

Site Review And Update

MATLACK, INCORPORATED

WOOLWICH TOWNSHIP, GLOUCESTER COUNTY, NEW JERSEY

CERCLIS NO. NJD043584101

AUGUST 19, 1994

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Agency for Toxic Substances and Disease Registry
Division of Health Assessment and Consultation
Atlanta, Georgia

Site Review and Update: A Note of Explanation

The purpose of the Site Review and Update is to discuss the current status of a hazardous waste site and to identify future ATSDR activities planned for the site. The SRU is generally reserved to update activities for those sites for which public health assessments have been previously prepared (it is not intended to be an addendum to a public health assessment). The SRU, in conjunction with the ATSDR Site Ranking Scheme, will be used to determine relative priorities for future ATSDR public health actions.

SITE REVIEW AND UPDATE

MATLACK, INCORPORATED

WOOLWICH TOWNSHIP, GLOUCESTER COUNTY, NEW JERSEY

CERCLIS NO. NJD043584101

Prepared by:

**New Jersey Department of Health
Under Cooperative Agreement with the
Agency for Toxic Substances and Disease Registry**

SUMMARY OF BACKGROUND AND HISTORY

The Matlack, Inc. Swedesboro terminal is a tank-trailer cleaning facility and truck terminal which has been in operation since 1962. The terminal is located on a 31-acre site on the south side of U.S. Route 322 in Woolwich Township, Gloucester County, New Jersey. The property is bound by U.S. Route 322 to the north, by woodlands to the east and Grand Sprute Run to the west, and by fields leading down to Raccoon Creek to the south (Figure 1). The site is located in a rural/agricultural area of low population density. A few residences are scattered along U.S. Route 322, and forest and agricultural fields surround the site on the remaining sides. The nearest residence is approximately 200 feet away from the site.

The facility commenced operations in 1962. From 1962 until 1976, rinse water generated at Matlack during the tank cleaning process was disposed of in a unlined sand and gravel borrow pit behind the terminal building (Figure 2). This procedure of disposal continued until the lagoon was taken out of operation in 1976. Since then, rinse water has been collected and then trucked off-site for treatment and disposal. The lagoon was subsequently pumped out and filled with construction debris and clean fill.

In addition to the large lagoon, a geophysical study has revealed the presence of several disposal pits located near the lagoon area behind the terminal building. Just west of the terminal building are a series of former underground waste storage tanks and several underground fuel tanks (Figure 2).

At present the truck terminal operation consists of maintenance areas, parking areas, and truck cleaning racks for purging various product tank trailers. After wastewater treatment on site, the wastewater flows by gravity to the two in-ground holding tanks prior to conveyance for proper off-site disposal. Environmental investigations at the Matlack site began in 1982, when the Gloucester County Health Department (GCHD) took groundwater samples from several residential wells, one well located about 1/4 mile northwest of the terminal, on the north side of Route 322 was found to be contaminated with volatile organic compounds (VOC's) and the residents were placed on bottled water. The residential well is no longer in use. The total VOC's concentration in the residential well was in excess of 2000 ppb. Subsequent sampling of the same well did not show any contamination. The 1982 residential well sampling result could have been due to laboratory error.

In January 1983, Matlack, Inc. collected a groundwater sample from the terminal production well. Total VOC's concentration was 11 ppb. In May 1983, New Jersey Department of Environmental Protection and Energy (NJDEPE) collected and analyzed five soil samples from the former lagoon area at a depth of 2, 4, and 6.5 feet and detected concentrations of 43, 55, and 74 ppm of total VOC's.

In 1984, Matlack, Inc. retained Environmental Resources Management (ERM), Inc. to design and conduct a Phase I hydrogeologic investigation of the site. Two separate hydrogeologic systems exist at the site. A shallow aquifer, the direction of flow in this aquifer is to the

northwest. Groundwater analyses indicated the presence of VOC's including benzene, toluene, trichloroethene, tetrachloroethene, and 1,1,1-trichloroethene in the shallow aquifer (Figure 3). The deep aquifer, in the Magothy-Raritan Formation, is separated from the upper (shallow) aquifer by a clay confining unit over 50 feet thick. Groundwater in this aquifer flows towards the southeast.

The Matlack retained ERM to perform a Phase II hydrogeologic investigation, with the objectives of delineating the extent of groundwater contamination. Results of the groundwater investigation indicated that maximum concentrations of total VOC's detected on site were less than 800 ppb. The concentration of organic compounds in the downgradient site monitoring wells was much lower than the concentrations found in the residential well 1/4 mile northwest of the terminal, indicating a possible separate, off-site source for that contamination.

