WESTON MANAGERS DESIGNERS/CONSULTANTS

Document Control No.: 4200-16-ADCT

FINAL
SITE INSPECTION PRIORITIZATION REPORT
EMMELL'S SEPTIC LANDFILL
GALLOWAY TOWNSHIP, NEW JERSEY

CERCLIS I.D. No.: NJD980772727

NOVEMBER 12, 1993

WORK ASSIGNMENT NO.: 016-2JZZ
W.O. No.: 04200-016-081-0059

Prepared for:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Prepared by:

ROY F. WESTON, INC.
Raritan Plaza I - 4th Floor
Raritan Center
Edison, New Jersey

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Submitted by:

ROY F. WESTON, INC.
Raritan Plaza I - 4th Floor
Raritan Center
Edison, New Jersey 08837

WESTON/ARCS Reviewed and Approved:

David Benfer — 11/8/93
Task Manager — Date

Thomas A. Varner — 10/26/93
Site Assessment Manager — Date

Dennis J. Foerter — 11/8/93
Quality Assurance Representative — Date

Martin J. O'Neill — 11/17/93
Project Manager — Date

GENERAL DESCRIPTION AND SITE HISTORY

Emmell's Septic Landfill (a.k.a. Emmell's Cesspool Service) is located at 128 Zurich Avenue (Block 650, Lots 7 and 9), in Galloway Township, Atlantic County, New Jersey. The site encompasses approximately 38 acres. The site is bordered to the northwest by Zurich Avenue and the remainder of the site is surrounded by heavily wooded areas. The site was bought by William Emmell, Jr. from John Heinz in 1967. Emmell's Septic Landfill was reportedly active from 1967 to 1978 or 1979, and accepted septic and sewage sludge which was ponded in trenches and lagoons. Numerous pits were observed at the site in 1983. Also reportedly deposited on site were various other solid wastes, including chemical wastes, an unknown number of buried and unburied drums containing paint sludge, empty gas cylinders, household garbage and various types of construction debris. The cylinders allegedly contained acetylene and oxygen, and the paint drums were allegedly present when the site was bought in 1967 by Mr. Emmell (Ref. Nos. 1; 15; 17; 18; 27; 37, pp. 1, 3, 65, 91, 94; 39).

From February 1976 to April 1980, several enforcement actions were taken by the New Jersey Department of Environmental Protection and Energy (NJDEPE) regarding on site activities at Emmell's Septic Landfill. On 19 February 1976, following a NJDEPE site inspection, a department order was issued by the NJDEPE Solid Waste Administration. Violations included failure to submit engineering designs for the disposal of septic waste and allowing septic waste to be lagooned on site (Ref. No. 18). On 23 October 1978, a Notice of Prosecution was issued by the NJDEPE Solid Waste Administration, citing the landfill for failure to submit the required updated operational statement (Ref. No. 19). On 27 June 1979 and 5 September 1979, Notices of Prosecution were issued indicating that on site activities had violated the rules of the Solid Waste Administration as determined by departmental investigations conducted at the site. The violations included ponding of on site septic waste and failure to maintain a dike at the rear of the premises to prevent septic flow into the wooded areas adjacent to the site (Ref. Nos. 20, 21). A Notice of Violation was issued on 29 April 1980. Violations included the failure to obtain an approved registration statement and engineering design approval to engage in the disposal of solid waste, specifically chemical waste (Ref. No. 22).

Waste sources at this site include drums, surface impoundments, and contaminated soil. There are conflicting reports as to the exact number of drums; 50 drums are evaluated as the waste quantity for this waste source since this is the largest reported quantity. The sizes and depths of the surface impoundments are unknown. The areal extent and depth of the contaminated soil is also unknown (Ref. Nos. 17; 18; 22; 37, pp. 1, 3, 7).

Sampling was conducted at the site during the NJDEPE site investigation in 1984. Samples collected included surface and subsurface soils, ponded surface water, and two shallow on site wells. Much of the data was rejected due to quality assurance/quality control (QA/QC)

problems. A library search for nontarget compounds revealed the presence of two tentatively identified compounds in soil samples, namely 1,1,2-trichloroethane [700 parts per billion (ppb)], and 1,1,2,2,-tetrachloroethane (620 ppb). Analyses of the groundwater samples revealed the presence of various metals (Ref. No. 37, pp. 1, 112-124).

In May 1984, volatile organic compounds (VOCs) were detected in a homeowner's well on Lisa Drive in a residential development located approximately 2,000 feet southeast of the site. In June 1984, groundwater samples were collected from additional residential wells by the Atlantic County Health Department. VOCs found during the 1984 sampling events include 1,1-dichloroethane (34 ppb), 1,2-dichloroethane (21 ppb), 1,1-dichloroethene (20 ppb), 1,2-dichloroethene (37 ppb), 1,1,1-trichloroethane (180 ppb), vinyl chloride (6 ppb), chloro-benzene (10 ppb), tetrachloroethene (5 ppb), trichloroethene (25 ppb), chloroform (63 ppb), and 1,2-dichlorobenzene (4 ppb). Resampling of groundwater in 1988 at one of the residences showed increased levels of some of these contaminants compared to the 1984 results for that residence (Ref. No. 37, pp. 37-58). A total of five residences were found to be impacted by contaminated groundwater (Ref. No. 37, p. 23). The depth of the contaminated wells range from 100 to 200 feet; the screened intervals are unknown (Ref. No. 37, p. 27).

Trenching and sampling was conducted in January 1985 by Dan Raviv Associates, a consultant for a third party that was considering purchasing the property. Soil and groundwater samples were collected from several trenches. Contaminants detected in soil samples included Aroclor-1254, a polychlorinated biphenyl (PCB) [20 parts per million (ppm)] and elevated levels of petroleum hydrocarbons (11,034 ppm). A groundwater sample showed contamination by vinyl chloride (29 ppb), 1,1-dichloroethylene (19 ppb), 1,1-dichloroethane (123 ppb), trans-1,2-dichloroethylene (5,468 ppb), 1,1,1-trichloroethane (774 ppb), trichloroethylene (6 ppb), and chlorobenzene (17 ppb). Samples were analyzed by Industrial Corrosion Management, Inc. but are not known to have been subjected to a formal QA/QC review (Ref. No. 37, pp. 1, 66-80).

EVALUATION OF EXISTING INFORMATION AND SITE INSPECTION REPORT

A formal site investigation report prepared by the NJDEPE Bureau of Planning and Assessment was available in agency files. However, a large portion of the information normally included in the site inspection report was found to be either incomplete or nonexistent. Geologic data and information regarding potable water sources, fisheries and sensitive environments was collected in order to complete this Site Inspection Prioritization report completed by WESTON. Specifically, the groundwater migration pathway was updated to include wells within a four-mile radius of the site, and the surface water migration pathway was updated to include receptors within 15 miles downstream of the site. In addition, the air and migration pathway was evaluated with respect to population and sensitive environments, including threatened and endangered species, within a four-mile radius of the site.

HAZARD ASSESSMENT

Groundwater Migration Pathway - There is a suspected release of hazardous substances to groundwater from waste sources located on site. In June 1985 a draft New Jersey Pollutant Discharge Elimination System (NJPDES) permit was issued to Emmell's Septic Landfill. As required by the permit, monitoring wells were to be installed. Background information does not indicate that monitoring wells were ever installed (Ref. Nos. 23, 24). However, numerous VOCs were found in residential wells located approximately 2,000 feet southeast of the site. Although monitoring wells were never installed at the site, groundwater flow is suspected to be generally southeast, towards the Morses Mill Stream and adjacent wetlands (Ref. No. 2). Several of the VOCs detected in the residential wells were also detected in groundwater samples collected from excavations at the site in 1984 (Ref. No. 37, p. 30).

The aquifer of concern within the study area is the Kirkwood-Cohansey aquifer system. This extensive aquifer system, predominantly a water-table aquifer, consists chiefly of the upper part of the Kirkwood Formation and the overlying Cohansey Sand. In coastal areas, the upper part of the Kirkwood Formation consists of thick clay layers containing zones of sand and gravel, while farther inland it is composed chiefly of silty sand and fine- to medium-grained sand. The Cohansey Sand is typically a light colored quartz sand with lenses of clay and silt. Because of the similar hydrologic and geologic properties of the Kirkwood Formation and Cohansey Sand, these units are not recognized individually, but are generally considered to be components of the larger aquifer system. In the vicinity of site, the Kirkwood-Cohansey aquifer system extends from approximately 20 feet below ground surface (bgs) to 230 feet bgs. Permeability values range from 10^{-4} centimeters per second (cm/sec) to 10^{-8} cm/sec in areas where silty clay is present (Ref. Nos. 2; 12; 14; 25; 37, p. 1).

The depth to the water table in the vicinity of the site is approximately seven feet (Ref. Nos. 13). Regional groundwater flow in the vicinity of the site is toward the southeast (Ref. Nos. 2; 23; 37, p. 84). Groundwater is the primary source of drinking water within 4 miles of the site. The New Jersey American Water Company operates 19 blended wells in the general vicinity of the site, two of which are located within 4 miles of the site. Both wells are pumping from the Kirkwood-Cohansey aquifer system. One well is located along Jim Leeds Road approximately 2.4 miles from the site and the second well is located 2.3 miles from the site off Wrangleboro Road. A total of 7,201 people are serviced by the two wells (Ref. Nos. 11; 36; 37, pp. 1, 2). Stockton State College maintains two wells located 1.2 miles from the site (Ref. Nos. 28; 37, p. 85). The nearest documented drinking water well is a domestic well located on Zurich Avenue in Galloway Township, between 0.14 and 0.28 mile southwest of the site (Ref. Nos. 2, 5, 13, 26). A total of approximately 24,000 people are served by potable supply wells drawing from the aquifer of concern (i.e., Kirkwood-Cohansey aquifer system) located within 4 miles of the site (0-1/4 mile: 16; 1/4-1/2 mile: 32; 1/2-1 mile: 1,640; 1-2 miles: 4,100; 2-3 miles:

12,670; 3-4 miles: 5,540) (Ref. Nos. 2; 6; 11; 30; 35; 36). Groundwater is also used for irrigation of commercial food crops such as potatoes, corn and peppers (Ref. Nos. 4, 9). There are no wellhead protection areas currently delineated in New Jersey (Ref. No. 3).

Surface Water Migration Pathway - There is no observed release to surface water nor is one suspected. There is a relatively small likelihood for a release of hazardous substances to surface water from the waste sources on site (Ref. Nos. 2; 37, pp. 1, 66-82, 112-124). Local terrain slope is in a southerly direction toward Morses Mill Stream (Ref. Nos. 2, 15). Morses Mill Stream, the nearest downslope surface water, is located approximately 2,000 feet south of the site. Morses Mill Stream [flowrate: 3.4 - 5.0 cubic feet per second (cfs)] flows east 700 feet from the probable point of entry before discharging into Lake Pam and Lake Fred, both located on the campus of Stockton State College (Ref. Nos. 4; 10; 16; 29). Morses Mill Stream then flows northeast from Lake Fred for approximately 2.2 miles before emptying into Mill Pond, near Port Republic (Ref. No. 16). Mill Pond discharges to the Nacote Creek [flowrate: 34 cfs] which meanders in a northeasterly direction for approximately 4.4 miles before discharging into the Mullica River (Ref. Nos. 8; 16). The Mullica River [flowrate: 107 cfs] flows in an east-northeasterly direction for approximately 4.6 miles before discharging into the Great Bay, near New Gretna (Ref. Nos. 16; 29). The 15-mile surface water migration pathway ends in Great Bay, where it extends radially outward into the bay for a distance of approximately 2.1 miles (Ref. No. 16). Surface water bodies included in the migration pathway are used primarily for fishing, boating and swimming. There are no drinking water intakes along the surface water migration pathway (Ref. No. 4). The Nacote Creek, Mullica River and Great Bay along the in-water segment each support specific types of fisheries and shellfisheries. The actual production (pounds per year) for each species is unknown (Ref. Nos. 4;7). Morses Mill Stream, including all ponds and lakes along the surface water migration pathway between Nacote Creek and the site, do not support any fisheries or shellfisheries (Ref. No. 7). Mill Pond, in Port Republic, is the furthest upstream water body that is tidally influenced (Ref. No. 32). Wetlands along the in-water segment consist of estuarine intertidal emergent, estuarine intertidal flat, and palustrine wetlands. Estuarine intertidal flats will not be evaluated because it is unknown if they support vegetation typically found in saturated soil. However, the estuarine intertidal emergent and palustrine wetlands are evaluated in this report. These wetlands are found along Morses mill Stream, Nacote Creek and the Mullica River with a total frontage of 12 miles (Ref. No. 16). All water bodies along the in-water segment are designated for the maintenance, migration and/or propagation of natural and established biota, and are therefore considered sensitive environments in that regard (Ref. No. 38). There are three state-listed endangered species habitats and one state-listed threatened species habitat located along the surface water migration pathway. There are also two Federally listed candidate species habitats along the surface water migration pathway. Since a national heritage priority site is located in Port Republic along Morses Mill Creek and Mill Pond, most of these habitats are considered to be present in this area. However, each of these habitats might exist at any point along the surface water migration

pathway. The state-listed endangered species include the coast flatsedge (Cyperus polystachyos), New Jersey Rush (Juncus caesariensis), as well as the state-listed endangered species, bog asphodel (Narthecium americanum). The state-listed threatened species is the pine snake (Pituophis melanoleucus) (Ref. No. 31). Emmell's Septic Landfill is located in an area of minimal flooding (i.e., outside the 500-year floodplain) (Ref. No. 33).

Soil Exposure Pathway - PCBs were found in a soil sample and several volatile organic compounds were found in groundwater samples collected on site in January 1985 by Dan Raviv Associates. During this sampling effort, background samples were not collected. There is no indication if soil samples were grab samples or collected from a specific depth. Therefore, since limited information is available with regard to past sampling efforts, the areal extent of the contaminated soil is unknown (Ref. No. 37, pp. 1,66-80, 84,112-124). The site is located in a rural area; there are no residences, schools, day care centers or terrestrial sensitive environments within 200 feet (Ref. Nos. 2, 15). There are no workers on site; on-site operations ceased in 1979 (Ref. Nos. 2; 37, p. 1). An off site reconnaissance conducted by WESTON on 13 August 1993 confirmed that the site is not fenced and is still inactive (Ref. No. 15).

Air Migration Pathway - A release has not been observed nor is one suspected. No air sampling is known to have been conducted at the site (Ref. No. 37). On-site soils are contaminated but it is not known at what depths the corresponding samples were collected (Ref. No. 37, pp. 1, 66-80, 112-124). Approximately 18,180 people live within 4 miles of the site (0-1/4 mile: 16; 1/4-1/2 mile: 32; 1/2-1 mile: 1,640; 1-2 miles: 4,350; 2-3 miles: 6,010; 3-4 miles: 6,130) (Ref. Nos. 30; 35). There are twelve state-listed endangered species habitats, four state-listed threatened species habitats, and two federally-listed candidate species habitats located within four miles of the site (Ref. No. 31). There are 1,622 acres of wetlands within 4 miles of the site (0-1/4 mile: 0; 1/4-1/2 mile: 32; 1/2-1 mile: 84; 1-2 miles: 156; 2-3 miles: 650; 3-4 miles: 700) (Ref. No. 16).

SUMMARY

The existing information and data and the additional information collected were sufficient to evaluate this site. Analytical data indicate that nearby residential wells have been impacted by contaminants also found in samples collected at the site. Additional data concerning the site's impact on groundwater is needed to fully document an observed release. Fisheries and sensitive environments are located within 15 miles downstream of the site. No residences, schools, or day care centers are within 200 feet of the site.

Document Control No.: 4200-16-ADCT
November 12, 1993

ATTACHMENT A

REFERENCES

REFERENCES

1. U.S. EPA Superfund Program, Comprehensive Environmental Response, Compensation, and Liability System (CERCLIS), List-8: Site/Event Listing, p. 83, October 1, 1992.

2. Four Mile Vicinity Map for Emmell's Septic Landfill, based on U.S. Department of the Interior, Geological Survey Topographic Maps, 7.5 minute series, "Green Bank, NJ Quadrangle," 1959, photorevised 1989; and "Pleasantville, NJ Quadrangle," 1989.

3. Phone Conversation Record: Conversation between Mr. Dan Van Abs, NJDEPE, and Mr. David C. Benfer, Roy F. Weston, Inc. (WESTON), November 16, 1992.

4. Phone Conversation Record: Conversation between Pat Dillen, Atlantic County Health Department, and David C. Benfer, WESTON, August 4, 1993.

5. Phone Conversation Record: Conversation between Bonnie Burns, and David C. Benfer, WESTON, August 16, 1993.

6. Phone Conversation Record: Conversation between Gary White, Churchill Associates, and David C. Benfer, WESTON, August 5, 1993.

7. Phone Conversation Record: Conversation between Tom McCloy, NJDEPE, and David C. Benfer, WESTON, September 1, 1993.

8. Phone Conversation Record: Conversation between Emmery Capola, N.J. Geological Survey, and David C. Benfer, WESTON, September 15, 1993.

9. Phone Conversation Record: Conversation between Mark Newcomb, Ponderosa Tree Farm, and David C. Benfer, WESTON, September 27, 1993.

10. Phone Conversation Record: Conversation between Louise Korbit, Stockton State College, and David C. Benfer, WESTON, September 28, 1993.

11. Phone Conversation Record: Conversation between Josh Wuestneck, New Jersey American Water Company, and David C. Benfer, WESTON, September 30, 1993.

12. Hazard Ranking System; Final Rule, Federal Register, Environmental Protection Agency, Part II, 40 CFR, Part 300, December 14, 1990.

13. NJDEPE, Division of Water Resources, Well Record, Permit No. 36-2880 Form DWR-138, March 15, 1983.

14. May, Jayne E. Water Resources Investigations Report 85-4063, Feasibility of Artificial Recharge to the 800-foot Sand of the Kirkwood Formation in the Coastal Plain near Atlantic City, New Jersey, U.S. Geological Survey, 1985.

15. Field Logbook, Document Control No. 4200-16-ADBB, Emmell's Septic Landfill, Work order No. 4200-016-081-0059, Off-site Reconnaissance, Roy F. Weston, Inc., August 13, 1993.

16. Fifteen Mile Surface Water Pathway Map, Comprised of National Wetlands Inventory Maps for New Jersey, U.S. Department of the Interior, Fish and Wildlife Service, "Oceanville, NJ Quadrangle," "Pleasantville, NJ Quadrangle," "New Gretna, NJ Quadrangle," and "Green Bank, NJ Quadrangle," 1977.

17. NJDEPE, Hazardous Waste Investigation Report, prepared by C. Elmendorf, March 1, 1983.

18. NJDEPE, Division of Water Resources, Departmental Order, February 19, 1976.

19. NJDEPE, Solid Waste Administration, Notice of Prosecution, October 23, 1978.

20. NJDEPE, Solid Waste Administration, Notice of Prosecution, September 5, 1979.

21. NJDEPE, Solid Waste Administration, Notice of Prosecution, June 27, 1979.

22. NJDEPE, Solid Waste Administration, Notice of Prosecution, April 29, 1980.

23. NJDEPE, Memorandum from John J. Trela, Bureau of Groundwater Discharge Permits, to Edward Londres, Assistant Director, Division of Waste Management, Subject: Emmell's Sanitary Landfill Galloway Twp., Atlantic City, NJPDES #0059927, June 6, 1985.

24. Letter from Eugene J. Callahan, Jr., Southern Bureau of Regional Enforcement, to Barbara and Earl Emmell. June 30, 1988.

25. Zapecza, Otto S. Open File Report 84-730, Hydrogeologic Framework of the New Jersey Coastal Plain, Regional Aquifer - System Analysis, U.S. Geologic Survey, 1984.

26. Galloway Township Tax Map, undated.

27. NJDEPE memorandum from William J. Zavacky to file, June (year unknown).

28. Department of Conservation and Economic Development, Division of Water and Public Supply Well Records, Permit Nos., 36-424, 36-425, July 13, 1972.

29. U.S. Geological Survey Water Data Report NJ-91-1, Water Resources Data, New Jersey Water Year 1991.

30. Letter from Bob Frost, Frost Associates, to Jan Holderness, WESTON Subject: Emmell's Septic Landfill, with attachments (population data), August 10, 1993.

31. Letter from Elena A. Williams, NJDEPE, Division of Parks and Forestry, to Richard Settino, WESTON Subject: Emmell's Septic Landfill and Associated Waterways, with attachments, September 9, 1993.

32. Phone Conversation Record: Conversation between Rich Castagna, NJDEPE, Tidal Land Management, and David C. Benfer, WESTON, September 28, 1993.

33. Federal Emergency Management Agency, Flood Zone Mapping, August 10, 1993.

34. New Jersey State Data Center 1990 Census Publication, Housing Units and Household Population, New Jersey, Counties and Municipalities, 1990.

35. Project Note from David C. Benfer, WESTON, to Emmell's Septic Landfill file, Subject: Population within 4 miles of the site, October 7, 1993.

36. Project Note from David C. Benfer, WESTON to Emmell's Septic Landfill file, Subject: Calculations for potential contamination groundwater target populations, October 7, 1993.

37. Site Inspection Report, completed by Edward Gaven, NJDEPE, Bureau of Planning and Assessment, October 27, 1988.

38. NJDEPE, Division of Water Resources, Surface Water Quality Standards, August, 1989.

39. Phone Conversation Record: Conversation between Gil Bosies, Galloway Township Tax Assessor, and David C. Benfer, WESTON, May 12, 1995.

REFERENCE NO. 1

SELECTION:
SEQUENCE: REGION, STATE, SITE NAME

EVENTS: ALL

EPA ID NO.	SITE NAME / STREET / CITY / COUNTY CODE AND NAME	STATE	ZIP / CONG DIST.	OPRBLE UNIT	EVENT TYPE	EVENT QUAL	ACTUAL START DATE	ACTUAL COMPL DATE	CURRENT EVENT LEAD
NJD069043370	EM DIAGNOSTIC SYSTEMS			00	DS1			12/11/89	EPA (FUND)
	480 DEMOCRAT ROAD				PA1		10/01/90	12/28/90	EPA (FUND)
	GIBBSTOWN	NJ	08027		SI1	NFA	07/01/91	09/25/91	EPA (FUND)
	015 GLOUCESTER								
NJD980771596	EMERALD TRAIL			00	DS1			04/10/84	STATE(FUND)
	FT OF EMERALD TERRACE				PA1		07/29/87	07/30/87	STATE(FUND)
	BRIDGEWATER TWP	NJ	08807		SI1	NFA	07/01/90	09/25/90	EPA (FUND)
	035 SOMERSET								
NJD011528346	EMIL SCHROTH/TROJAN TUBE CO			00	DS1			04/10/84	STATE(FUND)
	COPPER AVE & YELLOW BROOK RD				PA1			06/01/85	STATE(FUND)
	HOWELL TWP	NJ	07727		SI1		01/01/91	03/28/91	STATE(FUND)
	025 MONMOUTH								
NJD980772727	EMMELL'S SEPTIC LANDFILL			00	DS1			05/01/84	STATE(FUND)
	128 ZURICH AVE				PA1			05/01/84	STATE(FUND)
	GALLOWAY TWP	NJ	08213		SI1		10/01/84	10/01/84	STATE(FUND)
	001 ATLANTIC								
NJD064274657	ENGELHARD CORP SPECIALTY CHEMICAL DIV			00	DS1			06/25/79	EPA (FUND)
	429 DELANCY ST				PA1		09/01/84	09/01/84	STATE(FUND)
	NEWARK	NJ	07105		SI1		11/01/89	12/31/89	STATE(FUND)
	013 ESSEX								
NJD041211392	ENGELHARD INDUSTRIES DIVISION			00	DS1			06/06/89	EPA (FUND)
	700 BLAIR ROAD				PA1			07/20/89	EPA (FUND)
	CARTERET	NJ	07008						
	023 MIDDLESEX								
NJD000973234	ENGELHARD INDUSTRIES DIVISION RESEARCH			00	DS1			06/06/89	EPA (FUND)
	WOOD AVE. & MIDDLESEX TURNPIKE				PA1			09/27/89	EPA (FUND)
	(MENLO PARK) EDISON	NJ	08817						
	023 MIDDLESEX								

REFERENCE NO. 2

WESTON® MANAGERS DESIGNERS/CONSULTANTS

FOUR MILE VICINITY MAP

SITE NAME:

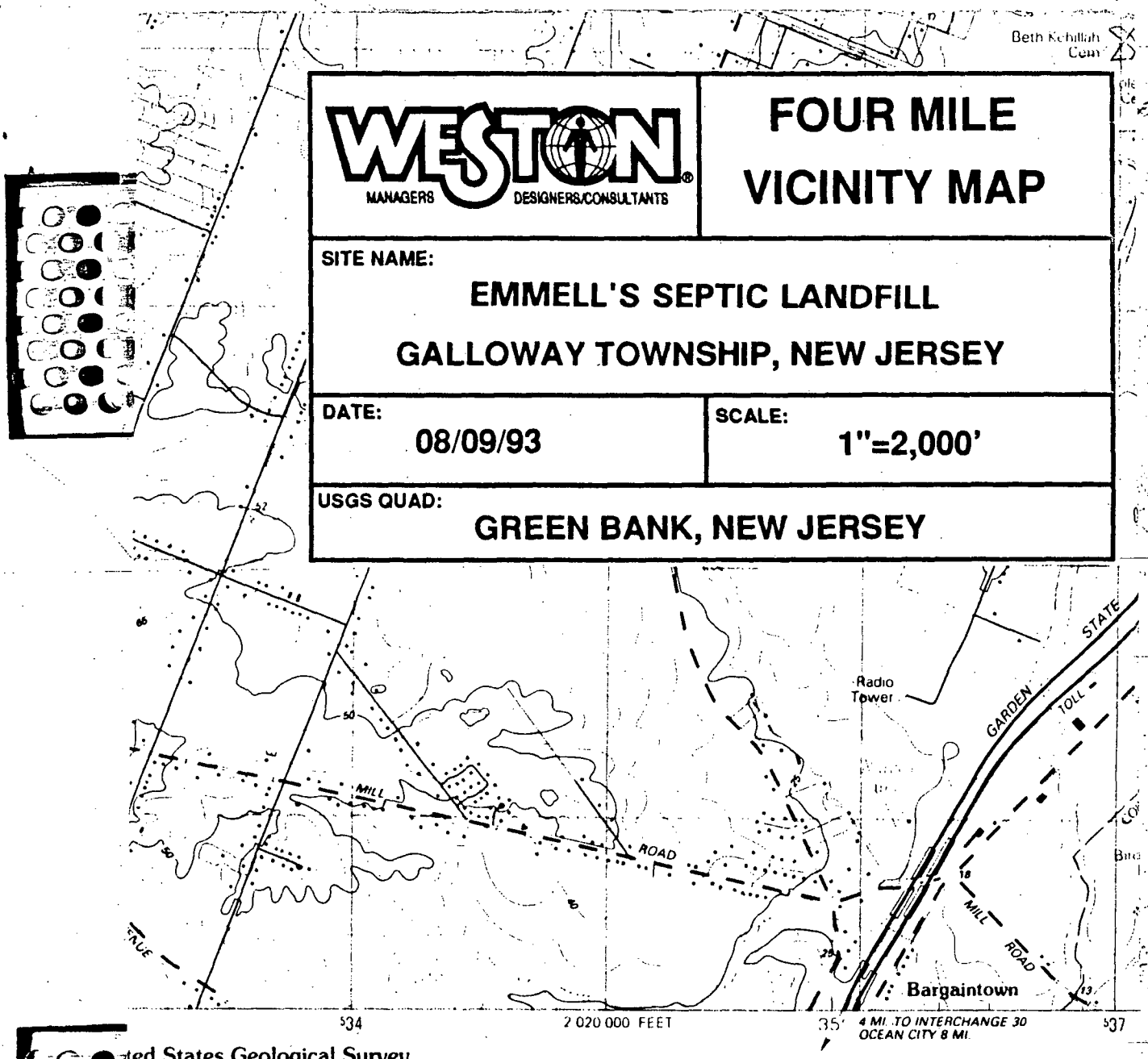
EMMELL'S SEPTIC LANDFILL

GALLOWAY TOWNSHIP, NEW JERSEY

DATE: 08/09/93

SCALE: 1"=2,000'

USGS QUAD: GREEN BANK, NEW JERSEY



ted States Geological Survey
NOAA, and New Jersey Geodetic Survey
nmetric methods from aerial photographs
ed 1982. Revised from aerial photographs
d check 1988. Map edited 1989
d Geodetic Survey map dated 1952
ta compiled from NOS Chart 12316 (1986)
tended for navigational purposes
et grid ticks: New Jersey coordinate
tor)
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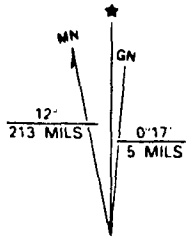
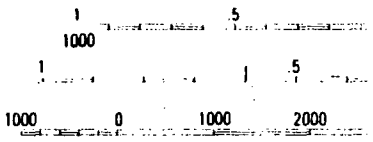
North American Datum 1983,
6 meters south and
by dashed corner ticks
oldings within the boundaries of
rvations shown on this map
in which only landmark buildings are shown



UTM GRID AND 1989 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET



N/

DEPTH CURVES AND S
SHORELINE SHOWN

THIS MAP COMI
FOR SALE BY U. S. GEOLOGICAL
A FOLDER DESCRIBING TO

100015

REFERENCE NO. 3

WESTON

Dave Benfer
Originator

PHONE CONVERSATION RECORD

Conversation with:

Name Dan Janabs

Company NJDEP

Address Trenton

Phone 609-633-1179

Subject Well Head Protection

Date 11/16/92

Time 445 AM/PM

☒ Originator Placed Call

☐ Originator Received Call

W.O. NO. 04200-016-081

Notes:

Although the Bureau of USTs has designated an area of 2000' from municipal water supply wells as of November 1992 there is no designated well head protection areas in New Jersey.

☒ File Project File

☐ Tickle File ___/___/___

☐ Follow-Up By: ___

☐ Copy/Route To: ___

Follow-Up-Action: ___

Originator's Initials DB

100017

RFW 110-4-83

REFERENCE NO. 4

WESTON

Dave Benfer
Originator

PHONE CONVERSATION RECORD

Conversation with:
Name Pat Dillen
Company Atlantic County Health Department
Address

Phone 609-345-6700

Date 8/4/93
Time 1330 ~~AM/PM~~

☒ Originator Placed Call
☐ Originator Received Call
W.O. NO. 04200-016-081-0059-02

Subject Fisheries and surface water user

Notes: Pat Dillen stated that Morses mill stream, Lake Pam and Lake Fred (lakes at Stockton State college; Lake Fred the largest), mill pond, Nacote Creek and Mullica River including the Great Bay are only used for recreation - primarily fishing, ~~and~~ DB swimming, and boating. Several species of fish from these bodies of water are used for human consumption. Surface water is not used as a source of drinking water.

Groundwater is used as a primary source of drinking water and irrigation of crops.

☐ File
☐ Tickle File ___/___/___
☐ Follow-Up By:
☐ Copy/Route To:

Follow-Up-Action:

Originator's Initials

RFW 110-4-83

100019

REFERENCE NO. 5

WESTON

Dave Benfer
Originator

PHONE CONVERSATION RECORD

Conversation with:

Name Bonnie Burns

Company —

Address Zurick Ave
Galloway Township

Phone

Date 8 / 16 / 93

Time 1100 AM/PM

☒ Originator Placed Call

☐ Originator Received Call

W.O. NO. 04200-016-087-0059-03

Subject Verification of domestic well usage

Notes:

Spoke with Bonnie Burns who verified that they are still using a well located on their property for domestic drinking water

☐ File

☐ Tickle File ___/___/___

☐ Follow-Up By:

☐ Copy/Route To:

Follow-Up-Action:

Originator's Initials

100021

RFW 110-4-83

REFERENCE NO. 6

WESTON

Dave Benfer
Originator

PHONE CONVERSATION RECORD

Conversation with:
Name Gary White
Company Churchhill Associates
Address
Phone 609-767-6901

Date 8/5/93
Time 1015 AM/PM

☒ Originator Placed Call
☐ Originator Received Call
W.O. NO. 04200-016-081-0059-02

Subject Potable Water Supply, Emmels Septic Landfill

Notes: Churchhill Associates – Engineers for Galloway Township.

Within 4-miles of the site potable water is obtained from private wells North of Jim Leeds Road. South of Jim Leeds Road 70 percent of the population is on private wells and 30 percent are serviced by the ~~Atlantic~~ NJ Water Company.

☐ **File**
☐ **Tickle File** / /
☐ **Follow-Up By:**
☐ **Copy/Route To:**

Follow-Up-Action:

Originator's Initials

100023

RFW 110-4-83

REFERENCE NO. 7

WESTON

Dave Bonfer
Originator

PHONE CONVERSATION RECORD

Conversation with:
Name Tom McCloy
Company NJDEPE, Bureau Chief for Wildlife and fisheries
Address Trenton, New Jersey
Phone 609-292-6685
Subject Fishery Information

Date 9 / 1 / 93
Time 1430 AM/PM
☒ Originator Placed Call
☐ Originator Received Call
W.O. NO. 04200-016-081-0059-02

Notes:

Tom McCloy stated that the Great Bay, Mullica River and NAcote Creek are bodies of water that support specific types of fisheries and shellfisheries. ~~AS~~ The actual production in Pounds/year for each species is unknown and/or ~~not~~ information is not available.

The Morses Mill Creek including ponds and lakes along the surface water pathway between NAcote Creek and the site ~~are~~ do not support any fisheries and/or shellfisheries.

☐ File
☐ Tickle File ___/___/___
☐ Follow-Up By:
☐ Copy/Route To:

Follow-Up-Action:

Originator's Initials

100025

RFW 110-4-83

REFERENCE NO. 8

WESTON

David Benfer
Originator

PHONE CONVERSATION RECORD

Conversation with:

Name Emmery Capola

Company New Jersey Geological Survey - NJGS

Address Trenton, New Jersey

Phone 609-292-1185

Date 9 / 15 / 93

Time 1420 AM/PM

☒ Originator Placed Call

☐ Originator Received Call

W.O. NO. 04200-016-081-02

Subject Flow velocity values for Nacote Creek

Notes:

Emmery Capola returned my call and said that the flow velocity for Nacote Creek is 34 ft^3/min.

☐ **File**

☐ **Tickle File** / /

☐ **Follow-Up By:**

☐ **Copy/Route To:**

Follow-Up-Action:

Originator's Initials DB

RFW 110-4-83

100027

REFERENCE NO. 9

WESTON

Dave Benfer
Originator

PHONE CONVERSATION RECORD

Conversation with:
Name Mark NewComb
Company Ponderosa Tree Farm
Address Galloway Township
Phone 609-965-4586
Subject Irrigation of food Crops

Date 9/27/93
Time 1500 AM/~~PM~~

☒ Originator Placed Call
☐ Originator Received Call
W.O. NO. 04200-016-081-0059-02

Notes:

Ponderosa Tree Farm does not grow any food crops, however, Mark Newcomb stated that peppers, potatos and corn are grown in the area totaling in excess of 500 acres. These crops are irrigated by wells (groundwater).

☐ File
☐ Tickle File ___/___/___
☐ Follow-Up By:
☐ Copy/Route To:

Follow-Up-Action:

Originator's Initials DB.

100029

RFW 110-4-83

REFERENCE NO. 10

WESTON

Dave Benfer
Originator

PHONE CONVERSATION RECORD

Conversation with:
Name Louise Korbit
Company Stockton State College
Address Pomona, New Jersey 08240
Phone 609-652-1776

Date 9/28/93
Time 0915 AM/PM

☒ Originator Placed Call
☐ Originator Received Call
W.O. NO. 04200-01-081-0059-02

Subject Name of Lakes on Stockton State College Campus

Notes: Louise Korbit stated that Morris Mill stream flows through PAM Lake and then through the larger lake - Lake Fred

☐ **File** _____
☐ **Tickle File** ____/____/____
☐ **Follow-Up By:** _____
☐ **Copy/Route To:** _____

Follow-Up-Action: _____

Originator's Initials DB

100031

RFW 110-4-83

REFERENCE NO. 11

WESTON

David Benfer
Originator

PHONE CONVERSATION RECORD

Conversation with:
Name Josh Wuestneck
Compan: New Jersey American Water Company
Address Linwood, New Jersey
Phone 609-927-6062

Date 9/30/93
Time 1400 AM/PM

☒ Originator Placed Call
☐ Originator Received Call
W.O. NO. 04200-016-081-00059-05

Subject Potable Water Supply

Notes: New Jersey Water Company operates 19 wells from Pomona to Somers Point. This is a blended system that serves app. 68,412 people. NJ Water company services houses between Jimmie Leeds Road and White Horse Pike (RT30). However, he said how many or the number of hookups he does not know. All other residents are on private wells. The two wells operated by New Jersey Water Company within 4 miles of the site are; Pomona Oak #16 app 500 ft. Northeast of the intersection of White Horse Pike and Jim Leeds Rd. and Wrangleboro Road #3 at the intersection of Wrangleboro Road and Walden Way. Both wells are pumping from the Kirkwood-Cohansey aquifer system.

☐ File
☐ Tickle File ___/___/___
☐ Follow-Up By:
☐ Copy/Route To:

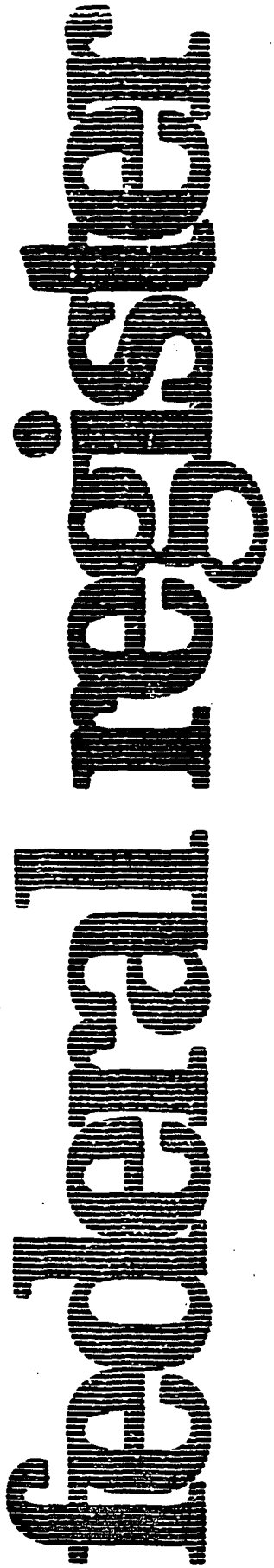
Follow-Up-Action:

Originator's Initials

100033

RFW 110-4-83

REFERENCE NO. 12



Friday
December 14, 1990

Part II

Environmental Protection Agency

40 CFR Part 300
Hazard Ranking System; Final Rule

TABLE 3-1.—GROUND WATER MIGRATION PATHWAY SCORESHEET

Factor categories and factors	Maximum value	Value assigned
Likelihood of Release to an Aquifer:		
1. Observed Release	550	
2. Potential to Release:		
2a. Containment	10	
2b. Net Precipitation	10	
2c. Depth to Aquifer	5	
2d. Travel Time	35	
2e. Potential to Release (lines 2a(2b + 2c + 2d))	500	
3. Likelihood of Release (higher of lines 1 and 2e)	550	
Waste Characteristics:		
4. Toxicity/Mobility	(a)	
5. Hazardous Waste Quantity	(a)	
6. Waste Characteristics	100	
Targets:		
7. Nearest Well	50	
8. Population:		
8a. Level I Concentrations	(b)	
8b. Level II Concentrations	(b)	
8c. Potential Contamination	(b)	
8d. Population (lines 8a + 8b + 8c)	(b)	
9. Resources	5	
10. Wellhead Protection Area	20	
11. Targets (lines 7 + 8d + 9 + 10)	(b)	
Ground Water Migration Score for an Aquifer:		
12. Aquifer Score ((lines 3 x 6 x 11)/82,500) [c]	100	
Ground Water Migration Pathway Score:		
13. Pathway Score (S_{gw}), (highest value from line 12 for all aquifers evaluated)[c]	100	

[a] Maximum value applies to waste characteristics category.
[b] Maximum value not applicable.
[c] Do not round to nearest integer.

3.0.1 *General considerations*

3.0.1.1 *Ground water target distance limit.* The target distance limit defines the maximum distance from the sources at the site over which targets are evaluated. Use a target distance limit of 4 miles for the ground water migration pathway, except when aquifer discontinuities apply (see section 3.0.1.2.2). Furthermore, consider any well with an observed release from a source at the site (see section 3.1.1) to lie within the target distance limit of the site, regardless of the well's distance from the sources at the site.

For sites that consist solely of a contaminated ground water plume with no identified source, begin measuring the 4-mile target distance limit at the center of the area of observed ground water contamination. Determine the area of observed ground water contamination based on available samples that meet the criteria for an observed release.

3.0.1.2 *Aquifer boundaries.* Combine multiple aquifers into a single hydrologic unit for scoring purposes if aquifer interconnections can be established for these aquifers. In contrast, restrict aquifer boundaries if aquifer discontinuities can be established.

3.0.1.2.1 *Aquifer interconnections.* Evaluate whether aquifer interconnections occur within 2 miles of the sources at the site. If they occur within this 2-mile distance, combine the aquifers having interconnections in scoring the site. In addition, if observed ground water contamination attributable to the sources at the site extends beyond 2 miles from the sources, use any locations within the area of this observed ground water contamination in evaluating aquifer interconnections. If data are not adequate to establish aquifer interconnections, evaluate the aquifers as separate aquifers.

3.0.1.2.2 *Aquifer discontinuities.* Evaluate whether aquifer discontinuities occur within the 4-mile target distance limit. An aquifer discontinuity occurs for scoring purposes only when a geologic, topographic, or other structure or feature entirely transects an aquifer within the 4-mile target distance limit, thereby creating a continuous boundary to ground water flow within this limit. If two or more aquifers can be combined into a single hydrologic unit for scoring purposes, an aquifer discontinuity occurs only when the structure or feature entirely transects the boundaries of this single hydrologic unit.

When an aquifer discontinuity is established within the 4-mile target distance limit, exclude that portion of the aquifer beyond the discontinuity in evaluating the ground water migration pathway. However, if hazardous substances have migrated across an apparent discontinuity within the 4-mile target distance limit, do not consider this to be a discontinuity in scoring the site.

3.0.1.3 *Karst aquifer.* Give a karst aquifer that underlies any portion of the sources at the site special consideration in the evaluation of two potential to release factors (depth to aquifer in section 3.1.2.3 and travel time in section 3.1.2.4), one waste characteristics factor (mobility in section 3.2.1.2), and two targets factors (nearest well in section 3.3.1 and potential contamination in section 3.3.2.4).

3.1 *Likelihood of release.* For an aquifer, evaluate the likelihood of release factor category in terms of an observed release factor or a potential to release factor.

3.1.1 *Observed release.* Establish an observed release to an aquifer by demonstrating that the site has released a hazardous substance to the aquifer. Base this demonstration on either:

- **Direct observation**—a material that contains one or more hazardous substances has been deposited into or has been observed entering the aquifer.
- Chemical analysis—an analysis of ground water samples from the aquifer indicates that the concentration of hazardous substance(s) has increased significantly above the background concentration for the site (see section 2.3). Some portion of the significant increase must be attributable to the site to establish the observed release, except: when the source itself consists of a ground water plume with no identified source, no separate attribution is required.

If an observed release can be established for the aquifer, assign the aquifer an observed release factor value of 550, enter this value in Table 3-1, and proceed to section 3.1.3. If an observed release cannot be established for the aquifer, assign an observed release factor value of 0, enter this value in Table 3-1, and proceed to section 3.1.2.

3.1.2 *Potential to release.* Evaluate potential to release only if an observed release cannot be established for the aquifer. Evaluate potential to release based on four factors: containment, net precipitation, depth to aquifer, and travel time. For sources overlying karst terrain, give any karst aquifer that underlies any portion of the sources at the site special consideration in evaluating depth to aquifer and travel time, as specified in sections 3.1.2.3 and 3.1.2.4.

3.1.2.1 *Containment.* Assign a containment factor value from Table 3-2 to each source at the site. Select the highest containment factor value assigned to those sources with a source hazardous waste quantity value of 0.5 or more (see section

TABLE 3-6.—HYDRAULIC CONDUCTIVITY OF GEOLOGIC MATERIALS

Type of material	Assigned hydraulic conductivity * (cm/sec)
Clay: low permeability till (compact unfractured till); shale; unfractured metamorphic and igneous rocks	10^{-6}
Silt: loesses; silty clays; sediments that are predominantly silts; moderately permeable till (fine-grained, unconsolidated till, or compact till with some fractures); low permeability limestones and dolomites (no karst); low permeability sandstone; low permeability fractured igneous and metamorphic rocks	10^{-4}
Sands: sandy silts; sediments that are predominantly sand; highly permeable till (coarse-grained, unconsolidated or compact and highly fractured); peat; moderately permeable limestones and dolomites (no karst); moderately permeable sandstone; moderately permeable fractured igneous and metamorphic rocks	10^{-2}
Gravel: clean sand; highly permeable fractured igneous and metamorphic rocks; permeable basalt; karst limestones and dolomites	10^{-1}

* Do not round to nearest integer.

TABLE 3-7.—TRAVEL TIME FACTOR VALUES *

Hydraulic conductivity (cm/sec)	Thickness of lowest hydraulic conductivity layer(s)* (feet)			
	Greater than 3 to 5	Greater than 5 to 100	Greater than 100 to 500	Greater than 500
Greater than or equal to 10^{-3}	35	35	35	25
Less than 10^{-3} to 10^{-4}	35	25	15	15
Less than 10^{-4} to 10^{-6}	15	15	5	5
Less than 10^{-6}	5	5	1	1

* If depth to aquifer is 10 feet or less or if, for the interval being evaluated, all layers that underlie a portion of the sources at the site are karst, assign a value of 35.

* Consider only layers at least 3 feet thick. Do not consider layers or portions of layers within the first 10 feet of the depth to the aquifer.

Determine travel time only at locations within 2 miles of the sources at the site, except: if observed ground water contamination attributable to sources at the site extends more than 2 miles beyond these sources, use any location within the limits of this observed ground water contamination when evaluating the travel time factor for any aquifer that does not have an observed release. If the necessary subsurface geologic information is available at multiple locations, evaluate the travel time factor at each location. Use the location having the highest travel time factor value to assign the factor value for the aquifer. Enter this value in Table 3-1.

3.1.2.5 *Calculation of potential to release factor value.* Sum the factor values for net precipitation, depth to aquifer, and travel time, and multiply this sum by the factor value for containment. Assign this product as the potential to release factor value for the aquifer. Enter this value in Table 3-1.

3.1.3 *Calculation of likelihood of release factor category value.* If an observed release is established for an aquifer, assign the observed release factor value of 550 as the likelihood of release factor category value for that aquifer. Otherwise, assign the potential to release factor value for that aquifer as the likelihood of release value. Enter the value assigned in Table 3-1.

3.2 *Waste characteristics.* Evaluate the waste characteristics factor category for an aquifer based on two factors: toxicity/mobility and hazardous waste quantity. Evaluate only those hazardous substances available to migrate from the sources at the site to ground water. Such hazardous substances include:

- Hazardous substances that meet the criteria for an observed release to ground water.
- All hazardous substances associated with a source that has a ground water containment factor value greater than 0 (see sections 2.2.2, 2.2.3, and 3.1.2.1).

3.2.1 *Toxicity/mobility.* For each hazardous substance, assign a toxicity factor value, a mobility factor value, and a combined toxicity/mobility factor value as specified in the following sections. Select the toxicity/mobility factor value for the aquifer being evaluated as specified in section 3.2.1.3.

3.2.1.1 *Toxicity.* Assign a toxicity factor value to each hazardous substance as specified in Section 2.4.1.1.

3.2.1.2 *Mobility.* Assign a mobility factor value to each hazardous substance for the aquifer being evaluated as follows:

- For any hazardous substance that meets the criteria for an observed release by chemical analysis to one or more aquifers underlying the sources at the site, regardless of the aquifer being evaluated, assign a mobility factor value of 1.
- For any hazardous substance that does not meet the criteria for an observed release by chemical analysis to at least one of the aquifers, assign that hazardous substance a mobility factor value from Table 3-8 for the aquifer being evaluated, based on its water solubility and distribution coefficient (K_d).
- If the hazardous substance cannot be assigned a mobility factor value because data on its water solubility or distribution coefficient are not available, use other hazardous substances for which information is available in evaluating the pathway.

TABLE 3-8.—GROUND WATER MOBILITY FACTOR VALUES *

Water solubility (mg/l)	Distribution coefficient (K_d) (ml/g)			
	Karst *	≤ 10	> 10 to 1,000	> 1,000
Present as liquid *	1	1	0.01	0.0001
Greater than 100	1	1	0.01	0.0001
Greater than 1 to 100	0.2	0.2	0.002	2×10^{-5}
Greater than 0.01 to 1	0.002	0.002	2×10^{-5}	2×10^{-7}
Less than or equal to 0.01	2×10^{-5}	2×10^{-5}	2×10^{-7}	2×10^{-9}

* Do not round to nearest integer.

* Use if the hazardous substance is present or deposited as a solid.

* Use if the entire interval from the source to the aquifer being evaluated is karst.

4.1.4.2.2 *Hazardous waste quantity.* Assign the same factor value for hazardous waste quantity for the watershed as would be assigned in section 4.1.2.2.2 for the drinking water threat. Enter this value in Table 4–1.

4.1.4.2.3 *Calculation of environmental threat-waste characteristics factor category value.* For the hazardous substance selected for the watershed in section 4.1.4.2.1.4, use its ecosystem toxicity/persistence factor value and ecosystem bioaccumulation potential factor value as follows to assign a value to the waste characteristics factor category. First, multiply the ecosystem toxicity/persistence factor value and the hazardous waste quantity factor value for the watershed, subject to a maximum product of 1×10^8. Then multiply this product by the ecosystem bioaccumulation potential factor value for this hazardous substance, subject to a maximum product of 1×10^{12}. Based on this second product, assign a value from Table 2–7 (section 2.4.3.1) to the environmental threat-waste characteristics factor category for the watershed. Enter this value in Table 4–1.

TABLE 4–22.—ECOLOGICAL-BASED BENCHMARKS FOR HAZARDOUS SUBSTANCES IN SURFACE WATER

- Concentration corresponding to EPA Ambient Water Quality Criteria (AWQC) for protection of aquatic life (fresh water or marine).
- Concentration corresponding to EPA Ambient Aquatic Life Advisory Concentrations (AALAC).
- Select the appropriate AWQC and AALAC as follows:
  - –Use chronic value, if available; otherwise use acute value.
  - –If the sensitive environment being evaluated is in fresh water, use fresh water value, except: if no fresh water value is available, use marine value if available.
  - –If the sensitive environment being evaluated is in salt water, use marine value, except: if no marine value is available, use fresh water value if available.
  - –If the sensitive environment being evaluated is in both fresh water and salt water, or is in brackish water, use lower of fresh water or marine values.

TABLE 4–23.—SENSITIVE ENVIRONMENTS RATING VALUES

Sensitive environment	Assigned value
Critical habitat [a] for Federal designated endangered or threatened species	100
Marine Sanctuary	
National Park	
Designated Federal Wilderness Area	
Areas identified under Coastal Zone Management Act [b]	
Sensitive areas identified under National Estuary Program [c] or Near Coastal Waters Program [d]	
Critical areas identified under the Clean Lakes Program [e]	
National Monument [f]	
National Seashore Recreational Area	
National Lakeshore Recreational Area	
Habitat known to be used by Federal designated or proposed endangered or threatened species	75
National Preserve	
National or State Wildlife Refuge	
Unit of Coastal Barrier Resources System	
Coastal Barrier (undeveloped)	
Federal land designated for protection of natural ecosystems	
Administratively Proposed Federal Wilderness Area	
Spawning areas critical [g] for the maintenance of fish/shellfish species within river, lake, or coastal tidal waters	
Migratory pathways and feeding areas critical for maintenance of anadromous fish species within river reaches or areas in lakes or coastal tidal waters in which the fish spend extended periods of time	
Terrestrial areas utilized for breeding by large or dense aggregations of animals [h]	
National river reach designated as Recreational	
Habitat known to be used by State designated endangered or threatened species	50
Habitat known to be used by species under review as to its Federal endangered or threatened status	
Coastal Barrier (partially developed)	
Federal designated Scenic or Wild River	
State land designated for wildlife or game management	25
State designated Scenic or Wild River	
State designated Natural Areas	
Particular areas, relatively small in size, important to maintenance of unique biotic communities	
State designated areas for protection or maintenance of aquatic life [i]	5

[a] Critical habitat as defined in 50 CFR 424.02.
[b] Areas identified in State Coastal Zone Management plans as requiring protection because of ecological value.
[c] National Estuary Program study areas (subareas within estuaries) identified in Comprehensive Conservation and Management Plans as requiring protection because they support critical life stages of key estuarine species (Section 320 of Clean Water Act, as amended).
[d] Near Coastal Waters as defined in Sections 104(b)(3), 304(1), 319, and 320 of Clean Water Act, as amended.
[e] Clean Lakes Program critical areas (subareas within lakes, or in some cases entire small lakes) identified by State Clean Lake Plans as critical habitat (Section 314 of Clean Water Act, as amended).
[f] Use only for air migration pathway.
[g] Limit to areas described as being used for intense or concentrated spawning by a given species.
[h] For the air migration pathway, limit to terrestrial vertebrate species. For the surface water migration pathway, limit to terrestrial vertebrate species with aquatic or semiaquatic foraging habits.
[i] Areas designated under Section 305(a) of Clean Water Act, as amended.

n = Number of terrestrial sensitive environments meeting section 5.1.3 criteria.

