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NWS EARLE
5090.3a

CLASSIFICATION EXCEPTION AREA DOCUMENTATION FOR BUILDINGS C-17/ 20/ 16/ 50
NWS EARLE NJ
5/1/1998
BROWN AND ROOT ENVIRONMENTAL

**Classification Exception Area
Documentation
for
Buildings C-17/20/16/50**

Naval Weapons Station Earle
Colts Neck, New Jersey



**Northern Division
Naval Facilities Engineering Command**

**Contract No. N62472-90-D-1298
Contract Task Order 0206**

May 1998



Brown & Root Environmental

A Division of Halliburton NUS Corporation

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2.0 CLASSIFICATION EXCEPTION AREA INFORMATION

2.1 ADMINISTRATIVE INFORMATION

Site Name/Location: Buildings C-17/20/16/50, Naval Weapons Station Earle; Colts Neck, New Jersey.

Site Identification Number: Spill Case Number 91-5-15-0941-14

NJDEP Case Manager: Bob Marcolina

Site Contact Person: Lawrence Burg

Lead Program: NJDEP-Bureau of Federal Case Management

2.2 SITE LOCATION AND CEA DESCRIPTION

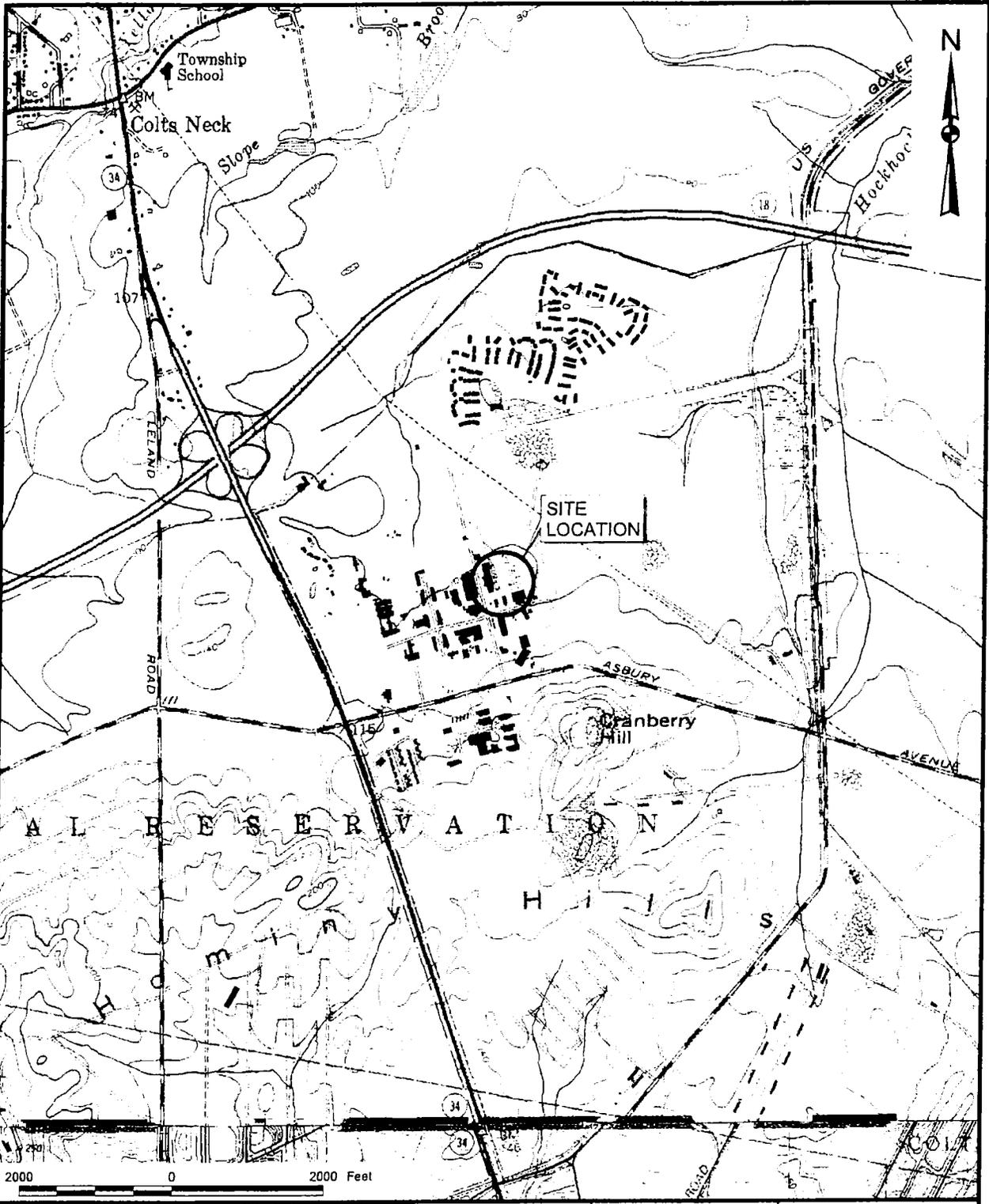
The area of concern is located at the mainside area of NWS Earle (Figure 2-1). According to the Colts Neck Township Tax Office, the entire mainside area is designated as Block 56, Lot 1. The affected area may be described as a parcel containing approximately 3000 square feet. Historically the area has been used to store and maintain railroad cars and other heavy equipment. In general the area is overlain by railroad tracks, paved, and unpaved surfaces. The area is bounded to the south by buildings C-17, C-20, C-18, C-19, and C-50. The area is bounded to the west by building C-15, to the north by monitoring wells 17MW02 and MW16-10 and to the east by a wetland area. The proposed CEA boundaries and surface features are presented on Figure 2-2. The approximate center of the proposed CEA is located at the intersection of latitude 40° 16' 10.3" and longitude 74° 09' 19.4" .

