PINE VALLEY GOLF CLUB
EAST ATLANTIC AVENUE
PINE VALLEY, CAMDEN COUNTY, NJ

Pine Valley Golf Club is located at East Atlantic Avenue in the incorporated Borough of Pine Valley, Camden County, New Jersey. On January 19, 1983, the superintendent of grounds, in an effort to do some housekeeping, disposed of approximately 15,000 pounds of herbicides, pesticides and fertilizers. These materials were disposed of at an old garbage dump the Pine Valley Golf Club operated on club property until NJDEP issued a cease and desist order on November 30, 1979. This dump operated as a municipal landfill for the Borough of Pine Valley. An "L" shaped trench approximately fifteen feet long on each leg, eight to ten feet deep and eight to ten feet wide was dug, the chemicals dumped into the trench and covered with five feet of soil. The majority of chemicals dumped in the trench were various organophosphate and chlorinated hydrocarbon pesticides, herbicides and some fertilizers.

On January 21, 1983, the EPA received an anonymous phone call describing possible illegal dumping of chemicals at the Pine Valley Golf Club (PVGC). After an initial survey of the suspected dump site by Gad Tawadros (EPA) and David Bute (NJDEP), the PVGC admitted the chemicals were dumped. NJDEP and EPA immediately began organizing cleanup procedures at the expense of PVGC. The procedure developed and subsequently followed for removal of the waste was as follows:

1. Cover slough over the dumped material would be removed and set aside.

2. Chemicals would be removed, tagged, and placed in secure temporary storage pending a decision on disposal.

3. Leaking containers would be repacked in plastic bags or drums.

4. Obviously contaminated soil and soil under damaged containers would be removed as completely as possible, bagged and labeled.

5. Useable material may be recovered and used by PVGC.

6. No material would be disposed of until all material and contaminated soil can be removed.

7. Judgement regarding the soil remaining in the pit would be made after all material was removed.

The EPA recommended that once all materials have been satisfactorily removed the pit would be closed as follows:

1. A covering layer of clean fill.

248906

2. A layer of clay acceptable for landfill capping.

3. Sloping the clay layer in the direction of groundwater flow.

4. A final layer of fill, including material removed from above the dumped material, when the pit was opened.

As of February 18, 1983, all the chemicals had been completely removed from the pit, and the chemicals that PVGC wanted to use were removed from the staging area. Rollins Environmental Services contracted to dispose of the waste, which was accomplished through complete incineration of all the chemicals. As of March 17, 1983, all material was removed from the staging area, properly packaged and labeled.

Prior to filling in the excavation pit, NJDEP took four soil core samples. Analytical results from the four soil samples by Weston.Sper for residual pollution revealed the following contaminants in the fill material above background levels: DDT, heptachlor, heptachlor-epoxide, arsenic, mercury, cadmium, lead and barium. Based on this analysis Weston.Sper offered six alternatives for a course of action at this site. A "No Action Alternative" was chosen based on a number of mitigating factors quoted by NJDEP (1983) that would limit potential environmental impacts. These include:

- The existance of a clay layer, generally 100 feet thick between the pit and the deep aquifer.

- The site surface drainage is away from the closest drinking water supply well.

- All materials buried were stated to be in containers of some sort. Where packages were damaged, careful removal of the surrounding soil occurred.

There are approximately nine municipal water wells within a three mile radius of the Pine Valley Golf Club dumping site. One well is located 1/2 mile from the site and is owned by PVGC. This well pumps 200 gallons per minute and supplies domestic water for the golf club. Irrigation water for the golf course is supplied by two lakes located in the same area as the pump house for their on-site well. There is one additional lake directly across from the well which is not used for any purpose. All the lakes are reportedly fed by artesian wells.

The geological formation underlying the Pine Valley Golf Club dump site starts out with the upper layer as the Kirkwood formation, followed by the Vincentown formation, Navesink Marl, and the Wenonah Sand. The Kirkwood formation is approximately 100 feet thick and consists of fine micaceous sands with local beds of dark clay. The Pine Valley Golf Club private well is 86 feet deep and is screened in the Kirkwood Formation.

This site is given a low priority based on the documentation of cleanup procedures, conditions in which the wastes were disposed of, underlying geological strata and the joint EPA/NJDEP decision to recommend no further action.

Prepared by:

Nicholas Eisenhauer
HSMS IV
Bureau of Planning and Assessment
September 23, 1987

Preliminary Assessment

Pine Valley Golf Club
East Atlantic Avenue
Pine Valley, Camden County

EPA ID #NJD075544858

EPA

POTENTIAL HAZARDOUS WASTE SITE PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NJ	D075544858

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER				
Pine Valley Golf Course	East Atlantic Avenue				
03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Pine Valley	NJ	08021	Camden	04	
09 COORDINATES LATITUDE 39° 47' 11"	LONGITUDE 74° 58' 26"	Block 1			

10 DIRECTIONS TO SITE (Starting from nearest public road)

Route 30 East to Gibbsboro Road go right. Travel on Clementon Road to East Atlantic Avenue. East Atlantic Avenue to Pine Valley Golf Club.