Because the pathway score based solely on terrestrial sensitive environments is limited to a maximum of 60, determine the value for the terrestrial sensitive environments factor as follows:

TABLE 5-5.—TERRESTRIAL SENSITIVE ENVIRONMENTS RATING VALUES

Terrestrial sensitive environments	Assigned value
Terrestrial critical habitat [a] for Federal designated endangered or threatened species	100
National Park Designated Federal Wilderness Area National Monument	
Terrestrial habitat known to be used by Federal designated or proposed threatened or endangered species	75
National Preserve (terrestrial) National or State Terrestrial Wildlife Refuge Federal land designated for protection of natural ecosystems Administratively proposed Federal Wilderness Area Terrestrial areas utilized for breeding by large or dense aggregations of animals [b]	
Terrestrial habitat known to be used by State designated endangered or threatened species	50
Terrestrial habitat known to be used by species under review as to its Federal designated endangered or threatened status	
State lands designated for wildlife or game management	25
State designated Natural Areas Particular areas, relatively small in size, important to maintenance of unique biotic communities	

[a] Critical habitat as defined in 50 CFR 424.02.
[b] Limit to vertebrate species.

• Multiply the values assigned to the resident population threat for likelihood of exposure (LE), waste characteristics (WC), and ES. Divide the product by 82,500.

–If the result is 60 or less, assign the value ES as the terrestrial sensitive environments factor value.

–If the result exceeds 60, calculate a value EC as follows:

$$EC = \frac{(60)(82{,}500)}{(LE)(WC)}$$

Assign the value EC as the terrestrial sensitive environments factor value. Do not round this value to the nearest interger.

Enter the value assigned for the terrestrial sensitive environments factor in Table 5–1.

5.1.3.6 *Calculation of resident population targets factor category value.* Sum the values for the resident individual, resident population, workers, resources, and terrestrial sensitive environments factors. Do not round to the nearest integer. Assign this sum as the targets factor category value for the resident population threat. Enter this value in Table 5–1.

5.1.4 *Calculation of resident popuiction threat score.* Multiply the values for likelihood of exposure, waste characteristics, and targets for the resident population threat, and round the product to the nearest integer. Assign this product as the resident population threat score. Enter this score in Table 5–1.

5.2 *Nearby population threat.* Include in the nearby population only those individuals who live or attend school within a 1-mile travel distance of an area of observed contamination at the site and who do not meet the criteria for resident individual as specified in section 5.1.3.

Do not consider areas of observed contamination that have an attractiveness/accessibility factor value of 0 (see section 5.2.1.1) in evaluating the nearby population threat.

5.2.1 *Likelihood of exposure.* Evaluate two factors for the likelihood of exposure factor category for the nearby population threat: attractiveness/accessibility and area of contamination.

5.2.1.1. *Attractiveness/accessibility.* Assign a value for attractiveness/accessibility from Table 5–6 to each area of observed contamination, excluding any land used for residences. Select the highest value assigned to the areas evaluated and use it as the value for the attractiveness/accessibility factor. Enter this value in Table 5–1.

5.2.1.2 *Area of contamination.* Evaluate area of contamination based on the total area of the areas of observed contamination at the site. Count only the area(s) that meet the criteria in section 5.0.1 and that receive an attractiveness/accessibility value greater than 0. Assign a value to this factor from Table 5–7. Enter this value in Table 5–1.

TABLE 5–6.—ATTRACTIVENESS/ ACCESSIBILITY VALUES

Area of observed contamination	Assigned value
Designated recreational area	100
Regularly used for public recreation (for example, fishing, hiking, softball)	75
Accessible and unique recreational area (for example, vacant lots in urban area)	75
Moderately accessible (may have some access improvements—for example, gravel road), with some public recreation use	50
Slightly accessible (for example, extremely rural area with no road improvement), with some public recreation use	25
Accessible, with no public recreation use	10
Surrounded by maintained fence or combination of maintained fence and natural barriers	5
Physically inaccessible to public, with no evidence of public recreation use	0

TABLE 5–7.—AREA OF CONTAMINATION FACTOR VALUES

Total area of the areas of observed contamination (square feet)	Assigned value
Less than or equal to 5,000	5
Greater than 5,000 to 125,000	20
Greater than 125,000 to 250,000	40
Greater than 250,000 to 375,000	60
Greater than 375,000 to 500,000	80
Greater than 500,000	100

5.2.1.3 *Likelihood of exposure factor category value.* Assign a value from Table 5–8 to the likelihood of exposure factor category, based on the values assigned to the attractiveness/accessibility and area of contamination factors. Enter this value in Table 5–1.

TABLE 5–8.—NEARBY POPULATION LIKELIHOOD OF EXPOSURE FACTOR VALUES

Area of contamination factor value	Attractiveness/accessibility factor value						
	100	75	50	25	10	5	0
100	500	500	375	250	125	50	0
80	500	375	250	125	50	25	0
60	375	250	125	50	25	5	0
40	250	125	50	25	5	5	0
20	125	50	25	5	5	5	0
5	50	25	5	5	5	5	0

5.2.2 *Waste characteristics.* Evaluate waste characteristics based on two factors: toxicity and hazardous waste quantity. Evaluate only those hazardous substances that meet the criteria for observed contamination (see section 5.0.1) at areas that can be assigned an attractiveness/accessibility factor value greater than 0.

5.2.2.1 *Toxicity.* Assign a toxicity factor value as specified in section 2.4.1.1 to each hazardous substance meeting the criteria in section 5.2.2. Use the hazardous substance with the highest toxicity factor value to assign the value to the toxicity factor for the nearby population threat. Enter this value in Table 5–1.

5.2.2.2 *Hazardous waste quantity.* Assign a value to the hazardous waste quantity factor as specified in section 5.1.2.2, except: consider only those areas of observed contamination that can be assigned an attractiveness/accessibility factor value greater than 0. Enter the value assigned in Table 5–1.

5.2.2.3 *Calculation of waste characteristics factor category value.* Multiply the toxicity and hazardous waste quantity factor values, subject to a maximum product of 1×10^8. Based on this product, assign a value from Table 2–7 (section 2.4.3.1) to the waste characteristics factor category. Enter this value in Table 5–1.

5.2.3 *Targets.* Evaluate the targets factory category for the nearby population threat based on two factors: nearby individual and population within a 1-mile travel distance from the site.

5.2.3.1 *Nearby individual.* If one or mor persons meet the section 5.1.3 criteria for a

REFERENCE NO. 13

100041

#1 C

36-05 426

Form DWR-138
11/80

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 36-2880

APPLICATION NO. _____

COUNTY ATL

WELL RECORD

1. OWNER JOHN BORNS ADDRESS P.O. BOX 251 POMONA

Owner's Well No. _____ SURFACE ELEVATION _____ Feet (Above mean sea level)

2. LOCATION ZURICK AVE - PART OF LOT 3 BLK 650 GALLOWAY TWP

3. DATE COMPLETED 3/7/83 DRILLER WILL MCGINNIS

4. DIAMETER: Top 2 inches Bottom 2 inches TOTAL DEPTH 85 Feet

5. CASING: Type GALV STEEL Diameter 2 Inches Length 21 Feet

6. SCREEN: Type WRAP S.STEEL Size of Opening 10 Diameter 2 3/8 Inches Length 3 Feet

Range in Depth { Top 80 Feet / Bottom 85 Feet } Geologic Formation WATER SAND

Tail Piece: Diameter _____ Inches Length _____ Feet

7. WELL FLOWS NATURALLY NO Gallons per minute at _____ Feet above surface

Water rises to _____ Feet above surface

8. RECORD OF TEST: Date 3/7/83 Yield 10 Gallons per minute

Static water level before pumping 7 Feet below surface

Pumping level 12 feet below surface after 4 hours pumping

Drawdown 5 Feet Specific Capacity _____ Gals. per min. per ft. of drawdown

How pumped AIR LIFT How measured _____

Observed effect on nearby wells NONE

9. PERMANENT PUMPING EQUIPMENT:

Type S.W. JET Mfrs. Name AERMOTOR

Capacity 8 G.P.M. How Driven ELEC H.P. 3/4 R.P.M. 3450

Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet

Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ Inches

10. USED FOR NEW DOMESTIC AMOUNT { Average _____ Gallons Daily / Maximum _____ Gallons Daily }

11. QUALITY OF WATER GOOD Sample: Yes ____ No ____

Taste GOOD Odor NO Color CLEAR Temp. 57 °F.

12. LOG _____ Are samples available? _____

(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)

13. SOURCE OF DATA WILL MCGINNIS

14. DATA OBTAINED BY Will McGinnis Date 3/15/83

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

REFERENCE NO. 14

FEASIBILITY OF ARTIFICIAL RECHARGE TO THE 800-FOOT SAND OF THE KIRKWOOD FORMATION IN THE COASTAL PLAIN NEAR ATLANTIC CITY, NEW JERSEY

By Jayne E. May

U.S. GEOLOGICAL SURVEY

Water-Resources Investigations Report 85-4063

Prepared in cooperation with the
NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION,
DIVISION OF WATER RESOURCES

Trenton, New Jersey

1985

water-quality interpretations, respectively; and to those who permitted sampling of their water supply.

HYDROGEOLOGY OF THE ATLANTIC CITY AREA

The study area is in the Coastal Plain of New Jersey, which is underlain by unconsolidated deposits of gravel, sand, silt, and clay. The major aquifers and accompanying clay confining layers are of Tertiary age and in ascending order are divided into two units: (1) the Atlantic City 800-foot sand of the Kirkwood Formation and (2) the Kirkwood-Cohansey aquifer system (fig. 2).

The Atlantic City 800-foot sand, commonly referred to in this report as the 800-foot sand, is the principal aquifer supplying water to barrier-island communities in the study area. It is composed of gray, medium- to coarse-grained quartz sand and gravel containing interspersed shell fragments (Zapecza, 1984). This aquifer thickens to the southeast; at Atlantic City it is more than 150 ft thick (Zapecza, 1984). The 800-foot sand is confined between an underlying thin clay layer and an overlying thick massive clay layer, both within the Kirkwood Formation (fig. 2). In the Atlantic City area, the overlying layer is more than 300 ft thick (Zapecza, 1984). The 800-foot sand is a highly permeable artesian aquifer. Values of transmissivity, based on about 30 tests of the aquifer in and near the study area, range from 6,000 to 12,000 feet squared per day (ft^2/day). Values of storage coefficient, computed from three of these tests, range from 1.2×10^{-4} to 2.8×10^{-4} (M. M. Martin, U.S. Geological Survey, written commun., 1984).

In the study area, the Kirkwood-Cohansey aquifer system consists chiefly of the upper part of the Kirkwood Formation and the overlying Cohansey Sand (fig. 2). Because of their similar hydrologic and geologic properties, these units are not recognized individually; instead, they are generally considered to be components of the larger aquifer system. In coastal areas, the upper part of the Kirkwood Formation consists of thick clay layers containing zones of sand and gravel; farther inland, it is composed chiefly of silty sand and fine- to medium-grained sand (Zapecza, 1984). The Cohansey Sand is typically a light-colored quartz sand with lenses of clay and silt (Vowinkle and Foster, 1981, p. 9). Locally, it may contain small but thick clay lenses (fig. 2). Natural recharge to the Cohansey Sand averages about 0.95 million gallons per day (Mgal/d) (Rhodehamel, 1970, p. 18). The Kirkwood-Cohansey aquifer system thickens to the southeast; in the Atlantic City area it is approximately 400 ft thick (Zapecza, 1984). Commonly, this aquifer system is highly permeable and unconfined. Values of transmissivity, based on about 45 tests of the aquifer system in and near the Atlantic City area, range from 8,000 to 11,000 ft^2/day. The value of the storage coefficient, estimated from one of these tests, was 4.2×10^{-4} (M. M. Martin, U.S. Geological Survey, written commun., 1984).

REFERENCE NO. 15

100045

Document Control No. 4200-16-ADBB

Work Order No. 04200-016-087-0059

Emmell's Septic Landfill

Cerclis ID # NJD980772727

Work Assignment No.: 016-2JZZ

TASK MANAGER - Dave Benfer

Roy F. Weston, INC.
Raritan Plaza I, 4th Floor
Raritan Center
Edison, New Jersey 08837

Prepared for:

United States Environmental Protection Agency

100047

Friday
August 13, 1993

0800 Dave Benke (DB) departs to conduct ~~on-site~~ off-site reconnaissance at Evansville Septic Landfill.

1000 Arrive along Zurich Road, Galloway Township Atlantic County adjacent to site. Site is bordered to the northwest by Zurich Avenue and the remainder of the site is bordered by heavily wooded areas. The site slopes gradually to the south ~~southeast~~. A gravel road leads into the site. The site is not surrounded by any fence or boundry of any kind. There are NO residents, schools or day care centers within 200 feet of the site. There are NO workers on site and appears to have been vacant for a long time. Site is located in a rural area.

1020 P_1 View of Abandoned house on-site

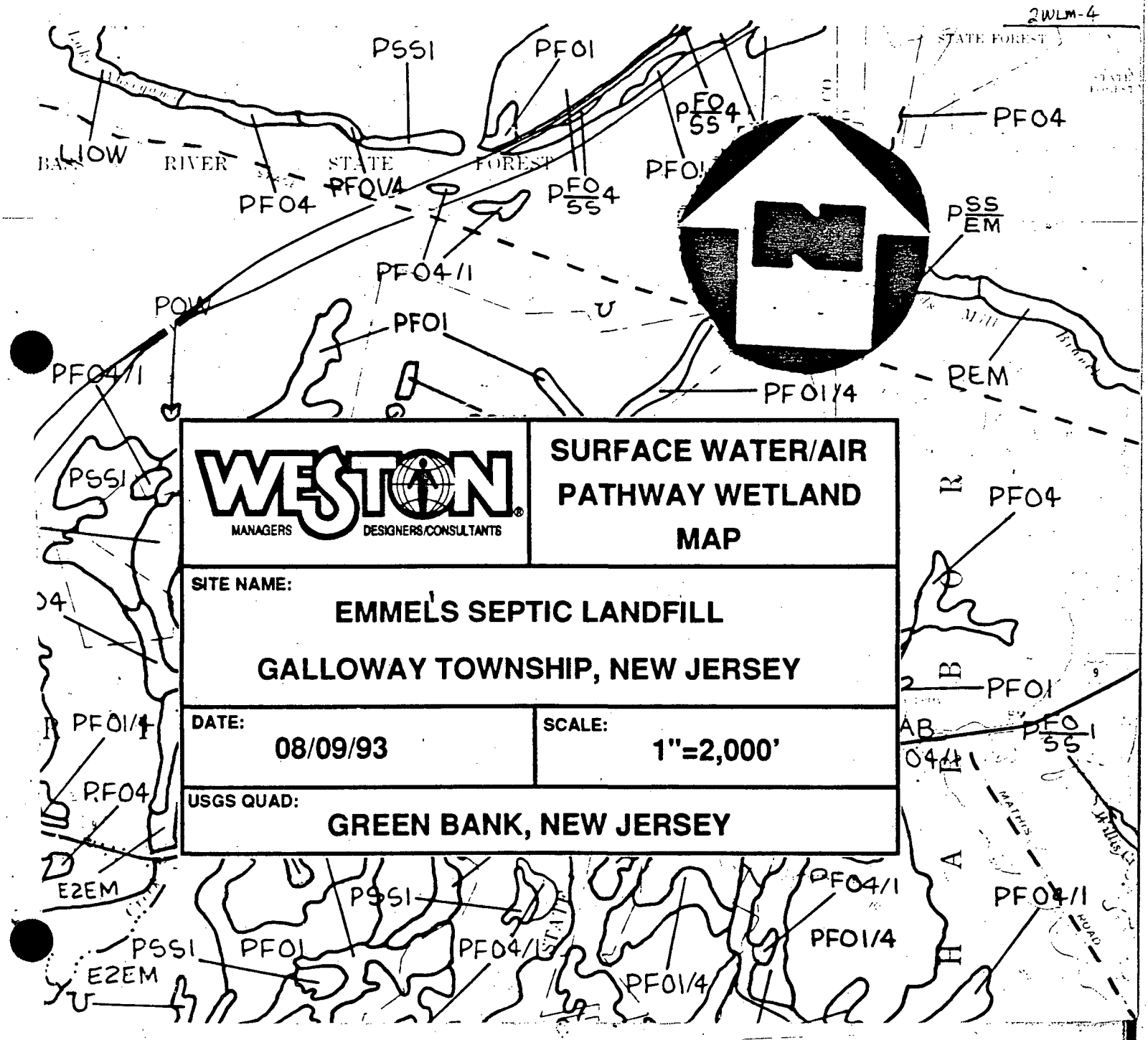
1025 P_2 View of site looking southeast

1030 P_3 View of dirt road leading into site

1035 P_4 View of site looking south

REFERENCE NO. 16

S INVENTORY
OF THE INTERIOR



WESTON® MANAGERS DESIGNERS/CONSULTANTS

SURFACE WATER/AIR PATHWAY WETLAND MAP

SITE NAME:
EMMEL'S SEPTIC LANDFILL
GALLOWAY TOWNSHIP, NEW JERSEY

DATE:	SCALE:
08/09/93	1"=2,000'

USGS QUAD:
GREEN BANK, NEW JERSEY

100049

REFERENCE NO. 17

HAZARDOUS WASTE INVESTIGATION HW/EF 01-11-06

Inspector: C. Elmendorf Date: 3/1/83 Time:1400

Location: Emmells Septic Telephone: 965-2787

St: 128 Zurich Ave. Property owner: William Emmell Jr.
c/o Earl Emmell Sr.
1003 Folsom
Mays Landing 965-2787

Town: Galloway Twp.

County: Atlantic

Lot: 7, 9 Block:650 Type Ownership: Individual

Origin of Complaint: Assignment

Complaint: Follow up investigation, check status of site.

Findings:

On 3/1/83, at approximately 1400, the writer arrived at the above site to ascertain whether or not any ongoing disposal was still taking place. Upon arrival at the site, no activity was noted. The property of concern is for sale through Focus Realty, 645-8010. The property consists of two adjacent lots, lots 7, 9 and total area is about 38 acres, according to tax records. The area which had obviously been dumped on is just off of Zurich Ave. and south of the house on site. See attached sketch.

Compared to the most recent inspection, on March 31, 1982, at which time inspector Thompson noted numerous tires, drums and cars, The site appeared to have been cleaned up to some extent.

There were roughly four areas of concentrated garbage, consisting mainly of household, bulky and demolition wastes, very few metal drums were noted, and these were empty or crushed. To the east of the rubble piles, about a dozen conpressed gas-type cylinders were noted lying on the ground. No legible markings could be seen on the cylinders. In the general area of the rubble piles, several small deposits of what appeared to be paint residues were noted. The material in question varied in color form bright blue to purple and had a consistency of hardened paint. On 3/8/83 the writer returned to the site and obtained a sample of the solid residue, assigned sample # CE168.

A below ground tank or pit was noted just north of the garage. This may have served as a septic tank but it could not be confirmed. A level of liquid was noted about 10' below ground level at the opening.

Subsequent to the site inspection, the law offices of Robert Boney were called at 653-1200. Jane Weather was contacted and explained that William Jr. and Pearl Emmell are both dead and an inheritance tax return was never filed so as far as the law office knows, the landowner never changed. The son of William Jr., Earl Sr., however, was legally appointed as administrator of the estate. Ms. Weathers gave Earl Sr.'s phone # as 927-6763, but when this # was called, a recording said the # had been changed and the new # is not listed.

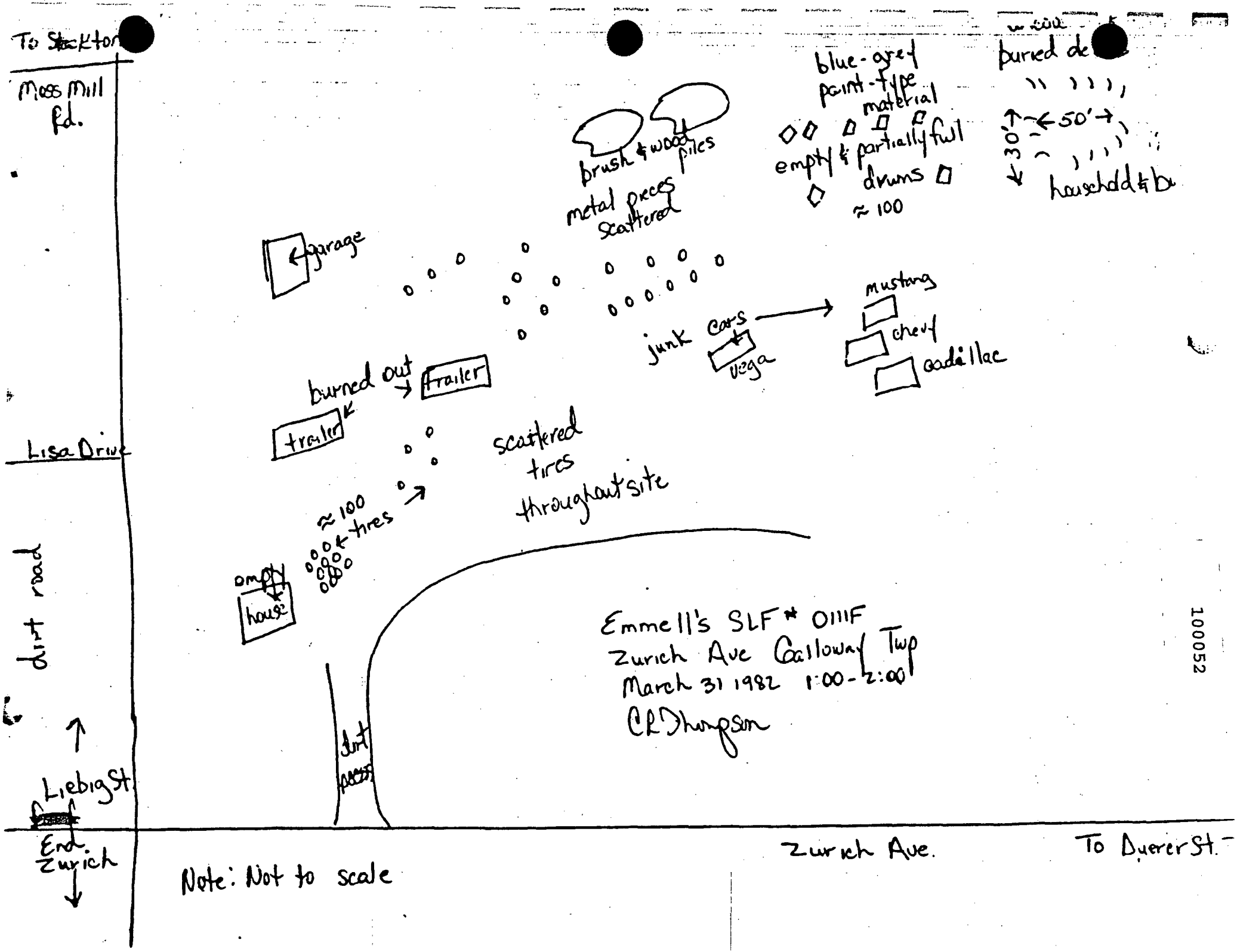
Although the site had apparently been cleaned up to some degree, there still remains several piles of exposed rubble, the above noted gas cylinders, some residual dried paint-like material and the open pit or belowground tank: Photographs were taken of all mentioned areas.

100051

Charles Elmendorf

Charles Elmendorf, Env. Spec.

19


To Stockton
Moss Mill Rd.
blue-grey paint-type material
empty & partially full drums
≈ 100
burned de
30'
50'
household &
brush & wood piles
metal pieces scattered
garage
junk cars
vega
mustang
chevy
cadillac
burned out trailer
trailer
Lisa Drive
scattered tires throughout site
≈ 100 tires
empty house
dirt road
dirt access
Emmell's SLF # 0111F
Zurich Ave Galloway Twp
March 31 1982 1:00-2:00
CR Thompson
100052
Liebig St.
End Zurich
Zurich Ave.
To Duerer St.
Note: Not to scale

REFERENCE NO. 18

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF WATER RESOURCES

TRENTON, NEW JERSEY 08625

(In the matter of alleged violations of N.J.A.C.)
(7:26-1 et seq. by Emmell's Cesspool Service at)
(its solid waste disposal facility located at) DEPARTMENTAL ORDER
(Block 904, Lots 5 and 6, Galloway Township,)
(Atlantic County, NJ, 0111F)

WHEREAS, Emmell's Cesspool Service operates a disposal site located at Block 904, Lots 5 and 6, Galloway Township, Atlantic County, New Jersey, and

WHEREAS, on Emmell's Cesspool Service disposal operation was observed by a representative of the Department of Environmental Protection to be in violation of N.J.A.C. 7:26-1 et seq. as follows:

N.J.A.C. 7:26-2.4 - Emmell's Cesspool Service engaged in the disposal of solid waste and failed to submit engineering designs to the Bureau for review.

N.J.A.C. 7:26-2.6.1.1 - The investigation disclosed that Emmell's Cesspool Service engaged in the disposal of human fecal material and allowed said material to be lagooned.

NOW, THEREFORE, under the authority of N.J.S.A. 13:1E-1 et seq., Emmell's Cesspool Service IS HEREBY ORDERED to correct the aforementioned violations by April 19, 1976. so as to comply with N.J.A.C. 7:26-1 et seq.

NOW, THEREFORE, Emmell's Cesspool Service IS HEREBY NOTIFIED that:

Violation of N.J.A.C. 7:26-1 et seq. is punishable in accordance with N.J.S.A. 13:1E-9 by a maximum penalty of $1,000 per day.

DATED February 19, 1976

Beatrice S. Tylutki, Director
Solid Waste Administration

100054

REFERENCE NO. 19

100056

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

SOLID WASTE ADMINISTRATION
TRENTON, 08625

NOTICE OF PROSECUTION

( )
(Emmell William)
(Emmell Cesspool Service)
(Box 1630, Rd#1 Zurich Ave)
(Egg Harbor N.J. 08215)
( )

VIOLATION OF NEW JERSEY
ADMINISTRATIVE CODE
SECTION 7:26-2.2.(e)

Dear Sir:

Investigation by this Department discloses that you have violated N.J.A.C. 7:26-2.2.(e) in that you have failed to submit the required updated Operational Statement.

You were informed by a notice in April 1978 of the above indicated requirement. The maximum penalty which may be levied against you for this violation is $3,000.

The Solid Waste Administration is willing to settle and compromise its claim for penalties against you. In order to avail yourself of this procedure you must submit your delinquent forms properly completed, plus a penalty settlement in the amount of $100.00. All of the above must be submitted on or before November 17, 1978. Payment should be made by check or money order for the total amount due, payable to "Treasurer, State of New Jersey."

In the event that you fail to comply with these requirements, this matter will be referred to the Office of the Attorney General to seek maximum penalties and possible revocation of your authority to operate in the State of New Jersey.

October 23, 1978
Date

Beatrice S. Tylutki, Director
Solid Waste Administration

0311A

REFERENCE NO. 20

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

SOLID WASTE ADMINISTRATION
TRENTON, 08625

BEATRICE S. TYLUTKI
DIRECTOR

NOTICE OF PROSECUTION

(Emmell's Cesspool Service)
(R. D. #1, Zurich Avenue)
(Egg Harbor, New Jersey 08215)

Violation Occurred On Premises Known As:

Emmell's SWDA, ID # 0111F, Zurich Avenue, Block: 904, Lots: 5, 6, Galloway Township, Atlantic County P-410

Dear Sir:

Investigation by this Department on July 27, 1979 disclosed violations of N. J. Administrative Code 7:26-2.6.1.1 and 2.2.4. The maximum penalty that may be levied for each violation is $3,000 per day.

The Solid Waste Administration will withhold prosecution until October 5, 1979 to allow for settlement of a claim for a penalty against you in the amount of $1000. Should you desire to settle your claim, payment must be made on or before this date by money order or check drawn to the order of Treasurer, State of New Jersey.

The violations of N.J.A.C. 7:26-2.6.1.1 and 2.2.4 are to be corrected immediately.

In the event payment is not received and the violations are not corrected by the indicated dates, this matter will be referred to the Office of the Attorney General for prosecution.

N.J.A.C. 7:26-2.6.1.1 - The investigation disclosed that Emmell's Cesspool Service engaged in the disposal of solid waste on the above mentioned premises and allowed septic waste to be ponded on said premises rather than discing the waste into the soil as required.

N.J.A.C. 7:26-2.2.4 - The investigation disclosed that Emmell's Cesspool Service engaged in the disposal of solid waste on the above mentioned premises and failed to comply with the conditions and limitations set forth in the operational approval issued January 17, 1978; specifically, failure to maintain a dike to the rear of the premises to prevent septic runoff into the wooded area adjacent to the disposal area.

September 5, 1979
DATE

Beatrice S. Tylutki, Director
Solid Waste Administration

100058

5

REFERENCE NO. 21

100060

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

SOLID WASTE ADMINISTRATION
TRENTON, 08625

BEATRICE S. TYLUTKI
DIRECTOR

NOTICE OF PROSECUTION

(Mr. William Emmell, Jr.)
(Emmell's Cesspool Service)
(R.D. #1, Zurich Avenue)
(Egg Harbor, New Jersey 08215)

Violation Occurred On Premises Known As:

Emmell's SWDA, ID # 0111F, Zurich Avenue,
Block: 904, Lots: 5, 6, Galloway Township
Atlantic County P-346

Dear Mr. Emmell:

Investigation by this Department on May 9, 1979 disclosed violations of New Jersey Administrative Code 7:26-2.6.1.1 and 2.2.4. The maximum penalty that may be levied for each violation is $3,000 per day.

The Solid Waste Administration will withhold prosecution until July 27, 1979 to allow for settlement of a claim for a penalty against you in the amount of $1000. Should you desire to settle your claim, payment must be made on or before this date by money order or check drawn to the order of Treasurer, State of New Jersey.

The violation of N.J.A.C. 7:26-2.6.1.1 is to be corrected immediately.

The violation of N.J.A.C. 7:26-2.2.4 is to be corrected by July 27, 1979.

In the event payment is not received and the violations are not corrected by the indicated dates, this matter will be referred to the Office of the Attorney General for prosecution.

N.J.A.C. 7:26-2.6.1.1 - The investigation disclosed that Emmell's Cesspool Service engaged in the disposal of solid waste on the above mentioned premises and allowed septic waste to be ponded on said premises rather than discing the waste into the soil as required.

N.J.A.C. 7:26-2.2.4 - The investigation disclosed that Emmell's Cesspool Service engaged in the disposal of solid waste on the above mentioned premises and failed to comply with the conditions and limitations set forth in operational approval issued January 17, 1978; specifically, failure to maintain a dike to the rear of the premises to prevent septic flow into the wooded area adjacent to the disposal area.

June 27, 1979
DATE

Beatrice S. Tylutki
Beatrice S. Tylutki, Director
Solid Waste Administration

7

REFERENCE NO. 22

100062

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF ENVIRONMENTAL QUALITY
JOHN FITCH PLAZA, CN 027, TRENTON, N. J. 08625
SOLID WASTE ADMINISTRATION

NOTICE OF PROSECUTION

(WILLIAM AND EARL EMMEL)
(1003 FOLSOM AVENUE)
(MAYS LANDING, NEW)
(JERSEY 08330)

Violations Occurred on Premises Known As:

Block 650, Lot 7, Township of Galloway, County of Atlantic, New Jersey

Dear Sir:

Investigation by this Department on January 25, 1980, disclosed violations of the New Jersey Administrative Code 7:26-1 et seq. The maximum penalty that may be levied for each violation is $3,000 per day.

Prosecution is being withheld until May 29, 1980 for settlement of a claim for a penalty against you in the amount of $2,000. Should you desire to settle your claim, payment must be made on or before this date by money order or check drawn to the order of Treasurer, State of New Jersey.

N.J.A.C. 7:26-2.2(b) ($1,000) The investigation disclosed that William & Earl Emmel engaged in the disposal of solid waste, specifically chemical waste, on the above mentioned premises without having first obtained an approved registration statement from the Department.

N.J.A.C. 7:26-2.2(c) ($1,000) The investigation disclosed that William & Earl Emmel engaged in the disposal of solid waste, specifically chemical waste, on the above mentioned premises without having first submitted an engineering design and obtained approval of same from the Department.

FURTHERMORE, William & Earl Emmel is HEREBY ORDERED to:

1. Immediately cease all waste storage, processing and disposal activities.

2. Within 14 days of receipt of this Order, submit the following information to the Solid Waste Administration:

   a. Total number of containers, volumes and contents on-site;

34

b. Identify any materials buried on-site;

c. Identify any materials which have leaked or spilled from drums or other containers;

d. A schedule to excavate and remove all chemical waste from the site to an authorized special waste facility within 30 days of receipt of this Order; and

3. Within 30 days of receipt of this Order:

a. Excavate and remove all chemical waste from the above captioned property to an authorized special waste facility;

b. Excavate and remove all chemical materials which have leaked or spilled from containers of materials stored at the above location;

c. Repackage any container which fails to hold its contents so as to prevent any spillage.

4. All containers are to be properly labeled and all shipments of chemical waste materials are to be accompanied by the appropriately completed special waste manifest; and

5. All shipments of waste must be hauled by a properly registered collector/hauler.

6. Notify the Solid Waste Administration within 24 hours before any specific time of any shipments.

Failure to comply with all of the requirements of this Notice of Prosecution and/or failure to make timely payment of penalties identified above will precipitate immediate referral of this matter to the Office of the Attorney General to seek maximum penalties allowed by law.

April 29, 1980
DATE

George J. Tyler
George J. Tyler, Director
Division of Environmental Quality

100063

35

REFERENCE NO. 23

100064

#315
Gardner

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES
CN 029
TRENTON, NEW JERSEY 08625

JOHN W. GASTON JR., P.E.
DIRECTOR

DIRK C. HOFMAN, P.E.
DEPUTY DIRECTOR

MEMORANDUM

JUN 06 1985

TO: Edward Londres, Assistant Director
Division of Waste Management

FROM: John J. Trela, Chief
Bureau of Ground Water Discharge Permits

SUBJECT: Emmells Sanitary Landfill
Galloway Twp., Atlantic County
NJPDES# 0059927

Attached please find for your review a draft permit to monitor ground water discharges for the above cited landfill, pursuant to NJPDES regulations.

We will issue the NJPDES permit according to regulations after we have received and reviewed your comments and recommendations within 10 working days of the date of this memo. If comments are not returned within 10 working days, the permit will be issued for public notice in its present form.

WQM111

Attachments

cc: (with attachments)
George McCann
Paul Kurisko
Joseph Rogalski

100065

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES
CN 029
TRENTON, NEW JERSEY 08625

JOHN W. GASTON JR., P.E.
DIRECTOR

DIRK C. HOFMAN, P.E.
DEPUTY DIRECTOR

William Emmell
1003 Folsom Avenue
Mays Landing, NJ 06330

Re: Emmell's Sanitary Landfill
NJPDES# 0059927

Dear Mr. Emmell

Attached is a draft New Jersey Pollutant Discharge Elimination System (NJPDES) permit that has been issued pursuant to N.J.A.C. 7:14A-1 et seq. This NJPDES permit is issued under the authority of the New Jersey Water Pollution Control Act and the New Jersey Solid Waste Management Act and upon issuance of the permit shall supercede any previously existing ground water monitoring requirements that the above named facility may have implemented.

Please be aware of the following provisions of this permit:

1) Any existing wells must be certified by a licensed New Jersey Professional Engineer and must be surveyed by a licensed New Jersey Land Surveyor. If the construction details or location are unknown or cannot be determined, then a new well must be drilled.

2) New ground water monitoring wells must be drilled within the time specified in the permit and certifications to location and construction shall be submitted in accordance with conditions of the permit.

3) New Jersey State well permits shall be obtained for all new wells and any existing wells that were drilled without valid well permits.

4) Samples must be collected and analyzed by a New Jersey Certified laboratory at the frequency and for the parameters specified in the permit.

5) Data must be submitted on the enclosed state forms. Data which is not submitted on the state forms does not meet the reporting requirements of this permit. Data submitted for water analysis

from uncertified wells is likewise unacceptable and does not fulfill the reporting requirements of the permit.

6) Please be advised that failure to meet the conditions of the permit can result in the imposition of substantial administrative, civil and criminal penalties.

If you have any questions regarding this permit, please contact Mr. William Brown at (609) 292-0424.

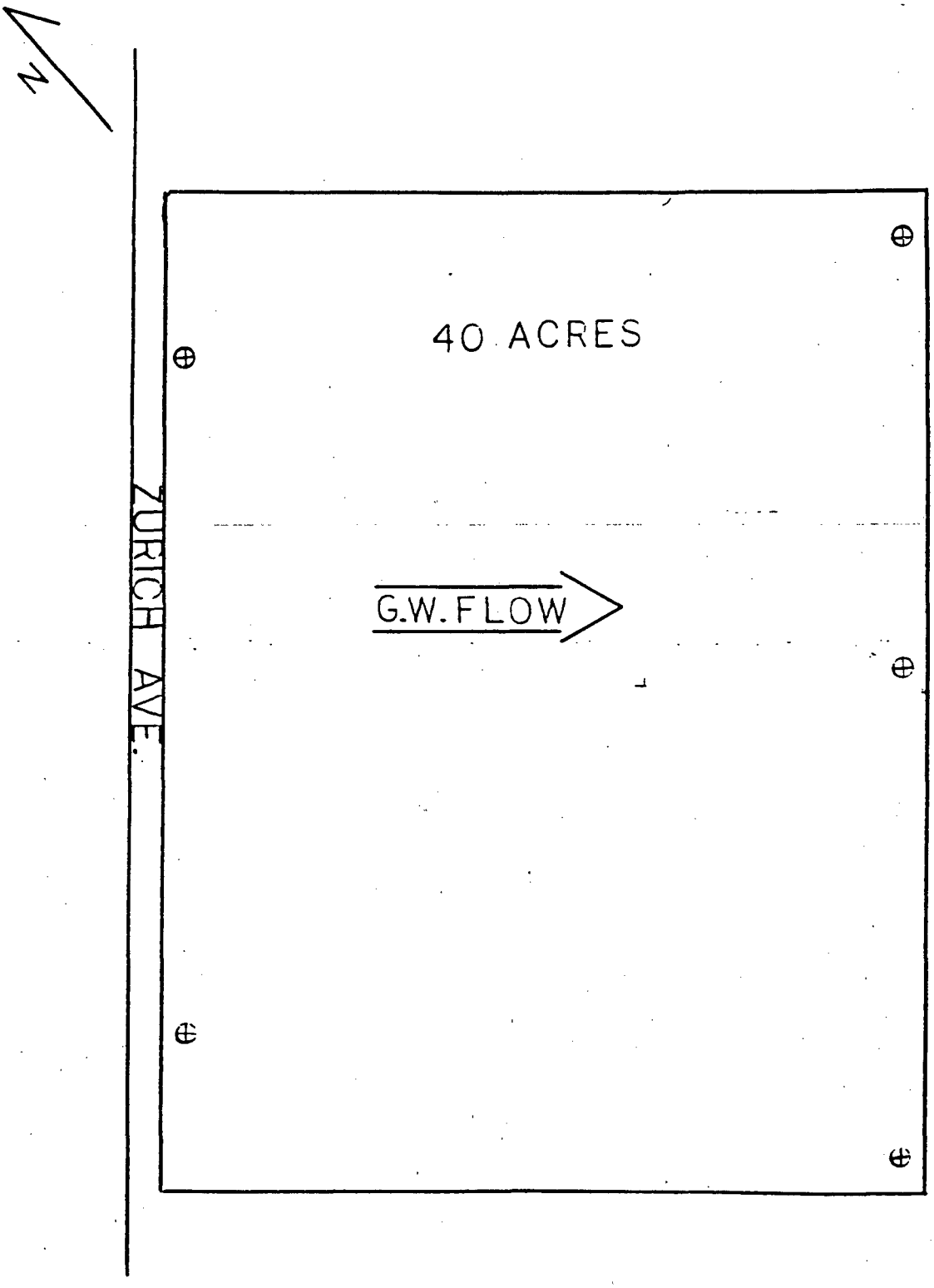
Very truly yours,

Arnold Schiffman
Administrator
Water Quality Management

Edward Londres
Assistant Director
Engineering Permits and Licensing
Division of Waste Management

WQM111-C2/LP:fmm

ATTACHMENT 1
EMMELL'S SLF



MONITOR WELL LOCATION

100068

REFERENCE NO. 24

Let's protect our earth

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES
SOUTHERN BUREAU OF REGIONAL ENFORCEMENT
20 EAST CLEMENTON ROAD
THE PAINT WORKS
GIBBSBORO, NEW JERSEY 08026

GEORGE G. McCANN, P.E.
DIRECTOR

DIRK C. HOFMAN, P.E.
DEPUTY DIRECTOR

Barbara and Earl Emmell
Route 40
Brandywood Apts. 4-F
Mays Landing, NJ 08625

JUN 30 1988

Re: Compliance Evaluation Inspection
Emmells Landfill - SLF
NJPDES No. NJ0059927
Munic/County: Galloway Twp/Atlantic County

Dear Barbara and Earl Emmell:

A Compliance Evaluation Inspection of your facility was conducted by a representative of this Division on April 7, 1988. A copy of the completed inspection report form is enclosed for your information.

Your facility received a rating of "UNACCEPTABLE" due to the following deficiency:

1. The facility has failed to install ground water monitoring wells as per Part I, Section 10 and Part II-F of your NJPDES permit. Failure to install monitoring wells has resulted in numerous other violations of your NJPDES permit including the failure to conduct sampling, submit monitoring reports, etc. These violations are noted on page two of the attached inspection report.

The deficiency noted above is a violation of the terms and conditions of your NJPDES permit, and/or the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.), and the NJPDES Regulations (N.J.A.C. 7:14A-1 et seq.). You are therefore DIRECTED to institute corrective measures. A written report concerning specific details of remedial measures to be instituted, as well as an implementation timetable, must be submitted to this office within fifteen (15) calendar days of the date of this correspondence.

You are advised that the New Jersey Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) provides for substantial monetary and criminal penalties in cases of permit violations.

Please direct all correspondence and inquiries to Nancy Ratajczak at (609) 346-8032 or by letter to this office.

Very truly yours,

Eugene J. Callahan Jr.

Eugene J. Callahan, Jr.
Acting Section Chief
Southern Bureau of
Regional Enforcement

LF003:NAR:leh
cc: Mr. Stephen Johnson, Acting Chief, BGWDC
Atlantic County Health Dept.

bcc: Gene Callahan
Division File/Latronica
Region File/Weigand
Nancy Ratajczak
John Delany

100072

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES
CN 029, Trenton, N.J. 08625

DISCHARGE SURVEILLANCE REPORT

PERMIT # NJ0059927 NO. OF DISCHARGES — CLASS —

DISCHARGER Emmells landfill

OWNERS Barbara and Earl Emmell

MUNICIPALITY Galloway COUNTY Atlantic WATERSHED CODE —

LOCATION Zurich Ave, Galloway Twp., N.J.

RECEIVING WATERS Ground Water of the State STREAM CLASS —

LICENSED OPERATOR & PLANT CLASS —

TRAINEE/ASSISTANT — OTHER INFO. 625-9577

DEFICIENCIES OR COMMENTS Groundwater monitoring wells not installed as per NJPDES permit.

OVERALL RATING ☐ Acceptable ☐ Conditionally Acceptable ☒ Unacceptable

EVALUATOR Nancy Ratajczak TITLE Environmental Specialist TR

INFORMATION FURNISHED BY (Name) _____

(Title) _____ (Organization) _____

DATE OF INSPECTION 4/7/88

100073

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES
CN 029, Trenton, N.J. 08625

Permit # 0059927

DISCHARGE SURVEILLANCE REPORT

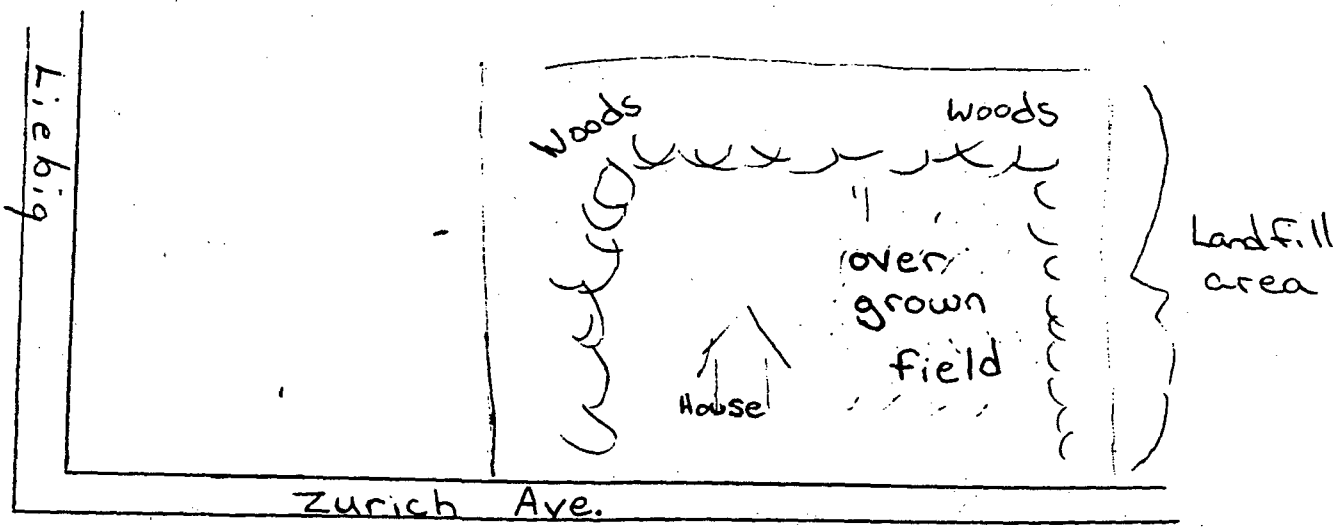
Date 4/7/88

GROUND WATER DISCHARGE EVALUATION

RATING CODES: S = Satisfactory M = Marginal U = Unsatisfactory NA = Not Applicable

		RATING	COMMENTS
GENERAL	TYPE DGW	—	landfill
	RCRA FACILITY	NA	
	DISCHARGE NUMBER	NA	
	WASTEWATER SOURCE/FREQ.	NA	
	SEEPAGE/LEACHING	S	None observed but did not gain
	ODOR/AEROSOLS	S	access to property
MONITORING SYSTEM	WATER SUPPLY/MONITORING	U	Wells not installed
	AQUIFERS MONITORED	U	" " "
	UPGRADIENT WELLS	U	" " "
	DOWNGRADIENT WELLS	U	" " "
	SAMPLING PLAN	U	" " "
	SAMPLING PROCEDURES	U	" " "
	LAB CERTIFICATION	U	" " "
	RECORDS	U	" " "
	REPORTING	U	" " "
LYSIMETER/ MONITORED WELLS	DRILLING PERMIT NUMBERS	U	Wells not Installed
	WELLS NUMBERED/IDENTIFIED	U	" " "
	LOCKS/INTEGRITY	U	" " "
	ABANDONMENT PLAN	U	" " "
	ELEVATION INFORMATION	U	" " "
	WATER LEVEL MEASUREMENT	U	" " "
	TURBIDITY FREE	U	" " "
	SUFFICIENT YIELD	U	" " "

PLANT DIAGRAM AND FLOW SEQUENCE:



Form DWR-052

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES
CN 029, Trenton, N.J. 08625

Page of

Permit # 0059927

Date 4/7/88

DISCHARGE SURVEILLANCE REPORT

DISCHARGE DATA

SOURCE _____ PERIOD: _____

Para	Sample Type	Permit Limits	LABORATORY ANALYSIS WELL #	WELL #	WELL #	WELL #	WELL #	WELL #
			No sampling Analysis submitted					

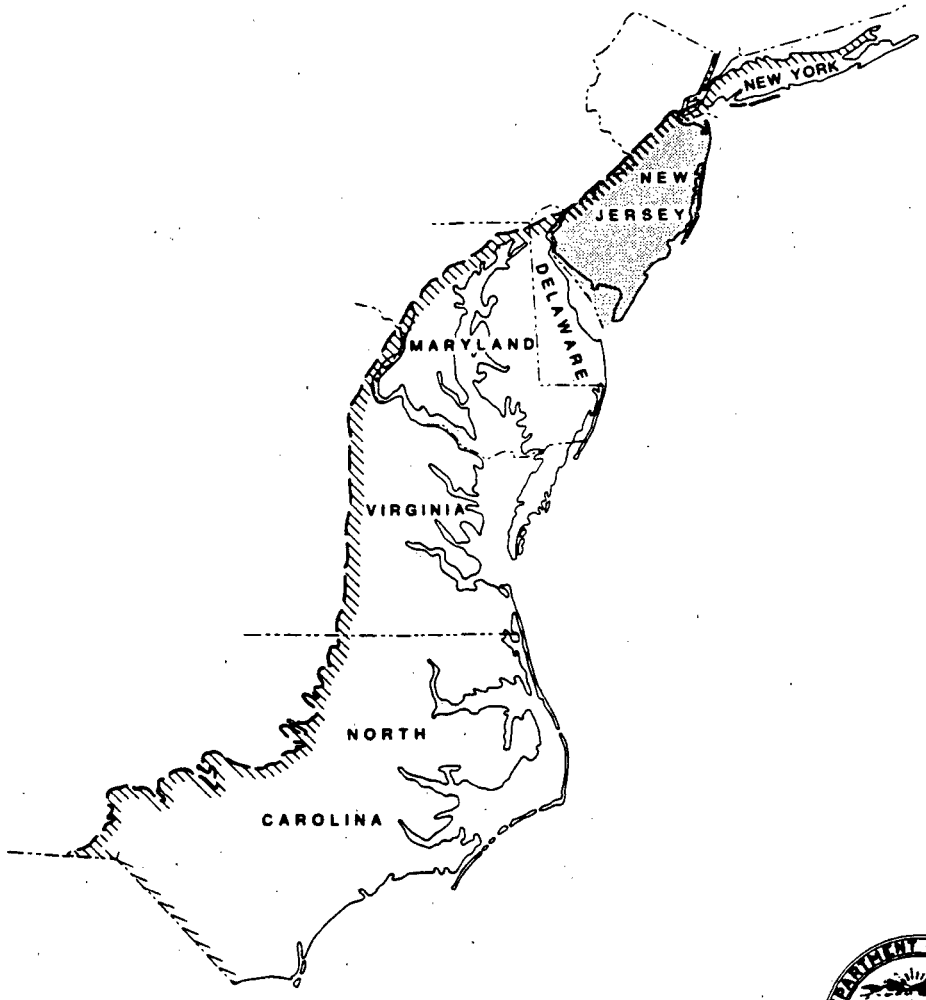
100075

REFERENCE NO. 25

HYDROGEOLOGIC FRAMEWORK OF THE NEW JERSEY COASTAL PLAIN

REGIONAL AQUIFER-SYSTEM ANALYSIS

U.S. GEOLOGICAL SURVEY
Open-File Report 84-730



and structure contour maps of this unit are not given in this report. Tops and thicknesses of the Rio Grande water-bearing zone can be calculated from the hydrogeologic sections.

The Rio Grande water-bearing zone is utilized mainly in southern Cape May County, where aquifer thicknesses can exceed 100 ft. It is generally less than 40 ft thick throughout much of the coastal areas in southern Ocean and Atlantic Counties. The aquifer is seldom used outside of southern Cape May County and is of minor importance. Therefore, in this report, the Rio Grande water-bearing zone has been included as part of the confining bed overlying the 800-foot sand shown on plate 22.

Kirkwood-Cohansey Aquifer System

The Kirkwood-Cohansey aquifer system is predominantly a water-table aquifer that underlies an area of approximately 3,000 mi^2 southeast of the updip limit of the outcrop of the Kirkwood Formation. This aquifer system is composed of the Kirkwood Formation, Cohansey Sand, and, depending on location, can include overlying deposits of the Beacon Hill Gravel, Bridgeton Formation, and Cape May Formation (Rhodehamel, 1973). The Kirkwood-Cohansey aquifer system is confined by overlying Pleistocene deposits on the peninsular part of Cape May County.