Aquifer/formation impacted: Vincentown/Vincentown

Aquifer Classification: Groundwater for the Mainside area of the NWS Earle facility is classified as Class II-A.

Contaminants exceeding applicable Groundwater Quality Standards (GQS): Benzene. Chloroform and bromodichloromethane have also been identified in several monitoring wells at the site at levels above NJDEP GQS's, however these compounds are believed to be associated with the long term historical discharge of chlorinated drinking water from leaking water supply systems and not associated with the UST under investigation.

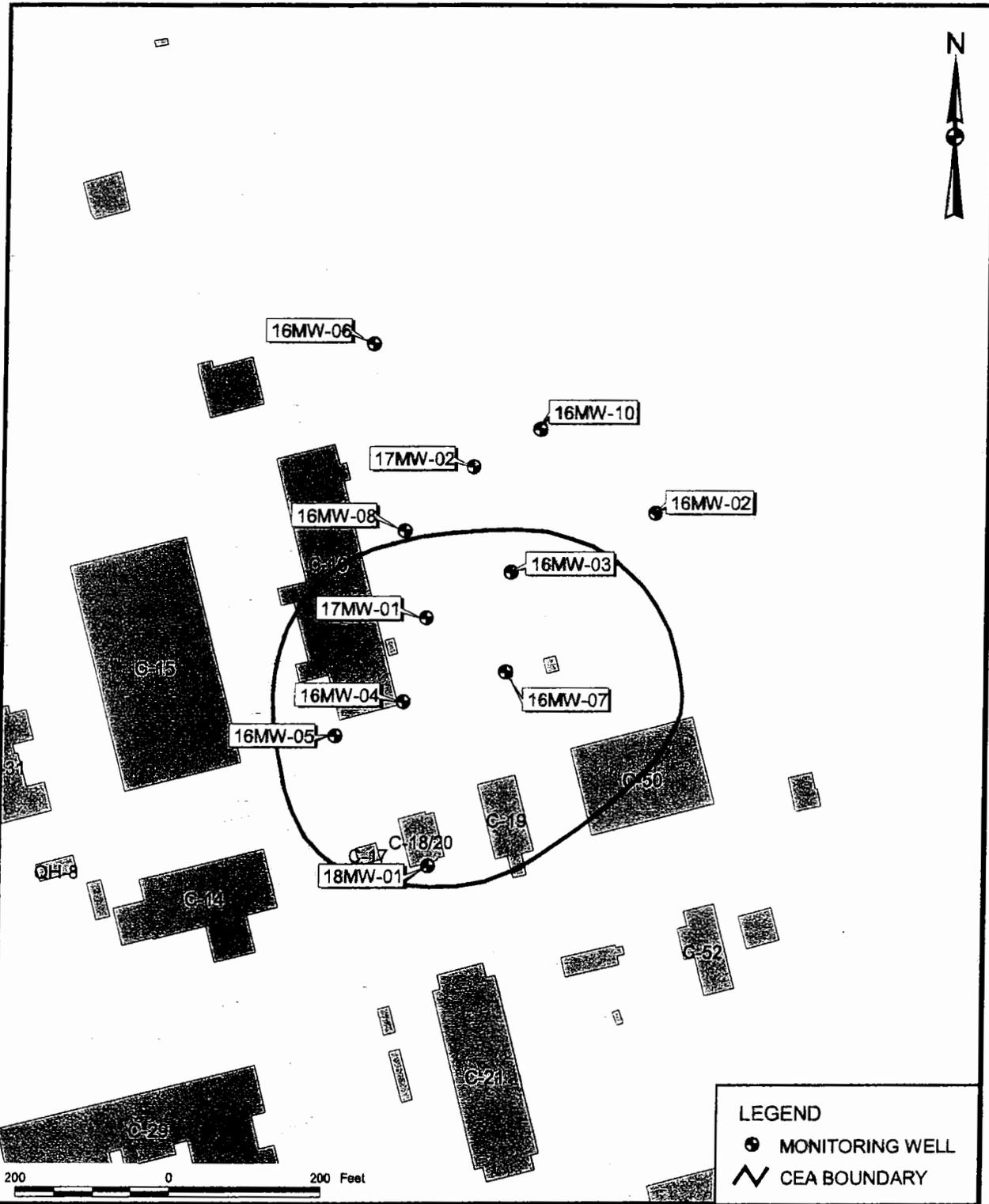
Projected longevity of the CEA: 23 years.