The probable primary source of groundwater contamination was concluded to be the two underground waste tanks, and a second source was identified as a diesel fuel line leak. The line was subsequently shut off, and has not been used since that time. According to the report, the former lagoon area is a probable minor source of groundwater contamination. The study also confirmed that direction of groundwater flow in the shallow and deep aquifers is in opposite directions.

The Matlack, Inc. site was listed on the National Priorities List (NPL) in 1985.

A leaking underground diesel fuel line was discovered in 1986.

In 1986, Matlack submitted a Tank Closure Plan to NJDEPE addressing all underground storage tanks at the facility. To date, this plan has not been fully implemented. However, two tanks which contained waste liquids were emptied and cleaned in 1987.

In May 1987, Matlack, Inc. signed an Administrative Consent Order (ACO) with the New Jersey Department of Environmental Protection and Energy (NJDEPE). This ACO required Matlack to conduct a Remedial Investigation/Feasibility Study (RI/FS) and to implement the selected remedial action. A Phase I RI has been completed and the NJDEPE has required a Phase 2 RI to further delineate site contamination including the off-site groundwater contamination.

Matlack, Inc. was delisted from the NPL in 1989. The Remedial Investigation (RI) for the Matlack, Inc. site was completed in August 1990. In addition to the investigations of the ground and surface water, surface soil samples were collected in the vicinity of the former lagoon area, and subsurface soil samples were collected in the area of the diesel fuel line leak.

The RI identified two primary sources of contamination: 1) the area of the leaking diesel fuel line; and 2) the area of the underground waste tanks. The groundwater and soils were found to be contaminated with various VOCs and base neutral compounds. Soil contamination by diesel fuel components exists in the area of the diesel fuel line leak. Soil contamination by VOC's exists in isolated locations in the vicinity of the former lagoon and disposal pits. Surface samples

from this area indicate no chemical impact on surface soils. As an Interim Remedial Measure (IRM), a groundwater pump and treat system is being designed. A source removal work plan for contaminated soil is being implemented.

The Agency for Toxic Substances and Disease Registry (ATSDR) completed a preliminary health assessment for the site in January 1989. The preliminary health assessment noted that contaminated groundwater, and on-site soils were the identifiable potential human exposure pathways associated with the site. Contaminants of concern based on the on-site sampling indicated the presence of volatile organic compounds (VOC's) including chloroform, tetrachloroethylene, 1,1,1-trichloroethane, trichloroethylene, xylenes, and toluene. The environmental contamination off-site consists of total VOC's (2,230 ppb) in one residential well.

Past public health concern about the Matlack site have involved the residents concerns about the quality of the groundwater. There have also been numerous complaints about odors emanating from the site.

The 1989 preliminary health assessment identified the following public health concerns:

- 1) The residents using private potable well water have probably been exposed to "site related" contaminants in the groundwater.
- 2) Bathing and showering, resulting in inhalation, and to a lesser extent dermal exposure to water contaminated with VOC's may contribute to greater proportion of the total exposure than consumption.

In summary, the ATSDR categorized the site in 1989 as a potential public health concern because of the risk to human health resulting from possible exposure to hazardous substances via contaminated groundwater at concentrations that may result in adverse health effects. The previous Preliminary Health Assessment recommended that numerous data gaps be filled including: 1) contaminant levels in local residential wells; 2) review of remedial action taken at the contaminated residential well (1982). In particular the nature and use of the water from this well; 3) further environmental characterization and sampling of both on-site and off-site areas including sampling of surface soil and water pathways;

CURRENT SITE CONDITIONS

On May 10, 1994, J. Pasqualo, J.J. Winegar, and N.P. Singh of the NJDOH visited the Matlack site accompanied by a representative of the Gloucester County Health Department, the U.S. Environmental Protection Agency (USEPA) and the ATSDR regional representative, S. Jones. The following observations were made during the site visit:

- The terminal building, including the attached tank cleaning facility is located in the northeast quarter of the site, and is surrounded on the north, east and west sides by a paved parking area and driveway. Three diesel fuel islands are located north of the building; however, only one island is in operation. A former lagoon area is located south of the facility, which is covered with clean fill. The area is presently a field with various shrubs (Figure 2).
- The Matlack site is still an active truck-trailer washing facility. Chemical wastes are flushed out of the tankers and pumped to the enclosed settling tank and drum storage area. Various chemicals are separated out of the rinse water and the remaining water is pumped to holding tanks.
- Rinse water is no longer lagooned on site. The water is temporarily collected in the holding tanks and shipped off site in tank trailers to a disposal facility.
- Several private homes were noted on the road just north of the site.
- The former lagoon south of the terminal building is no longer visible.
- Numerous truck tankers were parked and/or stored on the paved parking lot on the western side of the facility.