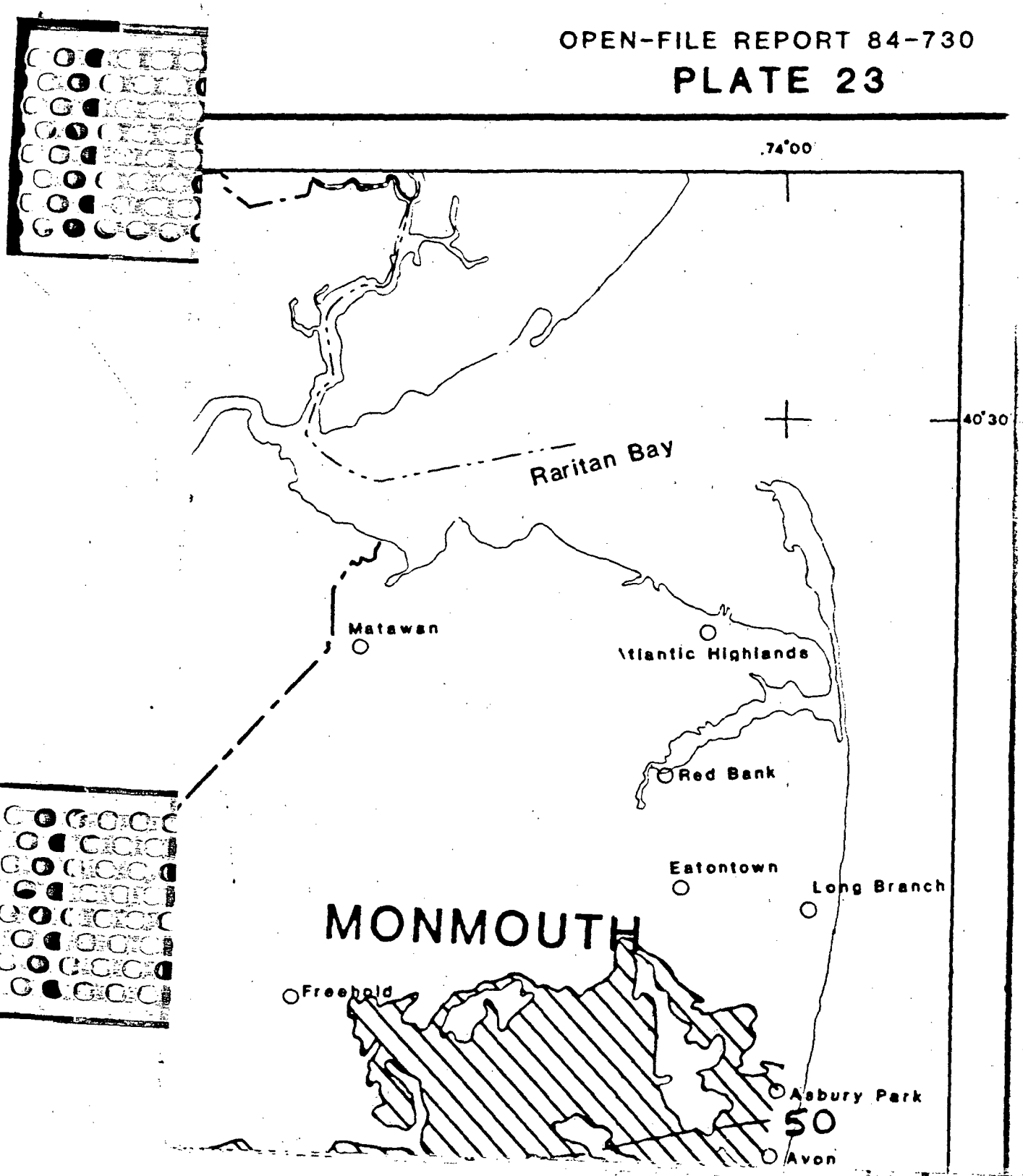
The lithology of the Kirkwood Formation, as indicated previously, is variable. Along coastal areas thick clay beds are dominant with interbedded zones of sand and gravel. In the subsurface, updip from the coast, fine to medium sand and silty sand are common, and regionally extensive clay beds occur only in the basal part of the formation.

The Cohansey Sand, also of Miocene age, is coarser grained than the underlying Kirkwood Formation. It is predominantly a light-colored quartz sand containing minor amounts of pebbly sand, fine- to coarse-grained sand, silty and clayey sand, and interbedded clay (Rhodehamel, 1973, p. 24). Some local clay beds within the Cohansey Sand are relatively thick. Locally, perched water tables and semiconfined conditions can exist in the Kirkwood-Cohansey aquifer system.

Overlying the Cohansey Sand are the Beacon Hill Gravel and the Bridgeton Formation, both considered to be Miocene fluvial deposits (Owens and Minard, 1979). The Beacon Hill Gravel overlies the Cohansey Sand only in remnant patches on the highest hills between Clarksburg, Monmouth County, and Warren Grove, Ocean County, where it can be as much as 40 ft thick (Owens and Minard, 1979, p. D6). The coarse-grained sand and gravel of the Bridgeton Formation are more widespread and can generally add 30 to 50 ft of thickness to the aquifer system in parts of Camden, Gloucester, Salem, Cumberland, Atlantic, and Cape May Counties (Owens and Minard, 1979, p. D14).

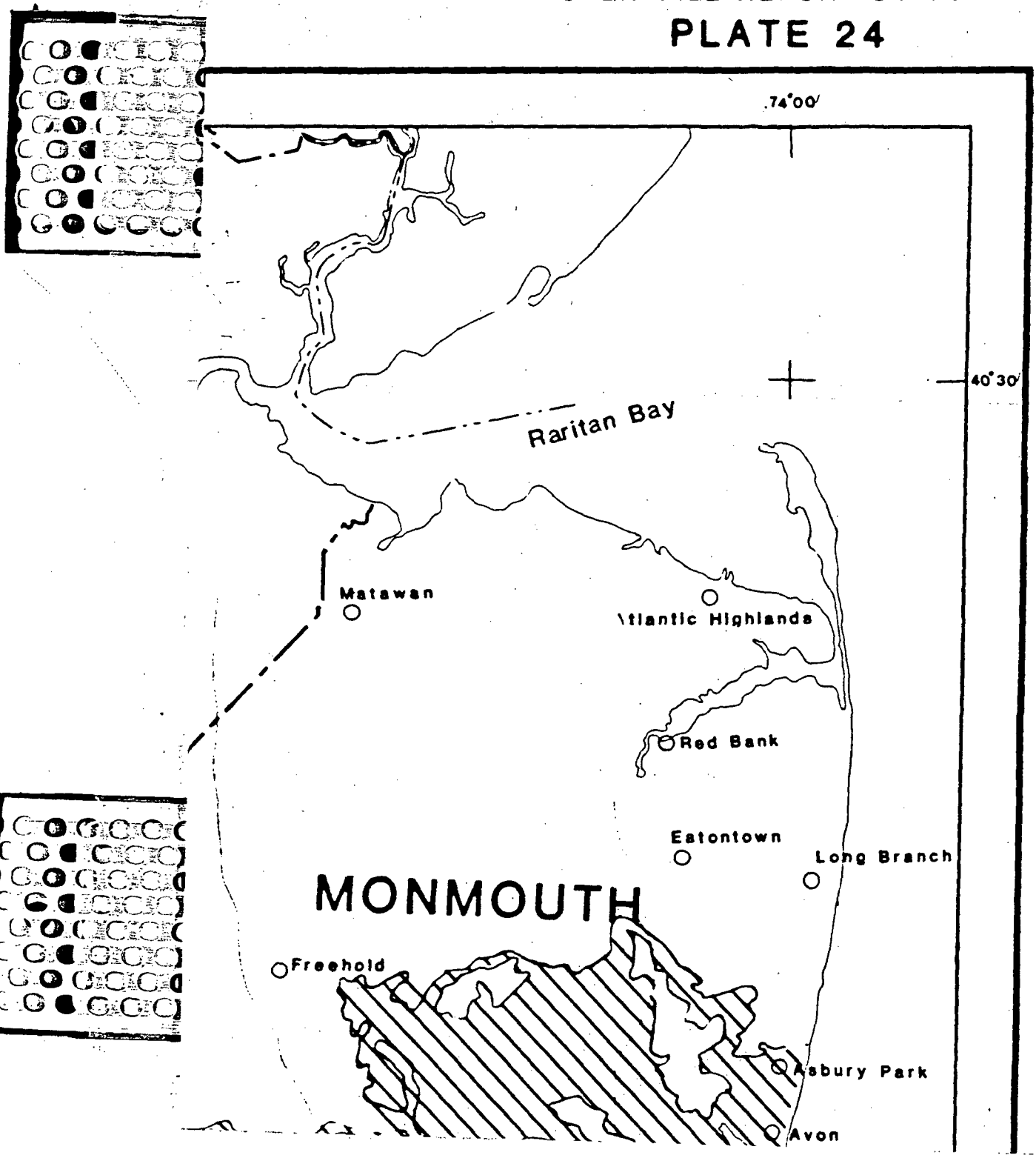
OPEN-FILE REPORT 84-730

PLATE 23

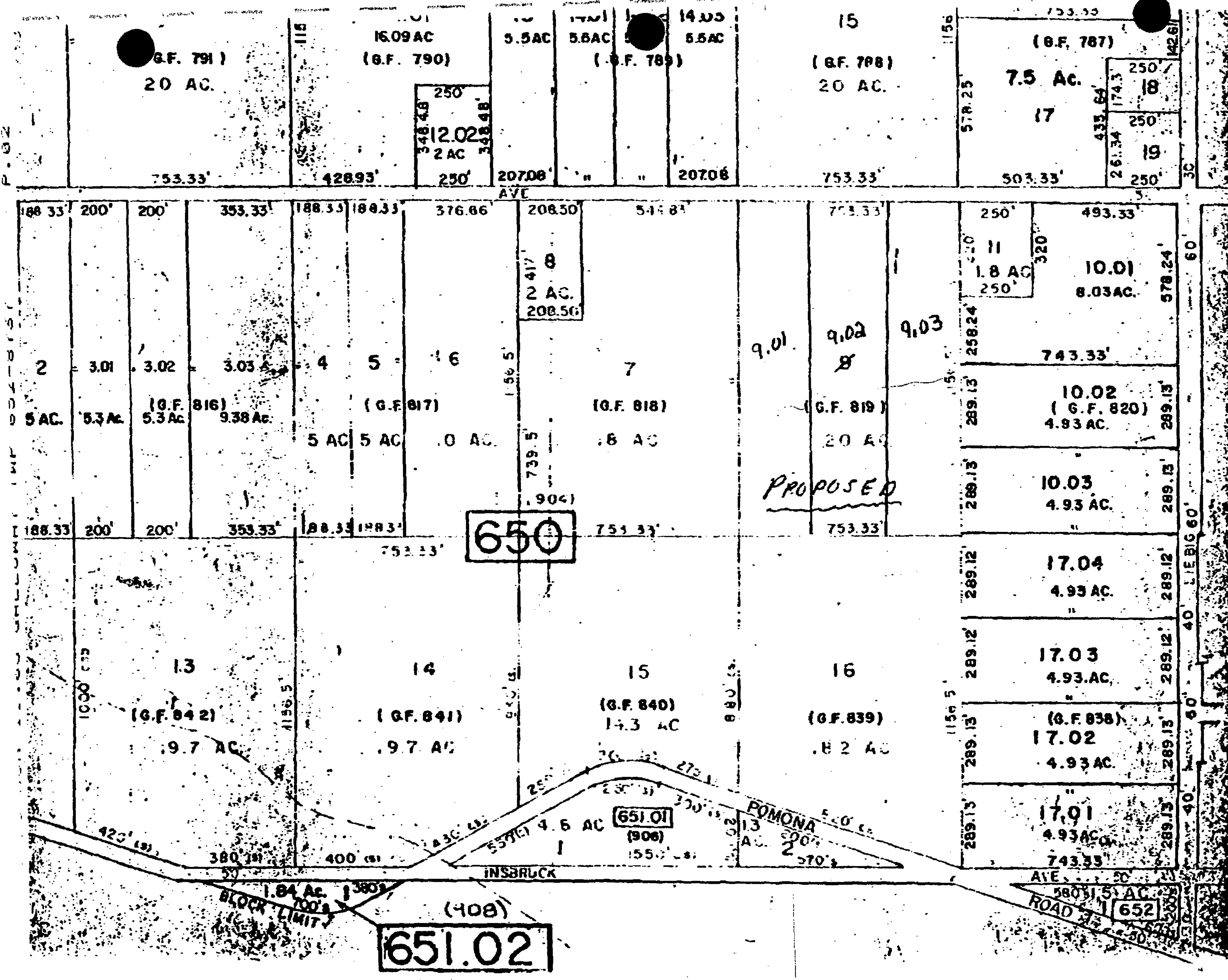


OPEN-FILE REPORT 84-730

PLATE 24



REFERENCE NO. 26


650
651.01
651.02
652
(G.F. 791)
20 AC.
16.09 AC
(G.F. 790)
5.5AC
5.5AC
5.5AC
14.05
15
(G.F. 788)
20 AC.
(G.F. 787)
7.5 Ac.
17
18
19
12.02
2 AC
753.33'
428.93'
250'
207.08'
503.33'
AVE
2
3.01
3.02
3.03
4
5
6
7
8
2 AC.
(G.F. 816)
(G.F. 817)
(G.F. 818)
(G.F. 819)
5 AC.
5.3 Ac.
5.3 Ac.
9.38 Ac.
5 AC
5 AC
20 AC
9.01
9.02
9.03
PROPOSED
11
1.8 AC
10.01
8.03 AC.
10.02
(G.F. 820)
4.93 AC.
10.03
4.93 AC.
17.04
4.93 AC.
17.03
4.93 AC.
17.02
(G.F. 838)
4.93 AC.
17.01
4.93 AC.
743.33'
13
(G.F. 842)
9.7 AC
14
(G.F. 841)
9.7 AC
15
(G.F. 840)
14.3 AC
16
(G.F. 839)
8.2 AC
4.6 AC
(906)
(908)
1.84 Ac.
POMONA
INSBRUCK
AVE
ROAD
LIEBIG
BLOCK LIMIT

100082

REFERENCE NO. 27

100083

MEMORANDUM

State of New Jersey
Department of Environmental Protection

TO: File

FROM: William J. Zavacky DATE: June

SUBJECT: Emmells Septic Service

7:26-2.6.1.1 Septic waste is being lagooned at this site and no cover is being put on the lagooned waste to stop odors and the migration of vectors.

William J. Zavacky

100084

27

REFERENCE NO. 28

36-3-433 K.I

FORM 37

100086

DEPARTMENT OF CONSERVATION
AND ECONOMIC DEVELOPMENT
DIVISION OF WATER POLICY & SUPPLY

Permit No. 36-424
Application No. P-829
County _____

WELL RECORD

1. OWNER Richard Stockton State College ADDRESS Galloway Twsp. Pomona, N.J.
Owner's Well No. #2 SURFACE ELEVATION _____ Feet (Above mean sea level)
2. LOCATION College Site
3. DATE COMPLETED May 24, 1971 DRILLER John O. Murtha Co.
4. DIAMETER: top 12 X8 Inches Bottom 12X8 Inches TOTAL DEPTH 145 Feet
5. CASING: Type Steel Diameter 12X8 Inches Length 126 Feet
6. SCREEN: Type Johnson Stainless Size of Opening 28 slot 25 Diameter 8 Inches Length 20 Feet
10 ft. of 28 slot & 10 ft. of 25 slot
Range in Depth { Top 125 Feet / Bottom 145 Feet
Geologic Formation Cohansey
Tail piece: Diameter None Inches Length _____ Feet
7. WELL FLOWS NATURALLY _____ Gallons per Minute at _____ Feet above surface
Water rises to _____ Feet above surface
8. RECORD OF TEST: Date May 24, 1971 Yield 300 Gallons per minute
Static water level before pumping 4 Feet below surface
Pumping level 30 feet below surface after 4 hours pumping
Drawdown 26 Feet Specific Capacity 11.5 Gals. per min. per ft. of drawdown
How Pumped Compressor How measured Wier Box
Observed effect on nearby wells None
9. PERMANENT PUMPING EQUIPMENT:
Type Submersible Mfrs. Name Burks
Capacity 375 G.P.M. How Driven Electric H.P. 25 R.P.M. 3600
Depth of Pump in well 84 Feet Depth of Footpiece in well _____ Feet
Depth of Air Line in well 84 Feet Type of Meter on Pump Unknown Size _____ Inches
10. USED FOR College Water Supply AMOUNT { Average _____ Gallons Daily / Maximum _____ Gallons Daily
11. QUALITY OF WATER Good Hungerford & Terry - Clayton Sample: Yes X No. _____
Taste None Odor None Color None Temp. _____ °F
12. LOG _____ Are samples available? No
(Give details on back of sheet or on seperate sheet. If electric log was made, please furnish copy)
13. SOURCE OF DATA John Murtha Co.
14. DATA OBTAINED BY John Murtha Date July 13, 1972

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements.)

36-3-433

LOG OF WELL:

0	-	1	ft.	Top soil and roots
1	-	25	ft.	Yellow - brown sharp sand
25	-	50	ft.	White sand, stones, shale and slightly cl
50	-	55	ft.	Good sharp coarse sand and shale
55	-	65	ft.	Yellow muddy sandy clay
* 65	-	85	ft.	Dark gray thick clay
85	-	99	ft.	White dense thick clay
99	-	107	ft.	Gray & black medium & fine sand
107	-	124	ft.	Brown medium to coarse sand
124	-	134	ft.	Coarse orange brown sand
134	-	145	ft.	Medium to coarse orange brown sand
145	-	150	ft.	Orange brown muddy sand with clay

good to 145'

36-3-43

FORM.87

100088

DEPARTMENT OF CONSERVATION
AND ECONOMIC DEVELOPMENT
DIVISION OF WATER POLICY & SUPPLY

Permit No. 36-425
Application No. P-829
County _____

WELL RECORD

36 03 436

1. OWNER Richard Stockton State College ADDRESS Galloway Twsp. Pomona, N.J.
Owner's Well No. #1 SURFACE ELEVATION _____ Feet (Above mean sea level)
2. LOCATION College Site
3. DATE COMPLETED June 7, 1971 DRILLER John Murtha Co.
4. DIAMETER: top 12X8 Inches Bottom 12X8 Inches TOTAL DEPTH 150 Feet
5. CASING: Type Steel Diameter 12X8 Inches Length 131 Feet
6. SCREEN: Type Johnson Stainless Size of Opening 28 slot 25 Diameter 8 Inches Length 20 Feet
Range in Depth { Top 130 Feet / Bottom 150 Feet } 10 ft. of 28 slot & 10 ft. of 25 slot
Geologic Formation Cohansey
Tail piece: Diameter None Inches Length _____ Feet
7. WELL FLOWS NATURALLY _____ Gallons per Minute at _____ Feet above surface
Water rises to _____ Feet above surface
RECORD OF TEST: Date June 7, 1971 Yield 325 Gallons per minute
Static water level before pumping 6 ft. Feet below surface
Pumping level 32 feet below surface after 4 hours pumping
Drawdown 26 Feet Specific Capacity 12.5 Gals. per min. per ft. of drawdown
How Pumped Compresson How measured Wier Box
Observed effect on nearby wells None
9. PERMANENT PUMPING EQUIPMENT:
Type Submersible Mfrs. Name Burks
Capacity 375 G.P.M. How Driven Electric H.P. 25 R.P.M. 3600
Depth of Pump in well 84 Feet Depth of Footpiece in well - Feet
Depth of Air Line in well 84 Feet Type of Meter on Pump Unknown Size _____ Inches
10. USED FOR College Water Supply AMOUNT { Average _____ Gallons Daily / Maximum _____ Gallons Daily }
11. QUALITY OF WATER Analysis by Hungerford & Terry - Clayton, N.J. Sample: Yes ____ No ____
Taste None Odor None Color None Temp. _____ °F
12. LOG _____ Are samples available? No
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy)
13. SOURCE OF DATA John Murtha Co.
14. DATA OBTAINED BY John Murtha Date July 13, 1972

(NOTE: Use other side of this sheet for additional information such as log of materials ..... analysis of the water, sketch map, sketch of special .....

(4)

36-3-635

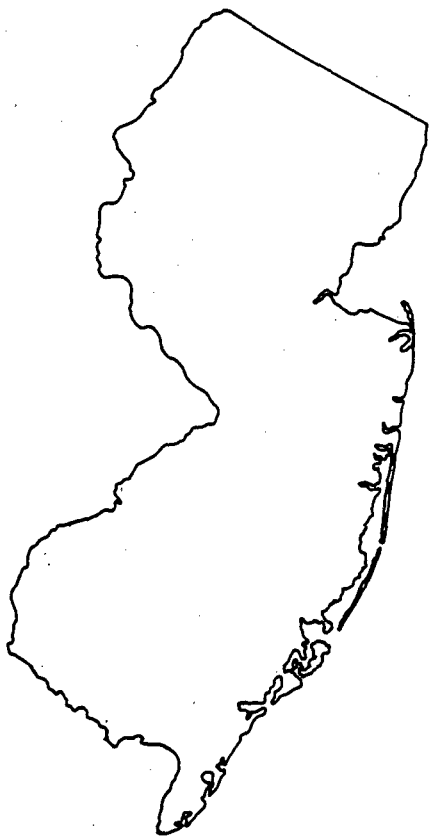
LOG OF WELL:

0	- 1 ft.	Top soil & roots
1	- 7 ft.	White sand & stones
7	- 25 ft.	Yellow sand & stones
25	- 68 ft.	Sandy clay
68	- 78 ft.	Sand & gravel
78	- 98 ft.	Clay
98	- 112 ft.	Fine sand
112	- 150 ft.	Coarse sand
150	- - - -	

REFERENCE NO. 29

Water Resources Data New Jersey Water Year 1991

Volume 1. Surface-Water Data



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT NJ-91-1
Prepared in cooperation with the New Jersey Department of Environmental Protection and Energy and with other agencies

Discharge measurements made at low-flow partial-record stations during water year 1991--Continued

Station No.	Station Name	Location	Drainage area (mi^2)	Period of record	Measurements	
					Date	Discharge (ft^3/s)
		Mullica River basin--Continued				
0140940950	Blue Anchor Brook at Elm, NJ	Lat 39°40'11", long 74°50'06", Camden County, Hydrologic Unit 02040301, at bridge on U.S. Route 30 (Whitehorse Pike) at Elm, at outlet of unnamed lake, and 1.4 mi upstream of confluence with Pump Branch.	4.86	1991	5-22-91 6-26-91 7-19-91 8-27-91 9-09-91	4.4 6.4 2.8 2.6 1.3
0140940970	Albertson Branch near Elm, NJ	Lat 39°41'34", long 74°48'24", Camden County, Hydrologic Unit 02040301, at bridge on Fleming Pike, 0.4 mi downstream from confluence of Blue Anchor Brook and Pump Branch, and 1.6 mi northeast of Elm.	17.1	1991	5-22-91 6-26-91 7-19-91 8-27-91 9-09-91	23 18 22 16 12
0140941050	Great Swamp Branch at Elm, NJ	Lat 39°40'18", long 74°49'31", Camden County, Hydrologic Unit 02040301, at bridge on U.S. Route 30, 0.5 mi southeast of Elm, 1.5 mi north of Rosedale, and 2.4 mi northeast of Winslow.	2.83	1991	5-22-91 6-26-91 7-19-91 8-27-91 9-09-91	.20 .75 1.1 .78 .16
01410215	Clarks Mill Stream at Port Republic, NJ	Lat 39°30'23", long 74°30'21", Atlantic County, Hydrologic Unit 02040301, at bridge on State Route 575, 0.5 mi upstream of Mill Pond and 1.0 mi east of Port Republic.	8.61	1986-91	6-06-91 9-05-91	6.3 5.6
01410225	Morses Mill Stream at Port Republic, NJ	Lat 39°30'48", long 74°30'30", Atlantic County, Hydrologic Unit 02040301, at bridge on State Alternate Route 561 (Moss Mill Road), 0.6 mi upstream of Mill Pond, and 1.2 mi southwest of Port Republic.	8.25	1986-91	6-06-91 9-05-91	5.0 3.4
		Great Egg Harbor River basin				
01410803	Fourmile Branch at Winslow Crossing, NJ	Lat 39°42'07", long 74°58'11", Camden County, Hydrologic Unit 02040302, at bridge on Andrews Road in Winslow Crossing, 1.4 mi northeast of Williamstown, and 2.1 mi upstream from Great Egg Harbor River.	6.22	1972-80, 1990-91	10-18-90 11-07-90 11-26-90 1-25-91 2-13-91 5-17-91 4-04-91 5-29-91 6-25-91 8-07-91 8-29-91	2.9 3.2 4.4 6.4 5.0 3.0 6.7 3.1 3.6 3.6 3.4
*01410810	Fourmile Branch at New Brooklyn, NJ	Lat 39°41'47", long 74°56'25", Camden County, Hydrologic Unit 02040302, on left bank 70 ft upstream from bridge on Malaga Road, 0.3 mi northeast of New Brooklyn, and 0.3 mi upstream from mouth.	7.74	1972-79c, 1989-91	10-17-90 11-07-90 11-26-90 1-25-91 2-13-91 4-04-91 5-17-91 5-29-91 6-25-91 8-07-91 8-29-91	4.2 5.2 5.0 9.4 7.4 11 5.3 5.0 6.0 5.3 4.8
01410855	Squankum Branch above sewage plant, at Williamstown, NJ	Lat 39°40'39", long 74°58'34", Gloucester County, Hydrologic Unit 02040302, immediately upstream from sewage treatment plant, 1.2 mi southeast of intersection of State Route 42 and New Freedom Road in Williamstown, and 2.1 mi upstream from Hedges Branch.	1.50	1974, 1990-91	10-18-90 11-07-90 11-23-90 1-24-91 2-12-91 4-04-91 5-17-91 5-29-91 6-25-91 7-03-91 8-08-91 8-29-91 9-24-91	1.6 .45 .92 .93 .35 .70 .34 .20 .16 .22 0 0 0

01409400 MULLICA RIVER NEAR BATSTO, NJ

LOCATION.--Lat 39°40'28", long 74°39'55", Atlantic County, Hydrologic Unit 02040301, on right bank 2.4 mi upstream from Sleeper Branch, and 2.5 mi north of Batsto.

DRAINAGE AREA.--46.7 mi^2.

PERIOD OF RECORD.--September 1957 to current year.

REVISED RECORDS.--WRD-NJ 1969: 1958(M), 1960(M), 1967-68(M), WDR NJ-83-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 11.93 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except for estimated daily discharges, which are fair. Some regulation from upstream cranberry bogs and Atsion Lake. Diversions from Sleeper Branch enter river upstream of gage and substantially increase the discharge at the gage. Several measurements of water temperature were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52	92	54	213	109	85	e214	e140	e43	31	115	43
2	50	82	52	207	106	87	e179	e130	e41	30	69	44
3	49	79	52	200	105	95	e166	e115	e40	30	54	48
4	51	79	78	183	104	188	e144	e100	e44	30	54	44
5	58	78	86	161	104	210	e131	e97	e44	31	52	45
6	53	58	88	149	105	205	e123	e97	e43	31	49	55
7	51	45	94	145	111	235	e116	e121	43	32	47	45
8	49	44	98	141	118	225	e105	e132	42	32	45	39
9	47	42	92	166	109	201	e97	e121	40	32	47	58
10	49	63	85	227	99	181	e91	e104	38	30	67	87
11	52	76	79	231	96	160	e86	e99	38	29	82	100
12	48	78	76	395	93	143	e80	e98	38	27	49	88
13	42	80	74	547	92	132	e77	e98	37	82	35	59
14	39	78	71	515	96	131	e90	e90	36	195	33	47
15	36	75	75	429	95	139	e103	e83	34	318	36	45
16	34	72	90	394	88	139	e109	e76	33	223	50	43
17	34	69	89	337	90	135	e109	e70	32	230	53	40
18	42	66	96	266	89	142	e102	e67	38	200	37	39
19	87	63	100	246	95	158	e98	e65	43	123	63	38
20	68	61	100	239	100	e154	e95	e62	47	64	139	47
21	57	60	103	235	100	e144	e129	e58	47	72	287	48
22	61	60	111	222	98	e127	e180	e56	45	57	273	45
23	78	61	108	198	94	e132	e246	e54	45	47	194	44
24	127	63	128	191	91	e174	e235	e53	43	47	167	44
25	159	64	138	184	89	e214	e212	e51	42	50	151	52
26	161	60	135	172	89	e205	e233	e47	36	73	86	93
27	146	65	127	161	88	e175	e240	e46	34	114	73	112
28	133	63	145	159	86	e167	e210	e51	33	149	91	110
29	123	63	174	152	---	e162	e177	e53	32	164	82	102
30	112	58	186	148	---	e182	e160	e46	32	176	68	86
31	106	---	213	137	---	e205	---	e43	---	152	51	---
TOTAL	2254	1997	3197	7350	2739	5032	4337	2523	1183	2901	2699	1790
MEAN	72.7	66.6	103	237	97.8	162	145	81.4	39.4	93.6	87.1	59.7
MAX	161	92	213	547	118	235	246	140	47	318	287	112
MIN	34	42	52	137	86	85	77	43	32	27	33	38

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 1991, BY WATER YEAR (WY)

MEAN	69.2	91.4	119	141	142	155	152	127	79.5	73.3	75.7	62.5
MAX	192	305	305	311	292	312	358	273	159	177	253	223
(WY)	1976	1973	1973	1978	1979	1958	1983	1989	1979	1989	1958	1975
MIN	24.1	22.0	29.8	29.3	71.3	59.1	50.3	53.6	32.3	21.9	20.2	19.4
(WY)	1966	1966	1966	1981	1981	1985	1985	1965	1977	1977	1977	1980

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1957 - 1991	
ANNUAL TOTAL	36998		38002			
ANNUAL MEAN	101		104		107	
HIGHEST ANNUAL MEAN					168	1973
LOWEST ANNUAL MEAN					50.4	1966
HIGHEST DAILY MEAN	465	Aug 13	547	Jan 13	1630	Feb 26 1979
LOWEST DAILY MEAN	33	Aug 4	27	Jul 12	7.5	Sep 6 1966
ANNUAL SEVEN-DAY MINIMUM	35	Jul 30	30	Jul 6	8.6	Sep 5 1966
INSTANTANEOUS PEAK FLOW			565	Jan 13	1840	Feb 26 1979
INSTANTANEOUS PEAK STAGE			4.07	Jan 13	6.14	Feb 26 1979
INSTANTANEOUS LOW FLOW			25	Jul 12	7.0	Sep 6 1966
10 PERCENT EXCEEDS	170		200		202	
50 PERCENT EXCEEDS	91		87		87	
90 PERCENT EXCEEDS	48		39		32	

e Estimated

REFERENCE NO. 30

FROST ASSOCIATES

P.O. Box 495, Essex, Connecticut 06426
(203) 767-7644 Fax (203) 767-7069

Aug 10, 1993

To: Jan Holderness
Roy F. Weston Inc
4th Floor Raritan Plaza
Edison, New Jersey 08837-3616

Fr: Bob Frost
Frost Associates
P.O. Box 495
Essex, Conn 06426

Tel: (203) 767-1254
Fax: (203) 767-7069

Sub: Emmels Septic Landfill
Galloway Twp NJ

Job: 04200-016-081-0059-01

CERCLIS: NJD980772727

Site Longitude: 74.509720
Site Latitude : 39.501949

The CENTRACTS report below identifies the population, households, and private water wells of each Block Group that lies within, or partially within, the 4, 3, 2, 1, .5, and .25, mile "rings" of the latitude and longitude coordinates above. CENTRACTS may have up to ten radii of any length. 1000 block groups, and 15000 block group sides.

CENTRACTS uses the 1990 Block Group population and Block Group house count data found in the Census Bureau's 1990 STF-1A files. The sources of water supply data are from the Bureau's 1990 STF-3A files. The boundary line coordinates of the Block Groups were extracted from the Census Bureau's 1990 TIGER/Line Files.

CENTRACTS reports are created with programs written by Frost Associates, P.O. Box 495, Essex, Conn. The code was written using Microsoft's Quick-Basic Ver. 4.5.

Latitude and Longitude coordinates identifying a site are entered in degrees and decimal degrees. One or more county files holding Block Group boundary lines are selected for use by CENTRACTS by determining whether the site coordinates fall within the minimum and maximum Lat\Lon coordinates of each county in the state.

Each Block Group line segment has Lat\Lon coordinates representing the "From" and "To" ends of that line. All coordinates from the selected county files are read and converted from degrees, decimal degrees to X\Y miles from the site location. Each line segment is then examined whether it lies within or partially within the maximum ring from the site.

The unique Block Group ID numbers of each line segment that lie within the maximum ring are retained. All Block Group boundary lines matching the Block Group numbers are then extracted from the respective county files to obtain all sides of the in cluded Block Groups. Boundary records are then sorted in adjacent side order to determine the shape and area of each Block Group polygon.

A method to solve for the area of a polygon is to take one-half the sum of the pro ducts obtained by multiplying each X-coordinate by the difference between the adja cent Y-coordinates. For a polygon with coordinates at adjacent angles A, B, C, D, and E. The formula can be expressed:

Area = 1/2{Xa(Ye-Yb)+ Xb(Ya-Yb)+ Xc(Yb-Yd)+ Xd(Yc-Ye)+ Xe(Yd-Ya)}

For each ring, the selected Block Groups will be inside, outside, or intersected by the ring. When a polygon is intersected, the partial Block Group area within that ring is calculated using the method described below.

When a ring intersects a Block Group, the intersect points are solved and plotted at the points where the ring enters and exits the shape. The chord line, a line within the circle connecting the intersect points is determined. This chord line is used to calculate the segment area, the half moon shape between the chord line and the ring, and the sub-polygon created by the chord line and the Block Group boundaries that lie outside the ring.

The segment area is subtracted from the sub-polygon area to determine the area of the sub-polygon outside the ring. The area outside the ring is then subtracted from the area of the entire polygon to arrive at the inside area. This inside area is then divided by the tract's total area to determine the percentage of area within the ring. This process is repeated for each block group that is intersected by one of the rings. The total area, partial area, and percentage of partial area of those block groups within, or partially within a ring, are held in memory for the report.

On occasion, the algorithm described above is unable to determine the area of the partial area. Within the report program is a "Paint" routine which allows an enclosed shape to be highlighted. Another routine calculates the percentage of highlighted screen pixels to the pixels within the polygon. A manual entry is allowed. Both the "paint" method and manual entry method over ride the calculated method.

CENTRACTS lists, starting on page 4, all Block Groups in State, County, Census Tract, and Block Group ID order that lie within, or partially within, the maximum ring. Each Block Group is identified by a City or Town name and by the Block Group's State, County, Tract and Block Group ID number. Following is the Block Group's 1990 populu tion and house count extracted from the Census Bureau's 1990 STF-1A files.

The next four columns display water source data from the 1990 STF-3A files. The first column is "Units with Public system or private company source of water", followed by "Units with individual well, Drilled, source of water"; "Units with individual well, Dug, source of water" and "Units with Other source of water".

For each ring, CENTRACTS then shows the Block Groups that are within that ring, the Block Group's total area in square miles, the partial area of the Block Group within that ring, and the partial percentage within the ring. The areas of the included Block Group and the partial areas are then totaled.

The last section tallies the demographic data within each ring. The percentage of area for each Block Group is multiplied times the census data for that Block Group and totaled for all Block Group's within the ring. Ring totals are then determined by subtracting the three mile data from the four mile, the two mile from the three mile, one from the two, etc... Population on private wells is calculated using the formula: ((Drilled + Dug Wells) / Households) * Population

Emmel's Septic Landfill
Galloway Twp
Atlantic County, NJ
NJD980772727

No.	City	Block Group ID	Blk Grp People	House Holds	Public Water	Drilled Wells	Dug Wells	Other
1	Absecon	34001 0102 5	688	226	25	164	31	0
2	Absecon	34001 0102 6	1060	356	193	124	10	0
3	Galloway	34001 0104012	1845	662	7	604	29	0
4	Galloway	34001 0104013	667	260	45	225	0	0
5	Galloway	34001 0104021	1931	18	0	19	0	0
6	Galloway	34001 0104031	1635	557	243	280	29	0
7	Galloway	34001 0104032	720	254	21	218	11	0
8	Galloway	34001 0104033	171	69	0	62	3	0
9	Galloway	34001 0104034	21	11	0	0	11	0
10	Galloway	34001 0105012	2320	1165	643	458	27	0
11	Galloway	34001 0105013	2466	1099	698	307	51	0
12	Galloway	34001 0105031	4496	2193	2220	21	32	0
13	Galloway	34001 0105041	1641	628	230	370	20	0
14	Galloway	34001 0105042	2686	918	87	796	36	0
15	Galloway	34001 0105043	1774	632	176	410	27	0
16	Galloway	34001 0105044	505	201	0	211	16	0
17	Egg Harbor	34001 0117021	2463	1021	468	520	52	8
18	Washington	34005 7035 9	805	328	0	314	20	2
	Totals:		27894	10598	5056	5103	405	10

Emmel's Septic Landfill
Galloway Twp
Atlantic County, NJ
NJD980772727

========== Site Data ==========

Population:	18872.03
Households:	7013.08
Drilled Wells:	3061.38
Dug Wells:	213.18
Other Water Sources:	0.39

========== Partial (RING) data ==========

---- Within Ring: 4 Mile(s) and 3 Mile(s) ----

Population:	6133.79
Households:	2226.75
Drilled Wells:	1487.68
Dug Wells:	98.37
Other Water Sources:	0.39

** Population On Private Wells: 4368.92

---- Within Ring: 3 Mile(s) and 2 Mile(s) ----

Population:	6007.13
Households:	2043.88
Drilled Wells:	1243.42
Dug Wells:	71.53
Other Water Sources:	0.00

** Population On Private Wells: 3864.72

---- Within Ring: 2 Mile(s) and 1 Mile(s) ----

Population:	4351.86
Households:	1695.38
Drilled Wells:	264.87
Dug Wells:	27.19
Other Water Sources:	0.00

** Population On Private Wells: 749.70

---- Within Ring: 1 Mile(s) and .5 Mile(s) ----

Population:	1639.64
Households:	685.65
Drilled Wells:	53.11
Dug Wells:	10.62
Other Water Sources:	0.00

** Population On Private Wells: 152.41

Emmel's Septic Landfill
Galloway Twp
Atlantic County, NJ
ID980772727

---- Within Ring: .5 Mile(s) and .25 Mile(s) ----

Population:	507.23
Households:	248.07
Drilled Wells:	11.21
Dug Wells:	3.82
Other Water Sources:	0.00

** Population On Private Wells: 30.72

---- Within Ring: .25 Mile(s) and 0 Mile(s) ----

Population:	232.38
Households:	113.35
Drilled Wells:	1.09
Dug Wells:	1.65
Other Water Sources:	0.00

** Population On Private Wells: 5.62

** Total Population On Private Wells: 9172.08

REFERENCE NO. 31

State of New Jersey
Department of Environmental Protection and Energy
Division of Parks and Forestry
Office of Natural Lands Management
CN 404
Trenton, NJ 08625-0404
Tel. # 609-984-1339
Fax. # 609-984-1427

Jeanne M. Fox
Acting Commissioner

Thomas F. Hampton
Administrator

September 9, 1993

Richard Settino
Roy F. Weston, Inc.
Raritan Plaza One, 4th Floor
Edison, NJ 08837

Re: Emmels Landfill and Associated Waterways
(Work Order No. 4200-016-081-0059-02)

Dear Mr. Settino:

Thank you for your data request regarding rare species information for the above referenced project site in Atlantic, Burlington, and Ocean Counties.

The Natural Heritage Data Base does not have any records for rare plants, animals, or natural communities on or within one half mile of the Emmels Landfill site. However, there are records for a number of occurrences for rare species which may be on, or in the immediate vicinity of the waterways that you have associated with this site. The attached list provides additional information about these occurrences. Also attached is a list of rare species from records in the general vicinity of the project site (within approximately 4 miles).

Also attached are lists of rare vertebrates of Atlantic, Burlington, and Ocean Counties together with descriptions of their habitats. If suitable habitat is present at the project site, these species would have potential to be present. If you have questions concerning the wildlife records or wildlife species mentioned in this response, we recommend you contact the Division of Fish, Game and Wildlife Endangered and Nongame Species Program.

The Natural Heritage Program reviews its data periodically to identify priority sites for natural diversity in the State. Included as priority sites are some of the State's best habitats for rare and endangered species and natural communities. One of these sites is located within or near the areas you have outlined. Please refer to the enclosed Priority Site Maps of the Green Bank and New Gretna USGS quadrangles for the location and boundary of this site. Also attached is a report describing the significance of the Priority Site, and the rare species documented from within the site.

100101

In order to red flag the general locations of documented occurrences of rare and endangered species and natural communities, we have prepared computer generated Natural Heritage Index Maps. Enclosed please find these maps for the Green Bank, New Gretna, and Pleasantville USGS quadrangles.

PLEASE SEE THE ATTACHED 'CAUTIONS AND RESTRICTIONS ON NHP DATA'.

Thank you for consulting the Natural Heritage Program. The attached invoice details the payment due for processing this data request. Feel free to contact us again regarding any future data requests.

Sincerely,

Elena A. Williams

Elena A. Williams
Senior Planner
Natural Heritage Program

cc: Lawrence Niles
Thomas Hampton
NHP File No. 93-3907455

100102

NATURAL LANDS MANAGEMENT

NATURAL HERITAGE

PRIORITY SITE MAPS

The Priority Site Maps identify boundaries of some of the most important sites in the State for endangered and threatened plants, animals and ecosystems. These maps do not contain all of the important areas in the State for endangered biological diversity. They only depict the boundaries of priority sites which have been delineated by the Office of Natural Lands Management to date. These areas should be considered to be top priorities for the preservation of biological diversity. If these areas are allowed to be degraded or destroyed, we may lose some of the most unique components of our natural heritage.

100103

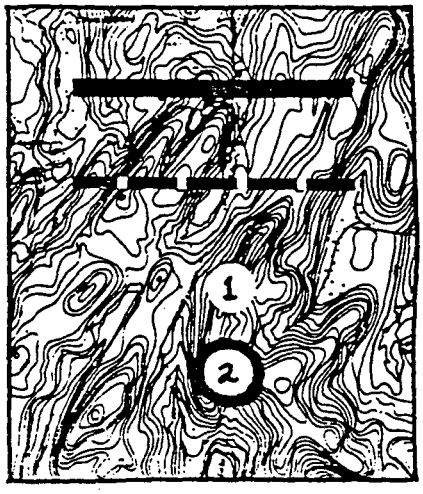
MAP KEY

STANDARD SITE BOUNDARY LINE
(sites smaller than 3,200 acres)

MACROSITE BOUNDARY LINE
(sites larger than 3,200 acres)

SITE LOCATOR DOT

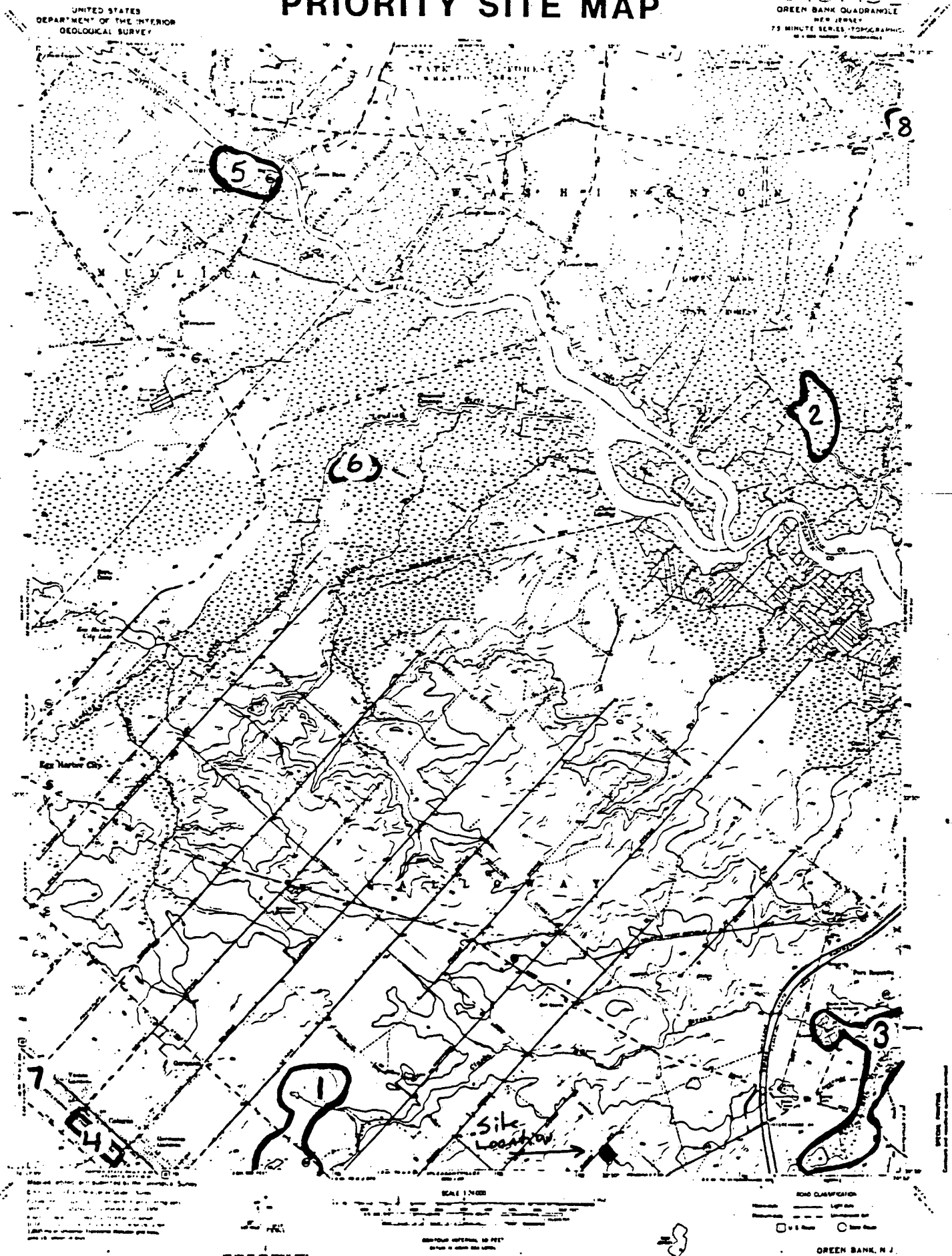
LOCATOR DOT FOR SITES SMALLER THAN DOT



100104

100105

Natural Heritage
PRIORITY SITE MAP



4 JUL 1992

NATURAL HERITAGE PRIORITY SITES
QUADRANGLE MAP KEY

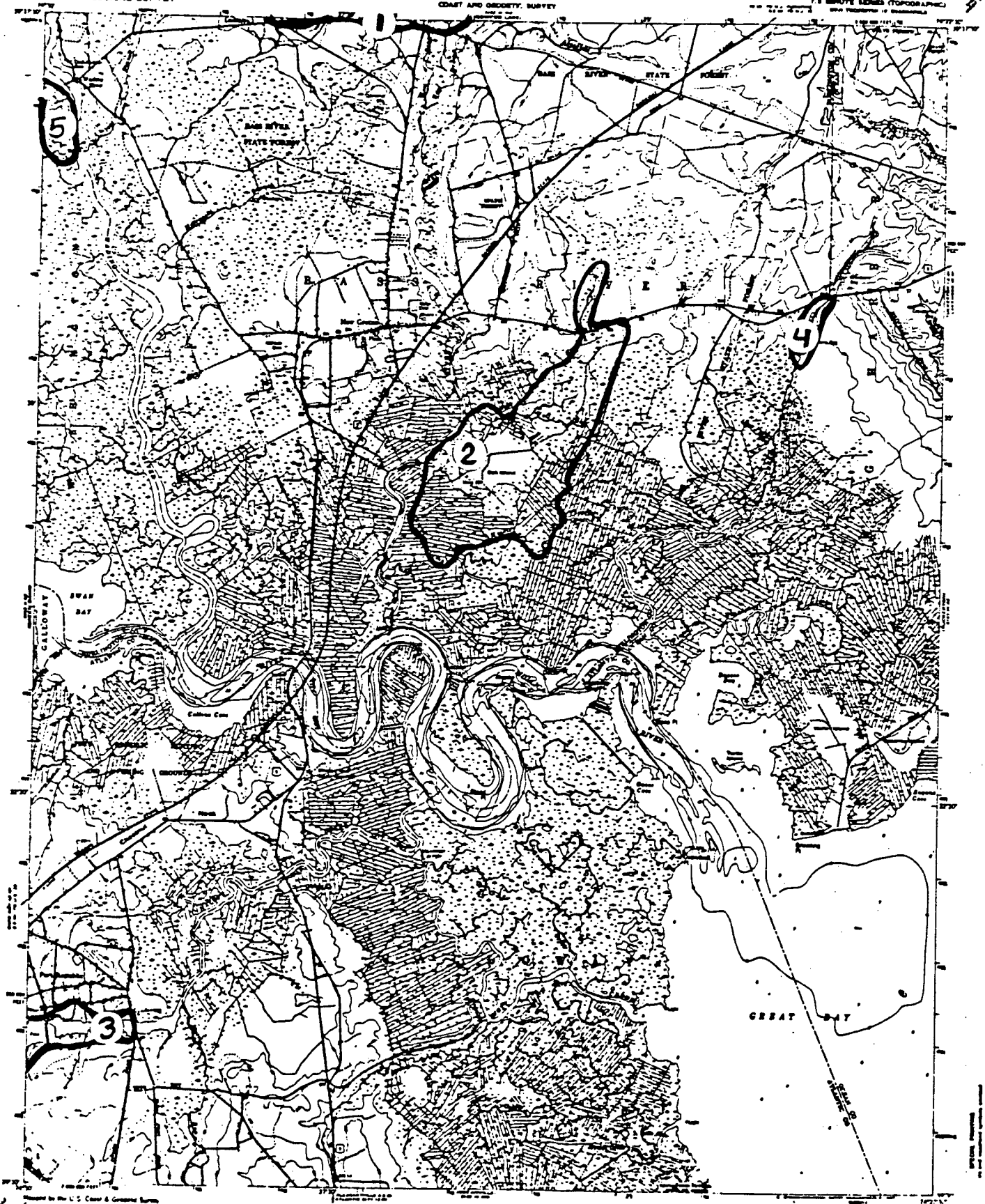
UADNAME*** GREEN BANK

SITE LOCATOR NUMBER	SITECODE	SITENAME
(6)	S.USNJHP1*169	CLARKS LANDING BOG
(4)	S.USNJHP1*182	COLOGNE ROAD RR WEST SITE
(7)	S.USNJHP1*239	FRANKFURT AVENUE BOG
(1)	S.USNJHP*50	HIRST PONDS
(5)	S.USNJHP1*389	NE OF WEEKSTOWN SITE
(3)	S.USNJHP1*446	PORT REPUBLIC
(2)	S.USNJHP1*554	TURTLE CREEK
(8)	S.USNJHP1*567	WADING RIVER TIDAL MARSH

100107

Natural Heritage
PRIORITY SITE MAP

3907454



JUL 1992

NATURAL HERITAGE PRIORITY SITES
QUADRANGLE MAP KEY

QUADNAME*** NEW GRETNA

SITE LOCATOR NUMBER	SITECODE	SITENAME
4	S.USNJHP1*97	BALLANGER CREEK
1	S.USNJHP1*55	BASS RIVER MACROSITE
2	S.USNJHP1*193	DANS ISLAND
3	S.USNJHP1*446	PORT REPUBLIC
5	S.USNJHP1*567	WADING RIVER TIDAL MARSH

08 SEP 1993

Site Report
PORT REPUBLIC

Identifiers:

SITECODE: S.USNJHP1 * 446

SITENAME: PORT REPUBLIC

Location:

COUNTYNAME:	QUADNAME:
Atlantic	NEW GRETNA
	GREEN BANK

MUNICIPALITY: PORT REPUBLIC CITY
GALLOWAY TWP.

Site Description/Design:

DESCRIPTION: Wetlands along pine barren stream. Includes tidal mudflats, open sphagnous wetlands, and Atlantic white cedar swamp.

BOUNDARY
JUSTIFICATION: Includes wetlands along stream corridor with documented rare plants. Adequate upstream buffers need to be determined.

Site Significance:

BIODIVERSITY
SIGNIFICANCE: B3

COMMENTS: Three State listed endangered plant species, plus two globally rare plant species.

Species and Natural Communities on Site:

NAME	COMMON NAME	FEDERAL STATUS:	STATE STATUS:	REGION. STATUS:	GRANK:	SRANK:	DATE OBSERVED
CYPERUS POLYSTACHYOS	COAST FLATSEDGE		E		G5	S1	1988-??-??
ERIOCAULON PARKERI	PARKER'S PIPEWORT	3C			G3	S2	1980-06-27
JUNCUS CAESARIENSIS	NEW JERSEY RUSH	C2	E	LP	G2	S2	1986-??-??
NARTHECIUM AMERICANUM	BOG ASPHODEL	C1	E	LP	G2	S2	1986-??-??
PITUOPHIS MELANOLEUCUS	PINE SNAKE		T		G5	S3	1982-08-18
SCHIZAEA PUSILLA	CURLY GRASS FERN	3C		LP	G3	S3	1986-??-??