DRAWN BY S. TABLER		DATE 4/28/98		Brown & Root Environmental		CONTRACT NUMBER N62472-90-D-1298		OWNER NO. —			
CHECKED BY NES		DATE 4/20/98				APPROVED BY —		DATE —		APPROVED BY —	
COST/SCHEDULE-AREA		SCALE AS NOTED		SITE LOCATION MAP - C-17/2016/50 CTO 206 - CEA DOCUMENTATION NWS EARLE COLTS NECK, NEW JERSEY				DRAWING NO. FIGURE 2-1		REV 0	

P:\GIS\NWS_EARLE\50&23002 APR 4/28/98 SMT MAIN BASE A00s LAYOUT

006336B1



LEGEND	
	MONITORING WELL
	CEA BOUNDARY

DRAWN BY S. TABLER	DATE 4/28/98	 Brown & Root Environmental	CONTRACT NUMBER N62472-90-D-1298	OWNER NO.
CHECKED BY <i>MES</i>	DATE 4/30/98		PROPOSED CEA BOUNDARY BUILDINGS C-17/20/16/50 NWS EARLE COLTS NECK, NEW JERSEY	APPROVED BY
COST/SCHEDULE-AREA 			APPROVED BY 	DATE
SCALE AS NOTED			DRAWING NO. FIGURE 2-2	REV 0

3.0 CONTAMINANT FATE AND TRANSPORT ANALYSIS

Details related to the contaminant fate and transport analysis are presented in the Focused Investigation and Remedial Action Work Plan (RAWP) for Buildings C-17/20/16/50 prepared by B&R Environmental and submitted to the Navy September 1997.

The fate and transport model used for the prediction of plume migration of dissolved BTEX compounds for the site was the Bioscreen Natural Attenuation Decision Support System, published by the Technology Transfer Division of the Air Force Center For Environmental Excellence, June 1996. The Bioscreen software is based on the Domenico (1987) three-dimensional analytical solute transport model and has been adapted to provide three model types representing transport with no decay, transport with first-order decay, and transport with "instantaneous" biodegradation reaction.