Conditions at the site have not changed significantly since the 1989 ATSDR preliminary health assessment, however, there has been a significant amount of new environmental data collected that further characterize the site.

CURRENT ISSUES

The conclusion in the preliminary health assessment that the site was of potential health concern was based upon the result of one residential well being contaminated with VOC's. Subsequent sampling of the same well did not show any contamination. The 1982 residential well sampling result could have been due to laboratory error. Past public health concerns, regarding potential human exposure pathways associated with the Matlack site are not valid in light of current site conditions. Public health implications of the possible well contamination can not be evaluated since the contamination was detected once only in a residential well. The subsequent well sampling did not show any contamination and the residents were placed on bottled water. The residential well is no longer in use.

Based on the site wide RI, site-related contamination is present in soils and groundwater. Potential contamination of active residential wells is no longer a concern at the Matlack site. Residential wells in the area have been monitored periodically for the presence of site-related contaminants as part of on-going remediation work plan.

Sampling of residential well water was done in September 1991 and the samples were analyzed for organic compounds. No contaminants were detected in samples collected from residential tap water.

There had been numerous complaints about odors emanating from the site, which is no longer a problem (GCHD, personal communication). The ATSDR/NJDOH have not identified any additional community health concerns associated with site-related contaminants.

The ATSDR/NJDOH had public health concerns regarding resident's past exposures to the contaminated private well water. The most recent residential well sampling results did not show the presence of site-related contaminants. There are no documented on-going exposures to site-related contaminants.

CONCLUSIONS

1. After a review of the most recent documents and the current site conditions for the Matlack site, the ATSDR and the NJDOH have determined that, no current human exposures are occurring at the present time. There are no current completed exposure pathways associated with the Matlack site.
2. The ATSDR/NJDOH have not identified any additional community health concerns associated with site-related contaminants.
3. In the context of current site conditions, the conclusion that was made in the 1989 preliminary health assessment, regarding the site being of potential public health concern is no longer valid.
4. Current data indicate that none of the potable wells in the site study area are contaminated.
5. The recommendation from the 1989 ATSDR preliminary health assessment calling for periodic monitoring of contaminant levels in the residential well water remains valid in context of current site conditions.
6. On the basis of the information reviewed, ATSDR and the NJDOH have concluded that Matlack site in its present state poses no apparent public health hazard.
7. In the past, residents raised concerns regarding exposure to contaminated residential well water. These community concerns have been alleviated by the frequent sampling of well water which indicated no contamination.

RECOMMENDATIONS

1. Remedial activities at the Matlack site should incorporate a private well census and sampling for site-related contaminants. Any private well near the site still being used for potable purposes should be regularly monitored for contamination. This residential well sampling should continue until site is remediated as specified in the work plan.
2. The remedial activities specified in the work plan, when implemented, are sufficient to address remaining concerns of the ATSDR, the NJDOH, and the community regarding the site and are consistent with protection of the public health.
3. New environmental, toxicological, health outcome data, or changes in conditions as a result of implementing the proposed remedial plan, may determine the need for additional actions at Matlack site.
4. The data and information developed in this SRU have been evaluated to determine whether HARP follow-up actions may be indicated. No HARP evaluation is indicated at this time.

DOCUMENTS REVIEWED

1. ERM, Inc., Remedial Investigation Report for the Matlack, Inc., Woolwich Township, Gloucester County, New Jersey. August 1990.
2. ERM, Inc., Draft Preliminary Risk Assessment Report for the Matlack, Inc., Woolwich Township, Gloucester County, New Jersey. August 1990.
3. Preliminary Health Assessment for the Matlack, Inc., Woolwich Township, Gloucester County, New Jersey. ATSDR. January 1989.