Site Basic Record Code Explanations

BIODIVERSITY SIGNIFICANCE 91/01/15

A rating that describes the significance of the site in terms of its biological diversity.

B1 - Outstanding significance, generally of a "last of the least" type, such as only known occurrence of any element (species or natural community), the best or an excellent (A-ranked) occurrence of a G1 element, or a concentration (4+) of high-ranked (A or B ranked) occurrences of G1 or G2 elements. Site should be viable and defensible for elements and ecological processes contained.

B2 - Very high significance, such as the most outstanding occurrence of any community element (regardless of its element rank). Also includes areas containing any other (B, C, D ranked) occurrence of a G1 element, a good (A or B ranked) occurrence of a G2 element, an excellent (A ranked) occurrence of a G3 element, or a concentration (4+) of B ranked G3 or C ranked G2 elements.

B3 - High significance, such as any other (C or D ranked) occurrence of a G2 element, a B ranked occurrence of a G3 element, an A ranked occurrence of any community, or a concentration (4+) of A or B ranked occurrences of (G4 or G5) S1 elements.

B4 - Moderate significance, such as a C-ranked occurrence of a G3 element, a B ranked occurrence of any community, an A or B ranked or only state (but at least C ranked) occurrence of a (G4 or G5) S1 element, an A ranked occurrence of an S2 element, or a concentration (4+) of good (B ranked) S2 or excellent (A ranked) S3 elements.

B5 - Of general biodiversity interest or open space.

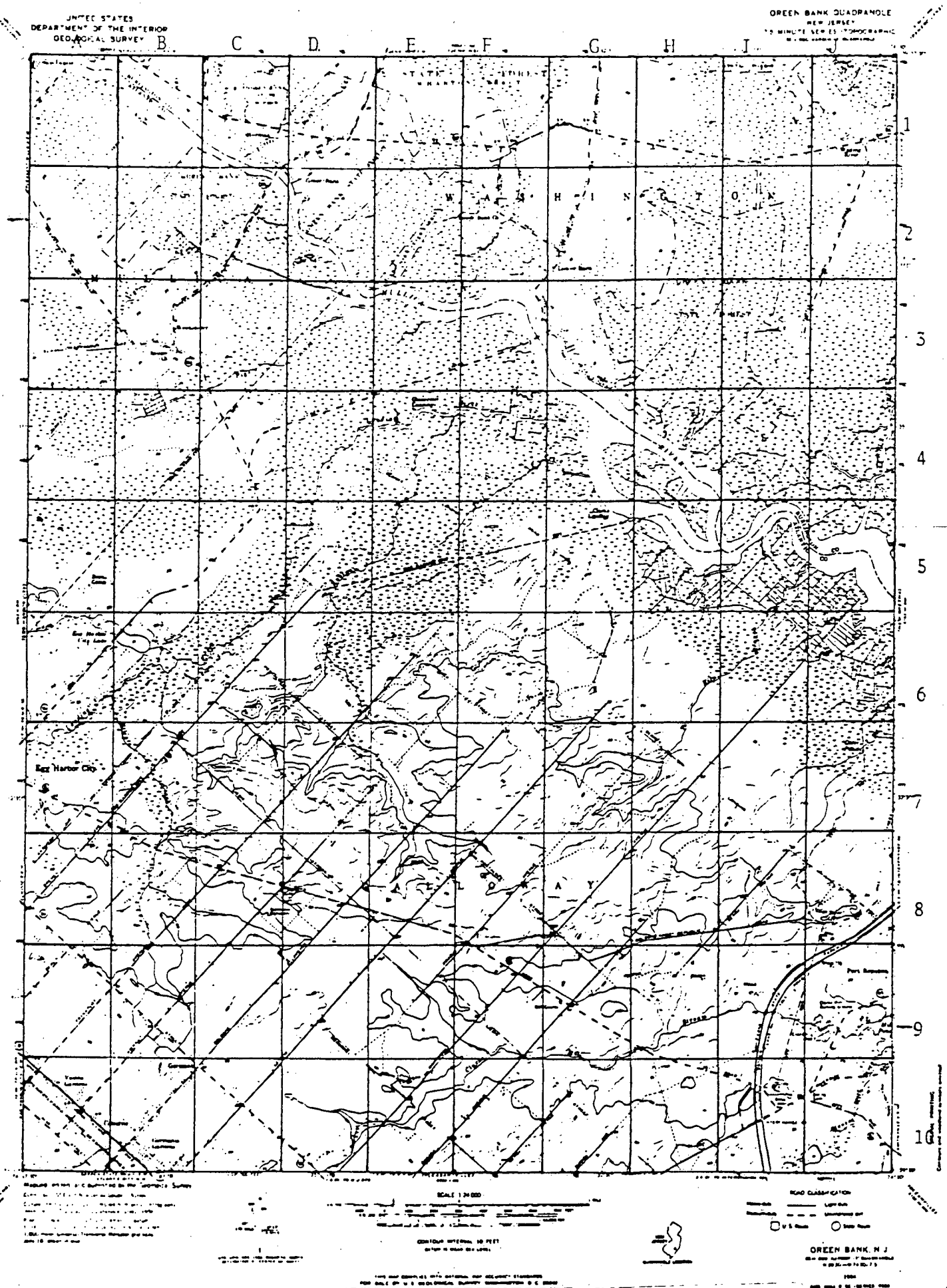
NATURAL LANDS MANAGEMENT

NATURAL HERITAGE INDEX MAPS

The Natural Heritage Database contains several thousand records of individual occurrences of endangered and threatened species and ecosystems. Many of these occurrences either have not been documented in recent years or have not had habitat boundaries delineated. Because much work remains to be done to delineate habitat boundaries and determine current status for these occurrences, Natural Heritage Index Maps were devised to red flag general areas in which the occurrences are located. The index maps are meant to be used as a tool to point to areas which may be of significance for endangered biological diversity. These maps do not depict all endangered species habitat in the State, but merely general areas which contain documented occurrences. Many additional areas may contain unidentified or poorly documented occurrences.

The maps have been produced using a computer generated grid which shades a grid cell approximately 330 acres in size if an endangered or threatened species or ecosystem has been documented anywhere within the cell. To use these maps, we suggest that you first find the location to be checked on the quad maps and then refer to the same grid location of the Natural Heritage Index Maps. The Natural Heritage Program can be contacted for additional information as specific projects are planned.

100111

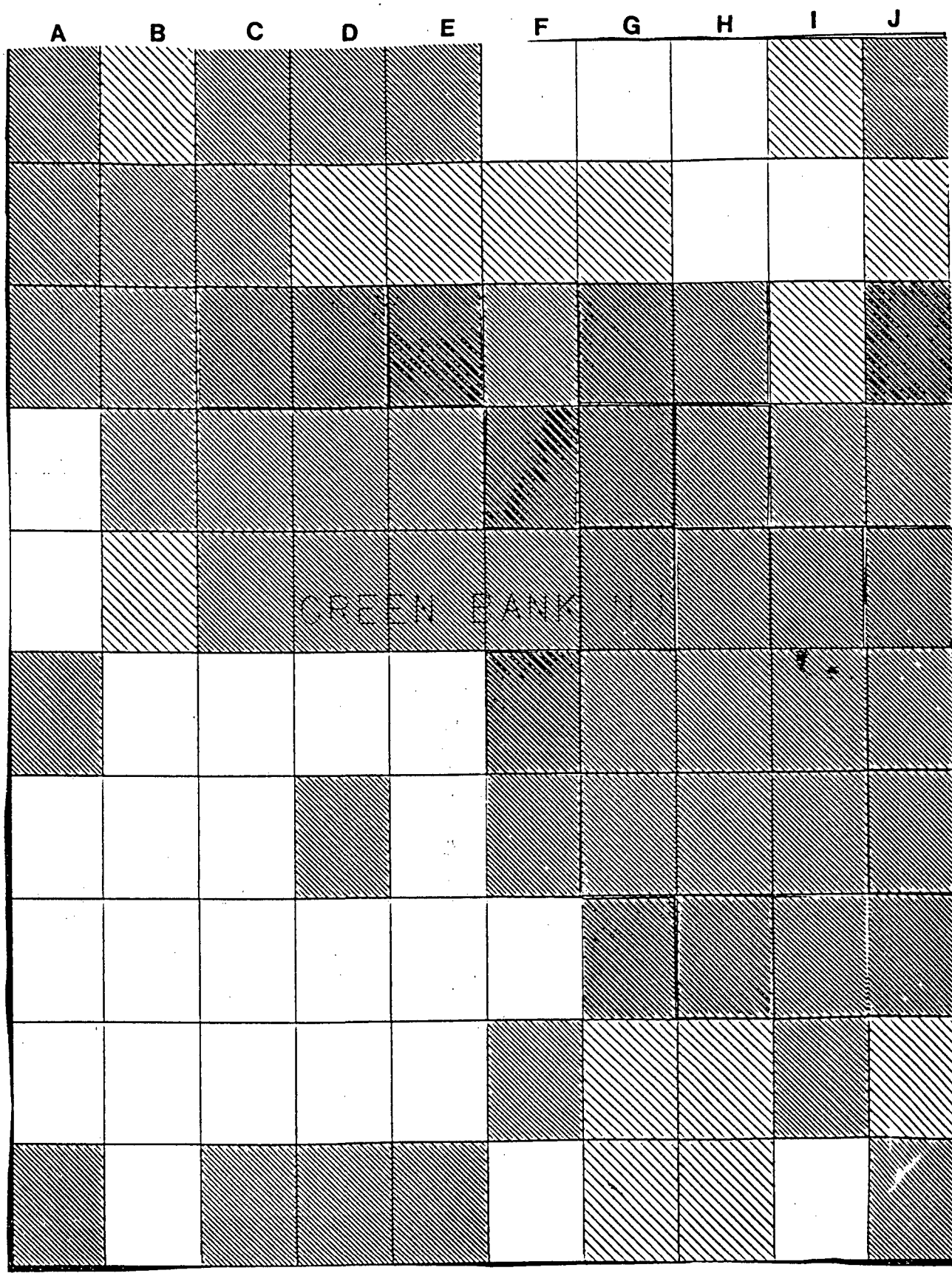

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
GREEN BANK QUADRANGLE
NEW JERSEY
7.5 MINUTE SERIES (TOPOGRAPHIC)
A
B
C
D
E
F
G
H
J
1
2
3
4
5
6
7
8
9
10
WASHINGTON
ATLANTIC
Egg Harbor City
GREEN BANK, N.J.

NATURAL HERITAGE DATA

GENERALIZED LOCATIONS FOR RARE & ENDANGERED ELEMENTS OF NATURAL DIVERSITY

DOCUMENTED LOCATION KNOWN PRECISELY

DOCUMENTED LOCATION KNOWN WITHIN 1.5MI.



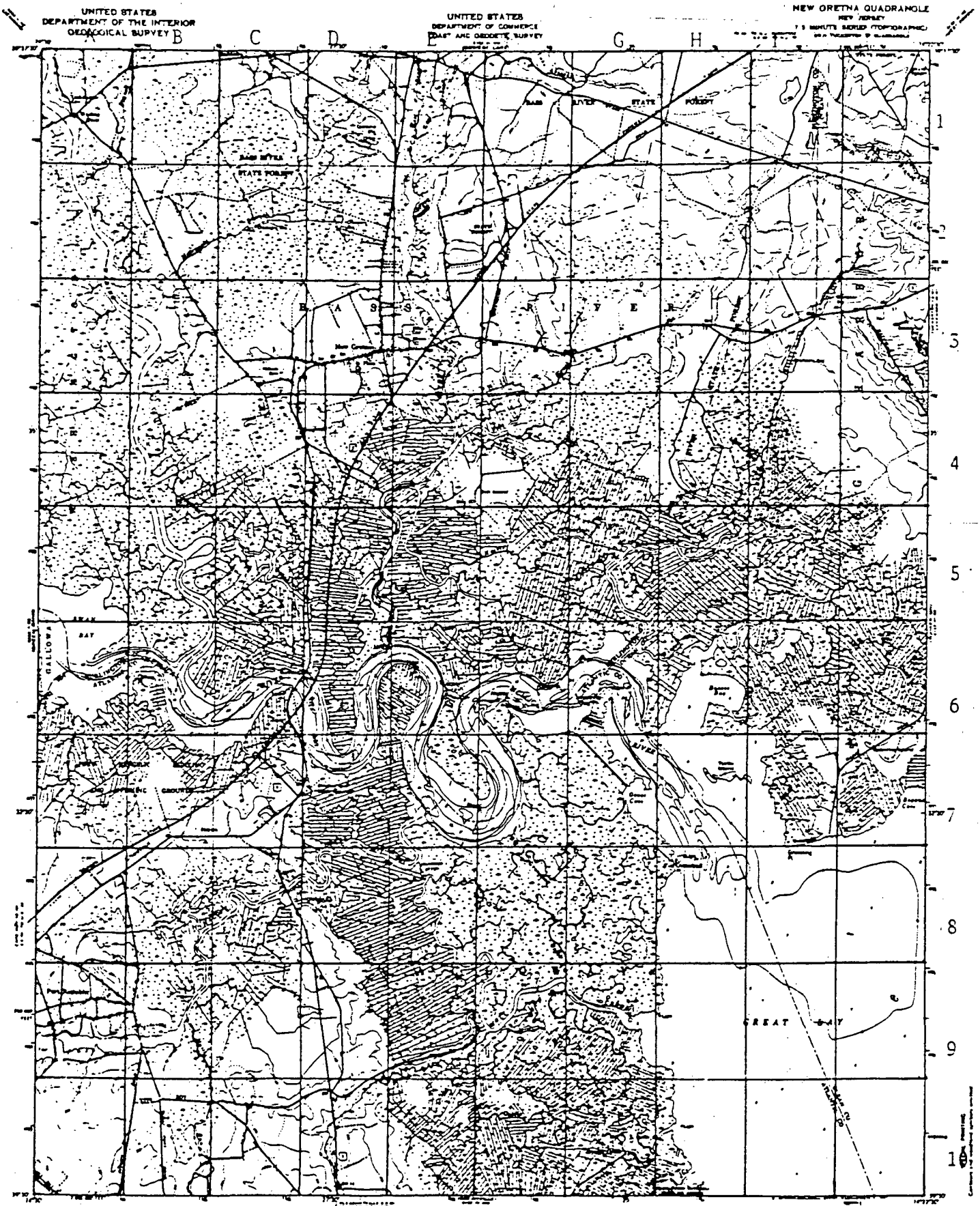
NOTE: THIS IS NOT A COMPLETE MAP OF RARE AND ENDANGERED SPECIES HABITAT FOR THIS AREA. IT REFLECTS DATA ON KNOWN OCCURRENCES COMPILED AS OF THE ABOVE DATE. IT INCLUDES BOTH HISTORICALLY AND RECENTLY DOCUMENTED OCCURRENCES. ADDITIONAL OCCURRENCES MAY BE FOUND ON UNSURVEYED HABITAT. FOR MORE INFORMATION, CONTACT THE OFFICE OF NATURAL LANDS MANAGEMENT, CN404, TRENTON NJ 08625.

MAY 1988

UPDATED SEMIANNUALLY

100113

100114

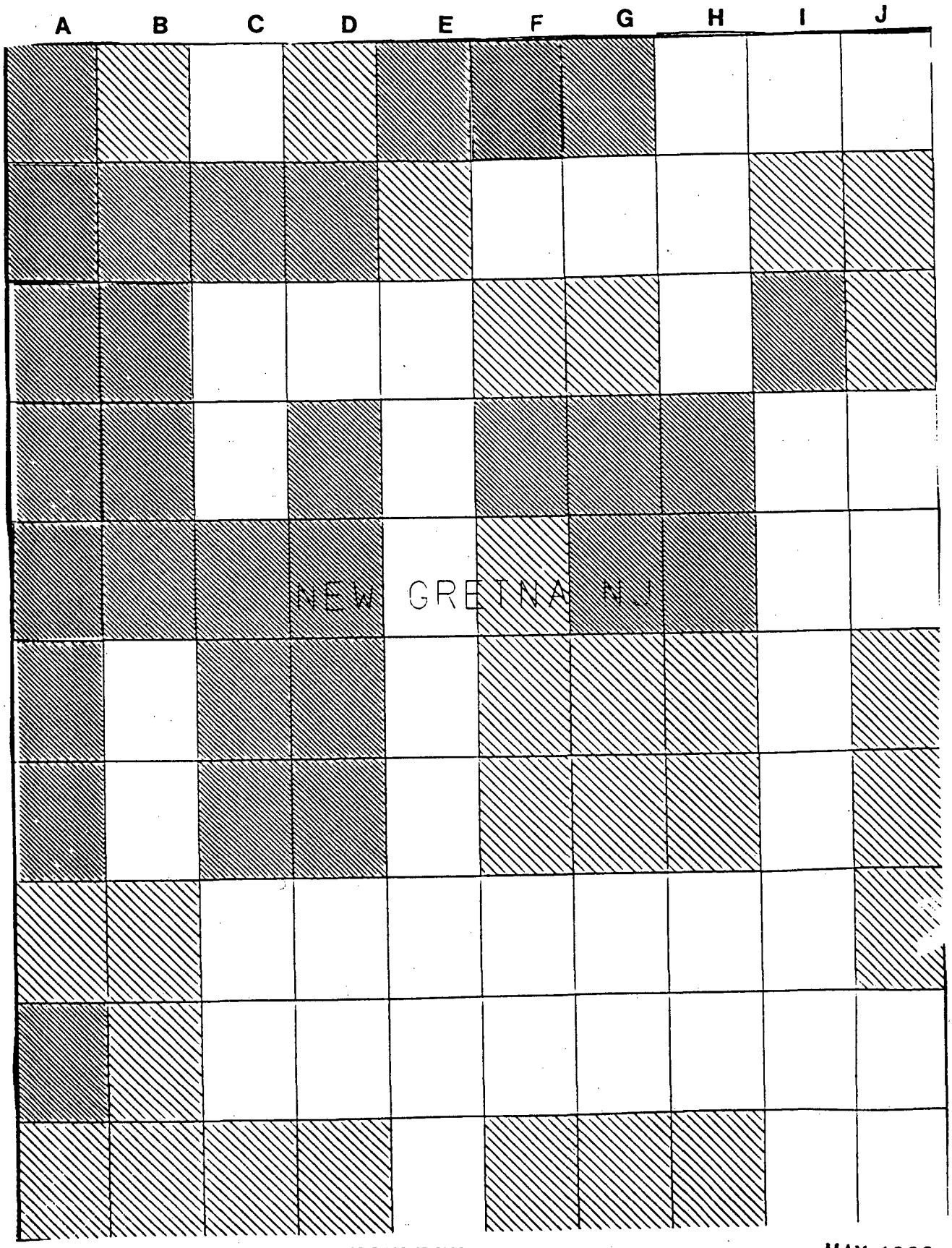

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
UNITED STATES
DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
NEW ORETNA QUADRANGLE
NEW JERSEY
7.5 MINUTE SERIES (TOPOGRAPHIC)
A
B
C
D
E
G
H
I
1
2
3
4
5
6
7
8
9
10
BASS RIVER
GREAT BAY
NEW ORETNA, N.J.
1951

NATURAL HERITAGE DATA

GENERALIZED LOCATIONS FOR RARE & ENDANGERED ELEMENTS OF NATURAL DIVERSITY

DOCUMENTED LOCATION KNOWN PRECISELY

DOCUMENTED LOCATION KNOWN WITHIN 1.5MI.

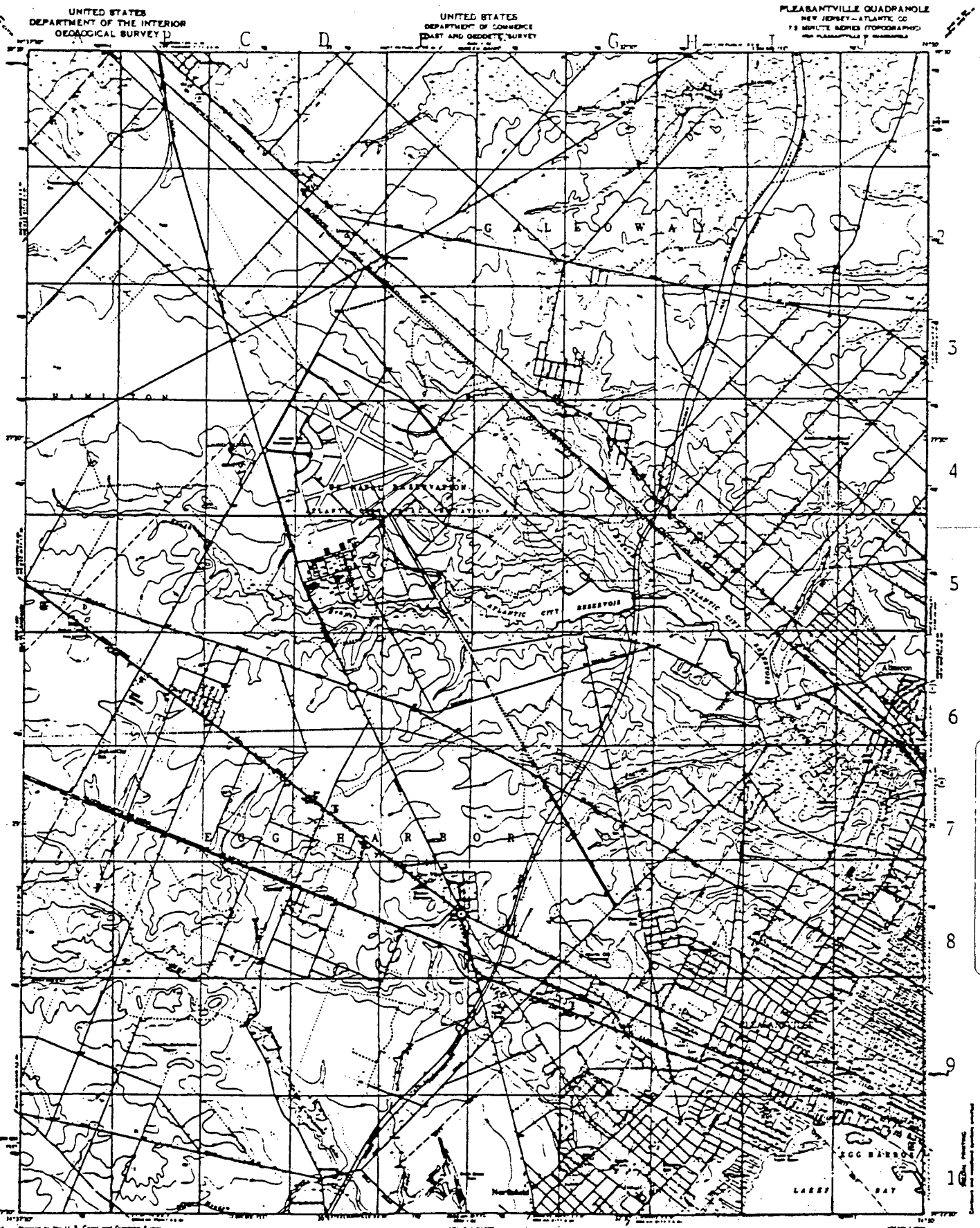


NOTE: THIS IS NOT A COMPLETE MAP OF RARE AND ENDANGERED SPECIES HABITAT FOR THIS AREA. IT REFLECTS DATA ON KNOWN OCCURRENCES COMPILED AS OF THE ABOVE DATE. IT INCLUDES BOTH HISTORICALLY AND RECENTLY DOCUMENTED OCCURRENCES. ADDITIONAL OCCURRENCES MAY BE FOUND ON UNSURVEYED HABITAT. FOR MORE INFORMATION, CONTACT THE OFFICE OF NATURAL LANDS MANAGEMENT, CN404, TRENTON NJ 08625.

MAY 1988

UPDATED SEMIANNUALLY

100115


UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
UNITED STATES
DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
PLEASANTVILLE QUADRANGLE
NEW JERSEY—ATLANTIC CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)
GALLOWAY
HAMILTON
ATLANTIC CITY RESERVOIR
EGG HARBOR
EGG HARBOR
LAKES BAY
SCALE 1:24 000
PLEASANTVILLE N J

100116

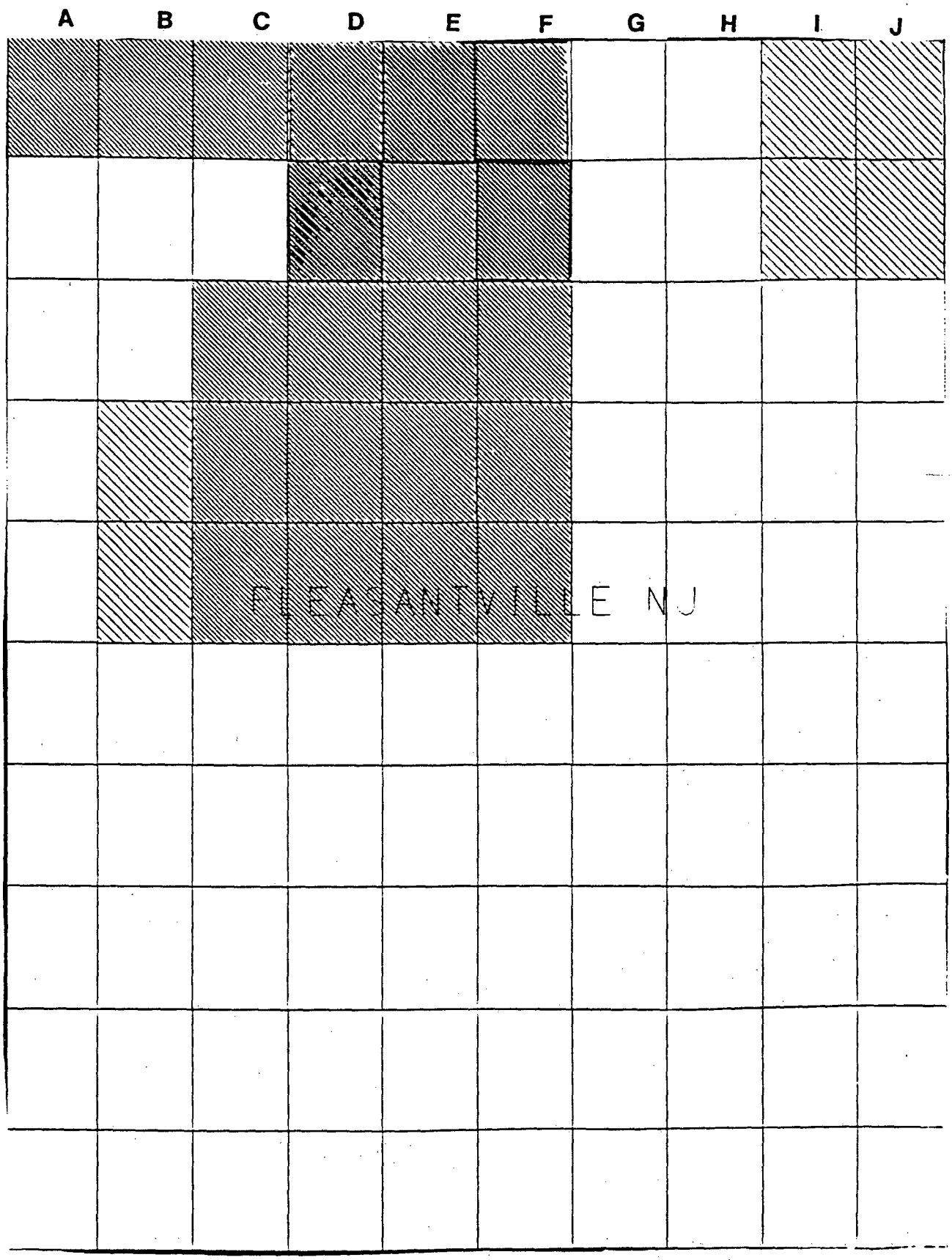
157

NATURAL HERITAGE DATA

GENERALIZED LOCATIONS FOR RARE & ENDANGERED ELEMENTS OF NATURAL DIVERSITY

DOCUMENTED LOCATION KNOWN PRECISELY

DOCUMENTED LOCATION KNOWN WITHIN 1.5MI.



NOTE: THIS IS NOT A COMPLETE MAP OF RARE AND ENDANGERED SPECIES HABITAT FOR THIS AREA. IT REFLECTS DATA ON KNOWN OCCURRENCES COMPILED AS OF THE ABOVE DATE. IT INCLUDES BOTH HISTORICALLY AND RECENTLY DOCUMENTED OCCURRENCES. ADDITIONAL OCCURRENCES MAY BE FOUND ON UNSURVEYED HABITAT. FOR MORE INFORMATION, CONTACT THE OFFICE OF NATURAL LANDS MANAGEMENT, CN404, TRENTON NJ 08625.

MAY 1988

UPDATED SEMIANNUALLY

100117

ON OR IN THE IMMEDIATE VICINITY OF ASSOCIATED WATERWAYS
RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN
THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK	DATE OBSERVED	IDENT.
*** Vertebrates								
PITUOPHIS MELANOLEUCUS	PINE SNAKE		T		G5	S3	1982-08-18	
*** Other types								
BALD EAGLE WINTERING SITE	BALD EAGLE WINTERING SITE				G?	S?	1984-01-??	Y
*** Vascular plants								
CYPERUS POLYSTACHYOS	COAST FLATSEDGE		E		G5	S1	1988-??-??	Y
ERIOCAULON PARKERI	PARKER'S PIPEWORT	3C			G3	S2	1980-06-27	Y
JUNCUS CAESARIENSIS	NEW JERSEY RUSH	C2	E	LP	G2	S2	1986-??-??	Y
NARTHECIUM AMERICANUM	BOG ASPHODEL	C1	E	LP	G2	S2	1986-??-??	Y
SCHIZAEA PUSILLA	CURLY GRASS FERN	3C		LP	G3	S3	1986-??-??	Y

7 Records Processed

GENERAL VICINITY OF PROJECT SITE
RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN
THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK	DATE OBSERVED	IDENT.
*** Vertebrates								
AMBYSTOMA TIGRINUM	TIGER SALAMANDER		E		G5	S2	1979-??-??	Y
AMMODRAMUS SAVANNARUM	GRASSHOPPER SPARROW		T/T		G4	S2	1987-SUMMR	Y
ARDEA HERODIAS	GREAT BLUE HERON		T/S		G5	S2	1984-??-??	Y
BARTRAMIA LONGICAUDA	UPLAND SANDPIPER		E		G5	S1	1977-??-??	Y
BARTRAMIA LONGICAUDA	UPLAND SANDPIPER		E		G5	S1	1987-06-??	Y
HYLA ANDERSONII	PINE BARRENS TREEFROG	3C	E		G4	S3	1980-05-03	Y
HYLA ANDERSONII	PINE BARRENS TREEFROG	3C	E		G4	S3	????-??-??	Y
HYLA ANDERSONII	PINE BARRENS TREEFROG	3C	E		G4	S3	1981-06-08	Y
HYLA ANDERSONII	PINE BARRENS TREEFROG	3C	E		G4	S3	1981-06-08	Y
HYLA ANDERSONII	PINE BARRENS TREEFROG	3C	E		G4	S3	1981-06-23	Y
HYLA ANDERSONII	PINE BARRENS TREEFROG	3C	E		G4	S3	1978-06-30	Y
HYLA ANDERSONII	PINE BARRENS TREEFROG	3C	E		G4	S3	1988-07-09	
MELANERPES ERYTHROCEPHALUS	RED-HEADED WOODPECKER		T/T		G5	S3	1976-SUMMR	
PITUOPHIS MELANOLEUCUS	PINE SNAKE		T		G5	S3	1954-SUMMR	Y
PITUOPHIS MELANOLEUCUS	PINE SNAKE		T		G5	S3	1982-08-18	
PITUOPHIS MELANOLEUCUS	PINE SNAKE		T		G5	S3	1992-07-17	Y
POOECETES GRAMINEUS	VESPER SPARROW		E		G5	S2	1980-??-??	Y
STRIX VARIA	BARRED OWL		T/T		G5	S3	1991-03-??	Y
*** Ecosystems								
COASTAL PLAIN INTERMITTENT POND	VERNAL POND				G3?	S2S3	198?-??-??	Y
COASTAL PLAIN INTERMITTENT POND	VERNAL POND				G3?	S2S3	1985-08-30	Y
*** Invertebrates								

100119

GENERAL VICINITY OF PROJECT SITE
RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN
THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK	DATE OBSERVED	IDENT.
CATOCALA PRETIOSA PRETIOSA	A PRECIOUS UNDERWING	C2			G4T2	S2S3	1987-05-20	Y
PAPAIPEMA STENOCELIS	CHAIN FERN BORER MOTH				G4	S3	1991-08-01	Y
PROBLEMA BULENTA	THE RARE SKIPPER	C2			G2G3	S2	1990-07-29	?
SCOPULA PURATA	CHALKY WAVE				G4	S3	1991-08-01	Y
*** Vascular plants								
CALAMOVILFA BREVIPILIS	PINE BARREN REEDGRASS	3C		LP	G3	S3	1985-08-30	Y
CALAMOVILFA BREVIPILIS	PINE BARREN REEDGRASS	3C		LP	G3	S3	1985-05-05	Y
CAREX BARRATTII	BARRATT'S SEDGE	3C		LP	G4	S4	1985-05-20	Y
CAREX BARRATTII	BARRATT'S SEDGE	3C		LP	G4	S4	1985-05-05	Y
CAREX BARRATTII	BARRATT'S SEDGE	3C		LP	G4	S4	1985-05-05	Y
COREOPSIS ROSEA	PINK TICKSEED			LP	G3	S2	1982-07-26	Y
COREOPSIS ROSEA	PINK TICKSEED			LP	G3	S2	1985-08-30	Y
CYPERUS POLYSTACHYOS	COAST FLATSEDGE		E		G5	S1	1988-??-??	Y
ERIOCAULON PARKERI	PARKER'S PIPEWORT	3C			G3	S2	1980-06-27	Y
EUPATORIUM RESINOSUM	PINE BARREN BONESET	C2	E	LP	G2	S2	1984-10-03	Y
GNAPHALIUM HELLERI	HELLER'S EVERLASTING				G4G5	S1	1937-01-31	Y
JUNCUS CAESARIENSIS	NEW JERSEY RUSH	C2	E	LP	G2	S2	1986-??-??	Y
LOBELIA BOYKINII	BOYKIN'S LOBELIA	C2	E	LP	G2	S1	198?-??-??	Y
LOBELIA BOYKINII	BOYKIN'S LOBELIA	C2	E	LP	G2	S1	1985-09-??	Y
MUHLENBERGIA TORREYANA	PINE BARREN SMOKE GRASS	3C		LP	G3	S3	1985-08-30	Y
NARTHECIUM AMERICANUM	BOG ASPHODEL	C1	E	LP	G2	S2	1986-??-??	Y
PANICUM HIRSTII	HIRSTS' PANIC GRASS	C2	E	LP	G1	S1	1992-10-01	Y
PANICUM HIRSTII	HIRSTS' PANIC GRASS	C2	E	LP	G1	S1	1984-09-09	Y
RHYNCHOSPORA KNIESKERNII	KNIESKERN'S BEAKED RUSH	LT	E	LP	G1	S1	1961-08-25	Y
RHYNCHOSPORA KNIESKERNII	KNIESKERN'S BEAKED RUSH	LT	E	LP	G1	S1	1985-08-30	Y
RHYNCHOSPORA KNIESKERNII	KNIESKERN'S BEAKED RUSH	LT	E	LP	G1	S1	1992-08-17	Y

GENERAL VICINITY OF PROJECT SITE
RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN
THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK	DATE OBSERVED	IDENT.
RHYNCHOSPORA PALLIDA	PALE BEAK RUSH				G3?	S3	1938-07-27	Y
RHYNCHOSPORA PALLIDA	PALE BEAK RUSH				G3?	S3	1985-08-30	Y
SAGITTARIA TERES	SLENDER ARROW HEAD		E		G3	S1	1960-07-07	Y
SCHIZAEA PUSILLA	CURLY GRASS FERN	3C		LP	G3	S3	1986-??-??	Y

49 Records Processed

REFERENCE NO. 32

100122

WESTON

Dave Benton
Originator

PHONE CONVERSATION RECORD

Conversation with:
Name Rich Castagna
Company NJDEPE - Tidal Land Management
Address Trenton NJ

Phone 609-292-2573
Subject TOP of Tide ON NACote Creek

Date 9/28/93
Time 1400 AM/PM

☐ Originator Placed Call
☐ Originator Received Call
W.O. NO. 04200-06-081-0059-02

Notes: Rich Castagna stated that the top of the tide (tidal influence) is at Mill Pond in Port Republic. This location is described as X coordinate - 2047785, Y coordinate - 249083

☐ **File** _____
☐ **Tickle File** ____/____/____
☐ **Follow-Up By:** _____
☐ **Copy/Route To:** _____

Follow-Up-Action: _____

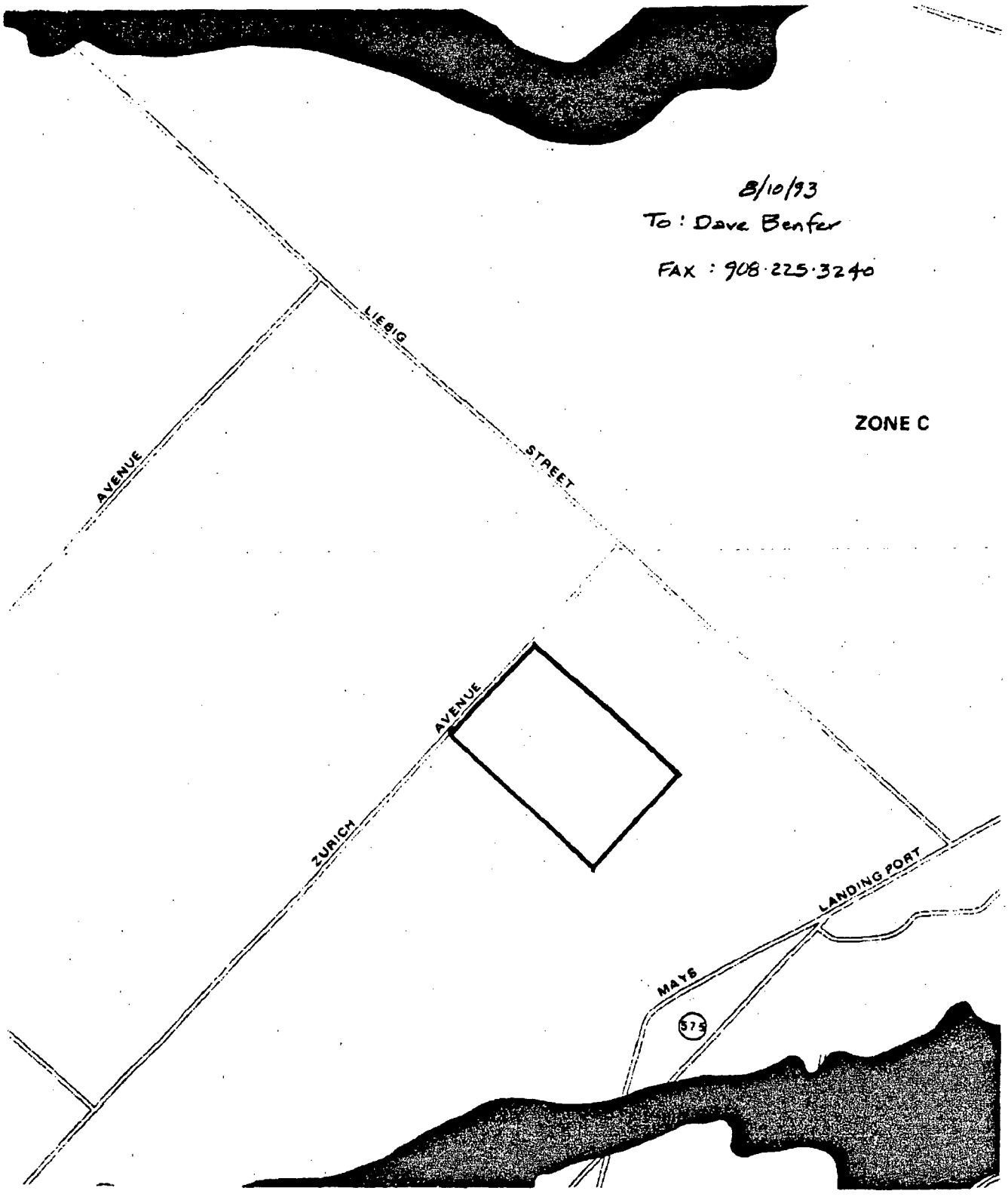
Originator's Initials _____

RFW 110-4-83

100123

REFERENCE NO. 33

100124



SAWHILL, MICHEL & PHILLIPS, ASSOCIATES
Professional Planning · Environmental Consulting
Moss Mill Road
Township of Smithville, New Jersey 08201
(609) 652-0251
FAX (609) 748-8122

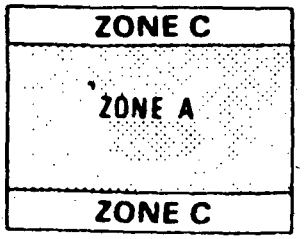
FLOOD ZONE MAPPING

SOURCE: FEDERAL EMERGENCY MANAGEMENT AGENCY,
FIRM #340008 0025 B

KEY TO SYMBOLS

C107

ZONE DESIGNATIONS* WITH DATE OF IDENTIFICATION
ie. 12/2/78



100126

Base Flood Elevation Line	513
Base Flood Elevation	(513' MSL)
Elevation Reference Mark	RM7
River Mile	M1.5

*EXPLANATION OF ZONE DESIGNATIONS

A flood insurance map displays the zone designations for a community according to areas of designated flood hazards. The zone designations used by FIA are

Zone Symbol	Category
A	Area of special flood hazards (SFHA) and without base flood elevations determined
A1 through A30	Area of special flood hazards (SFHA) with base flood elevations. Zones are assigned according to flood hazard factors and dates of SFHA identification
AO	Area of special flood hazards that have shallow flood depths (less than two feet) and an expected variable flow paths. Base flood elevations are not determined
V	Area of special flood hazards, with velocity, that are inundated by tidal floods. Zones are assigned according to flood hazard factors and dates of SFHA identification
B	Area of moderate flood hazards
C	Area of minimal flood hazards
D	Area of undetermined but possible flood hazards

CONSULT NFIA SERVICING COMPANY OR LOCAL INSURANCE AGENT OR BROKER TO DETERMINE IF PROPERTIES IN THIS COMMUNITY ARE ELIGIBLE FOR FLOOD INSURANCE.

INITIAL IDENTIFICATION DATE: OCTOBER 22, 1976

MAP REVISED DECEMBER 23, 1977
TO REFLECT CONVERSION FROM FHBM TO FIR

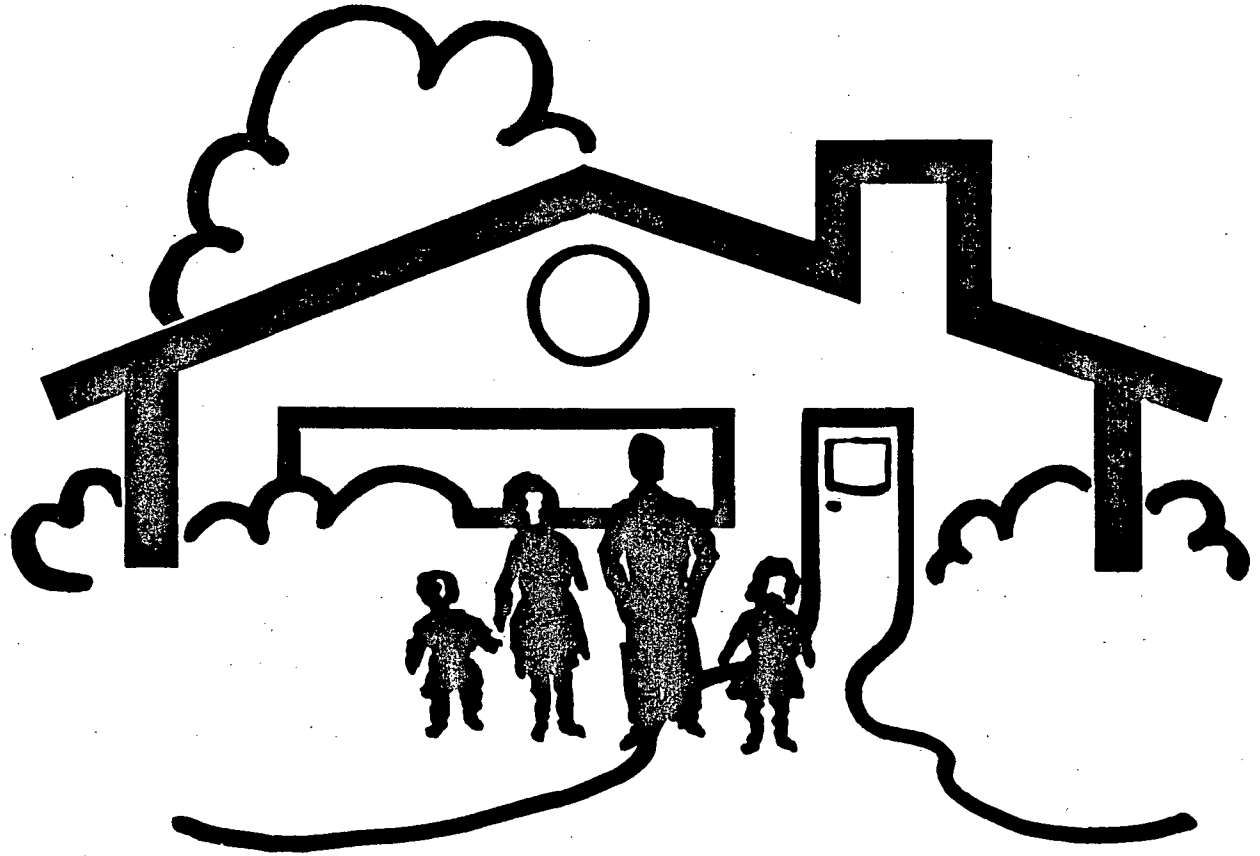
REFERENCE NO. 34

NJSDC 1990 Census Publication

Housing Units and Household Population

New Jersey, Counties and Municipalities

1990



April 1991

$5.00

Table 2. Housing Units, Households, and Persons in Households and Group Quarters: 1990
New Jersey Municipalities by Counties

The population counts set forth herein are subject to possible correction for undercount or overcount. The United States Department of Commerce is considering whether to correct these counts and will publish corrected counts, if any, not later than July 15, 1991.

ATLANTIC County Municipalities	(1) Total Housing Units	(2) Vacant Housing Units	(3) Total Persons	(4) Persons in Group Quarters	(5) Total Households (1)-(2)	(6) Persons in Households (3)-(4)	(7) Persons per Household (6)/(5)
ATLANTIC COUNTY	106,877	21,754	224,327	6,006	85,123	218,321	2.56
Absecon city	2,771	192	7,298	154	2,579	7,144	2.77
Atlantic City city	21,626	5,895	37,986	1,761	15,731	36,225	2.30
Brigantine city	8,796	3,973	11,354	0	4,823	11,354	2.35
Buena borough	1,761	125	4,441	22	1,636	4,419	2.70
Buena Vista township	2,727	144	7,655	15	2,583	7,640	2.96
Corbin City city	187	22	412	0	165	412	2.50
Egg Harbor township	10,018	950	24,544	22	9,068	24,522	2.70
Egg Harbor City city	1,750	83	4,583	72	1,667	4,511	2.71
Estell Manor city	455	19	1,404	46	436	1,358	3.11
Folsom borough	710	28	2,181	0	682	2,181	3.20
Galloway township	8,869	932	23,330	1,949	7,937	21,381	2.69
Hamilton township	6,343	730	16,012	646	5,613	15,366	2.74
Hammonton town	4,608	198	12,208	349	4,410	11,859	2.69
Linwood city	2,491	135	6,866	123	2,356	6,743	2.86
Longport borough	1,537	952	1,224	61	585	1,163	1.99
Margate City city	6,726	2,890	8,431	0	3,836	8,431	2.20
Mullica township	2,081	160	5,896	71	1,921	5,825	3.03
Northfield city	2,826	177	7,305	185	2,649	7,120	2.69
Pleasantville city	6,759	866	16,027	395	5,893	15,632	2.65
Port Republic city	372	29	992	0	343	992	2.89
Somers Point city	5,449	726	11,216	135	4,723	11,081	2.35
Ventnor City city	7,256	2,473	11,005	0	4,783	11,005	2.30
Weymouth township	759	55	1,957	0	704	1,957	2.78

Source: 1990 Census of Population and Housing.

100129

REFERENCE NO. 35

100130

WESTON

PROJECT NOTE

TO: File

DATE: October 7, 1993

FROM: David C. Benfer

W.O. NO.: 04200-016-081-0059-05

SUBJECT: Population Values

Population values from Bob Frost Associates are incorrect for distance rings 0-.25 miles and .25-.50 miles. This is evident from the 4-mile vicinity map constructed from surrounding topographic quadrangles.

Populations values for 0-.25 miles and .25-.50 miles were calculated by counting the number of houses within each distance ring and multiplying by 2.54, the county average per household.

	# of houses	Population
0-.25 miles	6	15
.25-.50 miles	12	30

REFERENCE NO. 36

WESTON

PROJECT NOTE

TO: File

DATE: October 7, 1993

FROM: Dave Benfer

W.O. NO.: 04200-016-081-0059-05

SUBJECT: Groundwater public supply well locations and population served

The following public supply wells are currently used within 4 miles of the site

Distance Category (Miles)	OWNER	No. of Wells in System	Population Served by System
>1-2	Stockton State College	2	1,550
>2-3	N.J. Water Company	2	7,201

There are NO other public supply wells within 4 miles of the site. The remainder of the population within 4 miles of the site obtains drinking water from domestic wells. For the 0-1/4 and 1/4-1/2 mile distance categories, the number of houses within each category were counted using USGS topographic maps (Ref NO 2) and multiplied by the county average household population of 2.56 (Ref. NOS., 34, 35). For the 1/2 - 1 mile category, the census data was used as the number of residential wells (Ref. NO. 30). The census data was also used for the remaining distance categories, but 30 percent of the houses in each category between Jimmy Leeds Road and Rote 30 were subtracted out since that portion of the population is served by potable wells and was already counted above (Ref. Nos., 6, 11). The resulting numbers of residential wells are as follows

Distance Category (miles)	Population served by domestic Wells
> 0-1/4	15
> 1/4-1/2	30
> 1/2-1	1640
> 1-2	4100 (Includes Stockton State College)
> 2-3	5465
> 3-4	5543

The above represents the total population served by groundwater within 4 miles of the site, except for the 2-3 mile Category for which the total is 5465 + 7201 = 12,666

REFERENCE NO. 37

CASE SUMMARY

EMMELL'S SEPTIC LANDFILL
ZURICH AVENUE
GALLOWAY TWP., ATLANTIC COUNTY, N.J.
EPA ID #NJ980772727

BACKGROUND INFORMATION

Emmell's Septic Landfill is an inactive site covering approximately 38 acres in a predominantly rural area. The disposal operation was active from about 1974 until 1979 and was permitted to accept septic and sewage sludge wastes for land disposal. Past inspections by NJDEP representatives have reported pooled septic wastes in trenches and lagoons, crushed drums in an onsite pit, and some abandoned gas cylinders. The site has been abandoned since 1979 and is not secured.

SAMPLING DATA

Sampling conducted in 1984 by NJDEP under the CERCLA PA/SI program included soils, ponded surface water, and two shallow wells. No major contamination was detected, however a portion of the data was rejected due to QA/QC problems. A library search for non-target compounds revealed the following tentatively identified compounds in soil samples: 1,1,2-trichloroethane, 1,1,2,2-tetrachloroethane, 2-butoxy-ethanol, and 2-(hexyloxy) ethanol. One of the groundwater samples showed elevated levels of iron and manganese, as well as one tentatively identified organic compound, hexadecanoic acid. The surface water sample showed the presence of carbon disulfide and several tentatively identified organic compounds.

Additional sampling was conducted in January 1985 by Dan Raviv Associates, a consultant for a third party that was considering purchasing the property. Soil and water samples were collected from several trenches. Contaminants detected in soil samples included arochlor 1254 (20 ppm) and elevated levels of petroleum hydrocarbons (11,034 ppm). A water sample showed contamination with vinyl chloride (29 ppb), 1,1-dichloroethylene (19 ppb), 1,1-dichloroethane (123 ppb), trans-1,2-dichloroethylene (5,468 ppb), and 1,1,1-trichloroethane (764 ppb). Samples were analyzed by Industrial Corrosion Management Inc., but were not subject to a formal QA/QC review.