Review of the groundwater analytical results and modeling results presented in the RAWP indicates that currently, without source removal, hydrocarbon constituent concentrations are decreasing within the impacted area. Additionally, modeling results indicate that, with source removal, concentrations of contaminants should continue to decrease over time. At present, only benzene occurs in the groundwater at levels exceeding the NJDEP GQS. Concentrations of all other petroleum hydrocarbon compounds are currently below NJDEP GQS's.

For the future model scenario, the conservative, first-order decay model indicates that with source removal, benzene concentrations in groundwater will meet the NJDEP Groundwater Quality Standard of 0.001 mg/l by year 23. Source removal was initiated by the Navy in 1997.

4.0 GROUNDWATER MONITORING PROGRAM

4.1 OBJECTIVES

The following groundwater monitoring program is proposed to document the migration, degradation and attenuation of target constituents at the site. The proposed program contains a short-term monitoring effort to monitor current contamination and future decreasing contaminant trends and long-term monitoring to provide data on the effectiveness of the natural attenuation program and to provide assurance that non-compliances will be identified and reported in a timely manner.

4.2 PROPOSED MONITORING PROGRAM

The proposed monitoring program consists of

- Short-term monitoring - Institute sampling of groundwater from the following existing monitoring wells on a quarterly basis: MW-1, MW1604, MW1605, 17MW01, MW1606, MW1602, MW1603, MW1610, 17MW02, and MW1608. This effort will be conducted throughout implementation of free-product remedial actions and continued for a minimum of four and a maximum of 8 consecutive quarters post-remedial activities to establish historical flow and contaminant concentration data to document decreasing contaminant trends.
- Review and monitor data from the eastern impacted area source zone recovery well planned to be installed as part of the free-product remedial action. If groundwater contamination is identified at levels above NJDEP GQS's, the installation of an additional sentry well may be warranted.
- Long-term monitoring - The Navy proposes long-term monitoring only in the event that the applicable groundwater standards are exceeded during implementation of the short-term monitoring. The number and location of monitoring wells, and the sampling duration and frequency will be determined based on the short-term monitoring results.

For example, if the groundwater standards are exceeded in the plume and plume fringe monitoring wells, but not in the sentinal wells during the short-term monitoring, an annual

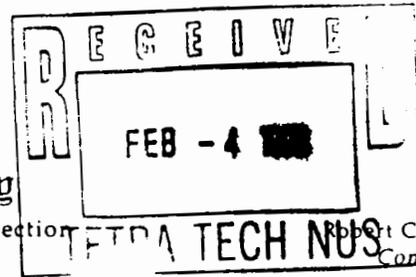
APPENDIX A

**CORRESPONDENCE, NJDEP TO NORTHDIV, JANUARY 22, 1998, COMMENTS
ON THE FOCUSED INVESTIGATION AND REMEDIAL ACTION WORK PLAN
FOR BUILDING 566**



State of New Jersey

Department of Environmental Protection



Robert C. Shinn, Jr.
Commissioner

Christine Todd Whitman
Governor

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
NO: Z 161 586 243

Brian Helland
Northern Division
Naval Facilities Engineering Command
10 Industrial Highway, Mail Stop 82
Lester, PA 19113

JAN 22 1998

Dear Mr. Helland:

Re: Focused Investigation and
Remedial Action Work Plan for
Buildings C-17/20/16/50
Naval Weapons Station Earle
Colts Neck Twp., Monmouth Co.

The New Jersey Department of Environmental Protection (Department) has reviewed the above referenced report, prepared by Brown & Root Environmental on behalf of the Naval Weapons Station Earle, dated September 1997. The report is approved pending incorporation of the following comments. The Department concurs with Brown & Root's recommendation of natural attenuation of the dissolved fraction of diesel fuel with monitoring. However, a Classification Exception Area (CEA) must be established in conjunction with the natural attenuation remedy. The following information is required for the Department to establish the CEA:

- 1) Lot and block numbers of impacted properties

NOTE: Site boundaries can define the CEA perimeter if no offsite contamination is expected to occur for the duration of the CEA.

- 2) The CEA boundaries depicted on a USGS 7.5 minute quadrangle map;

This information is required as a separate submittal in order for the Department to enter this information on their Geographic Information System (GIS).

- 3) The monitoring program should include MW16-06. This well can be substituted for MW16-07.

APPENDIX B
ELECTRONIC DELIVERABLES