INTERVIEWS/PERSONAL COMMUNICATIONS:

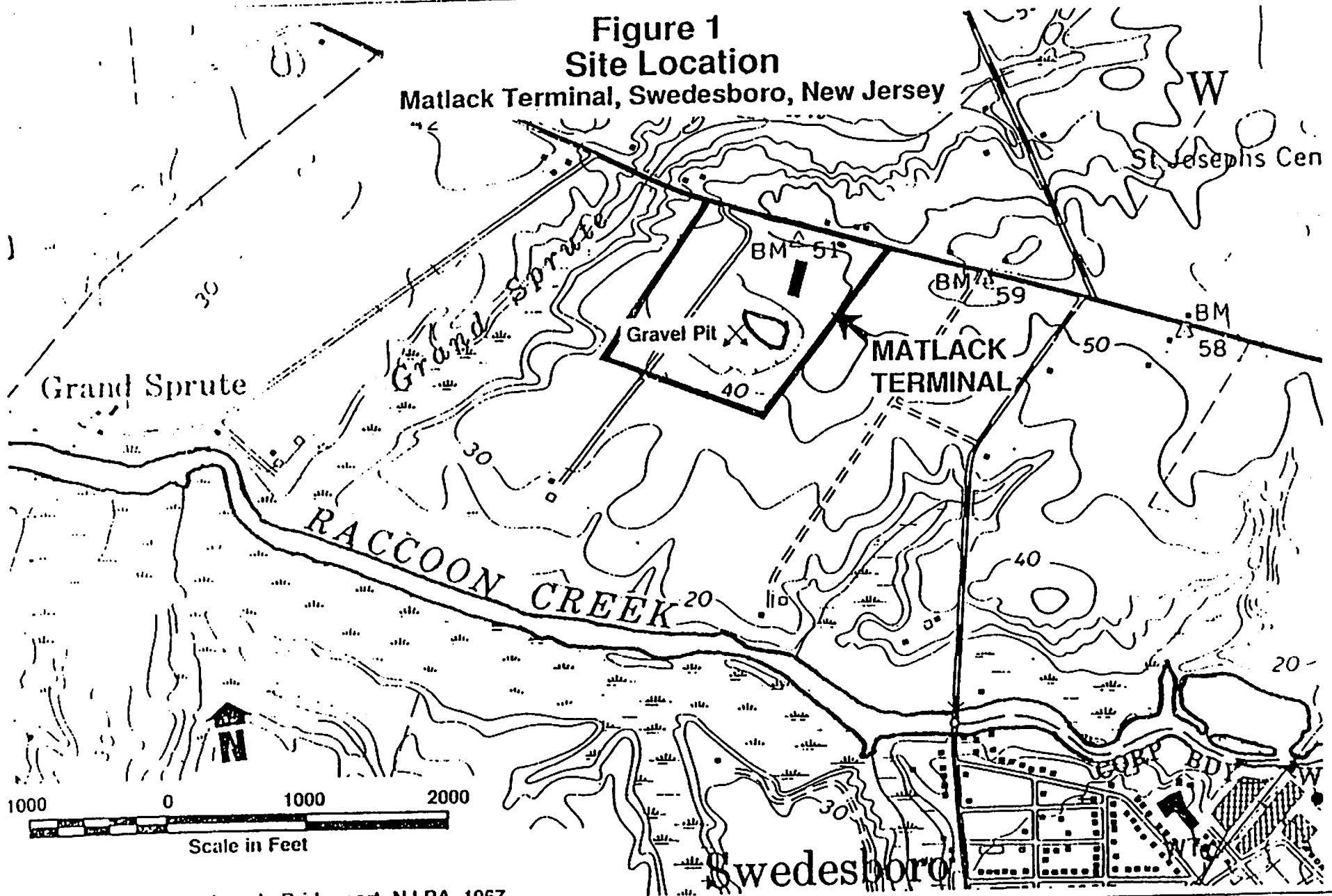
1. Matlack, Inc. :
Terminal Manager
2. Site Remediation Program/NJDEPE:
Remedial Project Manager
3. Community Relations Coordinator/NJDEPE:
4. Gloucester County Health Department:
Senior Environmental Specialist

PREPARER OF REPORT

Narendra P. Singh, M.D., M.S., C.I.H.
Research Scientist
ATSDR Health Assessment Project
Environmental Health Service
New Jersey Department of Health

Figure 1 Site Location

Matlack Terminal, Swedesboro, New Jersey



Source: USGS Quadrangle Bridgeport, NJ-PA, 1967.