There is a potential for groundwater contamination which could affect private wells in the area. Volatile organic contamination has been identified in residential wells along Lisa Drive approximately 2,000 feet from the site. Although some of the contaminants detected coincide with those found in samples collected at the Emmell's site, the source of the contamination has not been identified. Another possible source of contamination are septic system degreasers which may have been used in the area. Groundwater conditions and flow direction beneath the Emmell's site have not been characterized, thus an observed release to groundwater cannot be confirmed at this time.

GROUNDWATER ROUTE

Soil in the area is described as loamy sand and gravel with relatively high permeability. The aquifer of concern is the Cohansey/Kirkwood formation, which is the principal aquifer unit in the area. NJDEP water supply overlay maps indicate that the region within a four mile radius of the site is not served by public supplies. The nearest well is about 2000 feet

from the site along Liebig Street. The population served by the aquifer of concern within three miles is approximately 7500 persons as shown below:

Stockton State College:	5,000
Private Wells (USGS Quad Map):	2,660
Total:	7,660

SURFACE WATER ROUTE

The nearest downslope surface water is Morse's Mill Stream which empties into Mill Pond about 1/2 mile from the site and is used for recreational purposes such as swimming, boating, and fishing. Fresh water wetland areas were identified about 1/2 mile to the south and southwest.

AIR ROUTE

Not scored.

RECOMMENDATIONS

A responsible party investigation completed by NJDEP recommended that public funds be used to conduct a remedial assessment of the site since the responsible parties (former operators of Emmell's Cesspool Service) do not have sufficient assets to pay for any future remedial investigations or cleanup.

A preliminary HRS score of 33.08 was completed for the site. The projected HRS score assuming observed groundwater contamination is 38.11. A Listing Site Inspection is recommended so that a final HRS score can be completed.

Submitted by:

Edward Gaven

Edward Gaven, HSMS III
NJDEP Bureau of Planning and Assessment
October 27, 1988

Galloway Township/Atlantic County

Emmell's Septic Landfill is a 38 acre site off of Zurich Avenue in Galloway Township, Atlantic County. The site accepted chemical waste for a number of years (exact length of time unknown) but has not been in operation since approximately 1978. Site investigations have revealed the presence of buried and unburied drums filled with non-hazardous paint sludge, plus piles of garbage, gas cylinders, and general debris. Additionally, there are two large ponds of standing water on site. Whether these contained chemical waste in the past or not is unknown.

A Notice of Prosecution was issued on 4/29/80 to clean up the site, and has still not been complied with or settled. Earl Emmell, administrator of the property, has questioned his legal responsibility in cleaning up the site. The issue remains with the Office of Regulatory Services at present. Two private wells and an abandoned house exist on the site. Contamination of groundwater may have a serious impact on the private wells that serve approximately 7,660 people.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

I. IDENTIFICATION
01 STATE: | 02 SITE NUMBER:

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER				
Emmell's Septic Landfill	128 Zurich Ave.				
03 CITY	**04 STATE**	**05 ZIP CODE**	**06 COUNTY**	**07 COUNTY CODE**	**08 CONG DIST**
Galloway Twp.	NJ	08215	Atlantic		

09 COORDINATES: LATITUDE 39° 30' 00.7" | LONGITUDE 74° 30' 34"

10 TYPE OF OWNERSHIP (Check one)
☒ A. PRIVATE ☐ B. FEDERAL _____ ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL
☐ F. OTHER _____ ☐ G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION: 6 / 25 / 84 (MONTH DAY YEAR)

02 SITE STATUS
☐ ACTIVE
☒ INACTIVE

03 YEARS OF OPERATION: _____ BEGINNING YEAR _____ ENDING YEAR
X UNKNOWN

04 AGENCY PERFORMING INSPECTION (Check all that apply)
☐ A. EPA ☐ B. EPA CONTRACTOR _____ (Name of firm) ☐ C. MUNICIPAL ☐ D. MUNICIPAL CONTRACTOR _____ (Name of firm)
☒ E. STATE ☐ F. STATE CONTRACTOR _____ (Name of firm) ☐ G. OTHER _____ (Specify)

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO.
Kathleen Van Hook	Environ.Specialist	NJDEP/HSMA	609292-1210
09 OTHER INSPECTORS	**10 TITLE**	**11 ORGANIZATION**	**12 TELEPHONE NO.**
Perry Katz	Env. Specialist	NJDEP/HSMA	609292-9746
Jon Malkin	Health Inspector	At.Cty Ho.	609645-7700
			( )
			( )
			( )

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO
None			( )
			( )
			( )
			( )
			( )
			( )
BLOCK 904 LOT 5,6			

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
☐ PERMISSION ☐ WARRANT	1100 hrs.	Breezy, sunny 70°

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO.
Jon Malkin	Atlantic Cty Hlth Dept.	609/645-7700
04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	**05 AGENCY** / **06 ORGANIZATION**	**07 TELEPHONE NO.** / **08 DATE**
Kathleen Van Hook	HSMA / NJDEP	609-984-1210 / 7-26-84 (MONTH DAY YEAR)

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EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- ☐ A. SOLID
- ☐ B. POWDER, FINES
- ☐ C. SLUDGE
- ☐ D. OTHER _____ (Specify)
- ☐ E. SLURRY
- ☐ F. LIQUID
- ☐ G. GAS

02 WASTE QUANTITY AT SITE
(Measures of waste quantities must be independent)

TONS _____
CUBIC YARDS _____
NO. OF DRUMS _____

03 WASTE CHARACTERISTICS (Check all that apply)

- ☐ A. TOXIC
- ☐ B. CORROSIVE
- ☐ C. RADIOACTIVE
- ☐ D. PERSISTENT
- ☐ E. SOLUBLE
- ☐ F. INFECTIOUS
- ☐ G. FLAMMABLE
- ☐ H. IGNITABLE
- ☐ I. HIGHLY VOLATILE
- ☐ J. EXPLOSIVE
- ☐ K. REACTIVE
- ☐ L. INCOMPATIBLE
- ☐ M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE	Unknown		Drums of paint sludge
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
	Unknown				

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

NJDEP Files-1911 Princeton Ave., Trenton

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EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☒ A. GROUNDWATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) — ☒ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION
Site once accepted chemical waste;one of 2 lagoons still present on site although filled in.

01 ☒ B. SURFACE WATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) — ☒ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

01 ☐ C. CONTAMINATION OF AIR — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

01 ☐ E. DIRECT CONTACT — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

01 ☒ F. CONTAMINATION OF SOIL — 02 ☐ OBSERVED (DATE: _____) — ☒ POTENTIAL — ☐ ALLEGED
03 AREA POTENTIALLY AFFECTED: (Acres) _____ 04 NARRATIVE DESCRIPTION
Potential exists since site accepted chemical waste in past while functioning as a septic landfill.

01 ☐ G. DRINKING WATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

01 ☐ H. WORKER EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 WORKERS POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

01 ☐ I. POPULATION EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE | 02 SITE NUMBER

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☒ J. DAMAGE TO FLORA — 02 ☒ OBSERVED (DATE: 4/9/83) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
Areas of sparse vegetation exist on site.

01 ☐ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION (Include species of animals)

01 ☐ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☒ M. UNSTABLE CONTAINMENT OF WASTES (Spills/Runoff/Standing liquids, Leaking drums) — 02 ☒ OBSERVED (DATE: 3/8/83) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION
Paint pigments observed on ground, determined to be non-hazardous waste. Also, filled-in lagoon on site.

01 ☐ N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☒ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☒ OBSERVED (DATE: 3/1/83) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
Drums of paint sludges, general garbage and gas cylinders observed, which was unpermitted dumping.

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS
Since the site at one time did accept chemical waste, it seems necessary that GW and soil analysis be done to determine the level of hazard that may have resulted.

III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

IV. COMMENTS
ORS handling outstanding NOP

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)
NJDEP files: 8 E. Hanover St.
DWM/Red Lion
Jon Malkin-Atlantic Cty Hlth Dept. 609-645-7700

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POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
☐ A. NPDES				
☐ B. UIC				
☐ C. AIR				
☐ D. RCRA				
☐ E. RCRA INTERIM STATUS				
☐ F. SPCC PLAN				
☐ G. STATE (Specify)				
☐ H. LOCAL (Specify)				
☐ I. OTHER (Specify)				
☒ J. NONE				

III. SITE DESCRIPTION

01 STORAGE/DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE
☐ A. SURFACE IMPOUNDMENT		
☐ B. PILES		
☒ C. DRUMS, ABOVE GROUND	Unknown	
☐ D. TANK, ABOVE GROUND		
☐ E. TANK, BELOW GROUND		
☒ F. LANDFILL	Unknown	
☐ G. LANDFARM		
☐ H. OPEN DUMP		
☐ I. OTHER (Specify)		

04 TREATMENT (Check all that apply)

- ☐ A. INCENERATION
- ☐ B. UNDERGROUND INJECTION
- ☐ C. CHEMICAL/PHYSICAL
- ☐ D. BIOLOGICAL
- ☐ E. WASTE OIL PROCESSING
- ☐ F. SOLVENT RECOVERY
- ☐ G. OTHER RECYCLING/RECOVERY
- ☐ H. OTHER (Specify)

05 OTHER

☒ A. BUILDINGS ON SITE

Old house, barn

06 AREA OF SITE

~ 3 (Acres)

07 COMMENTS

Drums are filled with non-hazardous paint sludge. They are rusty, and spilled paint sludge is present in several areas on the site.

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)

☐ A. ADEQUATE, SECURE ☐ B. MODERATE ☒ C. INADEQUATE, POOR ☐ D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ☒ YES ☐ NO

02 COMMENTS

Site is abandoned and accessible to anyone.

VI. SOURCES OF INFORMATION (Cite specific references, e.g. state files, sample analysis, reports)

NJDEP Site inspection of 4/4/83

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POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as applicable)

	SURFACE	WELL
COMMUNITY	A. ☐	B. ☐
NON-COMMUNITY	C. ☐	D. ☒

02 STATUS

ENDANGERED	AFFECTED	MONITORED
A. ☐	B. ☐	C. ☐
D. ☒	E. ☐	F. ☐

03 DISTANCE TO SITE

A. 1/4 (mi)
B. _____ (mi)

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

☐ A. ONLY SOURCE FOR DRINKING ☒ B. DRINKING (Other sources available) COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available) ☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION (Limited other sources available) ☐ D. NOT USED, UNUSEABLE

02 POPULATION SERVED BY GROUND WATER _____

03 DISTANCE TO NEAREST DRINKING WATER WELL 0 (mi)

04 DEPTH TO GROUNDWATER	05 DIRECTION OF GROUNDWATER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
6 (ft)		(ft)	(gpd)	☐ YES ☒ NO

09 DESCRIPTION OF WELLS (Including usage, depth, and location relative to population and buildings)

2 on-site private wells (unused), 21 ft deep.

10 RECHARGE AREA		11 DISCHARGE AREA	
☒ YES ☐ NO	COMMENTS	☐ YES ☐ NO	COMMENTS

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

☐ A. RESERVOIR, RECREATION DRINKING WATER SOURCE ☐ B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES ☐ C. COMMERCIAL, INDUSTRIAL ☐ D. NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME:	AFFECTED	DISTANCE TO SITE
Morse's Mill Stream	☐	(mi)
Clark's Mill Stream	☐	(mi)
	☐	(mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE: A. _____ NO. OF PERSONS
TWO (2) MILES OF SITE: B. _____ NO. OF PERSONS
THREE (3) MILES OF SITE: C. _____ NO. OF PERSONS

02 DISTANCE TO NEAREST POPULATION: 1 (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE: _____

04 DISTANCE TO NEAREST OFF-SITE BUILDING: 1 (mi)

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site, e.g., rural, village, densely populated urban area)

Rural population in area of ste. Residential homes are scattered throughout area and small businesses are located within 5 miles of the site.

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POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

☐ A. $10^{-6} - 10^{-8}$ cm/sec ☐ B. $10^{-4} - 10^{-6}$ cm/sec ☐ C. $10^{-4} - 10^{-3}$ cm/sec ☒ D. GREATER THAN 10^{-3} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

☐ A. IMPERMEABLE (Less than 10^{-6} cm/sec) ☐ B. RELATIVELY IMPERMEABLE ($10^{-4} - 10^{-6}$ cm/sec) ☒ C. RELATIVELY PERMEABLE ($10^{-2} - 10^{-4}$ cm/sec) ☐ D. VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH	
50 (ft)	Unknown (ft)	N/A	

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE		
		SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
12 (in)	2.7 (in)	0-5 %		%

09 FLOOD POTENTIAL	10
SITE IS IN _____ YEAR FLOODPLAIN	☐ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 acre minimum)		12 DISTANCE TO CRITICAL HABITAT (of endangered species)
ESTUARINE	OTHER	_____ (mi)
A. _____ (mi)	B. _____ (mi)	ENDANGERED SPECIES: _____

13 LAND USE IN VICINITY

DISTANCE TO:			
COMMERCIAL/INDUSTRIAL	RESIDENTIAL AREAS; NATIONAL/STATE PARKS, FORESTS, OR WILDLIFE RESERVES	AGRICULTURAL LANDS: PRIME AG LAND	AG LAND
A. _____ (mi)	B. 1/4 (mi)	C. _____ (mi)	D. _____ (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

Site is located on the Klej-Lakehurst-Evesboro Association.Site area is nearly level to gently sloping with excessively drained soils and a sandy subsoil.

VII. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

U.S. Dept. of Agriculture Soil Conservation Service
HRS User's Manual

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POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 7 - OWNER INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER

II. CURRENT OWNER(S)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE
Emmell/Barbara		1003 Folsom Ave.		Pleasantville	NJ	08232

PARENT COMPANY (if applicable)

08 NAME	09 D+B NUMBER	10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE	12 CITY	13 STATE	14 ZIP CODE

III. PREVIOUS OWNER(S) (List most recent first)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE

IV. REALTY OWNER(S) (if applicable; list most recent first)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

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POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 6 - SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER	4	Organics: Mead Compuchem	Dec 84
SURFACE WATER	1	P.O. Box 12652	
WASTE		3308 Chapel Hill Rd.	
AIR		Nelson Highway	
RUNOFF		Research Triangle Pk, NC	277001
SPILL		Inorganics: Versar	Dec 84
SOIL	5	6850 Versar Ctr.	
VEGETATION		PO 1549	
OTHER		Springfield, VA 22151	
		Attn: Beverly Hatchens	

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS
HNU	(See below) bkgrnd 1ppm span setting=2; 0-200 scale

IV. PHOTOGRAPHS AND MAPS

01 TYPE ☒ GROUND ☐ AERIAL

02 IN CUSTODY OF RCRA 3012 Project
(Name of organization or individual)

03 MAPS ☒ YES ☐ NO

04 LOCATION OF MAPS RCRA 3012 Project Office

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

HNU readings taken at composite soil boring locations
#1-4 ranging from 40-120 ppm;
span setting at 2, range of 0-200 ppm

See Site Log Book-NJDEP Files

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

NJDEP Site inspection 6/84-Files at 1911 Princeton Ave., Trenton

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POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - OPERATOR INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER

II. CURRENT OPERATOR (Provide if different from owner)

01 NAME	02 D+B NUMBER	10 NAME	11 D+B NUMBER
Not in Operation			
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	14 CITY	15 STATE / 16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER		

OPERATOR'S PARENT COMPANY (If applicable)

III. PREVIOUS OPERATOR(S) (List most recent first; provide only if different from owner)

01 NAME	02 D+B NUMBER	10 NAME	11 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	14 CITY	15 STATE / 16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD		
01 NAME	02 D+B NUMBER	10 NAME	11 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	14 CITY	15 STATE / 16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD		
01 NAME	02 D+B NUMBER	10 NAME	11 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	14 CITY	15 STATE / 16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD		

PREVIOUS OPERATORS' PARENT COMPANIES (If applicable)

IV. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

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POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER

II. ON-SITE GENERATOR

01 NAME	02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	
05 CITY	06 STATE / 07 ZIP CODE	

III. OFF-SITE GENERATOR(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

IV. TRANSPORTER(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

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POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION ☒ YES ☐ NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY/ENFORCEMENT ACTION

Outstanding NOP from April 1980 with NJDEP Office of Regulatory Services. Samples taken of paint sludge. by DWM 7/82

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

NJDEP Files- DWM/HSMA-1911 Princeton Ave., Trenton

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POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION

01 STATE	02 SITE NUMBER

II. PAST RESPONSE ACTIVITIES

01 ☐ A. WATER SUPPLY CLOSED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ B. TEMPORARY WATER SUPPLY PROVIDED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ C. PERMANENT WATER SUPPLY PROVIDED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ D. SPILLED MATERIAL REMOVED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ E. CONTAMINATED SOIL REMOVED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ F. WASTE REPACKAGED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ G. WASTE DISPOSED ELSEWHERE — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ H. ON SITE BURIAL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ I. IN SITU CHEMICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ J. IN SITU BIOLOGICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ K. IN SITU PHYSICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ L. ENCAPSULATION — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ M. EMERGENCY WASTE TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ N. CUTOFF WALLS — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ O. EMERGENCY DIKING/SURFACE WATER DIVERSION — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ P. CUTOFF TRENCHES/SUMP — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ Q. SUBSURFACE CUTOFF WALL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

O[redacted]VASTE SITE
N REPORT
T INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER

NJDEP Office of Regulatory
ge, by Dunn 3/83

Ave., Trenton

100151

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POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION ☒ YES ☐ NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY/ENFORCEMENT ACTION

Outstanding NOP from April 1980 with NJDEP Office of Regulatory Services. Samples taken of paint sludge, by DWM 7/82

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

NJDEP Files- DWM/HSMA-1911 Princeton Ave., Trenton

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POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION
01 STATE | 02 SITE NUMBER

II. PAST RESPONSE ACTIVITIES (Continued)

01 ☐ R. BARRIER WALLS CONSTRUCTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ S. CAPPING/COVERING — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ T. BULK TANKAGE REPAIRED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ U. GROUT CURTAIN CONSTRUCTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ V. BOTTOM SEALED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ W. GAS CONTROL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ X. FIRE CONTROL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ Y. LEACHATE TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ Z. AREA EVACUATED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ 1. ACCESS TO SITE RESTRICTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ 2. POPULATION RELOCATED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ 3. OTHER REMEDIAL ACTIVITIES — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

No Remedial Activities

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

NJDEP Files

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POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION ☒ YES ☐ NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY/ENFORCEMENT ACTION

Outstanding NOP from April 1980 with NJDEP Office of Regulatory Services. Samples taken of paint sludge. by DWM 3/82

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

NJDEP Files- DWM/HSMA-1911 Princeton Ave., Trenton

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Let's protect our earth

FEB 01 RECD #6

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES
CN 029
Trenton, N.J. 08625-0029
Fax # (609) 984-7938

George G. McCann, P.E.
Director

JAN 3 1 1989

M E M O R A N D U M

TO: Chief John Preczewski
Bureau of Water Supply
Water Supply Element

THROUGH: Richard P. Cerbone and Chief Steven Spayd
Bureau of Ground-Water Pollution Assessment
Ground-Water Quality Management

FROM: Jill McKenzie, Assistant Geologist
Bureau of Ground-Water Pollution Assessment

SUBJECT: Lisa Drive Well Pollution, Galloway Township, Atlantic County, Ground-Water Impact Area

Attached is the Ground-Water Impact Area report for the Lisa Drive Private Wells Investigation, located in Galloway Township, Atlantic County.

Our recommendations are listed in this cover memorandum so that the Ground-Water Impact Area, along with its technical documentation, can stand alone and become a public document, if necessary.

RECOMMENDATIONS

1.) The need for alternative water supplies, prudent well testing and/or well restrictions needs to be further discussed. The Atlantic County Health Department has already established a policy requiring VO scans be completed in the area before a Certificate of Occupancy is issued.

Based on available well logs, depth to ground water in the general area varies from 10 to 33 feet. The underlying lithology consists of fine to coarse sands and interbedded clays with some silt and fine gravels. Locally a 5 to 15 foot-thick clay layer occurs at approximately 95 feet. Another clay layer 2 to 15 feet thick is encountered at approximately 120 feet. However, due to the scarcity in this area of well logs to this depth, it is not known how continuous these lower clay units are and hence, it is unknown if they act as a true barrier to the vertical migration of the ground-water pollutants. Analyses of some of the deeper wells may indicate they are not.

The polluted wells on Lisa Drive are all between 100 and 120 feet deep. The exact screened interval is not known. The replacement wells and all new domestic wells on this street are installed to depths between 146 and 235 feet and are screened below the second clay layer.

DEFINITIONS

For the purposes of this report the following definitions apply:

A "Ground-Water Impact Area" (GWIA) is the currently known extent of ground-water pollution combined with the most probable five-year pollution migration area. The currently known extent of ground-water pollution is defined as the area where ground water exceeds MCLs, RMCLs or other appropriate health-based criteria. The most probable five-year pollution migration area is based on the most probable ground-water flow direction and the most probable pollutant transport rate. The "Pollutant Transport Rate" (Vpt) is the rate that a pollutant will be transported with the ground-water flow regime. In most instances, the pollutants move at a slower rate than the ground water.

An "Aquifer Vulnerable Area" is the area adjacent to the identified GWIA that is considered vulnerable. Aquifer areas are considered vulnerable if there is a shallow depth (<50 feet) to an unconfined water-table aquifer used for domestic potable purposes, and likely ground-water pollution sources have been identified in the area.

ASSUMPTIONS AND CALCULATIONS

To delineate a GWIA, certain hydraulic parameters must be known, namely: hydraulic conductivity, effective porosity, hydraulic gradient and retardation factor. Since area-specific hydraulic

2.) Of the 10 deep wells sampled in the study area, 5 have tested BMDL for all parameters analyzed, 4 are BRMCL but above MDL for Chloroform and 1 is above the RMCL for Methylene Choride. These pollutants were also found in some of the shallow wells. This leads to the question of how effective and extensive an aquiclude the lower clay unit is. Further investigation is needed on the nature of the lower clay bed to determine its permeability and lateral extent.

3.) As mentioned above, analysis of the deeper wells in this area show low level pollution with Chloroform and Methylene Chloride. The possibility exists that with increased use of the aquifer beneath the lower clay unit, the increased pumping may alter the vertical gradient enough to allow pollution of the lower aquifer. It should also be noted that none of the deeper wells appear to have been double cased. Improper well construction could lead to pollution of the lower water bearing units, even if the clay bed acts as a true confining layer. Because of these possibilities, periodic testing for Priority Pollutant Volatile Organic compounds should be undertaken by the homeowners in this area.

4.) DWR Enforcement should obtain a complete copy of the entire Dan Raviv and Associates report completed in December, 1984 for the Emmell's Landfill property. Emmell's Landfill is a NJPDES site, no. 0059927. This report was completed for Copeland Surveying, Inc., who intended to purchase the property. This report may contain valuable information needed for this investigation. A copy of this report should also be submitted to this Bureau.

We will continue to assist as needed. If you have any questions, do not hesitate to contact us.

GWQM355

c:Assistant Director Arnold Schiffman, GWQME
Acting Assistant Director Steven Nieswand, WSE
Irene Kropp, Executive Assistant, Superfund Coordinator, DWR
Chief Stephen Johnson, Bureau of Ground-Water Discharge Control
Chief Walter Samsel, Bureau of Aquifer Protection
Chief Ed Post, Southern Bureau of Regional Enforcement
Chief Richard Kropp, Bureau of Water Allocation
Chief Barker Hamill, Bureau of Safe Drinking Water
Akshay Parikh, Bureau of Water Supply
Terrie Dude, Division of Regulatory Affairs
Anne McClung, Environmental Claims Administration

SUMMARY

Ground-water pollution was first noted in wells on Lisa Drive in 1984. Testing of a domestic well showed elevated levels of volatile organics (V.O.s) as seen in analyses using USEPA Methods 601/602. Additional sampling by the Central Bureau of Regional Enforcement (CBRE) and the Atlantic County Health Department (ACHD) showed pollution in 5 of the 6 shallow domestic wells on Lisa Drive. Deeper wells were installed in an attempt to alleviate the immediate problem. Analyses of these deeper wells has shown results ranging from Below Method Detection Limit (BMDL) for all parameters analyzed to Below Recommended Maximum Contaminant Level (BRMCL) for Chloroform, and above the RMCL for Methylene Chloride. From the analyses available and from other gathered information, a Ground-Water Impact Area (GWIA) has been delineated for Lisa Drive.

BACKGROUND

In May of 1984, a homeowner on Lisa Drive had his domestic well water tested. The analytical results indicated elevated levels of the following compounds and their respective cpncentrations: 1,1-Dichloroethane-33 ppb, 1,1-Dichloroethene-20 ppb, 1,1,1-Trichloroethane-25 ppb and Vinyl Chloride-6 ppb. Subsequent sampling of the other homes on Lisa Drive showed a total of four of the six homes on this street polluted with volatile organic compounds above the recommended maximum contaminant levels (RMCL) and one home showing levels below the RMCL but above the method detection limit (MDL). In response to the detection of ground-water pollution in this area of Galloway Township, Atlantic County, the ACHD established a policy requiring a V.O. scan to be done before a Certificate of Occupancy is issued. They also recommended the installation of deeper domestic wells for the affected properties and for all new residences in this area.

HYDROGEOLOGIC SETTING

Galloway Township, Atlantic County is located within the Outer Coastal Plain Physiographic Province and lies within the Mullica River drainage basin. (Figure 1). The township is underlain by the Cohansey/Kirkwood aquifer system of Tertiary age. A veneer of Quaternary age deposits overlie the Cohansey/Kirkwood sporadically throughout the township. The Quaternary age Bridgeton Formation is present north, south and southeast of the study area while the Quaternary age Cape May Formation is present northeast and east of the study area. The main hydrologic function of these formations, when present, is to absorb precipitation and transmit water to the underlying aquifer. In the immediate study area, however, these Quaternary Formations are absent and the Cohansey is the surface formation.

LISA DRIVE PRIVATE WELLS
GALLOWAY TOWNSHIP, ATLANTIC COUNTY
GROUND-WATER IMPACT AREA REPORT

BUREAU OF GROUND-WATER POLLUTION ASSESSMENT
GROUND-WATER QUALITY MANAGEMENT ELEMENT
DIVISION OF WATER RESOURCES
NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

JANUARY 1989

SUMMARY

Ground-water pollution was first
1984. Testing of a domestic well
tile organics (V.O.s) as seen
601/602. Additional sampling by
Enforcement (CBRE) and the Atl
(ACHD) showed pollution in 5 of
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Contaminant Level (BRMCL) for Ch
Methylene Chloride. From the an
gathered information, a Ground-W
delineated for Lisa Drive.

BACKGROUND

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County, the ACHD established a
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affected properties and for all

HYDROGEOLOGIC SETTING

Galloway Township, Atlantic Co
Coastal Plain Physiographic Prc
River drainage basin. (Figure
the Cohansey/Kirkwood aquifer s
Quaternary age deposits
sporadically throughout the
Bridgeton Formation is present
study area while the Quaternary
northeast and east of the s
function of these formation
precipitation and transmit
the immediate study area, how
are absent and the Cohansey is

SUMMARY

Ground-water pollution was first noted in wells on Lisa Drive in 1984. Testing of a domestic well showed elevated levels of volatile organics (V.O.s) as seen in analyses using USEPA Methods 601/602. Additional sampling by the Central Bureau of Regional Enforcement (CBRE) and the Atlantic County Health Department (ACHD) showed pollution in 5 of the 6 shallow domestic wells on Lisa Drive. Deeper wells were installed in an attempt to alleviate the immediate problem. Analyses of these deeper wells has shown results ranging from Below Method Detection Limit (BMDL) for all parameters analyzed to Below Recommended Maximum Contaminant Level (BRMCL) for Chloroform, and above the RMCL for Methylene Chloride. From the analyses available and from other gathered information, a Ground-Water Impact Area (GWIA) has been delineated for Lisa Drive.

BACKGROUND

In May of 1984, a homeowner on Lisa Drive had his domestic well water tested. The analytical results indicated elevated levels of the following compounds and their respective cpncentrations: 1,1-Dichloroethane-33 ppb, 1,1-Dichloroethene-20 ppb, 1,1,1-Trichloroethane-25 ppb and Vinyl Chloride-6 ppb. Subsequent sampling of the other homes on Lisa Drive showed a total of four of the six homes on this street polluted with volatile organic compounds above the recommended maximum contaminant levels (RMCL) and one home showing levels below the RMCL but above the method detection limit (MDL). In response to the detection of ground-water pollution in this area of Galloway Township, Atlantic County, the ACHD established a policy requiring a V.O. scan to be done before a Certificate of Occupancy is issued. They also recommended the installation of deeper domestic wells for the affected properties and for all new residences in this area.

HYDROGEOLOGIC SETTING

Galloway Township, Atlantic County is located within the Outer Coastal Plain Physiographic Province and lies within the Mullica River drainage basin. (Figure 1). The township is underlain by the Cohansey/Kirkwood aquifer system of Tertiary age. A veneer of Quaternary age deposits overlie the Cohansey/Kirkwood sporadically throughout the township. The Quaternary age Bridgeton Formation is present north, south and southeast of the study area while the Quaternary age Cape May Formation is present northeast and east of the study area. The main hydrologic function of these formations, when present, is to absorb precipitation and transmit water to the underlying aquifer. In the immediate study area, however, these Quaternary Formations are absent and the Cohansey is the surface formation.

Ref. 37 p.27

Based on available well logs, depth to ground water in the general area varies from 10 to 33 feet. The underlying lithology consists of fine to coarse sands and interbedded clays with some silt and fine gravels. Locally a 5 to 15 foot-thick clay layer occurs at approximately 95 feet. Another clay layer 2 to 15 feet thick is encountered at approximately 120 feet. However, due to the scarcity in this area of well logs to this depth, it is not known how continuous these lower clay units are and hence, it is unknown if they act as a true barrier to the vertical migration of the ground-water pollutants. Analyses of some of the deeper wells may indicate they are not.

The polluted wells on Lisa Drive are all between 100 and 120 feet deep. The exact screened interval is not known. The replacement wells and all new domestic wells on this street are installed to depths between 146 and 235 feet and are screened below the second clay layer.

DEFINITIONS

For the purposes of this report the following definitions apply:

A "Ground-Water Impact Area" (GWIA) is the currently known extent of ground-water pollution combined with the most probable five-year pollution migration area. The currently known extent of ground-water pollution is defined as the area where ground water exceeds MCLs, RMCLs or other appropriate health-based criteria. The most probable five-year pollution migration area is based on the most probable ground-water flow direction and the most probable pollutant transport rate. The "Pollutant Transport Rate" (Vpt) is the rate that a pollutant will be transported with the ground-water flow regime. In most instances, the pollutants move at a slower rate than the ground water.

An "Aquifer Vulnerable Area" is the area adjacent to the identified GWIA that is considered vulnerable. Aquifer areas are considered vulnerable if there is a shallow depth (<50 feet) to an unconfined water-table aquifer used for domestic potable purposes, and likely ground-water pollution sources have been identified in the area.

ASSUMPTIONS AND CALCULATIONS

To delineate a GWIA, certain hydraulic parameters must be known, namely: hydraulic conductivity, effective porosity, hydraulic gradient and retardation factor. Since area-specific hydraulic

properties for the upper aquifer in this area are not available, these parameters were assumed. These assumptions, derived primarily from regional hydrology and ground-water studies in the general area, reflect conservative estimated values.

A retardation factor (Rd) was calculated using an octanol-water partition coefficient (Kow) of 30 for 1,1-Dichloroethene (the most mobile compound identified at Lisa Drive at concentrations exceeding the RMCL), a fraction of organic carbon in sediments (foc) of 0.005, an effective porosity (ne) of 0.20 and a bulk density (pb) of 1.42. Based upon the following equation, the Rd = 1.67:

$$Rd = 1 + \frac{(Kow)\ (0.63)\ (foc)\ (pb)}{ne}$$

A most probable pollutant transport rate (Vpt) was calculated using:

Hydraulic Conductivity (K): 150 ft/day

Hydraulic Gradient (i): 0.002 ft/ft

Effective Porosity (ne): 0.20

Retardation factor (Rd): 1.67

$$Vpt = Ki/(ne)(Rd)$$

to be 0.90 ft/day. This value is used in the delineation of an Assumed Five-Year Pollution Migration Area for Lisa Drive.

ANALYTICAL RESULTS

The Department has obtained analytical data of 23 samples. These results were obtained from a total of 17 domestic wells. These samples were taken from both shallow wells (<120 feet deep) and deep wells (>120 feet deep). They reflect the water quality at

different depths within the aquifer underlying the study area. A few of these wells were analyzed more than once.

Of the 6 shallow wells sampled, only 1 tested below method detection limit (BMDL) for all parameters analyzed. This well was located approximately 1,600 feet north of Lisa Drive. The number of shallow wells which showed concentrations above the MDL but below the recommended maximum contaminant levels (RMCL) was one. The other four shallow domestic wells showed pollutants above the RMCL, with total volatile organic concentrations over 200 ppb for each well (Figure 2). The compounds detected most often were Vinyl Chloride, 1,1-Dichloroethane, 1,2-Dichloroethene, 1,1 Dichloroethene, 1,1,1-Trichloroethane and Trichloroethene.

Of the 10 deep domestic wells sampled (Figure 3), five were BMDL for all parameters analyzed. The other five deep wells showed some levels of pollution. Four of these wells showed Chloroform above the MDL but below the RMCL. Chloroform is a trihalomethane for which an MCL for total trihalomethanes exists at 100 ppb. The levels of Chloroform found in the deep wells in the study area range from 1.17 ppb to 5.91 ppb. The remaining deep well showed Methylene Chloride above the RMCL. The RMCL for Methylene Chloride is 2 ppb. The level found in this well was 4.66 ppb. The depth of one well (also shown in Figure 3) is unknown. The results for this well were BMDL for all parameters analyzed. In summary, 67% of the sampled shallow wells and 10% of the deep wells were above RMCL's

It should be noted that QA/QC verification of these results is pending. If the QA/QC results do not confirm the analytical data, additional confirmatory sampling may be necessary. Unless we recieve QA/QC verification from the Bureau of Safe Drinking Water stating otherwise, we will assume that the analytical data is correct.

GROUND-WATER FLOW

Due to the lack of monitor wells in the Lisa Drive area, site specific hydrologic properties for the upper aquifer are not available. For this reason, ground-water flow direction was obtained from published reports, specifically Special Report No. 36, "Geology and Water Resources of the Wharton Tract and the Mullica River Basin in Southern New Jersey". Published data indicate that the ground-water flow direction of the water table aquifer in the Lisa Drive area is to the east-southeast (Figure 4). It is governed, in part, by local topography and surface

drainage patterns.

GROUND-WATER IMPACT AREA

The currently known extent of ground-water pollution is identified with dark shading in Figure 5. This shading covers all areas where MCLs or RMCLs were found to be exceeded. However, due to the low number of shallow wells in the study area, the true lateral extent of ground-water pollution in the shallow aquifer can not be determined. The most probable five-year pollution migration area is identified with the light shading in Figure 5. This area was determined using the most probable ground-water flow direction and the pollutant transport rate of 0.90 ft/day. In five years, the pollutants may travel a distance of 1,643 feet.

A GWIA has been produced for the Lisa Drive area. As previously stated, the GWIA includes the currently known extent of ground-water pollution combined with the most probable five-year pollution migration area. The GWIA is identified in Figure 5. Attached as Table 1, is a list of all lots and blocks that are included within the GWIA, and the Aquifer Vulnerable Area.

AQUIFER VULNERABLE AREA

Although a Potential Responsible Party (PRP) has not as yet been determined, the possibility exists that Emmell's Landfill is leaching pollutants to the water table aquifer. This facility (closed since 1978) lies approximately 2,000 feet upgradient (west) of the polluted wells on Lisa Drive (Figure 5). An engineer's report on this facility, completed by Dan Raviv and Associates in 1984, presents results from water samples apparently obtained from excavations on the site. These results showed many of the same pollutants found in the Lisa Drive wells namely Vinyl Chloride, 1,1-Dichloroethene, 1,1-Dichloroethane, 1,2-Dichloroethene, 1,1,1-Trichloroethane, Trichloroethene and Chlorobenzene. Unfortunately, this landfill does not have any monitor wells installed, so much of the needed information regarding this site as a possible contributor to the Lisa Drive pollution is not available. When and if monitor wells are installed at this facility, they will provide additional useful information. Until then, it is assumed that the shallow aquifer between Lisa Drive and Emmell's Landfill is vulnerable to pollution from the landfill. This aquifer vulnerable area is shown in Figure 5.

TABLE 1

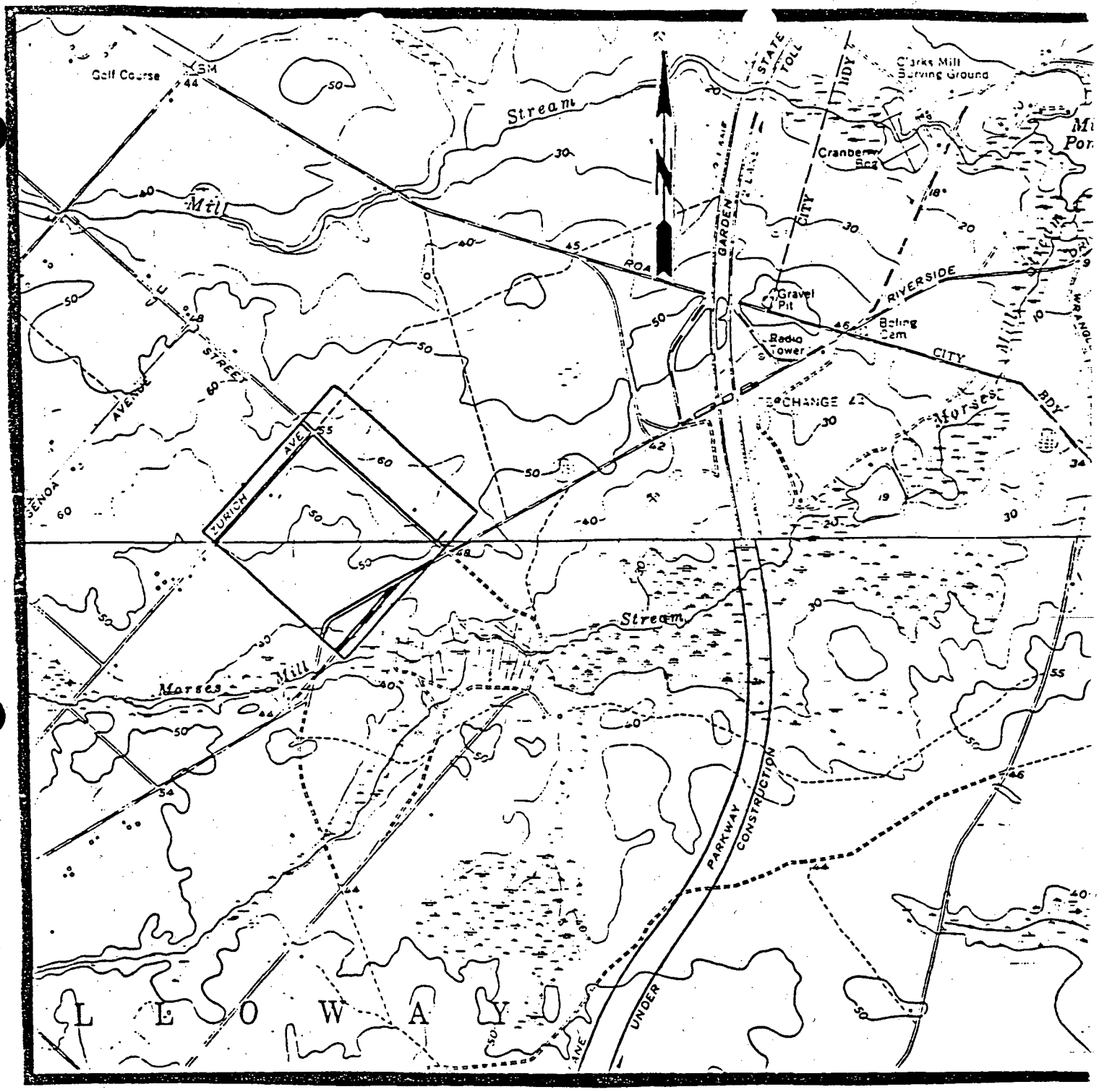
LISA DRIVE
GALLOWAY TOWNSHIP
ATLANTIC COUNTY, NJ

LOTS AND BLOCKS
INCLUDED WITHIN THE GWIA

BLOCK:	663	LOTS:	62.01, 62.02, 62.03, 62.04 62.11, 62.12, 62.13
BLOCK:	663.01	LOTS:	60, 61
BLOCK:	669	LOTS:	2

LOTS AND BLOCKS INCLUDED
WITHIN THE AQUIFER VULNERABLE AREA

BLOCK:	663	LOTS:	62.05, 62.06, 62.07, 62.08, 62.09, 62.10
BLOCK:	650	LOTS:	6, 7, 8, 9, 10, 11, 14, 15, 16, 17
BLOCK:	656	LOTS:	20, 28
BLOCK:	663.01	LOTS:	60, 63, 64.01, 64.02, 64.03, 64.04, 64.05
BLOCK:	669	LOTS:	1, 2



1000 0 1000 2000 ft

LISA DRIVE
GALLOWAY TOWNSHIP
ATLANTIC COUNTY, NJ

SOURCE

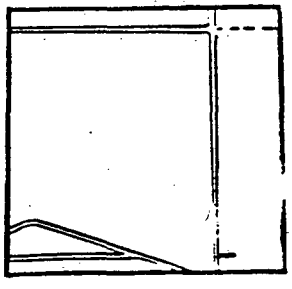
U.S.G.S. Green Bank Quadrangle

U.S.G.S. Pleasantville Quadrangle

FIGURE 1

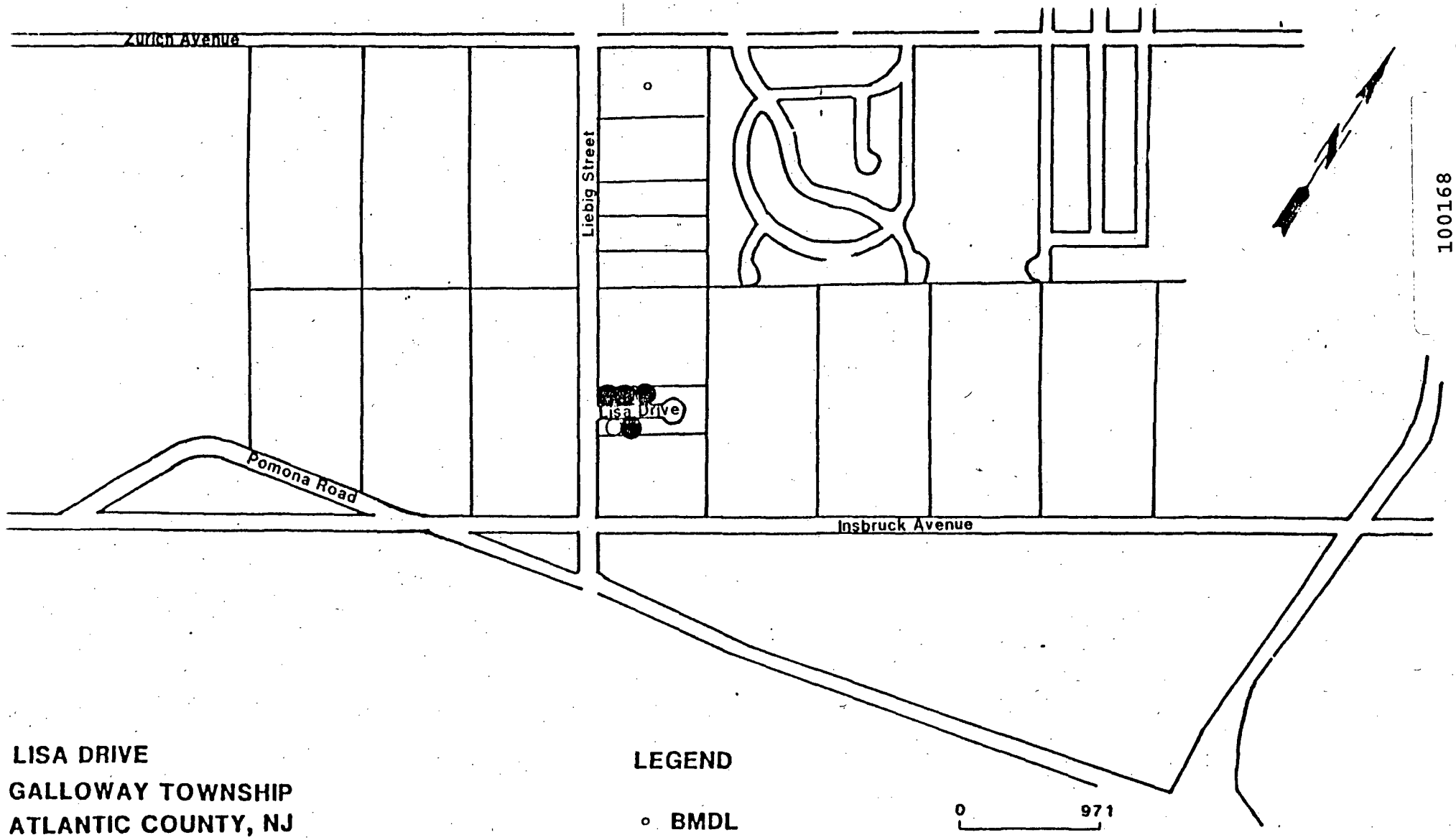
LISA DRIVE AND SURROUNDING AREAS

STUDY AREA



100167

December, 1988



LISA DRIVE
GALLOWAY TOWNSHIP
ATLANTIC COUNTY, NJ

FIGURE 2 - SHALLOW WELLS

REPRESENTATIVE VOLATILE ORGANIC CONCENTRATIONS

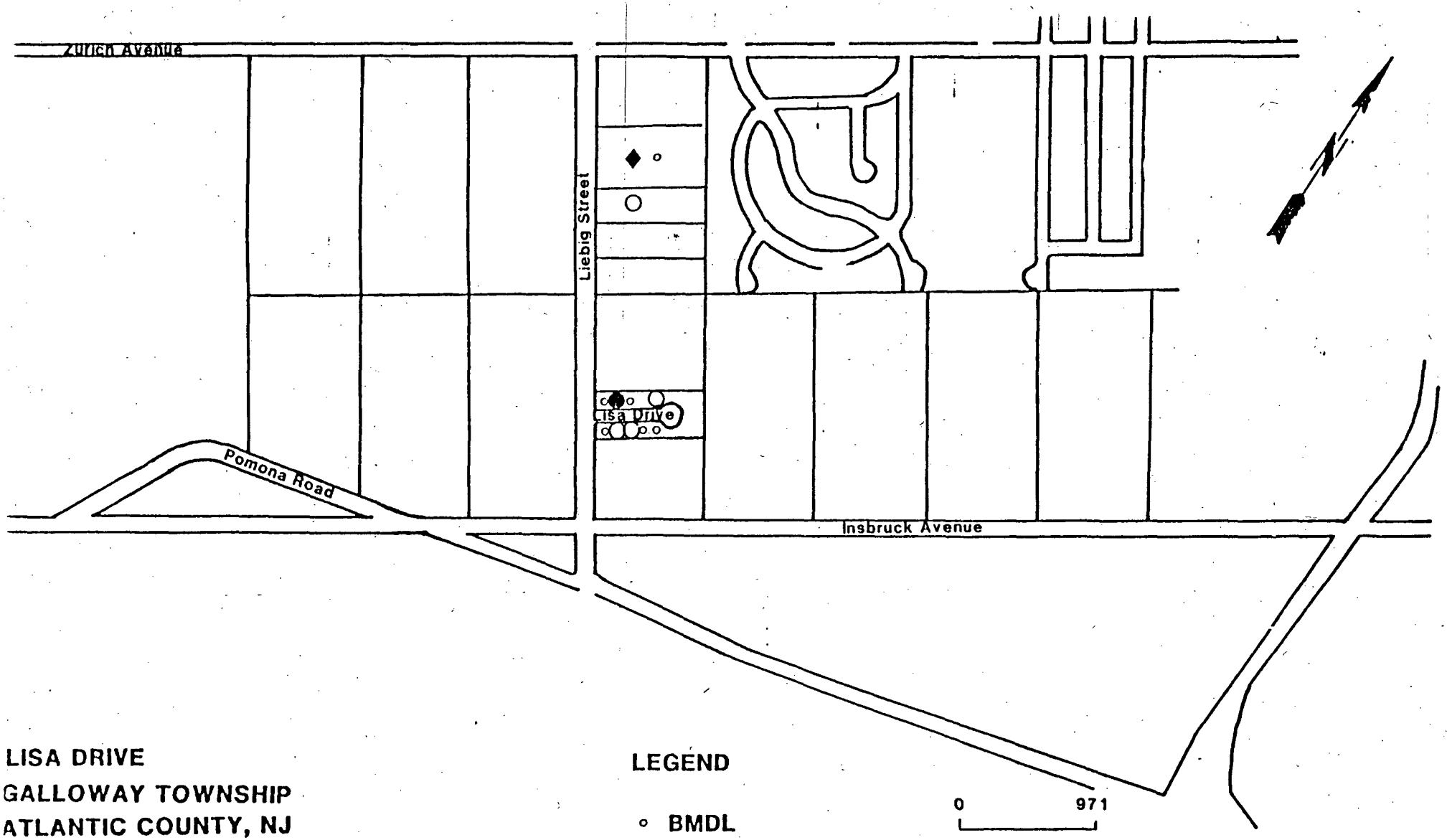
(where sampled)

LEGEND

- ∘ BMDL
- ○ MDL - BRMCL
- ● RMCL - 50ppb
- ● > 50ppb

BMDL = Below Method Detection Limit

BRMCL = Below Recommended Maximum Contaminant Level



LISA DRIVE
GALLOWAY TOWNSHIP
ATLANTIC COUNTY, NJ

FIGURE 3 - DEEP WELLS

REPRESENTATIVE VOLATILE ORGANIC CONCENTRATIONS

(where sampled)

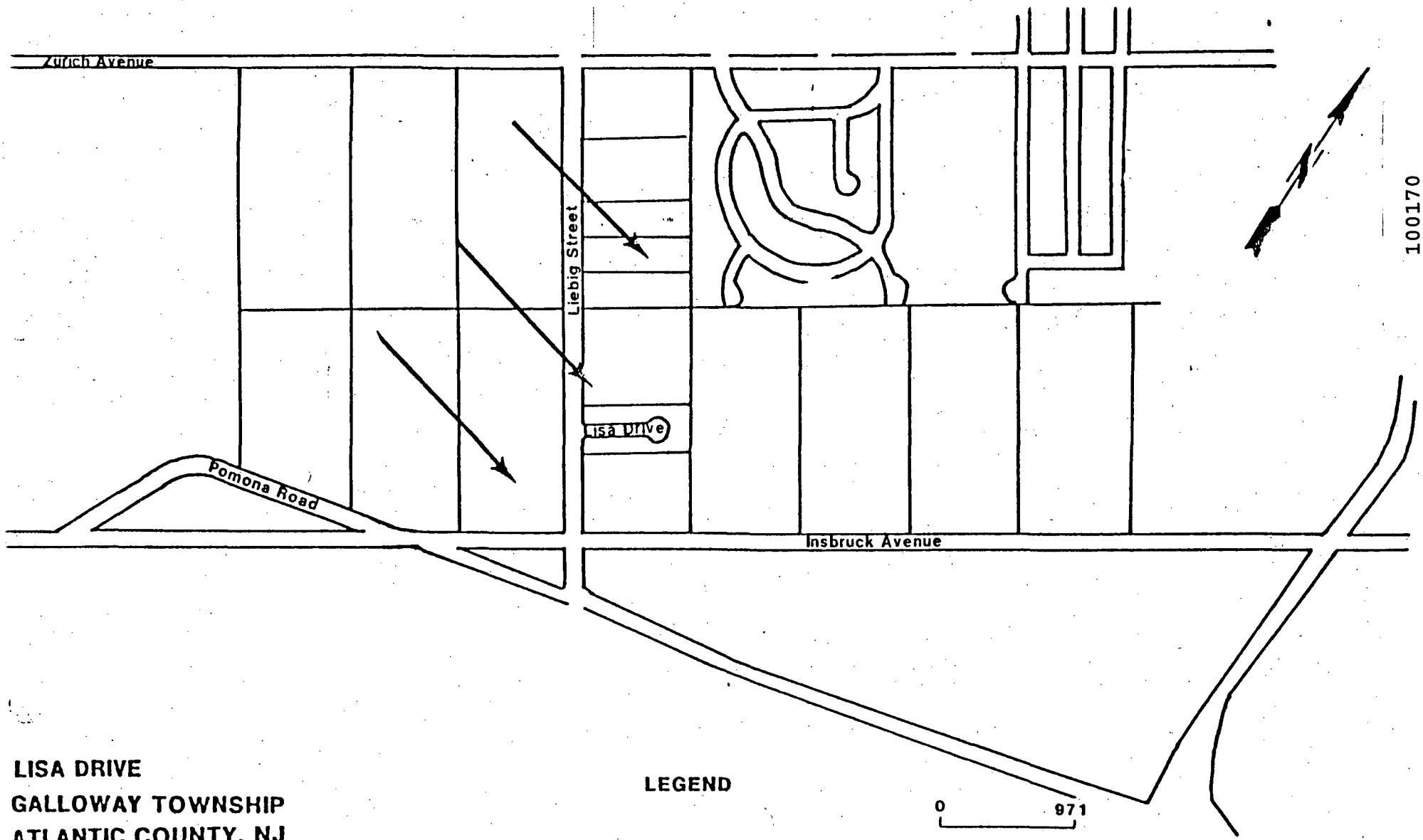
LEGEND

- ∘ BMDL
- ○ MDL - BRMCL
- ● RMCL - 50ppb
- ● > 50ppb

BMDL = Below Method Detection Limit

BRMCL = Below Recommended Maximum Contaminant Level

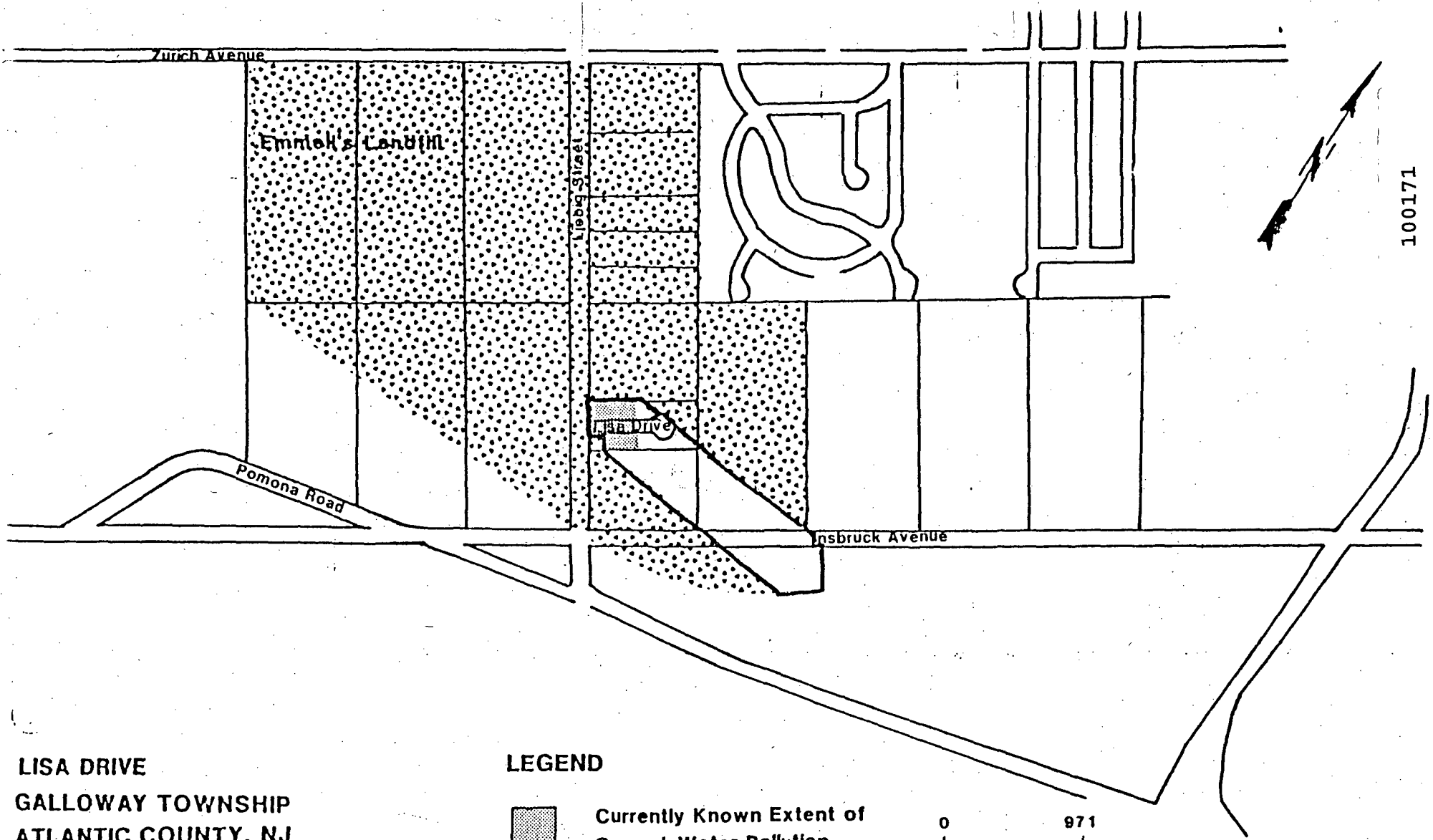
◆ = Depth of Well Unknown



LISA DRIVE
GALLOWAY TOWNSHIP
ATLANTIC COUNTY, NJ

FIGURE 4

GENERALIZED GROUND-WATER FLOW IN LISA DRIVE AREA



LISA DRIVE
GALLOWAY TOWNSHIP
ATLANTIC COUNTY, NJ

FIGURE 5

GROUND-WATER
IMPACT AREA

LEGEND

Currently Known Extent of Ground-Water Pollution

0 971

5 Year Pollution Migration Area

Aquifer Vulnerable Area

Boundary of Ground-Water Impact Area

RICHARD E. SQUIRES
COUNTY EXECUTIVE

ATLANTIC COUNTY

DEPARTMENT OF HEALTH AND INSTITUTIONS

201 SOUTH SHORE ROAD
NORTHFIELD, N.J. 08225
(609) 645-7700
(TTY: 348-5551)

ELLEN HYATT
DEPARTMENT HEAD

March 29, 1988

RECEIVED
APR 6 1988
BUREAU OF COMPLIANCE & TECHNICAL SERVICES

Doug Stewart
NJDEP
Division of Hazardous Waste
Bureau of Compliance and Technical Services
401 East State ST.
5th Floor
Trenton NJ 08625

Dear Mr. Stewart,

In response to our recent phone conversations regarding Emmell's Sanitary Landfill, Galloway Township,
enclosed are results from potable well on Liza Dr., a development located in close proximity to the site.

