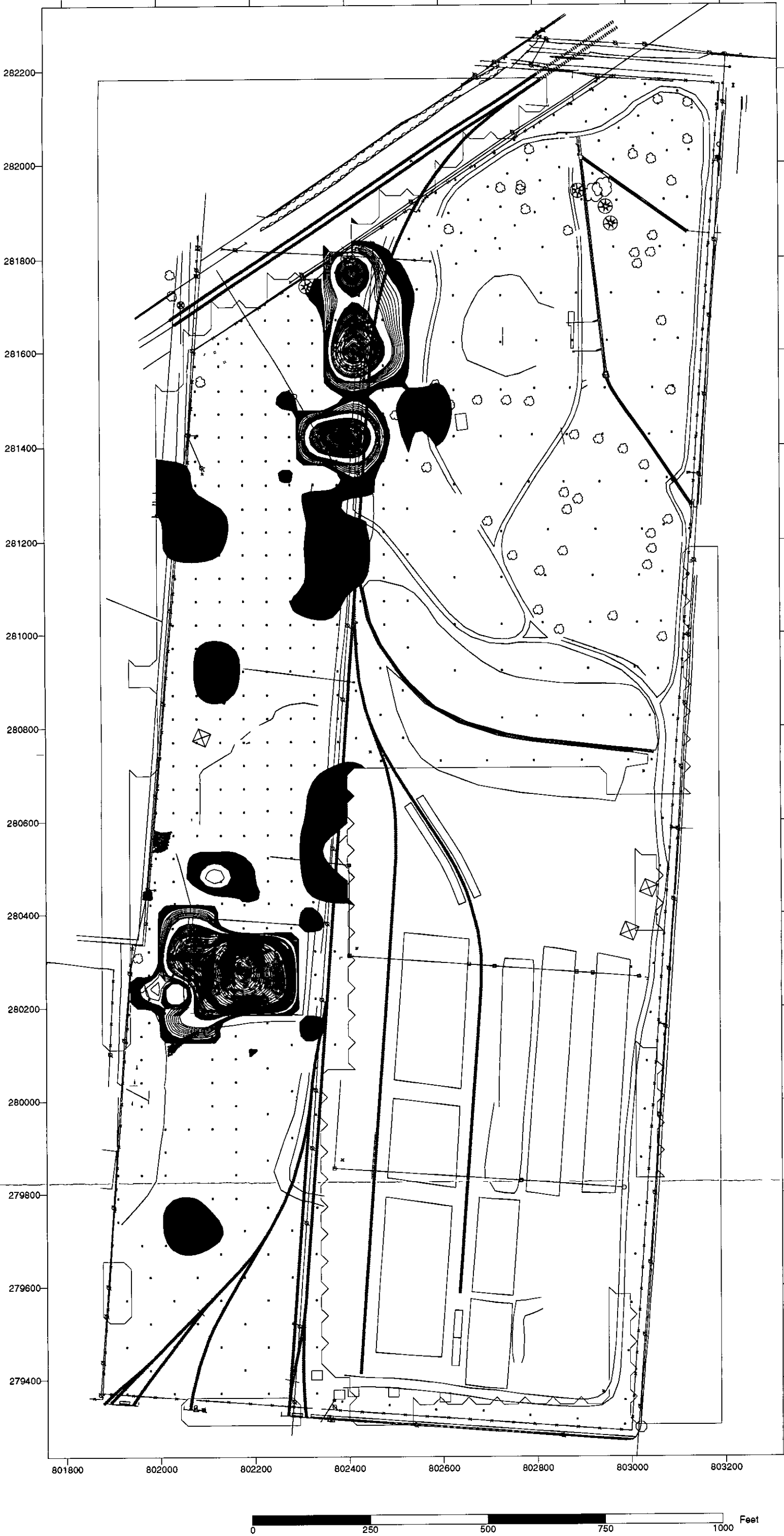
1,2 DCE  
Total



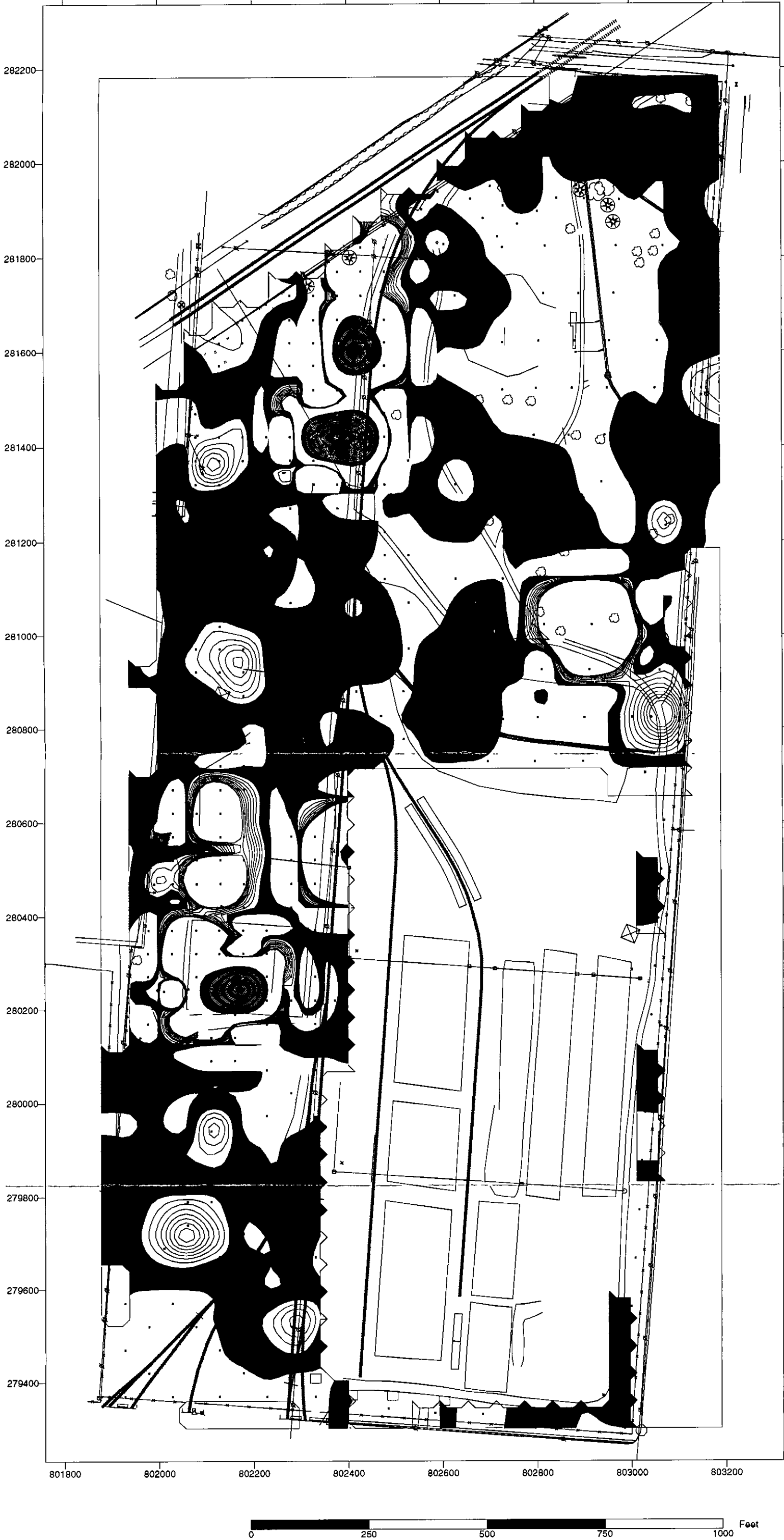
Passive Soil Gas  
Concentration Contours

- High ( > 3.0 ug )
- Moderate ( 0.2 - 3.0 ug )
- Low ( 0.02 - 0.2 ug )
- Extent of DCE in Fluvial Aquifer

Projection Tennessee State Plane  
Zone 5301  
Datum NAD 27  
X,Y Units Feet



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**ADMINISTRATIVE RECORD**

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