WU# 35005

Drawn by / Date: D. Grabowski 1/22/90

Checked by / Date: B. Woodhouse 1/22/90

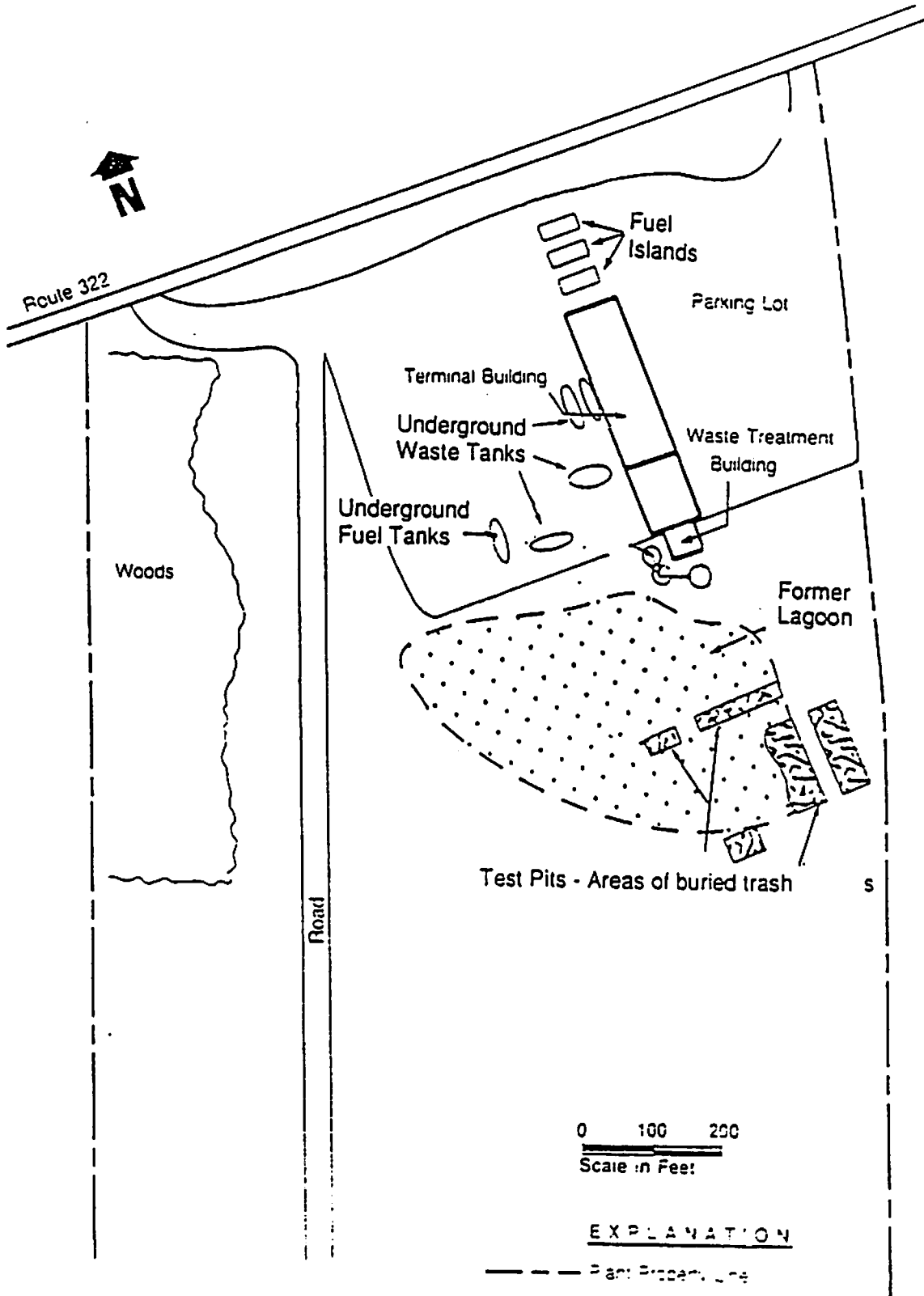
Notes:

Revised by / Date:

Checked by / Date:



Figure 2 Site Plan Matlack Terminal, Swedesboro, New Jersey



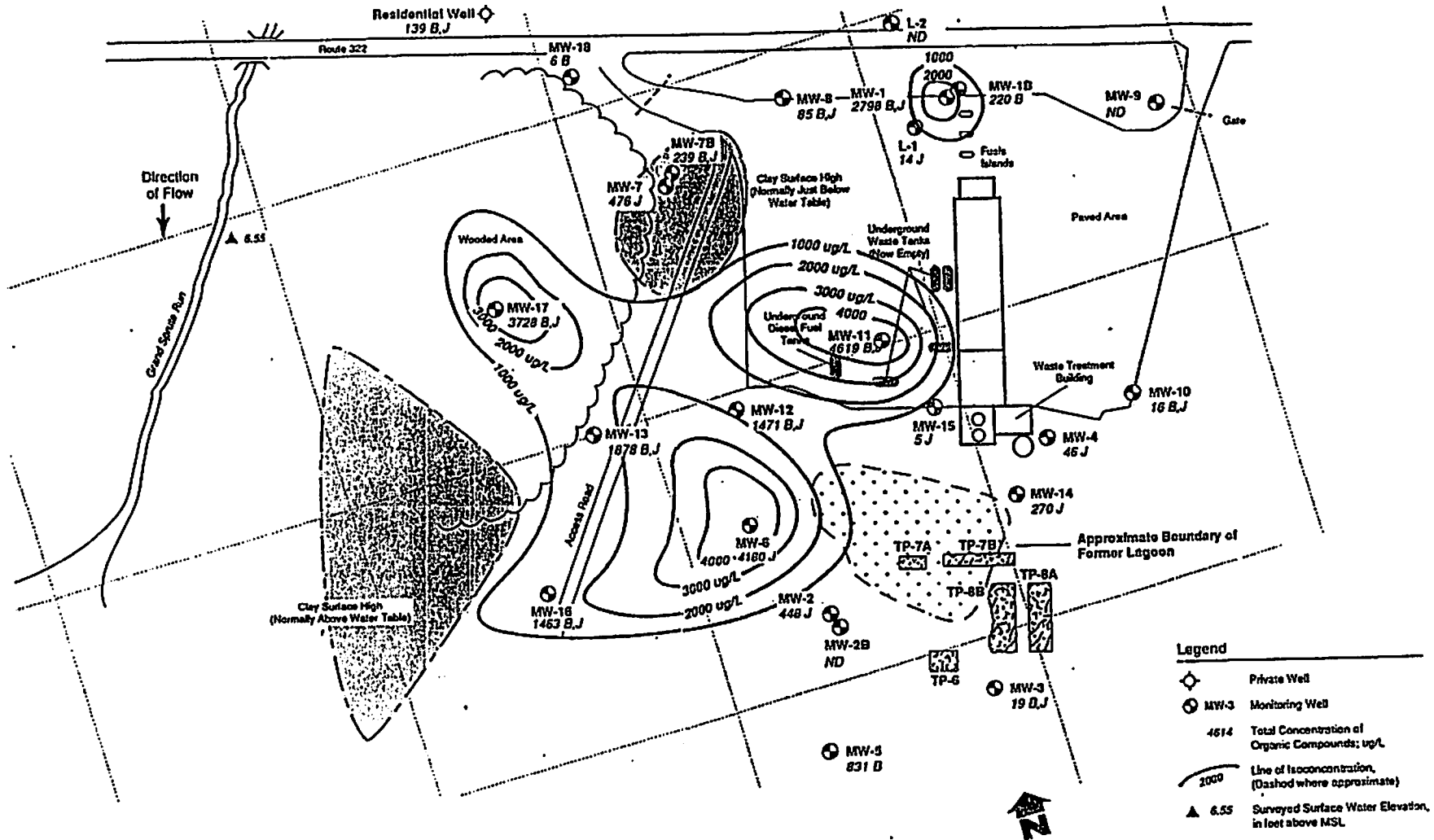
0 100 200
Scale in Feet

EXPLANATION

--- Part Property Line

W0# 35005	Drawn by Date: D. Grabowski 1.22.90	Checked by Date: B. Woodhouse 1.22.90	
Revised by Date: A. Della Camera 8.8.90	Checked by Date: N. DeSavo 8.8.90		

Figure -3
Concentration of Total Organic Compounds in Ground Water
(Includes Target Compounds; Does Not Include Acetone)
Matlack Terminal, Swedesboro, New Jersey



- Legend**
- ◊ Private Well
 - ⊕ MW-3 Monitoring Well
 - 4614 Total Concentration of Organic Compounds; ug/L
 - Line of Isoconcentration, (Dashed where approximate)
 - ▲ 6.55 Surveyed Surface Water Elevation, in feet above MSL
 - TP-7 Test Pit Location, Phase II Investigation
- Contour Interval: 2 Feet (Dashed where approximate)

Notes:
 J = Concentration detected at levels below calibration limits
 B = Detected in blank at similar concentration
 ND = Not detected



WDP 35005.04 01	Drawn by / Date:	Checked by / Date:
	Revised by / Date: A. Della Camora 0.7.90	Checked by / Date: N. DeSalvo 8.7.90