While it is not known whether there is a correlation between landfill activity and Liza Drive's historical groundwater contamination problems, I think you will agree the matter warrants further investigation.

Your assistance in this matter is appreciated.

Sincerely,

Deborah J. Maher

Deborah J. Maher
Senior Sanitary Inspector

DJM:dk

Enc.

Bureau of Water Supply   Akshay Parikh, Env. Eng.   Response levels: Risk Assessment
a. Bill Dietz, Env Specialist

Corrective Private well ... 4-5562

ATLANTIC COUNTY
DEPARTMENT OF HEALTH AND INSTITUTIONS
201 SOUTH SHORE ROAD
NORTHFIELD, N.J. 08225
(609) 645-7700
(TTY: 348-5551)

RICHARD E. SQUIRES
COUNTY EXECUTIVE

ELLEN HYATT
DEPARTMENT HEAD

March 7,1988

Bernice Rossler
Lisa Dr. P.O. 617
Pomona, NJ 08240

Dear Ms. Rossler

Analysis of the water sample collected from your home revealed the presence of the following volatile organic chemicals:

"Vinyl Chloride" - 38 parts per billion

Other organic chemicals totaling 225.2 ppb

A copy of your laboratory report is enclosed.

The level of Vinyl Chloride in your water exceeds the recommended limits set by the State for public water supplies. Accordingly, we recommend the following measures:

1. You are advised to discontinue the use of your well water for cooking and drinking.

2. You may want to repeat this test as soon as possible to verify results. If the concentration of chemicals in your water is confirmed at the level reported in this letter (or higher), you should consider connecting into a public water system or drilling a new well in the near future

Please feel free to call me at 645-7700, extension 4372, if you have any further questions.

Very truly yours,

Deborah J. Maher

Deborah J. Maher,
Sr. Sanitary Inspector

DJM:jd

cc: John Armstrong, County Administrator
Joseph Kane, Ass't County Counsel
Barker Hamill,NJDEP
Meg Worthington, Mayor of Galloway

100173

CENTURY
LABORATORIES, INC.
P.O. Box 248/1501 Grandview Avenue/MidAtlantic Park, Thorofare, NJ 08086
Phone: (609) 848-3939 NJ 800-222-0589

CLIENT: COUNTY OF ATLANTIC
201 S. Shore Road
Northfield, N.J. 08225

PROJECT: ANALYSIS OF DRINKING WATER FOR:
VOLATILE ORGANIC COMPOUNDS

MATERIAL: WATER COLLECTED FROM LOCATION: P-0267-84
Rossler
#3 Lisa Drive
Absecon, New Jersey

DATE RECEIVED: June 20, 1984

ANALYSIS COMPLETED: June 21, 1984

C.E.T.L. ANALYSIS NO: A7804

SAMPLED BY: CLIENT

N.J.D.E.P. WATER LABORATORY CERTIFICATION NO: 08153

LABORATORY ANALYSIS

SELECTED VOLATILE ORGANICS

All information concerning this sample: location, identification, time, date, etc. is as reported to us by client.

100174

ACHD

SAMPLE NO.	VOLATILE ORGANIC COMPOUNDS	DATE RECEIVED
C0767	U.S.E.P.A. METHOD 601/602	2/24/88

Laboratory Name: Wastex Ind of NJ
Client ID: P-0267-84
Sample Matrix: Aqueous

Case No.
QC Report No.
Contract No.

Data Release Authorized By:

PARAMETER	RESULTS (ug/L)
Benzene	5.0
Bromodichloromethane	0.5 U
Bromoform	0.5 U
Bromomethane	0.5 U
Carbon Tetrachloride	0.5 U
Chlorobenzene	10
Chlorodibromomethane	8.2
Chloroethane	0.5 U
Chloroform	0.5 U
Chloromethane	0.5 U
1,2-Dichlorobenzene	0.5 U
1,3-Dichlorobenzene	0.5 U
1,4-Dichlorobenzene	4.0
1,1-Dichloroethane	34
1,2-Dichloroethane	4.0
1,1-Dichloroethene	0.5 U
trans-1,2-Dichloroethene	120
1,2-Dichloropropane	0.5 U
cis-1,3-Dichloropropene	0.5 U
trans-1,3-Dichloropropene	0.5 U
Ethylbenzene	0.5 U
Methylene chloride	3.0
1,1,2,2-Tetrachloroethane	0.5 U
Tetrachloroethene	2.0
Toluene	0.5 U
1,1,1-Trichloroethane	14
1,1,2-Trichloroethane	0.5 U
Trichloroethene	21
Vinyl chloride	38

U-Compound not detected
B-Analyte found in blank as well as sample
J-Compound detected ,but below minimum detection limit
N/A-Not analyzed

Richard W Pymn
Laboratory Director

100175

CENTURY
LABORATORIES, INC.
P.O. Box 248/1501 Grandview Avenue/MidAtlantic
Phone: (609) 848-3939 NJ 800-222-0589

CLIENT: COUNTY OF ATLANTIC
201 S. Shore Road
Northfield, N.J. 08225

PROJECT: ANALYSIS OF DRINKING WATER F
VOLATILE ORGANIC COMPOUNDS

MATERIAL: WATER COLLECTED FROM LOCATIO

DATE RECEIVED: June 20, 1984

ANALYSIS COMPLETED:

C.E.T.L. ANALYSIS NO: A7804

SAMPLED BY

N.J.D.E.P. WATER LABORATORY CERTIFICATION NO: 08

LABORATORY ANALYSIS

SELECTED VOLATILE ORGANICS

All information concerning this sample: time, date, etc. is as reported to us by clien

100176

CENTURY LABORATORIES, INC.

P.O. Box 248/1501 Grandview Avenue/MidAtlantic Park, Thorofare, NJ 08086
Phone: (609) 848-3939 NJ 800-222-0589

CLIENT: COUNTY OF ATLANTIC
201 S. Shore Road
Northfield, N.J. 08225

PROJECT: ANALYSIS OF DRINKING WATER FOR:
VOLATILE ORGANIC COMPOUNDS

MATERIAL: WATER COLLECTED FROM LOCATION: P-0267-84
Rossler
#3 Lisa Drive
Absecon, New Jersey

DATE RECEIVED: June 20, 1984

ANALYSIS COMPLETED: June 21, 1984

C.E.T.L. ANALYSIS NO: A7804

SAMPLED BY: CLIENT

N.J.D.E.P. WATER LABORATORY CERTIFICATION NO: 08153

LABORATORY ANALYSIS

SELECTED VOLATILE ORGANICS

All information concerning this sample: location, identification, time, date, etc. is as reported to us by client.

100177

4

CLIENT: Atlantic County Health

SAMPLE I.D.: A7004

CLIENT I.D.: P-0267 (Rossler)

CHART NO: T062184-14

VOLATILE ORGANIC COMPOUNDS

PARAMETERS	DETECTION LEVEL (ug/l)	RESULT (ug/l)
Benzene	1.0	N.D.
Bromodichloromethane	1.0	N.D.
Bromoform	1.0	N.D.
Bromomethane	1.0	N.D.
Carbon Tetrachloride	1.0	N.D.
Chlorobenzene	1.0	N.D.
Chlorodibromomethane	1.0	N.D.
Chloroethane	1.0	N.D.
2-Chloroethyl vinyl ether	1.0	N.D.
Chloroform	1.0	1.0
Choromethane	1.0	N.D.
,2-Dichlorobenzene	1.0	N.D.
1,3-Dichlorobenzene	1.0	N.D.
1,4-Dichlorobenzene	1.0	N.D.
Dichlorodifluoromethane	1.0	N.D.
1,1-Dichloroethane	1.0	1.0
1,2-Dichloroethane	1.0	N.D.
1,1-Dichloroethene	1.0	N.D.
trans-1,2-Dichloroethene	1.0	4.0
1,2-Dichloropropane	1.0	N.D.
cis-1,3-Dichloropropene	1.0	N.D.
trans-1,3-Dichloropropene	1.0	N.D.
Ethylbenzene	1.0	N.D.
Fluorotrichloromethane	1.0	N.D.
Methylene Chloride	1.0	N.D.
1,1,2,2-Tetrachloroethane	1.0	N.D.
Tetrachloroethene	1.0	N.D.
1,1,1-Trichloroethane	1.0	3.0
1,1,2-Trichloroethane	1.0	N.D.
Trichloroethene	1.0	N.D.
Toluene	1.0	N.D.
Vinyl Chloride	1.0	N.D.

COMMENTS: It is our opinion that this sample location be retested and that retesting should include confirmation by GC/MS/DS.

NOTES:

1. Non Detectable (N.D.) indicates that the concentration of pollutant is less than the minimum reportable detection level noted above. (<0.5 same as Non Detectable).

2. Results are expressed in micrograms per liter (ug/l). One microgram per liter is the same as one part per billion (ppb).

3. Method of Analysis: U.S.E.P.A. Methods 601/602 Purge and Trap (EPA 600/4-82 July 1982). Method 624 utilizing GC/MS/DS confirmation is available upon request.

Respectfully submitted,
Century Laboratory, Inc.

Thomas F. Cullen, Jr.
Laboratory Director - Organics Division

100179

ATLANTIC COUNTY
DEPARTMENT OF HEALTH AND INSTITUTIONS
DIVISION OF PUBLIC HEALTH
201 SOUTH SHORE ROAD
NORTHFIELD, N.J. 08225
(609) 645-7700
(TTY. 348-5551)

JOSEPH AIELLO
PUBLIC HEALTH OFFICER

July 5, 1984

Jean Liu
PO Box 463
Pomona, NJ 08240

Dear Ms. Liu :

Analysis of the water sample collected at your home revealed the presence of the following compounds:

1,1,1 Trichloroethane	180 ppb
Trichloroethene	21 ppb
Trans 1,2 Dichloroethene	21 ppb
1,2 Dichloroethane	21 ppb
Tetrachloroethene	1 ppb

A copy of the analytical report is attached.

The total concentration of organic chemicals is over 100 parts per billion. While standards regulating the presence of these substances in private well water have not been set, we feel it is prudent to minimize exposure.

You are advised to discontinue the use of your well water for drinking and cooking.

Groundwater moves slowly, but continually, and contaminant levels can change at any time. You should consider repeating this test in the future.

Please feel free to call Tracye McArdle of my staff (ext. 4359) with any questions you have.

Sincerely,

Joseph Aiello
Health Officer

JA:sm
Enclosure
cc: Fred Zavaglia, County Administrator
Joe Kane, County Counsel
Mayor Brads
Ray Barg, Chief, Bureau of Potable Water
Chuck Melchior, Township Manager
File (2) /

100180

45

CENTURY
LABORATORIES, INC.
P.O. Box 248/1501 Grandview Avenue/MidAtlantic Park, Thorofare, NJ 08086
Phone: (609) 848-3939 NJ 800-222-0589

CLIENT: COUNTY OF ATLANTIC
201 S. Shore Road
Northfield, N.J. 08225

PROJECT: ANALYSIS OF DRINKING WATER FOR:
VOLATILE ORGANIC COMPOUNDS

MATERIAL: WATER COLLECTED FROM LOCATION: P-0275-84
Jean Liu
P.O. Box 463
67 South Lisa Drive
Pomona, New Jersey

DATE RECEIVED: June 20, 1984

ANALYSIS COMPLETED: June 21, 1984

C.E.T.L. ANALYSIS NO: A7812

SAMPLED BY: CLIENT

N.J.D.E.P. WATER LABORATORY CERTIFICATION NO: 08153

LABORATORY ANALYSIS

SELECTED VOLATILE ORGANICS

All information concerning this sample: location, identification, time, date, etc. is as reported to us by client.

100181

4

COMMENTS: It is our opinion that this sample location be retested and that retesting should include confirmation by GC/MS/DS

NOTES:

1. Non Detectable (N.D.) indicates that the concentration of pollutant is less than the minimum reportable detection level noted above. (<0.5 same as Non Detectable).

2. Results are expressed in micrograms per liter (ug/l). One microgram per liter is the same as one part per billion (ppb).

3. Method of Analysis: U.S.E.P.A. Methods 601/602 Purge and Trap (EPA 600/4-82 July 1982). Method 624 utilizing GC/MS/DS confirmation is available upon request.

Respectfully submitted,
Century Laboratory, Inc.

Thomas F. Cullen, Jr.
Laboratory Director - Organics Division

CLIENT: Atlantic County Health

SAMPLE I.D.: A7812

CLIENT I.D.: P-0275-84 (Liu)

CHART NO: T062284-06.08

VOLATILE ORGANIC COMPOUNDS

PARAMETERS	DETECTION LEVEL (ug/l)	RESULT (ug/l)
Benzene	1.0	N.D.
Bromodichloromethane	1.0	N.D.
Bromoform	1.0	N.D.
Bromomethane	1.0	N.D.
Carbon Tetrachloride	1.0	N.D.
Chlorobenzene	1.0	N.D.
Chlorodibromomethane	1.0	N.D.
Chloroethane	1.0	N.D.
2-Chloroethyl vinyl ether	1.0	N.D.
Chloroform	1.0	N.D.
Choromethane	1.0	N.D.
1,2-Dichlorobenzene	1.0	N.D.
1,3-Dichlorobenzene	1.0	N.D.
1,4-Dichlorobenzene	1.0	N.D.
Dichlorodifluoromethane	1.0	N.D.
1,1-Dichloroethane	1.0	N.D.
1,2-Dichloroethane	1.0	21
1,1-Dichloroethene	1.0	N.D.
trans-1,2-Dichloroethene	1.0	21
1,2-Dichloropropane	1.0	N.D.
cis-1,3-Dichloropropene	1.0	N.D.
trans-1,3-Dichloropropene	1.0	N.D.
Ethylbenzene	1.0	N.D.
Fluorotrichloromethane	1.0	N.D.
Methylene Chloride	1.0	N.D.
1,1,2,2-Tetrachloroethane	1.0	N.D.
Tetrachloroethene	1.0	1.0
1,1,1-Trichloroethane	1.0	180
1,1,2-Trichloroethane	1.0	N.D.
Trichloroethene	1.0	21
Toluene	1.0	N.D.
Vinyl Chloride	1.0	N.D.

100183

COMMENTS: It is our opinion that this sample location be retested and that retesting should include confirmation by GC/MS/DS

NOTES:

1. Non Detectable (N.D.) indicates that the concentration of pollutant is less than the minimum reportable detection level noted above. (<0.5 same as Non Detectable).

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3. Method of Analysis: U.S.E.P.A. Methods 601/602 Purge and Trap (EPA 600/4-82 July 1982). Method 624 utilizing GC/MS/DS confirmation is available upon request.

Respectfully submitted,
Century Laboratory, Inc.

Thomas F. Cullen, Jr.
Laboratory Director - Organics Division

100184

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES
CN 029
TRENTON, NEW JERSEY 08625

JOHN W. GASTON JR., P.E.
DIRECTOR

DIRK C. HOFMAN, P.E.
DEPUTY DIRECTOR

November 15, 1984

Mr. Joseph Aiello
Atlantic County Department of Health and Institutions
201 South Shore Road
Northfield NJ 08225

Re: Non Public Water Supply Contamination

Dear Mr. Aiello:

Enclosed please find the analytical report of a water sample collected on September 27, 1984 from a private well belonging to Mr. Milton Tees, 72 South Lisa Drive, Galloway Township. The following analytical results indicate the presence of synthetic organics in undesirable concentrations.

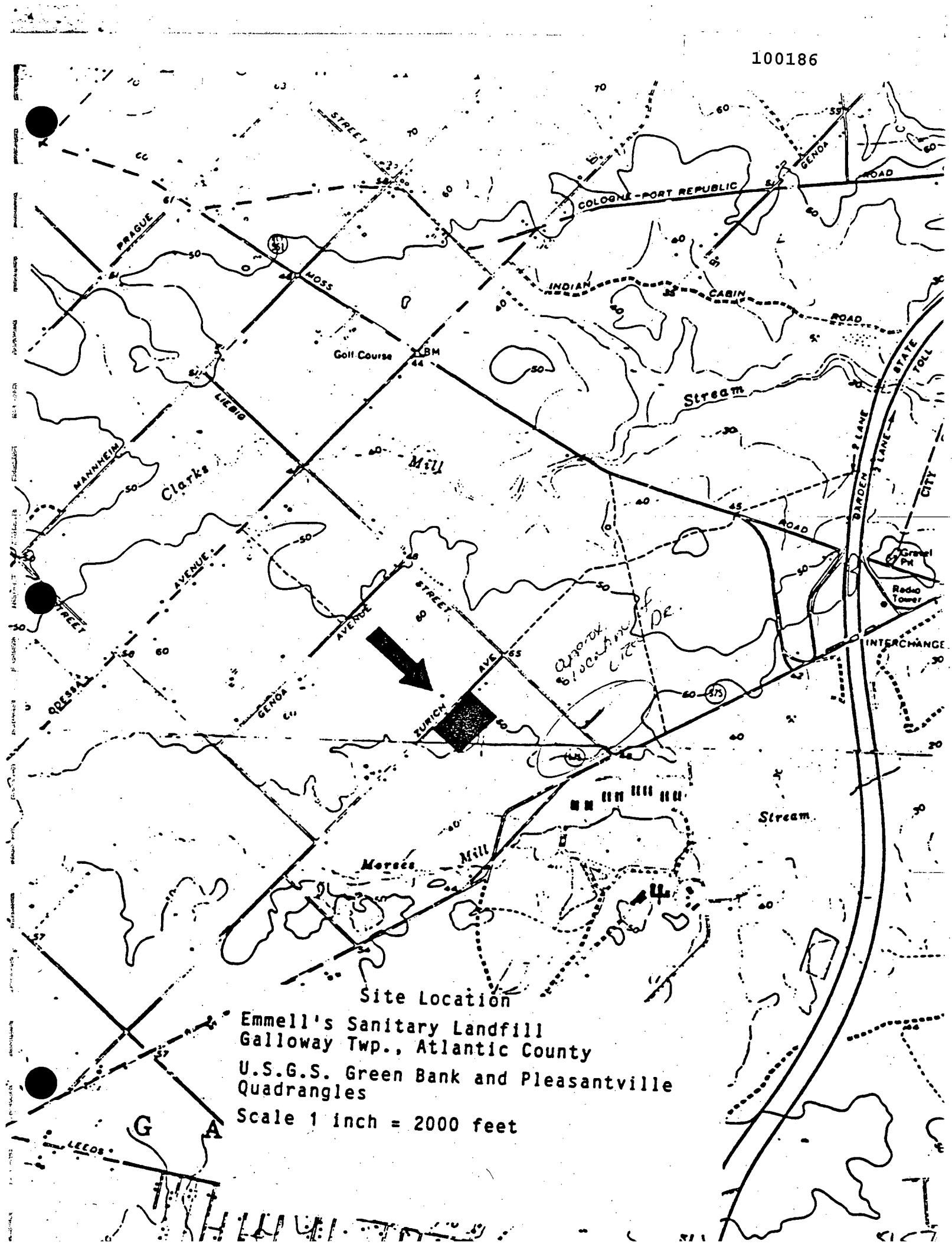
Contaminant	Results, ppb
cholorobenzene	2.5
1,1 dichloroethane	16
1,1 dichloroethene	7
1,2 dichloroethene	37
tetracholoroethene	5
1,1,1 trichloroethane	46
trichloroethene	11

Although there are no promulgated standards for these chemicals, it is our position, from a public health standpoint, to minimize the usage of water from this well for human consumption because of the possible health hazards.

We therefore recommend that you advise Mr. Milton Tees not to use his well for drinking and or culinary purposes.

Possible financial assistance in this regard can be obtained through communication with Mr. John Preczewski of this Division at (609) 984-5862. It is recommended that the local municipality contact him, if appropriate.

100186



Site Location

Emmell's Sanitary Landfill
Galloway Twp., Atlantic County

U.S.G.S. Green Bank and Pleasantville Quadrangles

Scale 1 inch = 2000 feet

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES
CN 029
TRENTON, NEW JERSEY 08625

JOHN W. GASTON JR., P.E.
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trichloroethene	11

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We therefore recommend that you advise Mr. Milton Tees not to use his well for drinking and or culinary purposes.

Possible financial assistance in this regard can be obtained through communication with Mr. John Preczewski of this Division at (609) 984-5862. It is recommended that the local municipality contact him, if appropriate.

Should you have any questions concerning the above, please contact Mr. Mohammed Husain or Mr. Daniel Mozer of my staff at (609)292-5550.

Very truly yours,

Raymond Bargy, Chief
Bureau of Potable Water

RB:lf
Enclosure
cc: Mayor, Township of Galloway
William Whipple, Assistant Director, Water Supply & Watershed Mgt.
Steven Nieswand, Water Supply
George McCann, Enforcement Element
Haig Kasabach, NJ Geological Survey
Lance Miller, Superfund Coordinator
Dr. Marwan Sadat, Division of Waste Mgt.
Dr. Thomas Burke, Office of Science and Research
Dr. Kenneth Rosenman, NJ State Health Dept.

DWR-018 (PW 2)
/83

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES – BUREAU OF POTABLE WATER

WATER ANALYSES REPORT

Private Wells — County Atlantic

Municipality Pomona & Egg Hbr City — Date Collected 9-27-84

llected by Jean R Daly — Memo # 84 174 — Project # W-

BACTERIOLOGICAL: Coliform organisms are reported in colonies per 100 ml. Chlorine residuals are reported in ppm.

MPLE NUMBER	POINT OF COLLECTION	TIME	WATER TEMP.	Chlorine Residual FREE	Chlorine Residual TOTAL	Coliform Organisms FECAL	Coliform Organisms TOTAL
23240	72 S. Lisa Dr. "M Tees."	11:00					
23241	407 S Mannheim Ave.	11:30					

PHYSICAL – CHEMICAL: Determinations are in ppm except color, odor, turbidity, pH, VO, and Pesticide. (N.J. Standards)

23241 ppm

SAMPLE NUMBER				SAMPLE NUMBER		23240	23241
Nitrate (as N)	(10)			Arsenic	(0.05)		
[redacted]	(10)			Barium	(1.0)		
Odor	(III)			Cadmium	(0.010)		
Turbidity	(5)			Chromium	(0.05)		
Total Dis. Solids	(500)			Fluoride	(2.0)		
pH				Lead	(0.05)		
Alkalinity (as $CaCO_3$)				Mercury	(0.002)		
Chloride	(250)			Selenium	(0.01)		
ABS/LAS	(0.5)			Silver	(0.05)		
ardness (as $CaCO_3$)	(250)			Iron	(0.03)		
Sulfate	(250)			Manganese	(0.05)		
Cyanide				Sodium	(50)		
Pesticide I, II, III			CHLORO-BENZENE	~~Copper~~	(1.0)	2.5	
Endrin	(0.0002)		1,1 dichloro ethane	~~Zinc~~	(5.0)	16	
Lindane	(0.004)			VO Scan (ppb)			
Methoxychlor	(0.1)		1,1 dichloroethene			ND 7.0	
Toxaphene	(0.005)		1,2 dichloroethene			37	
2,4-D	(0.1)		tetrachloroethene			5.0	
[redacted]ex	(0.01)		1,1,1 trichloroethane			46	
			TRICHLOROETHENE			11	2.0

REPORT SUBMITTED
OCT 24 1984
NJDOH Environment
Chemistry Laborator

Remarks Blank #1 42767 (24 hr)

COPIES: White - Bureau of Potable Water Green - Health Authority Pink - Bacteriological Lab

100189

54

ATLANTIC COUNTY
DEPARTMENT OF HEALTH AND INSTITUTIONS
DIVISION OF PUBLIC HEALTH
201 SOUTH SHORE ROAD
NORTHFIELD, N.J. 08225
(609) 645-7700
(TTY: 348-5551)

JOSEPH AIELLO
PUBLIC HEALTH OFFICER

June 20, 1984

Mr. and Mrs. Milton Tees
PO Box 674
Pomona, NJ 08240

Dear Mr. and Mrs. Tees:

Analysis of the water sample collected at your home revealed the presence of the following compounds:

Chloroform	63 ppb
1,1,1 Trichloroethane	47 ppb
1,1 Dichloroethane	33 ppb
Trichloroethene	25 ppb
1,1 Dichloroethene	20 ppb
Vinly Chloride	6 ppb
Chlorobenzene	4 ppb
1,2 Dichlorobenzene	4 ppb
Tetrachloroethene	3 ppb

A copy of the analytical report is attached.

The total concentration of organic chemicals is over 100 parts per billion. While standards regulating the presence of these substances in private well water have not been set, we feel it is prudent to minimize exposure.

You are advised to discontinue the use of your well water for drinking and cooking.

Groundwater moves slowly, but continually, and contaminant levels can change at any time. You should consider repeating this test in the future.

Please feel free to call Tracye McArdle of my staff (ext. 4359) with any questions you have.

Sincerely,

Joseph Aiello
Health Officer

JA:sm
Enclosure
cc: Fred Zavaglia, County Administrator
Joe Kane, County Counsel
Ray Barg, Chief, Bureau of Potable Water
Chuck Melchior, Township Manager
File (2)

100190

55

CENTURY
LABORATORIES, INC.
P.O. Box 248/1501 Grandview Avenue/MidAtlantic Park, Thorofare, NJ 08086
Phone: (609) 848-3939 NJ 800-222-0589

CLIENT: COUNTY OF ATLANTIC
201 S. Shore Road
Northfield, N.J. 08225

PROJECT: ANALYSIS OF DRINKING WATER FOR:
VOLATILE ORGANIC COMPOUNDS

MATERIAL: WATER COLLECTED FROM LOCATION: P-0387-84
Tees
P.O. Box 674
Pomona, New Jersey

DATE RECEIVED: May 16, 1984

ANALYSIS COMPLETED: May 30, 1984

C.E.T.L. ANALYSIS NO: A6174

SAMPLED BY: CLIENT

N.J.D.E.P. WATER LABORATORY CERTIFICATION NO: 08153

LABORATORY ANALYSIS

SELECTED VOLATILE ORGANICS

All information concerning this sample: location, identification, time, date, etc. is as reported to us by client.

100191

56

CLIENT: Atlantic County Health

SAMPLE I.D.: A6174

CLIENT I.D.: Tees

CHART NO: T053084-03

VOLATILE ORGANIC COMPOUNDS

PARAMETERS	DETECTION LEVEL (ug/l)	RESULT (ug/l)
Benzene	1.0	N.D.
Bromodichloromethane	1.0	N.D.
Bromoform	1.0	N.D.
Bromomethane	1.0	N.D.
Carbon Tetrachloride	1.0	N.D.
Chlorobenzene	1.0	4.0
Chlorodibromomethane	1.0	N.D.
Chloroethane	1.0	N.D.
2-Chloroethyl vinyl ether	1.0	N.D.
Chloroform	1.0	63
Choromethane	1.0	N.D.
1,2-Dichlorobenzene	1.0	4.0
1,3-Dichlorobenzene	1.0	N.D.
1,4-Dichlorobenzene	1.0	N.D.
Dichlorodifluoromethane	1.0	N.D.
1,1-Dichloroethane	1.0	33
1,2-Dichloroethane	1.0	N.D.
1,1-Dichloroethene	1.0	20
trans-1,2-Dichloroethene	1.0	N.D.
1,2-Dichloropropane	1.0	N.D.
cis-1,3-Dichloropropene	1.0	N.D.
trans-1,3-Dichloropropene	1.0	N.D.
Ethylbenzene	1.0	N.D.
Fluorotrichloromethane	1.0	N.D.
Methylene Chloride	1.0	N.D.
1,1,2,2-Tetrachloroethane	1.0	N.D.
Tetrachloroethene	1.0	3.0
1,1,1-Trichloroethane	1.0	47
1,1,2-Trichloroethane	1.0	N.D.
Trichloroethene	1.0	25
Toluene	1.0	N.D.
Vinyl Chloride	1.0	6.0

100192

57

COMMENTS: It is our oponion that this sample location be retested and that retesting should include confirmation by GC/MS/DS.

NOTES:

1. Non Detectable (N.D.) indicates that the concentration of pollutant is less than the minimum reportable detection level noted above. (<0.5 same as Non Detectable).

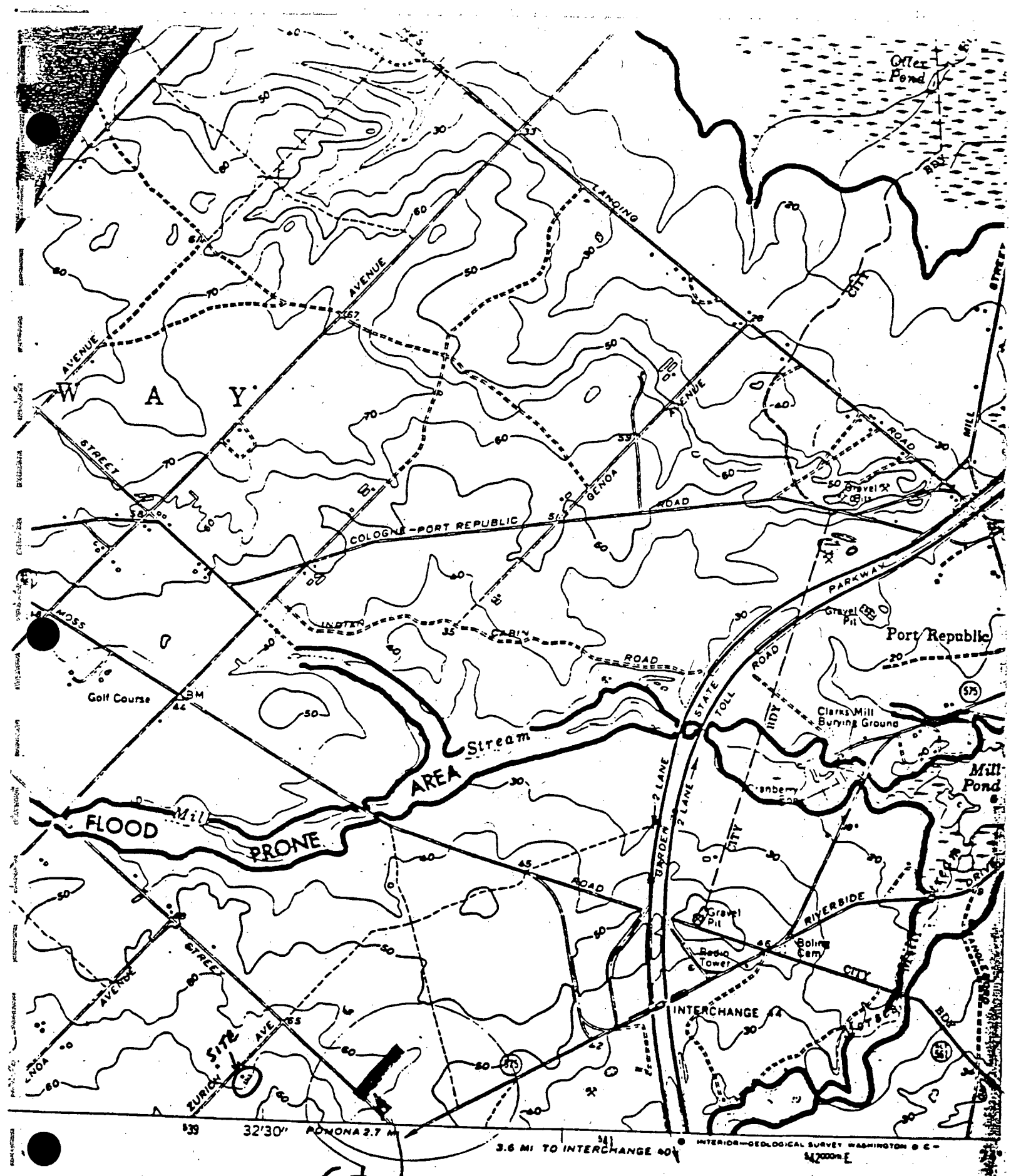
2. Results are expressed in micrograms per liter (ug/l). One microgram per liter is the same as one part per billion (ppb).

3. Method of Analysis: U.S.E.P.A. Methods 601/602 Purge and Trap (EPA 600/4-82 July 1982). Method 624 utilizing GC/MS/DS confirmation is available upon request.

Respectfully submitted,
Century Laboratory, Inc.

Thomas F. Cullen, Jr.
Laboratory Director - Organics Division

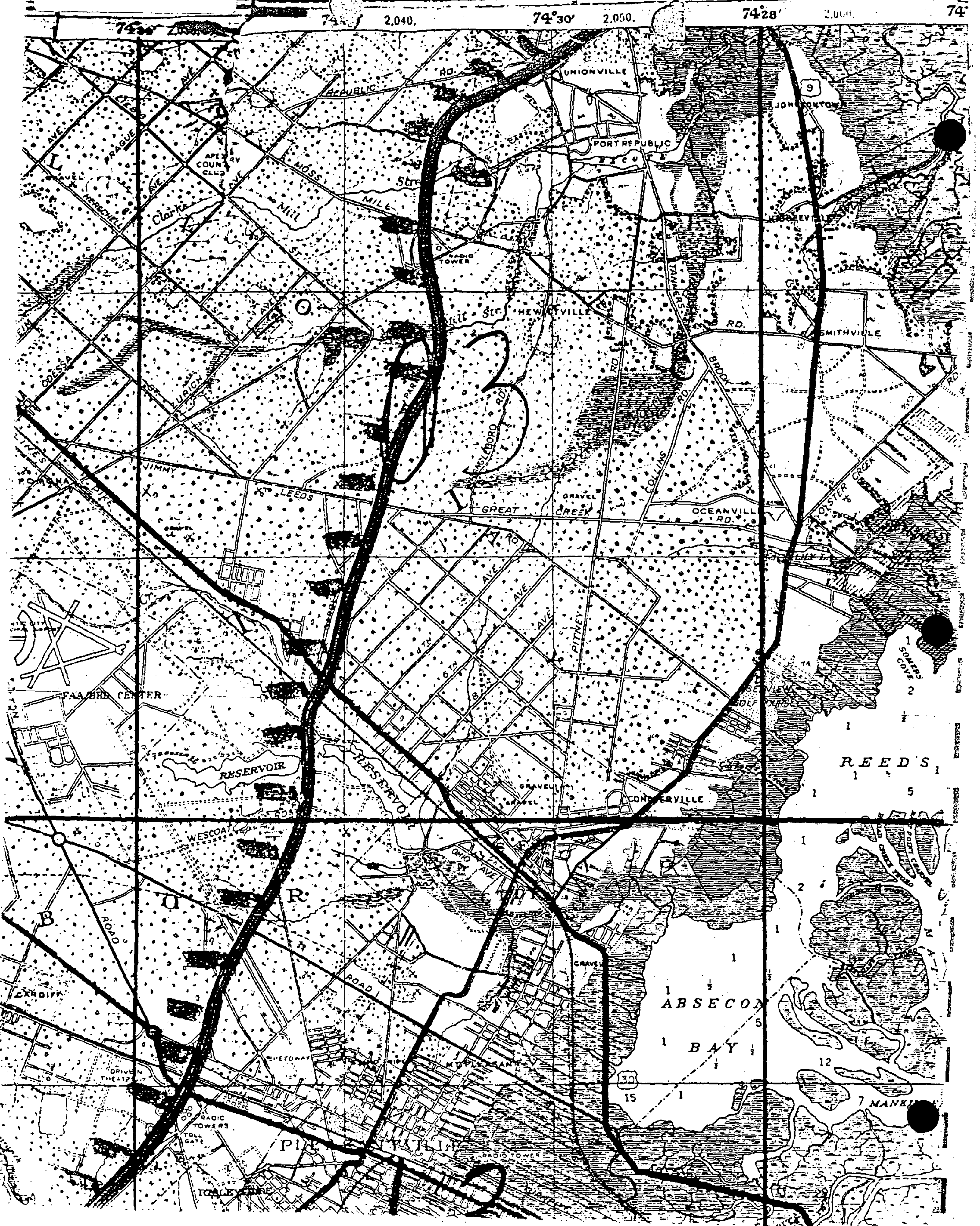
100193



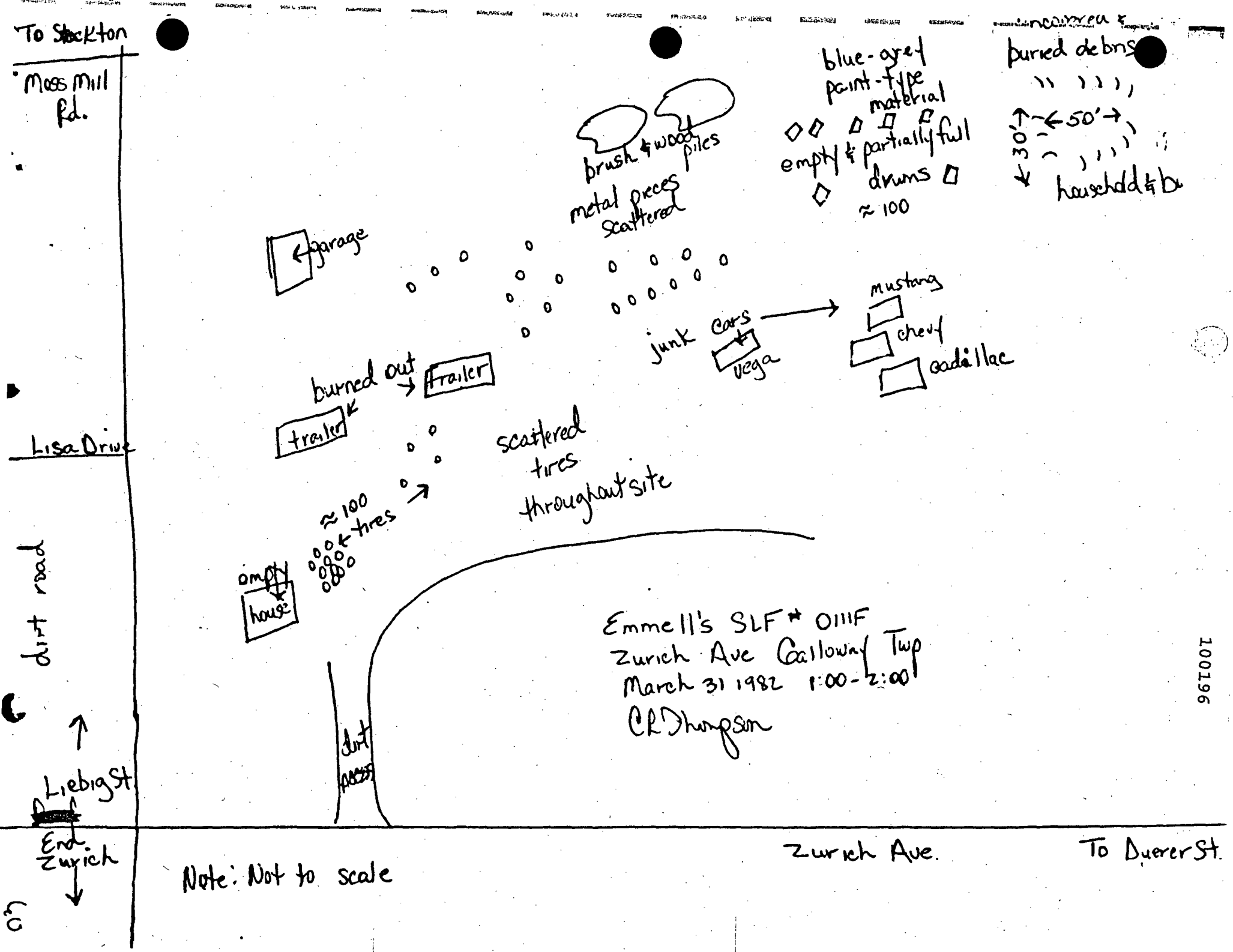
Site
Lizon Dr. Block 0603

100194

59

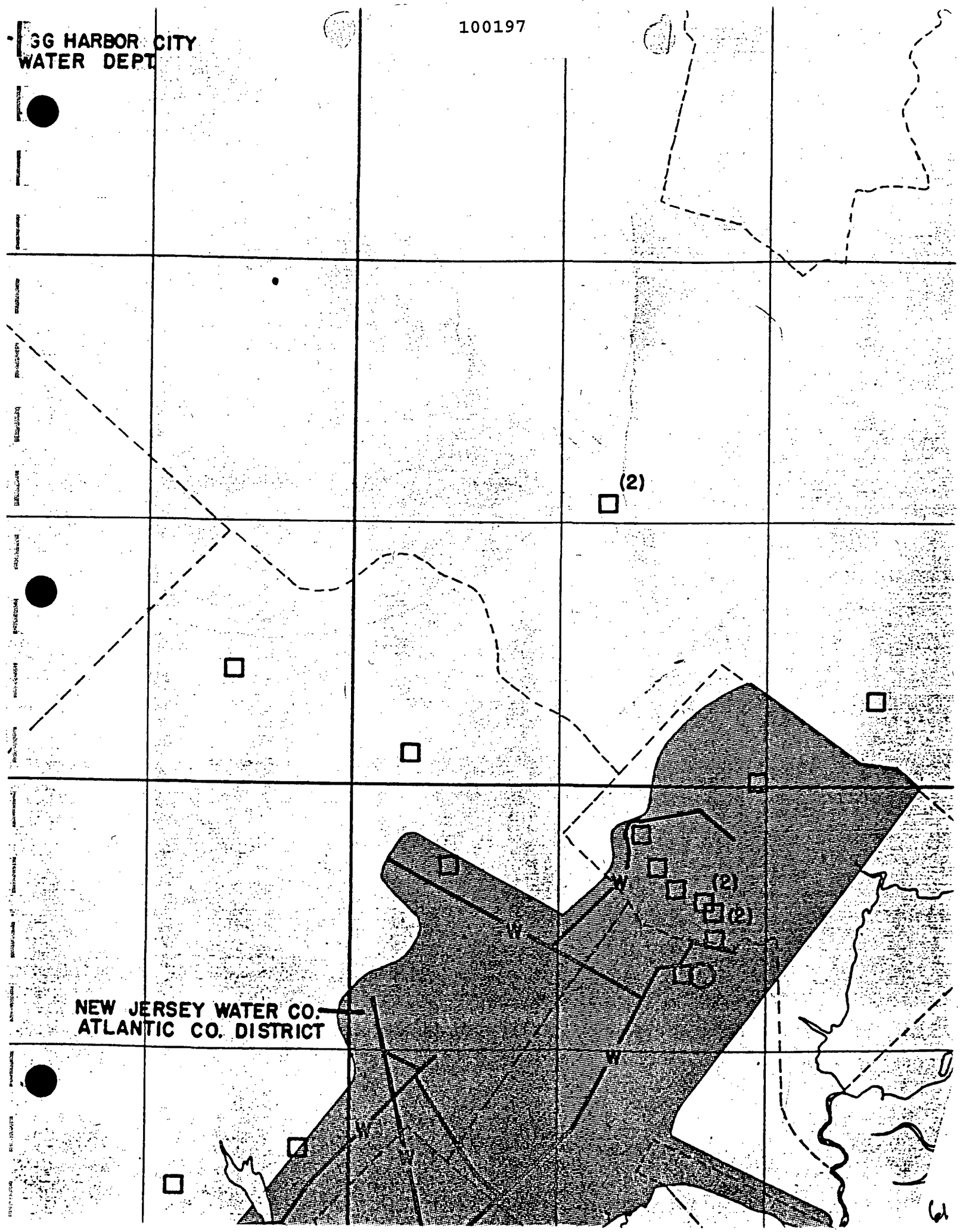

74°30'
2,040
2,050
74°28'
74°
UNIONVILLE
REPUBLIC
RD.
PORT REPUBLIC
JONESTOWN
9
APEX
COUNTRY
CLUB
PRAGUE
HERSCHELL
Clarks
MOSS
MILL
Mill
RADIO TOWER
HEWITTVILLE
SMITHVILLE
TANNERS
BROOK
RD.
ODESSA
ZURICH
COLLINS
PITNEY
JIMMY
POMONA
PIKE
LEEDS
GREAT
CREEK
GRAVEL
OCEANVILLE
RD.
OYSTER CREEK
FAA/BRD CENTER
RESERVOIR
CONOVERVILLE
SOMERS
COVE
REEDS
WESCOAT
OHIO AVE
CARDIFF
ROAD
ABSECON
BAY
30
NANKIN
RADIO TOWERS
TOLL GATE
DRIVE IN THEATER
RADIO TOWER

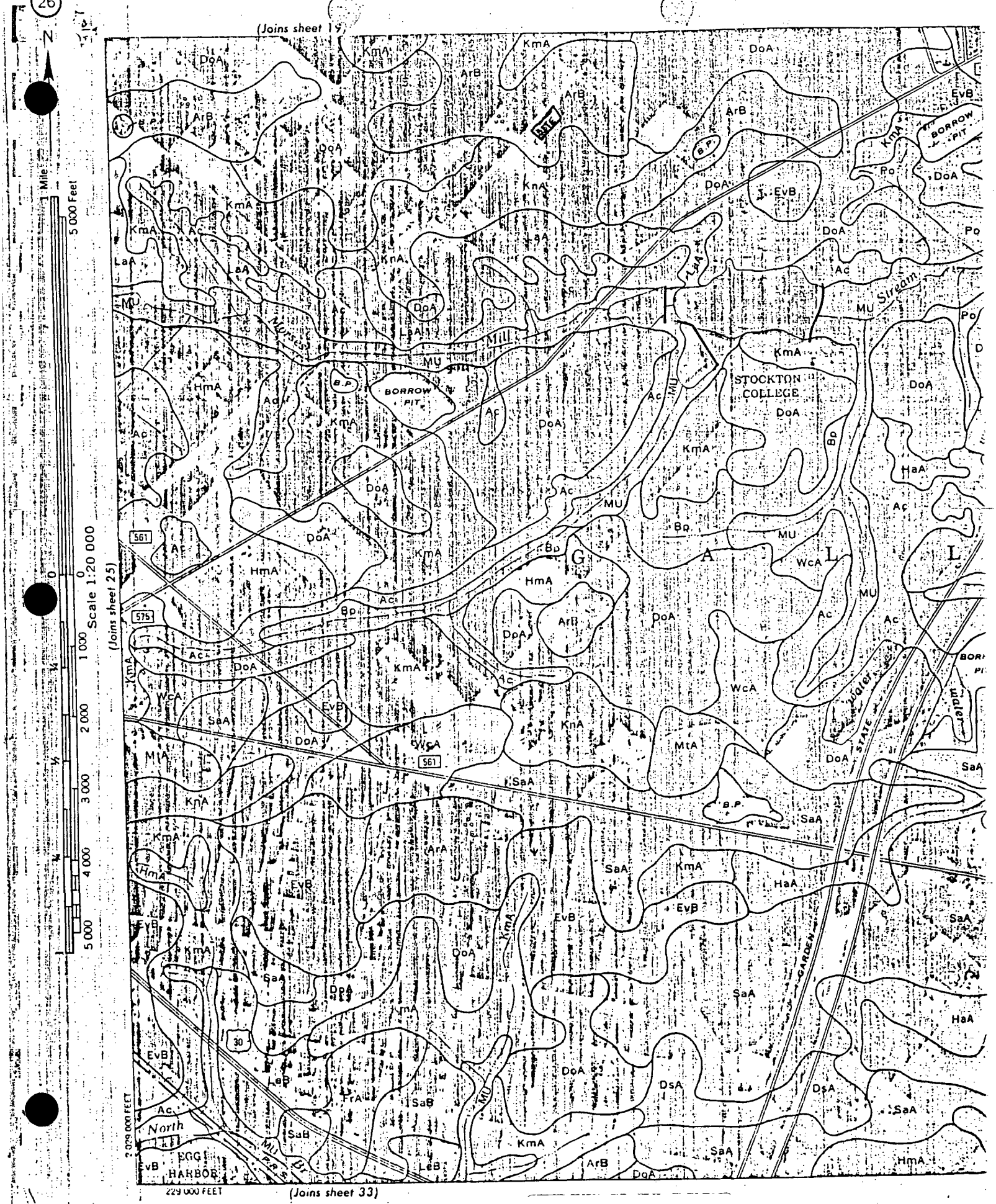
100195


To Stockton
Moss Mill Rd.
Lisa Drive
dirt road
Liebig St.
End Zurich
Zurich Ave.
To Duerer St.
brush & wood piles
metal pieces scattered
blue-grey paint-type material
empty & partially full drums
≈ 100
buried debris
30'
50'
household & b
garage
junk cars
vega
mustang
chevy
cadillac
burned out trailer
trailer
scattered tires throughout site
≈ 100 tires
empty house
dirt access
Emmell's SLF * 0111F
Zurich Ave Galloway Twp
March 31 1982 1:00-2:00
CR Thompson
Note: Not to scale
100196

100197

GG HARBOR CITY
WATER DEPT





100198

Attachment A62

TABLE 7.—*Estimated soil proj*

[Absence of data indicates that the soil is too variable to be rated or

Soil series and map symbols	Depth to seasonal high water table	Depth from surface	USDA texture	Classification	
				Unified	AASHT
	Feet	*Inches*			
Atsion: Ac	0–1	0–17	Sand	SP, SP–SM	A–3
		17–24	Sand	SP, SP–SM	A–3
		24–60	Sand	SP, SM, SM–SC	A–2, A–3
Aura:					
AmB, ArA, ArB	>5	0–12	Sandy loam	SM, SC	A–2, A–4
		12–48	Gravelly sandy clay loam	SM, SC, GM, GC	A–2, A–4
		48–72	Loamy sand and gravelly sand	SP–SM, SM, SC	A–2, A–4
AvB	>5	0–24	Loamy sand and sandy loam	SP–SM, SM, SC	A–1, A–2, A–
		24–36	Gravelly sandy clay loam	SM, SC, GM, GC	A–2, A–4
		36–60	Sandy loam	SM, SC	A–2
Berryland: Bp, BS	0	0–15	Sand	SP, SP–SM	A–1, A–3
		15–22	Loamy sand	SP, SP–SM	A–1, A–3
		22–64	Sand and gravelly sand	SP, SM, SC	A–2, A–3
Coastal beach-Urban land complex: Cu. Properties are for Coastal beach only.	1–5	0–60	Sand	SP	A–3
Downer: DoA, DsA	5	0–17	Loamy sand	SM	A–2, A–4
		17–33	Sandy loam	SM, SC	A–2, A–4
		33–60	Loamy sand and sand	SP, SM, SC	A–2, A–3
Evesboro:					
EvB	>5	0–36	Sand	SP, SP–SM	A–1, A–2, A–3
		36–60	Sand	SP, SM, SC, SM–SC	A–1, A–2, A–3
EwB	>5	0–40	Sand	SP, SP–SM	A–1, A–2, A–3
		40–60	Sandy clay	SC, CL, CH, SM, ML, MH	A–4, A–6, A–7
Fill land:					
FL	2–4	0–60	Sand and gravelly sand.		
FM	4–5	0–60	Sand and gravelly sand (5 feet of fill).		
Fort Mott: FrA	>5	0–25	Sand and loamy sand	SP–SM, SM	A–2
		25–41	Sandy loam	SM, SC	A–2, A–4
		41–60	Gravelly loamy sand	SM, SP–SM, SC	A–2, A–3
Hammonton:					
HaA, HmA	1½–4	0–18	Loamy sand	SM	A–2
		18–36	Sandy loam	SM, SC	A–2, A–4
		36–60	Sand	SP, SM, SM–SC	A–2, A–3
HcA, HnA	1½–4	0–18	Loamy sand	SM	A–2
		18–30	Sandy loam	SM, SC	A–2, A–4
		30–40	Sand	SP, SM	A–2, A–3
		40–60	Sandy clay	CL, CH, SC	A–4, A–6, A–7
Klej:					
KmA	1½–4	0–36	Loamy sand	SP, SM	A–2, A–3
		36–60	Sand	SP, SM, SM–SC	A–2, A–3
KnA	1½–4	0–40	Loamy sand	SP, SM	A–2, A–3
		40–60	Sandy clay	SC, CL, CH	A–4, A–6, A–7
Lakehurst: LaA	1½–4	0–39	Sand	SP, SP–SM	A–2, A–3
		39–60	Sand	SP, SM, SM–SC	A–1, A–2, A–3
Lakewood: LeB, LeC	>5	0–40	Sand	SP, SP–SM	A–1, A–2, A–3
		40–60	Sand	SP, SM, SM–SC	A–1, A–2, A–3

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State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF WASTE MANAGEMENT

120 Rt. 156, Yardville, N.J. 08620

JACK STANTON
DIRECTOR

LINO F. PEREIRA
DEPUTY DIRECTOR

March 22, 1983

MEMORANDUM

TO: Charles Krauss, Southern Field Office

THROUGH: Ronald Corcory, Chief
Bureau of Field Operations

FROM: Joseph A. Rogalski, Assistant Director
Field Operations - Enforcement & Compliance

SUBJECT: Possible Waste Site, Galloway Township

The attached memo from Michael Ryan, DWR, dated March 17, 1983 is self-explanatory. Please conduct inquiry/investigation into this matter and submit report to this office by April 29, 1983 as to findings.

J.A.R.

kas
Attachment

RECEIVED
MAR 22 1983
Division of Waste Mgt

MEMO NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION

TO Joseph Rogalski, Assistant Director

FROM Michael Ryan through Richard Dalton and Haig F. Kasabach, Deputy State Geologist DATE March 17, 1983

SUBJECT Possible Waste Site, Galloway Township

On Sunday, March 12, 1983, the writer was taken, by a friend, to a site in Galloway Township, Atlantic County, where there were numerous drums (approximately 30 - 50 visible) and gas cylinders (approximately 20 - 40).

Some of the drums were marked Glidden Paint Company and they ranged from full to empty. Numerous masses of hard pigment were seen all over the ground. Possible industrial sludge was also found on the ground surface. Empty bags marked "Construction Chemical" were seen on the site. The size of the site appeared to be approximately 3 - 5 acres and contained numerous pits. A pile of building waste along with vehicle tires of every description were in the area along with more drums buried under the pile.

A few people who showed up while we were poking around told us of much heavy equipment and a backhoe which dug a pit about 50' - 75' deep for the burial of more drums and specifically industrial sludge. There are two large buildings (one house and one sludge barn) on-site with the house being occupied. The area has not been used in two or more years, but the land is still dead in many spots.

A jar with some physical samples is accompanying this memo, as well as a copy of the U.S.G.S. map where the site is found. The site is approximately two miles north on Zurich Avenue, on the right side, in Galloway Township.

MR:bks

Attachments (2)

cc: Dr. Marwan M. Sadat
Anthony Farro
Peter Patterson, Region III
William Althoff, NJGS
Charles Krauss, Southern Region

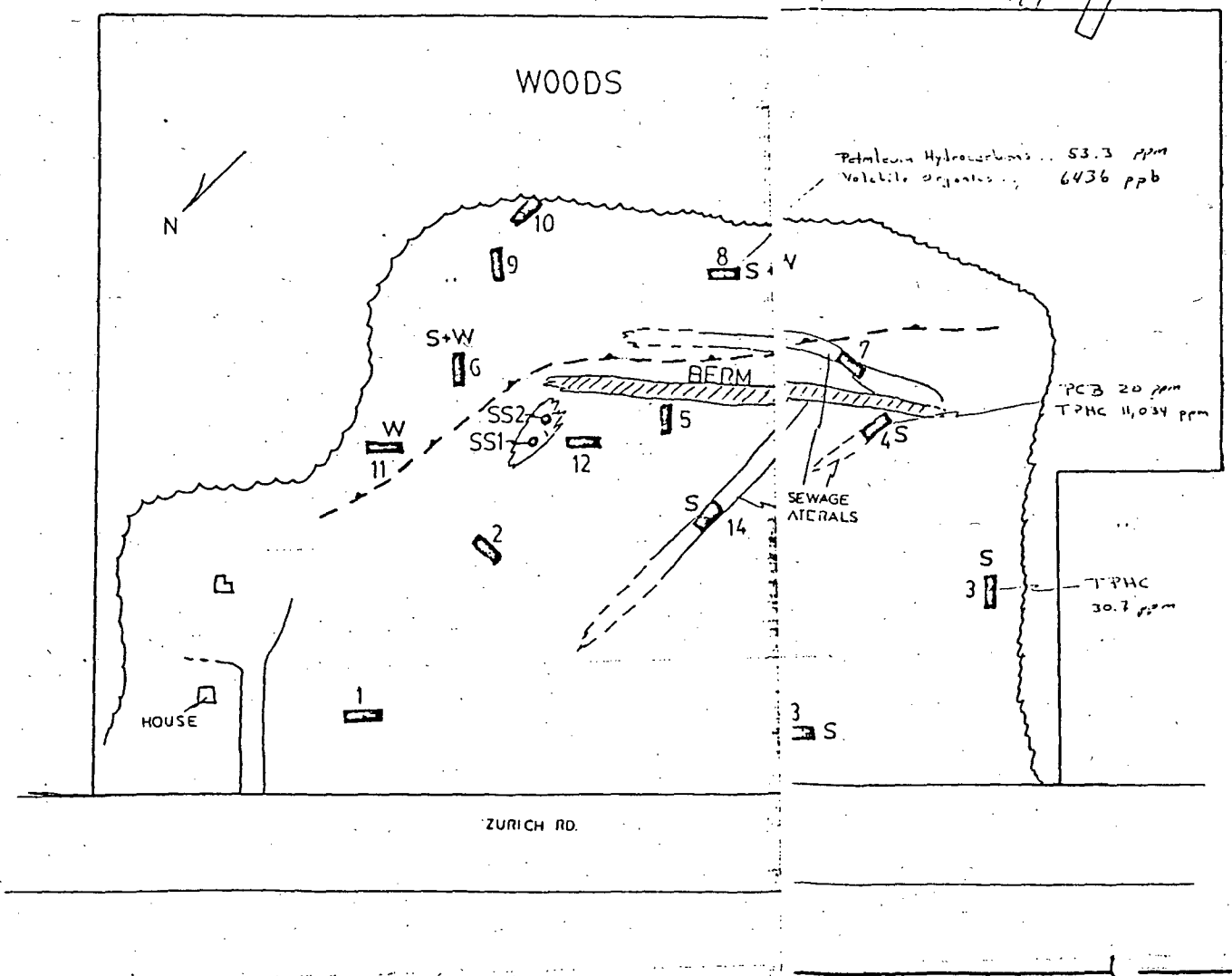
100201

66
Attachment B

100202

DRAFT
FOR COMMENTS & DISCUSSION ONLY
NOT FOR DISTRIBUTION

DRAFT



Dan Raviv Associates, Inc.
588 Eagle Rock Avenue, West Orange, New Jersey 07052

BACKHOE EXPLORATION AND SAMPLING LOCATIONS

DAVID COPELAND POMONA, N.J.

Prepared By TDG | Date DECEMBER 1984

Job No. 84C212

ICM

VOLATILE ORGANICS BY PURGE & TRAP
WHAT DOES IT MEAN?

We are constantly being asked by our customers the meaning of the volatile organic test results. The following comments are general statements concerning the analysis. For further, more specific information, it is recommended that you contact your local health department.

1. Compound identification is based upon retention time matches, with specific known standards. Confirmatory analysis using GC/MS is required to positively identify any materials and/or amounts detected.

2. The analytical method used here is a new analytical method developed by the EPA to analyze at extremely low levels, pollutants which may be present in the water. These pollutants are listed on the analytical report form along with other compounds of local concern.

3. Only those pollutants listed on the report are directly identifiable using this method. However, many other compounds which can be detected using the instrumentation will also appear during the analytical scan. Since these are unidentified, they are reported as unknowns according to the time they appear in the scan. Also reported is an indication of the approximate amount of material, but since the instrument is not calibrated for the unknowns, this "guestimate" may be totally inaccurate.

4. The testing is performed at the part per billion level which is 1,000 times more sensitive than the more common parts per million value most persons encounter.

5. Regarding the dangerous limits of the specific compounds tested, this cannot be answered directly. No one actually knows the health hazards of these chemicals at very low levels. Further, the long term repeated exposure is also unknown. Bear in mind that this analytical technique is less than 5 years old. Laboratories are just beginning to be able to detect the materials in water at these low levels and the medical implications will not be known for many years. However, some data on specific compounds is available. This information may be more obtainable from your local health officer and we strongly urge you to contact him for more details.

6. If your water shows nothing, it does not mean that there is nothing there. It only means that this particular sample contained none of the listed pollutants at the time it was sampled. Other types of chemicals such as lead, etc., could be present but never detected using this method. If the test results indicate contamination, it does not mean definitely that there is something there. One test from one sample is not definite proof. Several samples should be taken for confirmation. We urge persons to check their drinking water for these volatile pollutants at least once per year to develop a continuing program for their own protection.

7. The identification of a particular pollutant such as Chloroform on the report does not 100% mean that the water actually contains Chloroform, for example: Other unknowns can also appear at the exact time as Chloroform and there is no way to discern which specific material is actually present without more sophisticated analysis. It does however, indicate that something is present in that particular sample requiring attention.

INDUSTRIAL CORROSION MANAGEMENT INCORPORATED

1152 ROUTE 10, RANDOLPH, NEW JERSEY 07869 201-584-0330

NJDEP Certified Drinking Water/
Wastewater Laboratory ID # 14116

REPORT DATE: January 11, 1985

LAB # 37168-B of AB

CLIENT: DAN RAVIV ASSOCIATES P.O. #84C212

SAMPLE SOURCE: DAVE COPELAND SAMPLE ID: BCT-6

SAMPLE DATE: 12/27/84 SAMPLED BY: Raviv Assoc AT LAB DATE: 12/31/84

WATER SAMPLE

ANALYSIS

Parameter	Result	Duplicate
TOC	37.0	
COD	33.6	35.0

All results are reported in mg/l (ppm), unless otherwise stated.

INDUSTRIAL CORROSION MANAGEMENT, INC.

Edwin Tichenor
Vice President

ET/jmg

LT=Less Than

100204

68

INDUSTRIAL CORROSION MANAGEMENT INCORPORATED

1152 ROUTE 10, RANDOLPH, NEW JERSEY 07869 201-584-0330

NJDEP Certified Drinking Water/
Wastewater Laboratory ID # 14116

REPORT DATE: January 11, 1985

LAB # 37170-B of AB

CLIENT: DAN RAVIV ASSOCIATES P.O. #84C212

SAMPLE SOURCE: DAVE COPELAND SAMPLE ID: BCT-8

SAMPLE DATE: _____ SAMPLED BY: _____ AT LAB DATE: _____

WATER SAMPLE

ANALYSIS

Parameter	Result	Duplicate
TOC	60.5	
COD	171	

All results are reported in mg/l (ppm), unless otherwise stated.

INDUSTRIAL CORROSION MANAGEMENT, INC.

Edwin Tichenor
Vice President

ET/jmg

LT=Less Than

100205

69

INDUSTRIAL CORROSION MANAGEMENT INCORPORATED
1152 ROUTE 10, RANDOLPH, NEW JERSEY 07869 201-584-0330

NJDEP Certified Drinking Water/Wastewater Laboratory ID #14116

REPORT DATE: January 11, 1985

LAB # 37167-B of AB

CLIENT: DAN RAVIV ASSOCIATES P.O. #84C212

SAMPLE SOURCE: DAVE COPELAND SAMPLE ID: BCT-4S

SAMPLE DATE: 12/27/84 SAMPLED BY: Raviv Assoc AT LAB DATE: 12/31/84

100206

SOIL SAMPLE

P C B
ANALYSIS

Parameter	AROCLOR Result
PCB 1016	X
PCB 1221	X
PCB 1232	X
PCB 1242	X
PCB 1248	X
PCB 1254	20 mg/kg dry weight basis.
PCB 1260	X

For the above listed PCB's, nothing detected at a sensitivity level of

INDUSTRIAL CORROSION MGMT., INC.

Edwin Tichenor
Vice President

ET/jmg
LT=Less Than
GT=Greater Than
X=Not Detected

INDUSTRIAL CORROSION MANAGEMENT INCORPORATED
1152 ROUTE 10, RANDOLPH, NEW JERSEY 07869 201-584-0330

NJDEP Certified Drinking Water/Wastewater Laboratory ID #14116

REPORT DATE: January 11, 1985

LAB # 37171-A of AB

CLIENT: DAN RAVIV ASSOCIATES

P.O. 84C212

SAMPLE SOURCE: DAVE COPELAND

SAMPLE ID: BCS-1

SAMPLE DATE: 12/27/84 SAMPLED BY: Raviv Assoc. AT LAB DATE: 12/21/84

100207

SOIL SAMPLE

P C B
ANALYSIS

Parameter	AROCLOR Result
PCB 1016	X
PCB 1221	X
PCB 1232	X
PCB 1242	X
PCB 1248	X
PCB 1254	X
PCB 1260	X

X For the above listed PCB's, nothing detected at a sensitivity level of 1 mg/kg dry weight basis.

INDUSTRIAL CORROSION MGMT., INC.

Edwin Tichenor
Vice President

ET/jmg
LT=Less Than
GT=Greater Than
X=Not Detected

INDUSTRIAL CORROSION MANAGEMENT INCORPORATED
1152 ROUTE 10, RANDOLPH, NEW JERSEY 07869 201-584-0330

NJDEP Certified Drinking Water/Wastewater Laboratory ID #14116

REPORT DATE: January 11, 1985

LAB # 37173

CLIENT: DAN RAVIV ASSOCIATES

P.O. 84C212

SAMPLE SOURCE: DAVE COPELAND

SAMPLE ID: BCT-14S

SAMPLE DATE: 12/27/84 SAMPLED BY: Raviv Assoc. AT LAB DATE: 12/21/84

100208

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SOIL SAMPLE

P C B
ANALYSIS

Parameter	AROCLOR Result
PCB 1016	X
PCB 1221	X
PCB 1232	X
PCB 1242	X
PCB 1248	X
PCB 1254	X
PCB 1260	X

X For the above listed PCB's, nothing detected at a sensitivity level of 1 mg/kg dry weight basis.

INDUSTRIAL CORROSION MGMT., INC.

Edwin Tichenor
Vice President

ET/jmg
LT=Less Than
GT=Greater Than
X=Not Detected

INDUSTRIAL
CORROSION
MANAGEMENT
INCORPORATED

1152 ROUTE 10, RANDOLPH, NEW JERSEY 07869 201-584-0330

Report Date: January 11, 1985

Lab. # 37166

CLIENT: DAN RAVIV ASSOC. P.O.#84C212 REF:# BCT-3S

SAMPLE SOURCE: DAVE COPELAND

SAMPLE DATE: 12/27/84 TAKEN BY: Raviv Assoc AT LAB DATE: 12/31/84

SOIL SAMPLE

Analyses	*Results*	
Petroleum Hydrocarbon	30.7	*mg/kg dwb*
Moisture (percentage)	7.37 %	

L.T=Less than
dwb= dry weight basis

Results are reported in mg/kg dry weight basis unless otherwise stated.

We thank you for this opportunity to serve you. If you have any questions, please do not hesitate to call.

Very truly yours,

INDUSTRIAL CORROSION MANAGEMENT, INC.

Edwin Tichenor
Vice President

ET:jmg

100209

73

INDUSTRIAL
CORROSION
MANAGEMENT
INCORPORATED

1152 ROUTE 10, RANDOLPH, NEW JERSEY 07869 201-584-0330

Report Date: January 11, 1985

Lab. # 37167-A of AB

CLIENT: DAN RAVIV ASSOC. P.O.#84C212 REF:# BCT-4S

SAMPLE SOURCE: DAVE COPELAND

SAMPLE DATE: 12/27/84 TAKEN BY: Raviv Assoc AT LAB DATE: 12/31/84

SOIL SAMPLE

Analyses	*Results*
Petroleum Hydrocarbon	11,034 *mg/kg dwb*
Moisture (percentage)	37.5 %

LT=Less than
dwb= dry weight basis

Results are reported in mg/kg dry weight basis unless otherwise stated.

We thank you for this opportunity to serve you. If you have any questions, please do not hesitate to call.

Very truly yours,

INDUSTRIAL CORROSION MANAGEMENT, INC.

Edwin Tichenor
Vice President

ET:jmg

100210

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INDUSTRIAL
CORROSION
MANAGEMENT
INCORPORATED

1152 ROUTE 10, RANDOLPH, NEW JERSEY 07869 201-584-0330

Report Date: January 11, 1985

Lab. # 37169

CLIENT: DAN RAVIV ASSOC. P.O.#84C212 REF:# BCT-8S

SAMPLE SOURCE: DAVE COPELAND

SAMPLE DATE: 12/27/84 TAKEN BY: Raviv Assoc AT LAB DATE: 12/31/84

SOIL SAMPLE

Analyses	*Results*	
Petroleum Hydrocarbon	53.3	*mg/kg dwb*
Moisture (percentage)	28.1 %	

LT=Less than
dwb= dry weight basis

Results are reported in mg/kg dry weight basis unless otherwise stated.

We thank you for this opportunity to serve you. If you have any questions, please do not hesitate to call.

Very truly yours,

INDUSTRIAL CORROSION MANAGEMENT, INC.

Edwin Tichenor
Vice President

ET:jmg

100211

75

INDUSTRIAL CORROSION MANAGEMENT INCORPORATED
1152 ROUTE 10, RANDOLPH, NEW JERSEY 07869 201-584-0330

Dan Raviv Associates, Inc.

JAN 14 1985

RECEIVED

NJDEP Certified Drinking Water/Wastewater Laboratory ID #14116

REPORT DATE: January 11, 1985

LAB # 37165-A of AB

100212

CLIENT: DAN RAVIV ASSOC. PROJECT: Dave Copeland SAMPLE ID: BCT-11 P.O. #84C212

SAMPLE DATE: 12/27/84 SAMPLED BY: Raviv Assoc. AT LAB DATE: 12/31/85

WATER SAMPLE

VOLATILE ORGANICS BY PURGE AND TRAP
GAS CHROMATOGRAPHY

Compounds detected in parts per billion (micrograms/liter)

CHLOROMETHANE		1,2-DICHLOROPROPANE	
BROMOMETHANE		*[c-1,3-DICHLOROPROPENE	
VINYL CHLORIDE		t-1,3-DICHLOROPROPENE	
CHLOROETHANE		TCE (TRICHLOROETHYLENE)	
METHYLENE CHLORIDE		*[1,1,2-TRICHLOROETHANE	
ACETONE		DIBROMOCHLOROMETHANE	
1,1-DICHLOROETHYLENE		BENZENE	
1,1-DICHLOROETHANE **		DIISOPROPYL ETHER	
t-1,2-DICHLOROETHYLENE		2-CHLOROETHYLVINYL ETHER	
CHLOROFORM		BROMOFORM	
1,2-DICHLOROETHANE		1,1,2,2-TETRACHLOROETHANE	
t-BUTYL METHYL ETHER		PCE (TETRACHLOROETHYLENE)	
1,1,1-TRICHLOROETHANE		TOLUENE	
CARBON TETRACHLORIDE		CHLOROBENZENE	
BROMODICHLOROEMETHANE		ETHYLBENZENE	

*Compounds co-elute (Could be either material).

**Tetrahydrofuran & Phosgene also elute at this point. Numerical results are calculated for 1,1-Dichloroethane only.

LT=Less Than
GT=Greater Than

X For the above listed Volatile Pollutants, nothing detected at a sensitivity level of 1 ppb.

_____ Unknown peaks detected (Retention time, estimated amount) _____

NOTE: Compound identification is based upon retention time matches with specific known standards. Confirmation of analysis using GC/MS is required to positively identify any material and/or amount detected.

INDUSTRIAL CORROSION MANAGEMENT INCORPORATED
1152 ROUTE 10, RANDOLPH, NEW JERSEY 07869 201-584-0338

NJDEP Certified Drinking Water/Wastewater Laboratory ID #14116

REPORT DATE: January 11, 1985

LAB # 37168-A of AB

CLIENT: DAN RAVIV ASSOC. PROJECT: Dave Copeland SAMPLE ID: BCT-6 P.O. #84C212

SAMPLE DATE: 12/27/84 SAMPLED BY: Raviv Assoc. AT LAB DATE: 12/31/85

100213

WATER SAMPLE

VOLATILE ORGANICS BY PURGE AND TRAP
GAS CHROMATOGRAPHY

Compounds detected in parts per billion (micrograms/liter)

CHLOROMETHANE		1,2-DICHLOROPROPANE	
BROMOMETHANE		*[c-1,3-DICHLOROPROPENE	
VINYL CHLORIDE		t-1,3-DICHLOROPROPENE	
CHLOROETHANE		TCE (TRICHLOROETHYLENE)	
METHYLENE CHLORIDE		*[1,1,2-TRICHLOROETHANE	
ACETONE		DIBROMOCHLOROMETHANE	
1,1-DICHLOROETHYLENE		BENZENE	
1,1-DICHLOROETHANE **		DIISOPROPYL ETHER	
t-1,2-DICHLOROETHYLENE		2-CHLOROETHYLVINYL ETHER	
CHLOROFORM		BROMOFORM	
1,2-DICHLOROETHANE		1,1,2,2-TETRACHLOROETHANE	
t-BUTYL METHYL ETHER		PCE (TETRACHLOROETHYLENE)	
1,1,1-TRICHLOROETHANE		TOLUENE	
CARBON TETRACHLORIDE		CHLOROBENZENE	
BROMODICHLOROEMETHANE		ETHYLBENZENE	

*Compounds co-elute (Could be either material).

**Tetrahydrofuran & Phosgene also elute at this point. Numerical results are calculated for 1,1-Dichloroethane only.

LT=Less Than
GT=Greater Than

X For the above listed Volatile Pollutants, nothing detected at a sensitivity level of 1 ppb.

_____ Unknown peaks detected (Retention time, estimated amount)_____

NOTE: Compound identification is based upon retention time matches with specific known standards. Confirmation of analysis using GC/MS is required to positively identify any material and/or amount detected.

INDUSTRIAL CORROSION MANAGEMENT INCORPORATED
1152 ROUTE 10, RANDOLPH, NEW JERSEY 07869 201-584-0330

NJDEP Certified Drinking Water/Wastewater
Laboratory ID #14116

REPORT DATE: January 11, 1985

LAB # 37170-A of AB

CLIENT: DAN RAVIV ASSOC. PROJECT: Dave Copeland SAMPLE ID: [illegible] P.O. #84C212

SAMPLE DATE: 12/27/84 SAMPLED BY: Raviv Assoc. AT LAB DATE: 12/31/85

WATER SAMPLE

VOLATILE ORGANICS BY PURGE AND TRAP
GAS CHROMATOGRAPHY

Compounds detected in parts per billion (micrograms/liter)

CHLOROMETHANE		1,2-DICHLOROPROPANE	
BROMOMETHANE		*[c-1,3-DICHLOROPROPENE	
VINYL CHLORIDE	29	t-1,3-DICHLOROPROPENE	
CHLOROETHANE		TCE (TRICHLOROETHYLENE)	6
METHYLENE CHLORIDE		*[1,1,2-TRICHLOROETHANE	
ACETONE		DIBROMOCHLOROMETHANE	
1,1-DICHLOROETHYLENE	19	BENZENE	
1,1-DICHLOROETHANE **	123	DIISOPROPYL ETHER	
t-1,2-DICHLOROETHYLENE	5468	2-CHLOROETHYLVINYL ETHER	
CHLOROFORM		BROMOFORM	
1,2-DICHLOROETHANE		1,1,2,2-TETRACHLOROETHANE	
t-BUTYL METHYL ETHER		PCE (TETRACHLOROETHYLENE)	
1,1,1-TRICHLOROETHANE	774	TOLUENE	
CARBON TETRACHLORIDE		CHLOROBENZENE	17
BROMODICHLOROEMETHANE		ETHYLBENZENE	

*Compounds co-elute (Could be either material).

**Tetrahydrofuran & Phosgene also elute at this point. Numerical results are calculated for 1,1-Dichloroethane only.

LT=Less Than
GT=Greater Than

_____ For the above listed Volatile Pollutants, nothing detected at a sensitivity level of 1 ppb.

_____ Unknown peaks detected (Retention time, estimated amount) _____

NOTE: Compound Identification is based upon retention time matches with specific known standards. Confirmation of analysis using GC/MS is required to positively identify any material and/or amount detected.

100214

INDUSTRIAL
CORROSION
MANAGEMENT
INCORPORATED
1152 ROUTE 10, RANDOLPH, NEW JERSEY 07869 201-584-0330

NJDEP Certified Drinking Water/Wastewater
Laboratory ID #14116

REPORT DATE: January 11, 1985

LAB # 37172

CLIENT: DAN RAVIV ASSOC. PROJECT: Dave Copeland SAMPLE ID: BCSW-1 P.O. #84C212

SAMPLE DATE: 12/27/84 SAMPLED BY: Raviv Assoc. AT LAB DATE: 12/31/85

100215

WATER SAMPLE

VOLATILE ORGANICS BY PURGE AND TRAP
GAS CHROMATOGRAPHY

Compounds detected in parts per billion (micrograms/liter)

CHLOROMETHANE		1,2-DICHLOROPROPANE	
BROMOMETHANE		*[c-1,3-DICHLOROPROPENE	
VINYL CHLORIDE		t-1,3-DICHLOROPROPENE	
CHLOROETHANE		TCE (TRICHLOROETHYLENE)	
METHYLENE CHLORIDE		*[1,1,2-TRICHLOROETHANE	
ACETONE		*[DIBROMOCHLOROMETHANE	
1,1-DICHLOROETHYLENE		BENZENE	
1,1-DICHLOROETHANE **		DIISOPROPYL ETHER	
t-1,2-DICHLOROETHYLENE		2-CHLOROETHYLVINYL ETHER	
CHLOROFORM		BROMOFORM	
1,2-DICHLOROETHANE		1,1,2,2-TETRACHLOROETHANE	
t-BUTYL METHYL ETHER		PCE (TETRACHLOROETHYLENE)	
1,1,1-TRICHLOROETHANE		TOLUENE	
CARBON TETRACHLORIDE		CHLOROBENZENE	
BROMODICHLOROEMETHANE		ETHYLBENZENE	

*Compounds co-elute (Could be either material).

**Tetrahydrofuran & Phosgene also elute at this point. Numerical results are calculated for 1,1-Dichloroethane only.

LT=Less Than
GT=Greater Than

X For the above listed Volatile Pollutants, nothing detected at a sensitivity level of 1 ppb.

_____ Unknown peaks detected (Retention time, estimated amount) _____

NOTE: Compound identification is based upon retention time matches with specific known standards. Confirmation of analysis using GC/MS is required to positively identify any material and/or amount detected.

INDUSTRIAL CORROSION MANAGEMENT INCORPORATED
1152 ROUTE 10, RANDOLPH, NEW JERSEY 07869 201-584-0330

NJDEP Certified Drinking Water/
Wastewater Laboratory ID # 14116

REPORT DATE: January 11, 1985

LAB # 37165-B of AB

CLIENT: DAN RAVIV ASSOCIATES P.O. #84C212

SAMPLE SOURCE: DAVE COPELAND SAMPLE ID: BCT-11

SAMPLE DATE: 12/27/84 · SAMPLED BY: Raviv Assoc AT LAB DATE: 12/31/84

WATER SAMPLE

ANALYSIS

Parameter	Result	Duplicate
TOC	5.35	5.40
COD	11.2	

All results are reported in mg/l (ppm), unless otherwise stated.

INDUSTRIAL CORROSION MANAGEMENT, INC.

Edwin Tichenor
Vice President

ET/jmg

LT=Less Than

100216

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF WATER RESOURCES

TRENTON, NEW JERSEY 08625

(In the matter of alleged violations of N.J.A.C.)
(7:26-1 et seq. by Emmell's Cesspool Service at)
(its solid waste disposal facility located at) DEPARTMENTAL ORDER
(Block 904, Lots 5 and 6, Galloway Township,)
(Atlantic County, NJ, 0111F)

WHEREAS, Emmell's Cesspool Service operates a disposal site located at Block 904, Lots 5 and 6, Galloway Township, Atlantic County, New Jersey, and

WHEREAS, on ---- Emmell's Cesspool Service disposal operation was observe by a representative of the Department of Environmental Protection to be in violation of N.J.A.C. 7:26-1 et seq. as follows:

N.J.A.C. 7:26-2.4 - Emmell's Cesspool Service engaged in the disposal of solid waste and failed to submit engineering designs to the Bureau for revie

N.J.A.C. 7:26-2.6.1.1 - The investigation disclosed that Emmell's Cesspool Service engaged in the disposal of human fecal material and allowed said material to be lagooned.

NOW, THEREFORE, under the authority of N.J.S.A. 13:1E-1 et seq., Emmell's Cesspool Service IS HEREBY ORDERED to correct the aforementioned violations by April 19, 1976. so as to comply with N.J.A.C. 7:26-1 et seq.

NOW, THEREFORE, Emmell's Cesspool Service IS HEREBY NOTIFIED that:

Violation of N.J.A.C. 7:26-1 et seq. is punishable in accordance with N.J.S.A. 13:1E-9 by a maximum penalty of $1,000 per day.

DATED February 19, 1976

Beatrice S. Tylutki, Director
Solid Waste Administration

100217

Attachment C-11

COPELAND SURVEYING INC.

LICENSED IN NEW JERSEY AND PENNSYLVANIA

34 North Albany Avenue ▫ Atlantic City, New Jersey 08401 ▫ 609-348-8761

April 23, 1985

Mr. Anthony J. McMahon, Bureau Chief
E.C.R.A.
N.J. D.E.P.
CN 028
Trenton, N.J. 08625

RE: Zurich Ave. Property
Pomona, N.J.

Dear Tony,

Enclosed are the lab reports of field samples taken from a property I was considering purchasing.

A further report should be forthcoming from my consultant.

Sincerely Yours,
Copeland Surveying, Inc.

David C. Copeland

David C. Copeland, President

DCC/ds

100218

Attachment D 8

ATLANTIC COUNTY
DEPARTMENT OF HEALTH AND INSTITUTIONS
DIVISION OF PUBLIC HEALTH
201 SOUTH SHORE ROAD
NORTHFIELD, N.J. 08225
(609) 645-7700
(TTY: 348-5551)

June 12, 1985

Ms. Helen Kornitas
NJ Dept. of Environmental Protection
Division of Waste Management
65 Prospect Avenue
Trenton, New Jersey 08618

Re: Emmell's Landfill
Galloway Township

Dear Helen,

Pursuant to your request for information on recreational water use within a three mile radius of the above referenced site:

Morses Mill Stream empties into Mill Pond and Nacote Creek which has a bathing beach in Port Republic and which is also used extensively for boating and fishing.

Additionally, some of the lakes on the campus of Stockton State College are used for swimming.

I am also enclosing a copy of a recent letter which you may not have received, as it was sent to your old address.

Let me know if I can be of any further assistance.

Sincerely,

Tracye McArdle
Sr. Environmental Planner

Enclosure

cc: File 1668

TMcA:dc

100219

Attachment E 83

ATLANTIC COUNTY
DEPARTMENT OF HEALTH AND INSTITUTIONS
DIVISION OF PUBLIC HEALTH
201 SOUTH SHORE ROAD
NORTHFIELD, N.J. 08225
(609) 645-7700
(TTY: 348-5551)

June 6, 1985

Ms. Helen Cornidiss
NJ Dept. of Environmental Protection
Division of Water Resources
HSMA
1911 Princeton Avenue
Trenton, New Jersey 08625

Re: Emmell's Landfill
Galloway, Atlantic County

Dear Ms. Cornidiss:

This letter is to reiterate the details of our phone conversation of June 5.

In addition to the ECRA office addressing issues related to transfer of ownership of the property, HSMA will also be conducting a site evaluation with a possible scoring for Superfund.

The PCB data to which you referred was prepared by Dan Raviv and Associates of West Orange in December 1984 for a prospective buyer and is available from the ECRA office. The material that I have does not indicate that background samples were taken.

To the best of my knowledge, no testing was done in October 1984. In my letter to Joseph Goliszewski (May 3, 1985) the reference to "October 1984" sampling should have read "June 1984."

I emphasized the need for groundwater evaluation at the site and expressed the opinion that the two existing wells may not be sufficient to make such an evaluation if groundwater flow in the area follows the regional southeast direction. I have also enclosed herein a copy of our most recent correspondence with Tony MacMahon expressing additional concerns of the County in this case.

I requested that you keep us posted on the matter and that we have the opportunity to join you in any site inspections.

Please let me know if the County can be of any further assistance. My direct extension is 645-7700, ext. 4359.

Very truly yours,

Tracye M. McArdle

Tracye M. McArdle
Sr. Environmental Planner

enclosures
cc: Al Pleva
File 1668

100220

84

Stockton State College

Pomona, New Jersey 08240 (609) 652-1776

100221

June 13, 1985

New Jersey Department of Environmental Protection
65 Prospect Street
Trenton, NJ 08618

ATTENTION: Helen Kornitas, HSMA

Gentlemen:

Per our conversation of June 12, the following information is presented in response to your questions concerning our potable water system.

Stockton State College has two wells that penetrate the Cohansey Aquifer to a depth of approximately 150 feet. Based on calendar year 1984 records, the College diverted an average of 52,000 gallons per day from each well for a total of 104,000 gallons per day.

Population levels on campus are as follows:

1. September through May - 5,600 persons a day of which 1,550 live in campus housing while 4,050 are commuters made up of students, faculty and staff.

2. June through August - 2,500 persons per day of which 500 reside on campus while the remaining 2,000 are commuting students, faculty and staff.

Hopefully this answers your questions. If further information is required please feel free to call.

Thank you.

Sincerely,

Bart Presti

Bart Presti
Engineer in Charge of Maintenance I

f
CC: Water Plant Correspondence File

Attachment F 85

ATLANTIC COUNTY
DEPARTMENT OF HEALTH AND INSTITUTIONS
DIVISION OF PUBLIC HEALTH
201 SOUTH SHORE ROAD
NORTHFIELD, NJ 08225
(609) 645-7700
(TTY 348-5551)

JOSEPH AIELLO
PUBLIC HEALTH OFFICER

June 4, 1985

Mr. Anthony MacMahon
Bureau of Industrial Site Evaluation
NJ Dept. of Environmental Protection
Division of Waste Management
32 E. Hanover Street
CN 028
Trenton, New Jersey 08625

Re: Emmell's Landfill
Block 650 Lot 7-9
Galloway Township

Dear Mr. MacMahon:

Thank you for the ICM data from the above-referenced property.

Our office would appreciate the opportunity to review and comment upon any clean-up and monitoring proposals for the property. We also request joint site inspections.

The County is seriously concerned over the fact that this site has been under State investigation for five years with minimal action taken. We are optimistic that the environmental concerns at this site will finally be addressed through the ECRA process. Please let me know if our office can be of any assistance or can provide you with additional information on the site.

Our only concern is that the current prospective buyer may decide not to follow through with the purchase. With no firm commitment of sale, the owners may choose not to submit an ECRA application. Should this occur, it is imperative that action not be further delayed in this case.

Thank you for your attention in this matter.

Very truly yours,

Tracye M. McArdle

Tracye M. McArdle
Sr. Environmental Planner

TMMcA:dc

100222

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State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

SOLID WASTE ADMINISTRATION
TRENTON, 08625

BEATRICE S. TYLUTKI
DIRECTOR

NOTICE OF PROSECUTION

(Emmell's Cesspool Service)
(R. D. #1, Zurich Avenue)
(Egg Harbor, New Jersey 08215)

Violation Occurred On Premises Known As:

Emmell's SWDA, ID # 0111F, Zurich Avenue
Block: 904, Lots: 5, 6, Galloway Township
Atlantic County P-410

Dear Sir:

Investigation by this Department on July 27, 1979 disclosed violations of N. J. Administrative Code 7:26-2.6.1.1 and 2.2.4. The maximum penalty that may be levied for each violation is $3,000 per day.

The Solid Waste Administration will withhold prosecution until October 5, 1979 to allow for settlement of a claim for a penalty against you in the amount of $1000. Should you desire to settle your claim, payment must be made on or before this date by money order or check drawn to the order of Treasurer, State of New Jersey.

The violations of N.J.A.C. 7:26-2.6.1.1 and 2.2.4 are to be corrected immediately.

In the event payment is not received and the violations are not corrected by the indicated dates, this matter will be referred to the Office of the Attorney General for prosecution.

N.J.A.C. 7:26-2.6.1.1 - The investigation disclosed that Emmell's Cesspool Service engag in the disposal of solid waste on the above mentioned premises and allowed septic waste to be ponded on said premises rather than discing the waste into the soil as required.

N.J.A.C. 7:26-2.2.4 - The investigation disclosed that Emmell's Cesspool Service engag in the disposal of solid waste on the above mentioned premises and failed to comply with the conditions and limitations set for in the operational approval issued January 17, 1978; specificall failure to maintain a dike to the rear of the premises to preven septic runoff into the wooded area adjacent to the disposal area

September 5, 1979
DATE

Beatrice S. Tylutki, Director
Solid Waste Administration

100223

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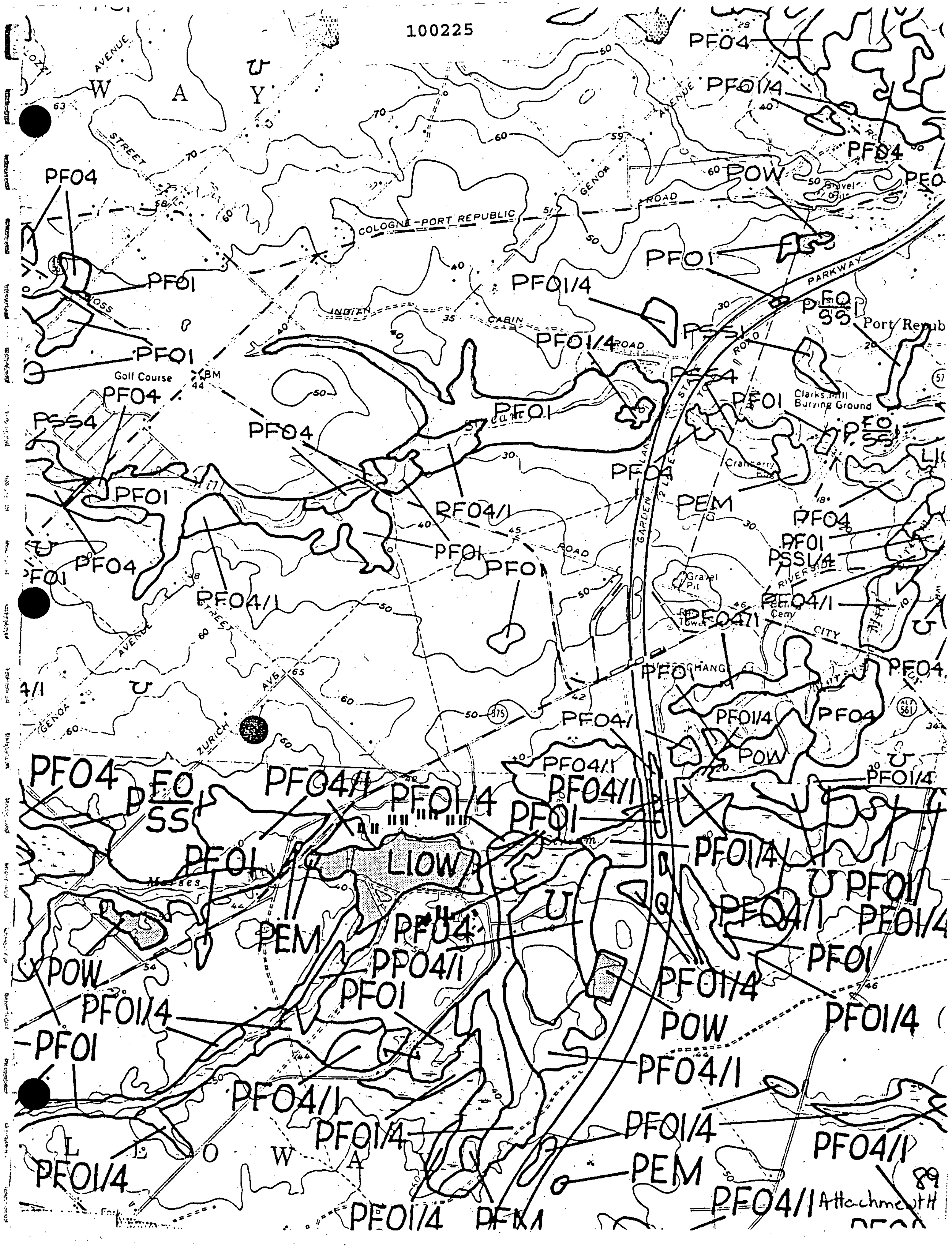
Attachment G

Miscellaneous Information



89
Attachment H

b. Identify any materials buried on-site;

c. Identify any materials which have leaked or spilled from drums or other containers;

d. A schedule to excavate and remove all chemical waste from the site to an authorized special waste facility within 30 days of receipt of this Order; and

3. Within 30 days of receipt of this Order:

a. Excavate and remove all chemical waste from the above captioned property to an authorized special waste facility;

b. Excavate and remove all chemical materials which have leaked or spilled from containers of materials stored at the above location;

c. Repackage any container which fails to hold its contents so as to prevent any spillage.

4. All containers are to be properly labeled and all shipments of chemical waste materials are to be accompanied by the appropriately completed special waste manifest; and

5. All shipments of waste must be hauled by a properly registered collector/hauler.

6. Notify the Solid Waste Administration within 24 hours before any specific time of any shipments.

Failure to comply with all of the requirements of this Notice of Prosecution and/or failure to make timely payment of penalties identified above will precipitate immediate referral of this matter to the Office of the Attorney General to seek maximum penalties allowed by law.

April 29, 1980
DATE

George J. Tyler
George J. Tyler, Director
Division of Environmental Quality

GC

100227

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF ENVIRONMENTAL QUALITY
JOHN FITCH PLAZA, CN 027, TRENTON, N. J. 08625
SOLID WASTE ADMINISTRATION

NOTICE OF PROSECUTION

(WILLIAM AND EARL EMMEL)
(1003 FOLSOM AVENUE)
(MAYS LANDING, NEW)
(JERSEY 08330)

Violations Occurred on Premises Known As:

Block 650, Lot 7, Township of Galloway, County of Atlantic, New Jersey

Dear Sir:

Investigation by this Department on January 25, 1980, disclosed violations of the New Jersey Administrative Code 7:26-1 et seq. The maximum penalty that may be levied for each violation is $3,000 per day.

Prosecution is being withheld until May 29, 1980 for settlement of a claim for a penalty against you in the amount of $2,000. Should you desire to settle your claim, payment must be made on or before this date by money order or check drawn to the order of Treasurer, State of New Jersey.

N.J.A.C. 7:26-2.2(b) ($1,000) The investigation disclosed that William & Earl Emmel engaged in the disposal of solid waste, specifically chemical waste, on the above mentioned premises without having first obtained an approved registration statement from the Department.

N.J.A.C. 7:26-2.2(c) ($1,000) The investigation disclosed that William & Earl Emmel engaged in the disposal of solid waste, specifically chemical waste, on the above mentioned premises without having first submitted an engineering design and obtained approval of same from the Department.

FURTHERMORE, William & Earl Emmel is HEREBY ORDERED to:

1. Immediately cease all waste storage, processing and disposal activities.

2. Within 14 days of receipt of this Order, submit the following information to the Solid Waste Administration:

   a. Total number of containers, volumes and contents on-site;

b. Identify any material

c. Identify any material from drums or other c

d. A schedule to excavat from the site to an a within 30 days of rec

3. Within 30 days of receipt

a. Excavate and remove a captioned property to

b. Excavate and remove a leaked or spilled fro at the above location

c. Repackage any contain so as to prevent any

4. All containers are to be of chemical waste materia appropriately completed s

5. All shipments of waste mu collector/hauler.

6. Notify the Solid Waste Ac any specific time of any

Failure to comply with all of the Prosecution and/or failure to mak above will precipitate immediate r of the Attorney General to seek ma

April 29, 1980
DATE

100228

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b. Identify any materials buried on-site;

c. Identify any materials which have leaked or spilled from drums or other containers;

d. A schedule to excavate and remove all chemical waste from the site to an authorized special waste facility within 30 days of receipt of this Order; and

3. Within 30 days of receipt of this Order:

a. Excavate and remove all chemical waste from the above captioned property to an authorized special waste facility;

b. Excavate and remove all chemical materials which have leaked or spilled from containers of materials stored at the above location;

c. Repackage any container which fails to hold its contents so as to prevent any spillage.

4. All containers are to be properly labeled and all shipments of chemical waste materials are to be accompanied by the appropriately completed special waste manifest; and

5. All shipments of waste must be hauled by a properly registered collector/hauler.

6. Notify the Solid Waste Administration within 24 hours before any specific time of any shipments.

Failure to comply with all of the requirements of this Notice of Prosecution and/or failure to make timely payment of penalties identified above will precipitate immediate referral of this matter to the Office of the Attorney General to seek maximum penalties allowed by law.

April 29, 1980
DATE

George J. Tyler
George J. Tyler, Director
Division of Environmental Quality

100229

NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION

MEMO

TO Dave Potts, DH then file

FROM Charles Elmendorf DATE 7/18/83

SUBJECT Emmells Septic Landfill

On 7/18/83, the writer received a call from Barbara Emmel, Earl Emmell Sr.'s wife (927-3339). Mrs. Emmell provided the following information:

In about 1967, William Emmell, Jr. bought the land in question from John Heinz. The site was operating as a septic landfill from about 1967 to 1978. She said that the paint drums were at the site when William Emmell, Jr. bought the property.

The gas cylinders contained acetylene or oxygen, according to Mrs. Emmell and will be returned to the supplier, she added that they were empty.

The wood and other construction debris according to Mrs. Emmell, was being stored at the site for firewood. Mrs. Emmell was advised that the property must be completely cleaned up in order to be in compliance with the NOP issued April 1980. She seemed anxious to comply and clean the site up as the property is supposed to be sold on August 15, 1983. She was advised that the paint sludge would probably be classified as either ID#27 or ID#18.

She was referred to Trisha Ferrand, Atlantic County Solid Waste Coordinator to find an acceptable disposal site for this waste type.

Mrs. Emmell was advised that a representative from the Department must be present during clean-up of the site. She said she would call this office when a date for clean-up is set.

Since the site was once a septic sludge disposal site and no recent groundwater samples from the site have been analyzed, it is recommended that DWR be notified of the case for possible well-water sampling.

Mrs. Emmell said that she thought the County Health Department was going to sample the wells on-site. Currently, however, there is no electric service at the site. The pumps on the wells cannot be run to obtain a sample.

The writer will oversee clean-up of this site to document complete clean-up and prope disposal of the material.

Charles Elmendorf
Environmental Specialist

CE:lk
cc:file

100230

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100231

VSW 004

NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION BUREAU OF SOLID WASTE MANAGEMENT P.O. BOX 2807 TRENTON, N.J. 08625	REGISTRATION STATEMENT FOR A SOLID WASTE FACILITY

Section A

INSTRUCTIONS – Read Carefully **Type or Print Only**

1. Corrections to Section B are to be made in Section C. New applicants start in Section C.
2. Answer all questions on this and Operational Statement for a Solid Waste Facility.
3. Submit fee payable to "Treasurer, State of New Jersey". Refer to N.J.A.C. 7:26-4 for fee.
4. Send all completed forms and fee to:

   New Jersey State Department of Environmental Protection
   Bureau of Solid Waste Management
   P.O. Box 2807 Trenton, New Jersey 08625

RECEIVED JUN 23 2 24 PM '75 NJ STATE DEPT OF ENV PROTECTION DIV OF ENV QUALITY

Section B

1. Registration Number — Telephone Number
2. Applicant's Name
3. Company or Trade Name
4. Street Address
5. City — State — Zip Code

Note – Above information was given by you last year. If corrections are to be made, correct the entire invalid line in Section C, below. If there are no corrections, go to Section D.

Section C

Corrections to Section B or New Applicants. Enter corrections on proper lines.

1. Registration Number ..... Telephone No.	1. 0111F 609-965-0560
2. Applicants Name (Last First Init.)	2. Emmell, Wm. Jr.
3. Company or Trade Name	3. Emmell's Cesspool Service
4. Street Address	4. R.D.#1, Zurich Ave.
5. City State Zip Code	5. Egg Harbor, N.J. 08215

Section D

1. Person having prime administrative authority or person to be contacted in an emergency.

   1A. Name → Emmell (LAST), Jr., Wm. (FIRST INIT.)

   1B. Area Code – Telephone Number → 609-965-0560

2. Check your type Organization. **(Check only One)**

→ 2A. ☐ Proprietor
2B. ☑ Partnership
2C. ☐ Incorporated
2D. ☐ Municipality
2E. ☐ County
2F. ☐ Unit of State Government
2G. ☐ Authority
2H. ☐ Other (Explain on Separate Sheet

Section E

1. Solid Waste Facility Data

   1A. Facility Name → Emmell's Cesspool Service
   1B. Facility Street Address → Box 163B, R.D. 1, Zurich Ave.
   1C. Facility Municipality/City → Galloway Twp.
   1D. Facility County → Atlantic

2. Estimated Remaining Life of this Facility. **(Answer All)**

   2A. Years → 99
   2B. Tons → 99999,000
   2C. Acre/Feet →

FOR OFFICE USE

→ 3. This property is ☑ Owned or ☐ Leased by Applicant?
   If Leased complete 3A thru 3C.

   3A. Owner's Name → Emmell, Jr. (LAST) Wm. (FIRST) (INIT.)
   3B. Owner's Address → Box 163B, R.D. 1,
   3C. Owner's City State Zip → Egg Harbor, N.J. 08215

4. Licensed by Public Utilities Commission → ☑ Yes ☐ No
   If "Yes" give License Number → 713R-759

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VSW 005

NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF SOLID WASTE MANAGEMENT
P.O. BOX 2807 TRENTON, N.J. 08625

OPERATIONAL STATEMENT FOR A SOLID WASTE FACILITY

INSTRUCTIONS: **READ CAREFULLY** **PRINT OR TYPE**

1. Enter your Registration Number from Section B, Line 1 or if new/corrected from Section C, Line 1 of the Registration Statement, on each side of this form.
2. Enter tonnage for solids and gallons for liquids of wastes disposed of at your site for the period January 1, 1974 to December 31, 1974.
3. Enter tonnage for solids and gallons for liquids for all reclaimed materials for the period January 1, 1974 to December 31, 1974 on reverse.
4. Make entries to nearest whole ton or gallon and enter totals.

Enter your Registration Number Here → 0111 F

A. Disposed Wastes

WASTE ID.	SOLIDS	TONS
10.	Municipal (Household, Commercial)	
11.	Institutional	
12.	Dry Sewage Sludge	
13.	Bulky Waste	
14.	Construction and Demolition	
15.	Pesticides – Dry	
16.	Hazardous Waste Containers	
17.	Hazardous Waste – Dry	
18.	Chemical Waste – Dry – Non Hazardous	
19.	Junked Autos	
20.	Tires	
21.	Dead Animals	
22.	Leaves and Chopped Tree Waste	
23.	Agriculture Vegetative Waste	
24.	Tree Stumps	
25.	Food Processing Wastes	
26.	Oil Spill Clean-Up Wastes	
27.	Industrial (Non Chemical)	
	Total Disposed Solids	Tons

WASTE ID.	LIQUIDS	GALLONS
70.	Waste Oil	
71.	Semi Solid Waste Oils and Sludges	
72.	Bulk Liquid and Semi Liquids	26,000
73.	Septic Tank Clean-Out Wastes	130,000
74.	Liquid Sewage Sludge	
75.	Pesticide Liquids	
76.	Hazardous Waste Liquids	
77.	Chemical Waste Liquids	
	Total Disposed Liquids	156,000 Gals

FOR OFFICE USE ONLY

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100232

100233

Section F

1. Enter your Registration Nu... from Section B, Line 1 or if new/corre... om Section C, Line 1.

Enter Here → 0111F

2. Nature of Operation. **(CHECK THE APPLICABLE ITEM. If more than one operation, complete a separate application for each.)**

→ 2A. [X] Sanitary Landfill
2B. [ ] Incinerator
2C. [ ] Composting Facility
2D. [ ] Chemical Processing and Treatment
2E. [ ] Resource Recovery
2F. [ ] Transfer Station
2G. [X] Other (Explain on Separate Sheet) Septic Waste Disposal Area

3. Check all types of waste requested for disposal at site.

→ WASTE ID.		SOLIDS	For Office Use Only
10.	[ ]	Municipal (Household, Commercial)	10.
11.	[X]	Institutional	11.
12.	[ ]	Dry Sewage Sludge	12.
13.	[ ]	Bulky Waste	13.
14.	[ ]	Construction and Demolition	14.
15.	[ ]	Pesticides – Dry	15.
16.	[ ]	Hazardous Waste Containers	16.
17.	[ ]	Hazardous Waste – Dry	17.
18.	[ ]	Chemical Waste – Dry – Non Hazardous	18.
19.	[ ]	Junked Autos	19.
20.	[ ]	Tires	20.
21.	[ ]	Dead Animals	21.
22.	[ ]	Leaves and Chopped Tree Waste	22.
23.	[ ]	Agriculture Vegetative Waste	23.
24.	[ ]	Tree Stumps	24.
25.	[ ]	Food Processing Wastes	25.
26.	[ ]	Oil Spill Clean-Up Wastes	26.
27.	[ ]	Industrial (Non Chemical)	27.
		LIQUIDS	
70.	[ ]	Waste Oil	70.
71.	[ ]	Semi Solid Waste Oils and Sludges	71.
72.	[✓]	Bulk Liquid and Semi Liquids	72.
73.	[✓]	Septic Tank Clean-Out Wastes	73.
74.	[ ]	Liquid Sewage Sludge	74.
75.	[ ]	Pesticide Liquids	75.
76.	[ ]	Hazardous Waste Liquids	76.
77.	[ ]	Chemical Waste Liquids	77.

4. FEES MUST BE SUBMITTED BY CERTIFIED CHECK OR MONEY ORDER – PAYABLE TO "TREASURER, STATE OF NEW JERSEY" REFER TO N.J.A.C. 7:26-4 FOR FEE SCHEDULE.

Enter Amount Enclosed → $ 250.00

5. I certify that the information submitted on both sides of this form and all attachments are true to the best of my knowledge.

→ Date 6/17/75 Signature [signature] Title Partner

For Office Use Only

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100234

Enter your Registration Number Here → 0111F

B. Reclaimed Wastes

WASTE ID.	SOLIDS		TONS
50.	Ferrous Metals	50.	
51.	Non-Ferrous Metals	51.	
52.	Newsprint	52.	
53.	Corrugated	53.	
54.	Other Paper Products	54.	
55.	Glass	55.	
56.	Chemicals – Dry	56.	
57.	Plastics	57.	
58.	Tires	58.	
59.	Junked Autos	59.	
	Total Reclaimed Solids		Tons

WASTE ID.	LIQUIDS		
90.	Oil	90.	
91.	Chemical Solvents	91.	
92.	Other Chemical Liquids	92.	
	Total Reclaimed Liquids		Gals.

Send this Form, Registration Statement and Fee to:

New Jersey State Department of Environmental Protection
Bureau of Solid Waste Management
P.O. Box 2807 Trenton, N.J. 08625

FOR OFFICE USE ONLY

Status of Engineering Design

- ☐ 1. Under Review
- ☐ 2. Approved
- ☐ 3. Disapproved

6-17-75
DATE

SIGNATURE

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NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF SOLID WASTE MANAGEMENT
P.O. BOX 2807, TRENTON, N.J. 08625

(Form SWM-004 - 1/76)

REGISTRATION STATEMENT FOR A SOLID WASTE FACILITY

Section A

INSTRUCTIONS — Read Carefully — Type or Print Only

1. Corrections to Section B are to be made in Section C. New applicants start in Section C.
2. Answer all questions on this and Operational Statement for a Solid Waste Facility.
3. Submit fee payable to: Treasurer, State of New Jersey. Refer to N.J.A.C. 7:26-3 for fee.
4. Send all completed forms and fee to:
   New Jersey State Department of Environmental Protection
   Bureau of Solid Waste Management
   P.O. Box 2807, Trenton, New Jersey 08625

RECEIVED
MAY 21 2 53 PM '76
N.J. STATE DEPT OF ENV. PROTECTION
DIV. OF ENV. QUALITY

Section B

1. 0111F 609-965-0560
2. EMMELL JR WM
3. EMMELL'S CESSPOOL SERVICE
4. R.D.#1 ZURICH AVE.
4. ZURICH AVE
5. EGG HARBOR NJ 08215

1. Registration Number — Telephone Number
2. Applicant's Name
3. Company or Trade Name
4. Street Address
5. City — State — Zip Code

Note — Above information was given by you last year. If corrections are to be made, correct the entire invalid line in Section C, below. If there are no corrections, go to Section D.

Section C

Corrections to Section B or New Applicants: Enter corrections on proper lines. New Applicants should leave Registration Number Blank.

1. Registration Number — Telephone No.
2. Applicants Name (Last — First — Init.)
3. Company or Trade Name
4. Street Address
5. City — State — Zip Code

1. 0111F — 609 965 0560
2. EARL L. EMMELL SR.
3. EMMELL'S CESSPOOL SERVICE
4. R.D.#1 ZURICH AVE.
5. EGG HARBOR N.J. 08215

Section D

1. Person having prime administrative authority or person to be contacted in an emergency.
   1A. Name → EMMELL (LAST) SR. EARL (FIRST) L. (INIT.)
   1B. Area Code — Telephone Number → 609 965 0560
2. Check your type Organization. (Check only One)
   2A. [X] Proprietor — 2B. [ ] Partnership
   2C. [ ] Incorporated — 2D. [ ] Municipality
   2E. [ ] County — 2F. [ ] Unit of State Government
   2G. [ ] Authority — 2H. [ ] Other (Explain on Separate Sheet)

Section E

1. Solid Waste Facility Data
   1A. Facility Name → EMMELL'S SEPTIC DISPOSAL DUMP
   1B. Facility Street Address → ZURICH AVE.
   1C. Facility Municipality/City → GALLOWAY TWP. POMONA
   1D. Facility County → ATLANTIC
2. Estimated Remaining Life of this Facility. (Answer All)
   2A. Years → 98
   2B. Tons → 0
   2C. Acre/Feet → 40
3. This property is [X] Owned or [ ] Leased by Applicant?
   If Leased complete 3A thru 3C.
   3A. Owner's Name → (LAST) (FIRST) (INIT.)
   3B. Owner's Address →
   3C. Owner's City — State — Zip →
4. Licensed by Public Utilities Commission → [ ] Yes [X] No
   If "Yes" give License Number →

FOR OFFICE USE

100235

NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF SOLID WASTE MANAGEMENT
P.O. BOX 2807, TRENTON, N.J. 08625
Form VSW-005 - 1/76

OPERATIONAL STATEMENT FOR A SOLID WASTE FACILITY

INSTRUCTIONS: READ CAREFULLY PRINT OR TYPE

1. Enter your Registration Number and Name from Section B, or if new, enter only name from Registration Statement, on each side of this form.
2. Enter tonnage for solids and gallons for liquids of wastes disposed of at your site for the period January 1, 1975 to December 31, 1975.
3. Enter tonnage for solids and gallons for liquids for all reclaimed materials for the period January 1, 1975 to December 31, 1975 on reverse.
4. Make entries to nearest whole ton or gallon and enter totals.

B. ENTER YOUR NAME HERE → EARL L. EMMELL SR. Name

ENTER YOUR REGISTRATION NUMBER HERE → 0821-0111F

A. Disposed Wastes

→ WASTE ID.	SOLIDS	TONS
10.	Municipal (Household - Commercial)	
11.	Institutional	
12.	Dry Sewage Sludge	
13.	Bulky Waste	
14.	Construction and Demolition	
15.	Pesticides – Dry	
16.	Hazardous Waste Containers	
17.	Hazardous Waste – Dry	
18.	Chemical Waste – Dry – Non Hazardous	
19.	Junked Autos	
20.	Tires	
21.	Dead Animals	
22.	Leaves and Chopped Tree Waste	
23.	Agriculture Vegetative Waste	
24.	Tree Stumps	
25.	Food Processing Wastes	
26.	Oil Spill Clean-Up Wastes	
27.	Industrial (Non Chemical)	
	Total Disposed Solids	Tons

Check your type of organization (Check only One)

→ WASTE ID.	LIQUIDS	GALLONS
70.	Waste Oil	
71.	Semi Solid Waste Oils and Sludges	
72.	Bulk Liquid and Semi Liquids	
73.	Septic Tank Clean-Out Wastes	50,000
74.	Liquid Sewage Sludge	570,000
75.	Pesticide Liquids	
76.	Hazardous Waste Liquids	
77.	Chemical Waste Liquids	
	Total Disposed Liquids	620,000 Gals.

FOR OFFICE USE ONLY

100236

Section F

Form VSW-004

1. Enter your Registration Nu from Section B, Line 1. 0111E

ENTER HERE

2. Nature of Operation. (Check the Application Item. If more than one operation, complete a separate application for each.)

2 A. [X] Sanitary Landfill
2 B. [ ] Incinerator
2 C. [ ] Composing Facility
2 D. [ ] Chemical Processing and Treatment
2 E. [ ] Resource Recovery
2 F. [ ] Transfer Station
2 G. [ ] Other (Explain on Separate Sheet)

~~SEPTIC TANK CLEAN OUT AND LIQUID SEWAGE SLUDGE DISPOSAL DUMP~~

2.1 List lot and block numbers where operation is located.

LOT # 5&6 BLOCK #904

3. Check all types of waste requested for disposal at site.

WASTE ID.		SOLIDS	For Office Use Only
10.	[ ]	Municipal (Household, Commercial)	10.
11.	[ ]	Institutional	11.
12.	[ ]	Dry Sewage Sludge	12.
13.	[ ]	Bulky Waste	13.
14.	[ ]	Construction and Demolition	14.
15.	[ ]	Pesticides – Dry	15.
16.	[ ]	Hazardous Waste Containers	16.
17.	[ ]	Hazardous Waste – Dry	17.
18.	[ ]	Chemical Waste – Dry – Non Hazardous	18.
19.	[ ]	Junked Autos	19.
20.	[ ]	Tires	20.
21.	[ ]	Dead Animals	21.
22.	[ ]	Leaves and Chopped Tree Waste	22.
23.	[ ]	Agriculture Vegetative Waste	23.
24.	[ ]	Tree Stumps	24.
25.	[ ]	Food Processing Wastes	25.
26.	[ ]	Oil Spill Clean-Up Wastes	26.
27.	[ ]	Industrial (Non Chemical)	27.
		LIQUIDS	
70.	[ ]	Waste Oil	70.
71.	[ ]	Semi Solid Waste Oils and Sludges	71.
72.	[ ]	Bulk Liquid and Semi Liquids	72.
73.	[X]	Septic Tank Clean-Out Wastes	73. ~~SEPTIC OUT~~
74.	[X]	Liquid Sewage Sludge	74. ~~SEWAGE SLUDGE~~
75.	[ ]	Pesticide Liquids	75.
76.	[ ]	Hazardous Waste Liquids	76.
77.	[ ]	Chemical Waste Liquids	77.

For Office Use Only

100237

Form VSW-005 A 1/76

Enter your Registration Number Here → 0111F

B. Reclaimed Wastes

WASTE ID.	SOLIDS	TONS
50.	Ferrous Metals	
51.	Non-Ferrous Metals	
52.	Newsprint	
53.	Corrugated	
54.	Other Paper Products	
55.	Glass	
56.	Chemicals – Dry	
57.	Plastics	
58.	Tires	
59.	Junked Autos	
	Total Reclaimed Solids	Tons

WASTE ID.	LIQUIDS	
90.	Oil	
91.	Chemical Solvents	
92.	Other Chemical Liquids	
	Total Reclaimed Liquids	Gals.

I CERTIFY THAT THE INFORMATION SUBMITTED ON BOTH THE REGISTRATION AND THE OPERATIONAL STATEMENTS AND ALL ATTACHMENTS ARE TRUE TO THE BEST OF MY KNOWLEDGE.

→ DATE 4 29 76 SIGNATURE Earl L. Connell Sr. TITLE OWNER

Send this Form, Registration Statement and Fee to:

New Jersey State Department of Environmental Protection
Bureau of Solid Waste Management
P.O. Box 2807 Trenton, N.J. 08625

FOR OFFICE USE ONLY

Status of Engineering Design

- ☐ 1. Under Review
- ☐ 2. Approved
- ☐ 3. Disapproved

DATE SIGNATURE

100238

FORM 87

DEPARTMENT OF CONSERVATION
AND ECONOMIC DEVELOPMENT
DIVISION OF WATER POLICY & SUPPLY

W-37

Permit No. 36-362
Application No. _____
County _____

WELL RECORD

1. OWNER U.S.A.F. Facility, NAFEC F.I.S. Dispersal Unit ADDRESS Atlantic City, New Jersey
   Owner's Well No. _____ SURFACE ELEVATION _____ Feet (Above mean sea level)
2. LOCATION Tilton Road Near Pomona, Egg Harbor Twp., Atlantic County, New Jersey
3. DATE COMPLETED Feb. 4, 1965 DRILLER Ridpath and Potter Company
4. DIAMETER: top 16 Inches Bottom 8 Inches 16" O.D. TOTAL DEPTH 165 ~~42'-4"~~ Feet
5. CASING: Type Wrought Steel Diameter 8" Inches Length 138'6" Feet
6. SCREEN: Type JOHNSON Size of Opening 150 ~~30~~ Diameter 8" Inches Length 30'-10" Feet
   Range in Depth { Top 130 Feet / Bottom 165 Feet } Geologic Formation Cohansey Sands
   Tail piece: Diameter None Inches Length _____ Feet
7. WELL FLOWS NATURALLY _____ Gallons per Minute at _____ Feet above surface
   Water rises to _____ Feet above surface
8. RECORD OF TEST: Date December 15, 1964 Yield 670 Gallons per minute
   Static water level before pumping 20 Feet below surface
   Pumping level 40 feet below surface after 16 hours pumping
   Drawdown 20 Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
   How Pumped D.W. Turbine Test Pump How measured Weir Box
   Observed effect on nearby wells None
9. PERMANENT PUMPING EQUIPMENT:
   Type 8L-15 7 Stage Mfrs. Name Worthington Corp.
   Capacity 150 G.P.M. How Driven Motor H.P. 15 R.P.M. 1750
   Depth of Pump in well 80 Feet Depth of Footpiece in well _____ Feet
   Depth of Air Line in well 80 Feet Type of Meter on Pump _____ Size _____ Inches
10. USED FOR _____ AMOUNT { Average _____ Gallons Daily / Maximum _____ Gallons Daily }
11. QUALITY OF WATER Good Sample: Yes _____ No. _____
    Taste _____ Odor _____ Color _____ Temp. _____ °F
12. LOG _____ Are samples available? _____
    (Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy)
13. SOURCE OF DATA _____
14. DATA OBTAINED BY _____ Date _____

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements etc.)

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LOG OF WELL 36-2-957

Project: F.I.S. Dispersal Unit
U. S. Air Force Facility, N.A.F.E.C.
Atlantic City, New Jersey

DEPTHS			FORMATION	
Surface	to	7 ft.	Brown Sand, Gravel and Clay	
7 ft.	to	9 "	Brown Clay	
9 "	to	12 "	Brown Sand	
12 "	to	20.5 "	Brown Sand	
20.5 "	to	23 "	Light Brown Sand w/little Gravel	
23 "	to	33 "	Light Brown Sand w/little Clay	
33 "	to	36 "	Brown Clay	
36 "	to	47 "	Brown Clay w/little Sand	
47 "	to	60 "	Light Brown Clay w/little Sand	
60 "	to	65 "	Brown Sand	
65 "	to	66 "	Gravel	
66 "	to	76 "	Coarse Sand	
76 "	to	86 "	Coarse Sand w/fine Gravel	
86 "	to	95 "	Hard Pan (followed by Grey Clay)	
95 "	to	97 "	Sand w/fine Gravel	
97 "	to	99 "	Coarse Sand and Gravel	
99 "	to	105 "	Sand w/fine Gravel	
105 "	to	110 "	Coarse Sand	
110 "	to	111 "	Hard Pan	
111 "	to	116.5 "	Coarse Sand	
116.5 "	to	131 "	Blue Clay	
131 "	to	138 "	Brown Sand	Water Bearing Formation (Cohansey Sands)
138 "	to	143 "	Coarse Brown Sand	
143 "	to	144 "	Dark Sand	
144 "	to	147 "	Coarse Sand	
147 "	to	154 "	Coarse Sand	
154 "	to	166 "	Coarse Sand	

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36-5-114

FORM 87-10M

DEPARTMENT OF CONSERVATION
AND ECONOMIC DEVELOPMENT
DIVISION OF WATER POLICY & SUPPLY

Permit No. 36-303 (corrected from new)
~~Application~~ File No. W-62
County _____

WELL RECORD

NATIONAL AIR FACILITIES EXPERIMENTAL CENTER

1. OWNER FEDERAL AVIATION AGENCY ADDRESS ATLANTIC CITY, N.J.
Owner's Well No. LAYNE #1 THEIR #3 SURFACE ELEVATION _____ Feet (Above mean sea level)

2. LOCATION EGG HARBOR TWP, ATLANTIC COUNTY, N.J.

3. DATE COMPLETED 8-10-60 DRILLER LAYNE-NEW YORK CO. INC

4. DIAMETER: top 12 Inches Botton 8 Inches TOTAL DEPTH 182 Feet

5. CASING: Type STEEL Diameter 12 Inches Length 154 Feet

6. SCREEN: Type STAINLESS STEEL Size of Opening SHUTTER Diameter 8 Inches Length 20 Feet

Range { Top 160 Feet / Bottom 180 Feet

Geologic Formation FINE TO COARSE BROWN & GRAY SAND & LIGHT GRAVEL

Tail piece. Diameter 12 Inches Length 2 Feet

7. WELL FLOWS NATURALLY _____ Gallons per Minute at _____ Feet above surface

Water rises to _____ Feet above surface

8. RECORD OF TEST: Date 8-4-60 Yield 200 Gallons per minute

Static water level before pumping 13 Feet below surface

Pumping level 21 feet below surface after 8 hours pumping

Drawdown 8 Feet Specific Capacity 25.7 Gals. per min. per ft. of drawdown

How Pumped GASOLINE ENGINE How measured ORIFICE

Observed effect on nearby wells _____

9. PERMANENT PUMPING EQUIPMENT:

Type _____ Mfrs. Name _____

Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____

Depth of Pump in well _____ Feet _____ Depth of Footpiece in well _____ Feet

Depth of Air Line in well _____ Feet _____ Depth of Meter on Pump _____

10. USED FOR FEDERAL EXPERIMENTAL LABORATORY AMOUNT Average _____ Gallons Daily

Maximum _____ Gallons Daily

11. QUALITY OF WATER _____ Sample: Yes ____ No. ____

Taste _____ Odor _____ Color _____ Temp. _____ °F

12. LOG SEE REVERSE SIDE Are samples available _____

(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy)

13. SOURCE OF DATA LAYNE-NEW YORK CO. INC

14. DATA OBTAINED BY LAYNE-NEW YORK CO. INC Date 1/10/62

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements etc.)

36-03-776
36-303

0-1' TOP SOIL & ROOTS
1'-4' YELLOW SANDY CLAY SOIL
4'-10' COARSE WHITE SAND & GRAVEL
10'-33' WHITE YELLOW & RED SOFT CLAY
33'-43' COARSE YELLOW SAND STRKS WHITE & YELLOW SANDY CLAY
43'-56' WHITE & YELLOW CLAY, STRKS SAND
56'-108' FINE TO COARSE WHITE SAND & GRAVEL STRK WHITE CLAY
108'-146' TOUGH BLUE CLAY, STRKS OF SANDY CLAY
46'-191' FINE TO COARSE BROWN & GRAY SAND & LIGHT GRAVEL

Form Swm-004

M E M O R A N D U M

State of New Jersey
Department of Environmental Protection

TO: File

INVESTIGATIVE REPORT

FROM: Cynthia Thompson

DATE: 3/31/82

SUBJECT: Emmell's SLF, ID # 0111F, Zurick Ave., Galloway Twp. - 1:00-2:00 p.m

This facility is registered for ID's 73 (septic) & 74 (garbage). It does not appear to be operating for septic waste. However, I have observed bulky waste being disposed of on site. There is evidence of landfilling - ie., partially buried refuse including some household garbage, tires scattered (and in several piles throughout the area, metal pieces also scattered - brush and wo piles, junk cars and empty and partially filled 55-gallon ruste metal drums. See Sketch. Pictures were taken. Samples were not taken due to heavy rainfall at the time of this inspection. However, there are approximately several gallons of blue-grey paint-type material spilled on the ground.

NOTE: This facility is currently listed as category 7 - the entire file has been referred to Water Resources.

Cynthia R. Thompson

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ADM-012

MEMO

NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION

TO David Potts DFW and HW/EF 01-11-06

FROM Charles Elmendorf DATE 4/11/83

SUBJECT Emmells

On 4/4/83, the writer met with Mike Ryan, DWR, at the Emmells Sanitary LF site in Galloway Twp. An earlier investigation of the site was conducted by the writer on 3/1/83 at which time photographs of the site were taken. A sample was taken from the ground on 3/8/83.

On 4/4/83, several holes were dug 3 ft. deep using a power auger. The holes were dug in random locations within the areas of drums, sludge and rubble in an effort to locate any buried waste. After digging in 10 or 15 locations, no waste or unusual odors were noted in the holes down to the 3 ft. level.

The only new findings resulting from this follow up were five or ten drums partially buried in a wooded area SE of the rubble piles. Some of these still had material in them. The only material noted in some of these drums appeared to be the same type of dried paint-like sludge sampled from the ground on 3/8/83 (CE #168).

All findings and recommendations remain as in report and memo of 3/1/83. It is further recommended that DWR be notified of past disposal practices at Emmells (ie registered septic landfill) and also of analytical results of CE #168. If the possibility of groundwater contamination exists, monitoring wells should be installed.

Charles Elmendorf
Env. Spec.

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HAZARDOUS WASTE INVESTIGATION HW/EF 01-11-06

Inspector: C. Elmendorf Date: 3/1/83 Time:1400

Location: Emmells Septic Telephone: 965-2787

St: 128 Zurich Ave. Property owner: William Emmell Jr.
c/o Earl Emmell Sr.
1003 Folsom
Mays Landing 965-2787

Town: Galloway Twp.

County: Atlantic

Lot: 7, 9 Block:650 Type Ownership: Individual

Origin of Complaint: Assignment

Complaint: Follow up investigation, check status of site.

Findings:

On 3/1/83, at approximately 1400, the writer arrived at the above site to ascertain whether or not any ongoing disposal was still taking place. Upon arrival at the site, no activity was noted. The property of concern is for sale through Focus Realty, 645-8010. The property consists of two adjacent lots, lots 7, 9 and total area is about 38 acres, according to tax records. The area which had obviously been dumped on is just off of Zurich Ave. and south of the house on site. See attached sketch.

Compared to the most recent inspection, on March 31, 1982, at which time inspector Thompson noted numerous tires, drums and cars, The site appeared to have been cleaned up to some extent.

There were roughly four areas of concentrated garbage, consisting mainly of household, bulky and demolition wastes, very few metal drums were noted, and these were empty or crushed. To the east of the rubble piles, about a dozen conpressed gas-type cylinders were noted lying on the ground. No legible markings could be seen on the cylinders. In the general area of the rubble piles, several small deposits of what appeared to be paint residues were noted. The material in question varied in color form bright blue to purple and had a consistency of hardened paint. On 3/8/83 the writer returned to the site and obtained a sample of the solid residue, assigned sample # CE168.

A below ground tank or pit was noted just north of the garage. This may have served as a septic tank but it could not be confirmed. A level of liquid was noted about 10' below ground level at the opening.

Subsequent to the site inspection, the law offices of Robert Boney were called at 653-1200. Jane Weather was contacted and explained that William Jr. and Pearl Emmell are both dead and an inheritance tax return was never filed so as far as the law office knows, the landowner never changed. The son of William Jr., Earl Sr., however, was legally appointed as administrator of the estate. Ms. Weathers gave Earl Sr.'s phone # as 927-6763, but when this # was called, a recording said the # had been changed and the new # is not listed.

Although the site had apparently been cleaned up to some degree, there still remains several piles of exposed rubble, the above noted gas cylinders, some residual dried paint-like material and the open pit or belowground tank. Photographs were taker of all mentioned areas.

100245

Charles Elmendorf, Env. Spec.

Lenimar Fuel
-0111F
(4)

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

SOLID WASTE ADMINISTRATION
TRENTON, 08625

BEATRICE S. TYLUTKI
DIRECTOR

January 17, 1978

Mr. William Emmell
Emmell's Cesspool Service
R. D. 1, Zurich Avenue
Egg Harbor, New Jersey 08215

Dear Mr. Emmell:

Recently, Walter Burshtin and Elaine Lustig of my staff visited your disposal site and met with the operator to discuss the lack of compliance with our requirement for engineering plans. Based on their report, I have decided that in your case engineering plans will not be required, provided that the following actions are taken:

1. The dike at the rear of your property must be repaired so that sludge does not flow into the wooded area and remain ponded.

2. Groundwater monitoring wells must be installed in order to see if any contamination has occurred from the sludge disposal. A geologist from our office will inspect your site to determine the number and location of these wells.

3. The type of waste will be limited to domestic septic tank waste, and a maximum weekly disposal volume will be set. (This amount may be more than you are presently taking and, therefore, would not affect your service.)

4. If contamination of groundwater is shown to exist, your site may very well be closed. This would depend in part on the extent of contamination and type of groundwater usage in your area.

Someone from this office will contact you about these requirements. If you have any questions before then, please contact Walter Burshtin (609-292-7744) or Elaine Lustig (609-292-9880).

Very truly yours,

Beatrice S. Tylutki

Beatrice S. Tylutki
Director
Solid Waste Administration

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Analytical Data

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WASTE MANAGEMENT
HAZARDOUS SITE MITIGATION ADMINISTRATION
CN 028, Trenton, N.J. 08625

MARWAN M. SADAT, P.E.
DIRECTOR

JORGE H. BERKOWITZ, PH.D.
ADMINISTRATOR

12 APR 1985

18 APR 1985

M E M O R A N D U M

TO: DR. MERRY MORRIS, CHIEF, BEERA

THROUGH: JOSEPH GOLISZEWSKI, ASSISTANT CHIEF, SEU

FROM: ALBERT PLEVA, SR. ENVIRONMENTAL SPECIALIST, SEU

SUBJECT: EMMELL'S SEPTIC SAMPLING, ATLANTIC COUNTY, NEW JERSEY

Purpose:

This round of sampling completes the site inspection phase for the 3012 project on this site.

Comments:

Scheduled for sampling on this date, June 28, 1984, were two shallow wells, one surface water impoundment and four soil samples. A duplicate well sample and two blanks will be provided, one for each matrix. Present were Perry Katz, Kathy Van Hook, Al Pleva and Neil Jiorle.

Methodology:

Upon arrival on site the pump was set up for purging at least three volumes from each of the two wells, using dedicated tubing for each well. Surface water samples were taken by submersion of the bottles at least 6 inches below the surface. Composite soil samples were taken by hand auger and mixed in lab-cleaned beakers with lab-cleaned and wrapped trowels. The hand auger was field-cleaned between each sample by scrubbing with an alkonox solution, rinse with water then D.I. water.

Sampling Log:

Arrived on site at 0845 hrs. Began set up for purging the first well. Perry and Kathy begin set up for soil samples

100248

at 10:05 (see map for sampling areas). PID readings show background levels on site. At 10:50 Kathy Van Hook takes surface water sample while Al and Neil begin sampling well #1 and duplicate. 11:15 moved equipment to begin purging well #2. 11:20 Kathy takes background soil sample. At 11:40 Kathy takes first composite sample taken from three auger holes and thoroughly mixed in a beaker, Soil #2. 12:30 hrs. composite sample #3 taken by Kathy. 1310 hrs. began sampling Soil #4 composite. 13:40 began sampling well #2. By 15:10 samples were packed, paperwork completed and coolers custody sealed.

Sample #	Location	Parameter Tested	Preservative
2367	Blank/Soil	Task I and II	Cool to 4°C
2371	Offsite Soil	Metals	↓
2368	Soil #1	↓	
2369	Soil #2		
2370	Soil #3		Adjust pH < 2.0
2373	Surface H_2O		Cool to 4°C
2374	Well #1		↓
2375	Well #2		
2376	Duplicate		
2372	Blank Water		
0444	Blank Soil	VO,BN/AX	Cool to 4°C
0446	Offsite Soil	Pest and PCBs	↓
0445	Soil #1	↓	
0447	Soil #2		
0448	Soil #3		
0450	Surface H_2O		
0451	Well #1		
0452	Well #2		
0453	Duplicate		
0449	Blank Water		

Conclusions:

All samples were taken in a scientific manner and according to the NJDEP/DWM sampling manual. The chain of custody was preserved and samples delivered to Federal Express by Perry and Kathy.

Parameter	# Coolers	Airbill #	Lab Destination
Organics	2	323609661	Meade Compuchem Research Triangle Park
Inorganics	1	323609683	Versar-Springfield, VA.

HS77/dj

100249

Lab Results

Received from USEPA Edison - February 19, 1985

Soil Blank

Inorganics #0444

	ppb
Aluminum	44
Fe	16

Organics #2367

All compounds below minimum detectable limits

Water Blank

Inorganics #0449

	ppb
Al	31
Sb	7.0
Ba	2

Organics #2372

All compounds below minimum detectable limits

Background Soil

Inorganics #0446

	ppb
Aluminum	5650
Arsenic	0.66
Barium	73.0
Cadmium	0.18
Chromium	8.35
Cobalt	0.55
Copper	4.80
Iron	2810
Lead	17
Nickel	8.10
Manganese	8.15
Vanadium	7.60
Zinc	29.6

Organics #2371

	ppb
benzoic acid	11,000
methylene chloride	rejected by QA
di-n-octyl phthalate	500

PCB's and Pesticides rejected; exceeded holding times

Compounds tentatively identified and estimated

	ppb
1,1,2-trichloroethane	700
1,1,2,2-tetrachloroethane	620
1,2-benzenedicarboxylicacid	970
dodecanoicacid	660
1-dodecanol	710
5-octadecanal	1400
1-chloro-octadecane	420

Soil #1

Inorganics #2445

	~~ppb~~ ppm
Aluminum	1820
Arsenic	0.43
Barium	3.0
Chromium	1.95
Copper	0.80
Iron	1680
Lead	3.4
Manganese	3.50
Vanadium	3.65
Zinc	1.30

Organics #2368

methylene chloride - rejected, lab contamination
PCB's and Pesticides - rejected, exceeded holding times

Tentatively Identified Compounds

	~~ppb~~
1,1,2-Trichloroethane	500
1,1,2,2-Tetrachloroethane	660

100252

Soil #2

Inorganics #0447

	~~ppb~~ ppm
Aluminum	3170
Arsenic	0.61
Barium	17.2
Cadmium	0.21
Chromium	4.25
Copper	3.75
Iron	2590
Lead	12
Manganese	6.75
Nickel	2.10
Silver	0.17
Vanadium	4.25
Zinc	28.8

Organics #2369

Acid extractables - rejected, poor surrogate recoveries methylene chloride - rejected, lab contamination PCB's and pesticides - rejected, exceeded holding times.

Tentatively Identified Compounds

	(Estimated) ppb
2-butoxy-ethanol	1700
2-(Hexyloxy)- Ethanol	2700

Soil #3

Inorganics #0448

	~~ppb~~ ppm
Aluminum	2400
Barium	57.5
Cadmium	0.046
Chromium	3.35
Copper	1.90
Iron	1450
Lead	9.7
Manganese	7.30
Nickel	1.20
Vanadium	3.10
Zinc	8.95

Organics #2370

methylene chloride - rejected, lab contamination
PCB's and pesticides - rejected, exceeded holding times

Tentatively Identified Compounds

	(Estimated) ppb
2-(Hexyloxy)-Ethanol	1200

100254

11.8

Surface Water on Site

Inorganics #0450

	ppb
Aluminum	223
Barium	8
Iron	1240
Manganese	25
Zinc	66

Organics #2373

	ppb
carbon disulfide	19

PCB's pesticides - rejected, exceeded holding times

Estimated Concentration of Tentatively Identified Compounds

	ppb
Tetradecanoic Acid	24
Oxacyclotetradecan-2-one	41
Hexadecanoicacid	75
4,8,12-trimethyl-3,7,11-Tridecatrienenitrile	860

Well #1

Inorganic #0451

	ppb
Aluminum	1950
Barium	88
Copper	3
Iron	1940
Manganese	357
Zinc	15

Organic #2374

PCB's and pesticides rejected due to sample exceeding holding time

Tentatively Identified Compounds	Estimated ppb
Hexadecandic Acid	33

Well #2

Inorganics #0452

Estimated concentration, due to interference

	ppb
Aluminum	5780E
Barium	50
Cadmium	1.5E
Chromium	6E
Copper	34
Iron	137,000
Lead	160E
Manganese	107
Vanadium	9E
Zinc	731

Organics #2375

Acid fraction - rejected out of control
methylene chloride - rejected, lab contamination

all others below minimum detectable limits

Well #2 duplicate

Inorganic #0453

	ppb
Aluminum	10,000E
Antimony	11
Barium	59
Cadmium	2.8
Chromium	13
Copper	53
Iron	227,000
Lead	270E
Manganese	165
Mercury	0.26
Vanadium	16E
Zinc	1180

Organic #2376

methylene chloride - rejected, lab contamination

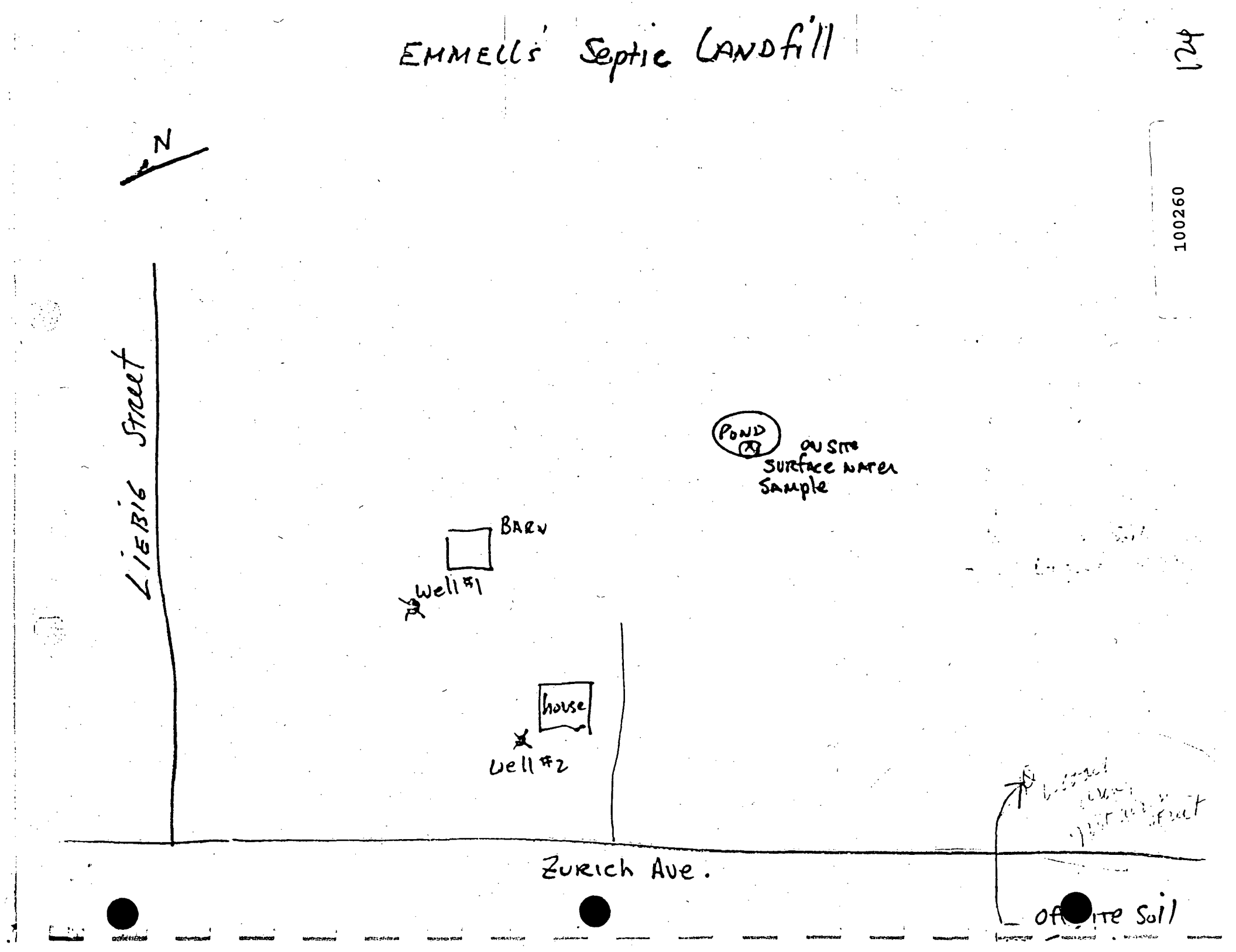
Recommendations:

The site appears to be contaminated but at low levels. Since most of the PCB and pesticide data has been rejected by EPA QA and some of the extractable data has also been rejected it is difficult to determine how we should proceed with the site.

It may need to be resampled but possibly the data is complete enough to make a determination. I feel it should be given to the Environmental Evaluation Unit to make that determination.

HS77:dc

EMMELL's Septic LANDfill



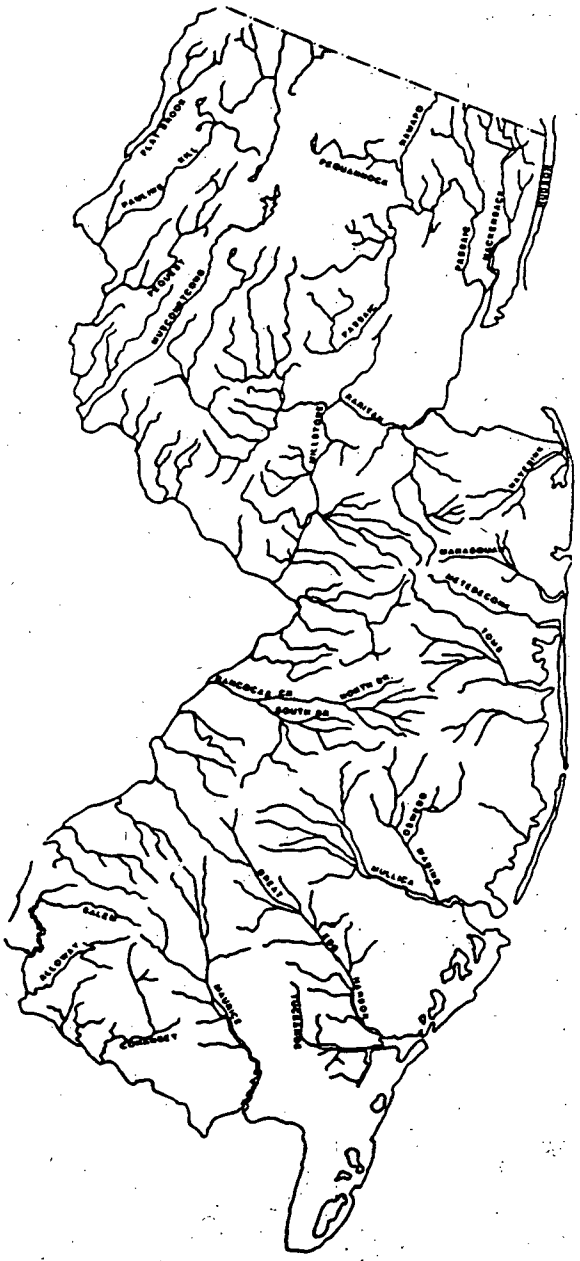
REFERENCE NO. 38

100261

Let's protect our earth

Surface Water Quality Standards

N.J.A.C. 7:9-4.1 et seq.



AUGUST 1989

New Jersey Department of Environmental Protection
Division of Water Resources

4. Public potable water supply after such treatment as required by law or regulation; and

5. Any other reasonable uses.

(d) In all SE1 waters the designated uses are:

1. Shellfish harvesting in accordance with N.J.A.C. 7:12;

2. Maintenance, migration and propagation of the natural and established biota;

3. Primary and secondary contact recreation; and

4. Any other reasonable uses.

(e) In all SE2 waters the designated uses are:

1. Maintenance, migration and propagation of the natural and established biota;

2. Migration of diadromous fish;

3. Maintenance of wildlife;

4. Secondary contact recreation; and

5. Any other reasonable uses.

(f) In all SE3 waters the designated uses are:

1. Secondary contact recreation;

2. Maintenance and migration of fish populations;

3. Migration of diadromous fish;

4. Maintenance of wildlife; and

5. Any other reasonable uses.

(g) In all SC waters the designated uses are:

1. Shellfish harvesting in accordance with N.J.A.C. 7:12;

2. Primary and secondary contact recreation;

3. Maintenance, migration and propagation of the natural and established biota; and

4. Any other reasonable uses.

MARMORA WILDLIFE MANAGEMENT AREA (Strathmere) - All waters within the boundaries of Marmora Wildlife Management Area	FW2-NT/SE1(C1)
MARSH BOG BROOK	
(Farmingdale) - Source to Yellow Brook Rd.	FW2-NT
(Allaire) - Allaire State Park boundary at Yellow Brook Rd. to Manasquan River	FW2-NT(C1)
MASONS CREEK (Marmora) - Entire length	SE1(C1)
MCNEALS BRANCH - See TUCKAHOE RIVER	
METEDECONK RIVER	
SOUTH BRANCH	
(Lakewood) - Entire length, except segment described below	FW2-NT
(Turkey Swamp) - Tributaries within the boundaries of Turkey Swamp Wildlife Management Area	FW2-NT(C1)
NORTH BRANCH METEDECONK RIVER	
(Freehold) - Source to Aldrich Rd., except segment described below	FW2-NT
(Turkey Swamp) - River and tributaries within the boundaries of Turkey Swamp Wildlife Management Area	FW2-NT(C1)
(Lakewood) - Aldrich Rd. to Lanes Mills	FW2-TM
(Brick) - Lanes Mills to confluence with Metedeconk River, South Branch	FW2-NT
MAIN STEM METEDECONK RIVER	
(Brick) - Confluence of North and South branches to Barnegat Bay	FW2-NT/SE1
MIDDLE RIVER	
(Tuckahoe) - Entire length, except the segment described below	FW2-NT/SE1
(Middletown) - Segment within the boundaries of MacNamara Wildlife Management Area	FW2-NT/SE1(C1)
MILE THOROFARE - Entire length	SE1(C1)
MILL RUN (Allaire) - See BRISBANE LAKE	
MINGAMAHONE BROOK	
(Farmingdale) - Entire length, except segment described below	FW2-TM
(Allaire) - Brook and tributaries within the boundaries of Allaire State Park	FW2-TM(C1)
MIRY RUN (MacNamara) - Entire length	FW2-NT/SE1(C1)
MOTT CREEK (Brigantine) - Entire length	SE1(C1)
MUD CREEK (MacNamara) - Entire length	SE1(C1)
MUDDY FORD BROOK (Larrabee's Crossing) - Entire length	FW2-TM
MULBERRY THOROFARE (Northfield) - Entire length	SE1(C1)
MULLICA RIVER	
(Berlin) - Source to Pinelands Protection and Preservation Area boundaries at the Garden State Parkway, except branches and tributaries described	PL

below	
(Wharton) - Skit Branch and tributaries from their headwaters to the confluence with Robert's Branch	FW1
(Wharton) - Stream in the southeasterly corner of the Wharton Tract located between Ridge Rd. and Seaf Weeks Rd., downstream to the boundaries of the Wharton Tract	FW1
(Wharton) - Gun Branch from its headwaters to US Rt. 206	FW1
→ (New Gretna) - River and tributaries from the Pinelands Protection and Preservation Area boundary to Great Bay	SE1(C1)
NARROWS CREEK (Middletown) - Entire length	SE1(C1)
NORTH CHANNEL POND (Stone Harbor)	FW2-NT/SE1(C1)
OLDMAN CREEK (Stone Harbor) - Entire length	SE1(C1)
OTTER CREEK (Middletown) - Entire length	SE1(C1)
OYSTER CREEK	
(Brookville) - Source to the boundaries of the Pinelands Protection and Preservation Area at the Garden State Parkway	PL
(Forked River) - Garden State Parkway to Barnegat Bay	FW2-NT/SE1
OYSTER CREEK (Great Bay) - Entire length	SE1(C1)
RING ISLAND CREEK (Stone Harbor) - Entire length	SE1(C1)
RISLEY CHANNEL (Margate) - Entire length	SE1(C1)
ROUNDABOUT CREEK (New Gretna) - Entire length	SE1(C1)
SALT CREEK (Stone Harbor) - Entire length	SE1(C1)
SCULL BAY (Linwood)	SE1(C1)
SEDGE CREEK - Entire length	SE1(C1)
SHARK CREEK (Stone Harbor) - Entire length	SE1(C1)
SHARK RIVER	
(Colts Neck) - Source to Rt. 33	FW2-NT
(Neptune) - Rt. 33 to Brighton Ave. bridge, Glendola	FW2-TM/SE1
(Glendola) - Brighton Ave. bridge to Atlantic Ocean	FW2-NT/SE1
SHELL THOROFARE (Wildwood Gables) - Entire length	SE1(C1)
SHELTER ISLAND BAY (Margate)	SE1(C1)
SHELTER ISLAND WATERS (Margate) - Entire length	SE1(C1)
SKIT BRANCH - See MULLICA RIVER	SE1(C1)
SOD THOROFARE (Linwood) - Entire length	SE1(C1)
SOUTHEAST CREEK (Stone Harbor) - Entire length	SE1(C1)
SQUANKUM BROOK	
(Squankum) - Entire length, except segment described below	FW2-NT
(Allaire) - Segment within Allaire State Park	FW2-NT(C1)
STEELMAN BAY (Somers Point)	SE1(C1)

"Aquatic substrata" means soil material and associated biota underlying the water.

"Bioaccumulation" means the increase of the concentration of a substance within the tissues of an organism, to levels in excess of that substance's ambient environmental concentration, directly from the water or through the ingestion of food (usually other organisms).

"Bioassay" means a toxicity test using aquatic organisms to determine the concentration or amount of a toxic substance causing a specified response in the test organisms under stated test conditions.

"Biota" means the animal and plant life of an ecosystem; flora and fauna collectively.

"Calculable changes" means changes to water quality characteristics as demonstrated by any acceptable mathematical, predictive method.

→ "C1" means Category One waters.

"C2" means Category Two waters.

→ "Category one waters" means those waters designated in the tables in N.J.A.C. 7:9-4.15(c) through (h), for purposes of implementing the antidegradation policies in this subchapter, for protection from measurable changes in water quality characteristics because of their clarity, color, scenic setting, other characteristics of aesthetic value, exceptional ecological significance, exceptional recreational significance, exceptional water supply significance, or exceptional fisheries resource(s). These waters may include, but are not limited to: 1) Waters originating wholly within Federal, Interstate, State, County, or Municipal parks, forests, fish and wildlife lands, and other special holdings that have not been designated as FW1 in this subchapter; 2) Waters classified in this subchapter as FW2 Trout Production waters and their tributaries; 3) Surface waters classified in this subchapter as FW2 Trout Maintenance or FW2 Nontrout that are upstream of waters classified in this subchapter as FW2 Trout Production; 4) Shellfish waters of exceptional resource value; or 5) Other waters and their tributaries that flow through, or border, Federal, State, County or Municipal parks, forest, fish and wildlife lands, and other special holdings.

"Category two waters" means those waters not designated as Nondegradation, Pinelands Waters, or Category One in this subchapter for purposes of implementing the Antidegradation Policies.

"Chlorine produced oxidants" means the sum of free and combined chlorine and bromine as measured by the methods approved under N.J.A.C. 7:18. In fresh waters the oxidants measured are comprised predominantly of hypochlorous acid (HOCl), hypochlorite ion (OCl^-), monochloramine and dichloramine. In saline waters the oxidants measured are comprised predominantly of the oxidants listed for fresh

REFERENCE NO. 39

WESTON

Dave Benfer
Originator

PHONE CONVERSATION RECORD

Conversation with:
Name Gil Bosies
Company Galloway Township Tax Assessor
Address Galloway Township, New Jersey

Phone 609-652-3715

Date 5 / 12 / 95
Time 1045 AM/PM

☐ Originator Placed Call
☐ Originator Received Call

W.O. NO. 04200-016-081-0059

Subject Lot and block for Emmell's Septic Landfill site

Notes:
The correct Lot and block for the Emmells Septic landfill site is Block 650, Lot 7 & 9

☐ **File**
☐ **Tickle File** / /
☐ **Follow-Up By:**
☐ **Copy/Route To:**

Follow-Up-Action:

Originator's Initials DB

RFW 110-4-83

100268