III. RESPONSIBLE PARTIES

01 OWNER (if known)	02 STREET (Business, mailing, residential)			
Pine Valley Golf Course	East Atlantic Avenue			
03 CITY	04 STATE	05 ZIP CODE	06 TELEPHONE NUMBER	
Pine Valley	NJ	08021	(609) 783-3000	
07 OPERATOR (if known and different from owner)	08 STREET (Business, mailing, residential)			
Same as above				
09 CITY	10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER	
			( )	

13 TYPE OF OWNERSHIP (Check one)

☒ A. PRIVATE ☐ B. FEDERAL: _____ (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL

☐ F. OTHER: _____ (Specify) ☐ G. UNKNOWN

14 OWNER OPERATOR NOTIFICATION ON FILE (Check all that apply)

☐ A. RCRA 3001 DATE RECEIVED: ___/___/___ (MONTH DAY YEAR) ☐ B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: ___/___/___ (MONTH DAY YEAR) ☐ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION

☒ YES DATE 5 / 3 / 87 (MONTH DAY YEAR)
☐ NO

BY (Check all that apply)

☒ A. EPA ☐ B. EPA CONTRACTOR ☒ C. STATE ☐ D. OTHER CONTRACTOR
☐ E. LOCAL HEALTH OFFICIAL ☐ F. OTHER: _____ (Specify)

CONTRACTOR NAME(S): _____

02 SITE STATUS (Check one)

☐ A. ACTIVE ☒ B. INACTIVE ☐ C. UNKNOWN

03 YEARS OF OPERATION

1/19/83 (BEGINNING YEAR) | 2/17/83 (ENDING YEAR) ☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED

Approximately 15,000 pounds of various herbicides, insecticides and fertilizers disposed of in an unlined pit on-site.

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION

15,000 pounds of chemicals were buried in a 8-10 feet deep unlined trench allowing for soil and possible groundwater contamination.

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents)

☐ A. HIGH (Inspection required promptly) ☐ B. MEDIUM (Inspection required) ☒ C. LOW (Inspect on time available basis) ☐ D. NONE (No further action needed, complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)		03 TELEPHONE NUMBER
John Reddman	Assistant Manager Pine Valley Golf Course		(609) 783-3000
04 PERSON RESPONSIBLE FOR ASSESSMENT	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NUMBER	08 DATE
Nicholas Eisenhauer	DEP	BPA	(609) 984-1697	9 / 23 / 87 (MONTH DAY YEAR)

EPA FORM 2070-12 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NJ	D075544858

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

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

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

TONS 7.5

CUBIC YARDS _____

NO. OF DRUMS _____

03 WASTE CHARACTERISTICS (Check all that apply)

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

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES	15,000	Pounds	
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 (Maximum)	06 MEASURE OF CONCENTRATION
PSD	DDT	50293		6.0	ppm
PSD	Heptachlor	76448	Various containers	.72	ppm
PSD	Heptachlor epoxide	76448	bags, drum, jars	5.90	ppm
MES	Arsenic	7440382	buried in pit	18.1	ppm
MES	Mercury	743997		52	ppm
MES	Cadmium	7440439	Soil analysis	4.6	ppm
MES	Lead	7439921	" "	46.6	ppm
MES	Barium	7440393	" "	.14	ppm
	For a complete inventory				
	of disposed substances,				
	See Attachment D				

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)

1) Hazardous Waste Management - South ATT: B, D, P

EPA FORM 2070-12 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NJ	D075544858

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 [X] A. GROUNDWATER CONTAMINATION — 02 [ ] OBSERVED (DATE: ____) — [X] POTENTIAL — [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ____ — 04 NARRATIVE DESCRIPTION

Low potential. All containers were removed within 1 month of disposal along with contaminated soil. Remaining soil showed low concentration of contaminants. Large clay seam underlying waste site. Att: H, I, V

01 [X] B. SURFACE WATER CONTAMINATION — 02 [ ] OBSERVED (DATE: ____) — [X] POTENTIAL — [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ____ — 04 NARRATIVE DESCRIPTION

Low potential for surface contamination. Waste has been removed, area is now covered with grass. Terrain slopes away from nearest surface water which are three lakes located one half to three quarters of a mile away. Att: Tax map, USGS Map

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

No contamination of air. All waste has been removed and pit is covered.

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

No fire/explosive conditions. All waste has been removed and pit is covered.

[illegible] — [illegible] — [illegible]
03 POPULATION POTENTIALLY AFFECTED: ____ — 04 NARRATIVE DESCRIPTION

No direct contact. All waste has been removed and pit is covered.

01 [X] F. CONTAMINATION OF SOIL — 02 [X] OBSERVED (DATE: 1983) — [ ] POTENTIAL — [ ] ALLEGED
03 AREA POTENTIALLY AFFECTED: ____ (ACRES) — 04 NARRATIVE DESCRIPTION

Observed contamination of soil by lab analysis.

Att: P

01 [X] G. DRINKING WATER CONTAMINATION — 02 [ ] OBSERVED (DATE: ____) — [X] POTENTIAL — [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ____ — 04 NARRATIVE DESCRIPTION

Low drinking water contamination potential. Underlying strata is clay. Waste has been removed and pit is sealed with clay cap. 9 public water wells in 3 mile radius.

Att: Well Map, I, V

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

No worker exposure. All waste has been removed and pit is covered.

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

No population exposure potential.

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE: NJ
02 SITE NUMBER: D075448858

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

No damage to flora. All waste is removed and pit is covered. Grass is growing on top.

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

No damage to fauna. All waste is removed and pit is covered.

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

No contamination of food chain. All waste is removed and pit is covered.

01 ☒ M. UNSTABLE CONTAINMENT OF WASTES (Spills/runoff/standing liquids/flowing liquids) — 02 ☒ OBSERVED (DATE: 1/19/83) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

Unstable containment of wastes at time of disposal. All waste is removed and pit is covered. Att: F

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

Low potential to offsite property. Property owned by Pine Valley Golf Club consists of more than 700 acres. Waste has been cleaned and pit is sealed.

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

No contamination of sewers etc. Wastes have been cleaned up and pit is sealed.

01 ☒ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☒ OBSERVED (DATE: 1/19/83) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Illegal dumping of hazardous wastes consisting of pesticides on property not designated or licensed as a treatment, storage or disposal area.
Att: F

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

No other potential hazards.

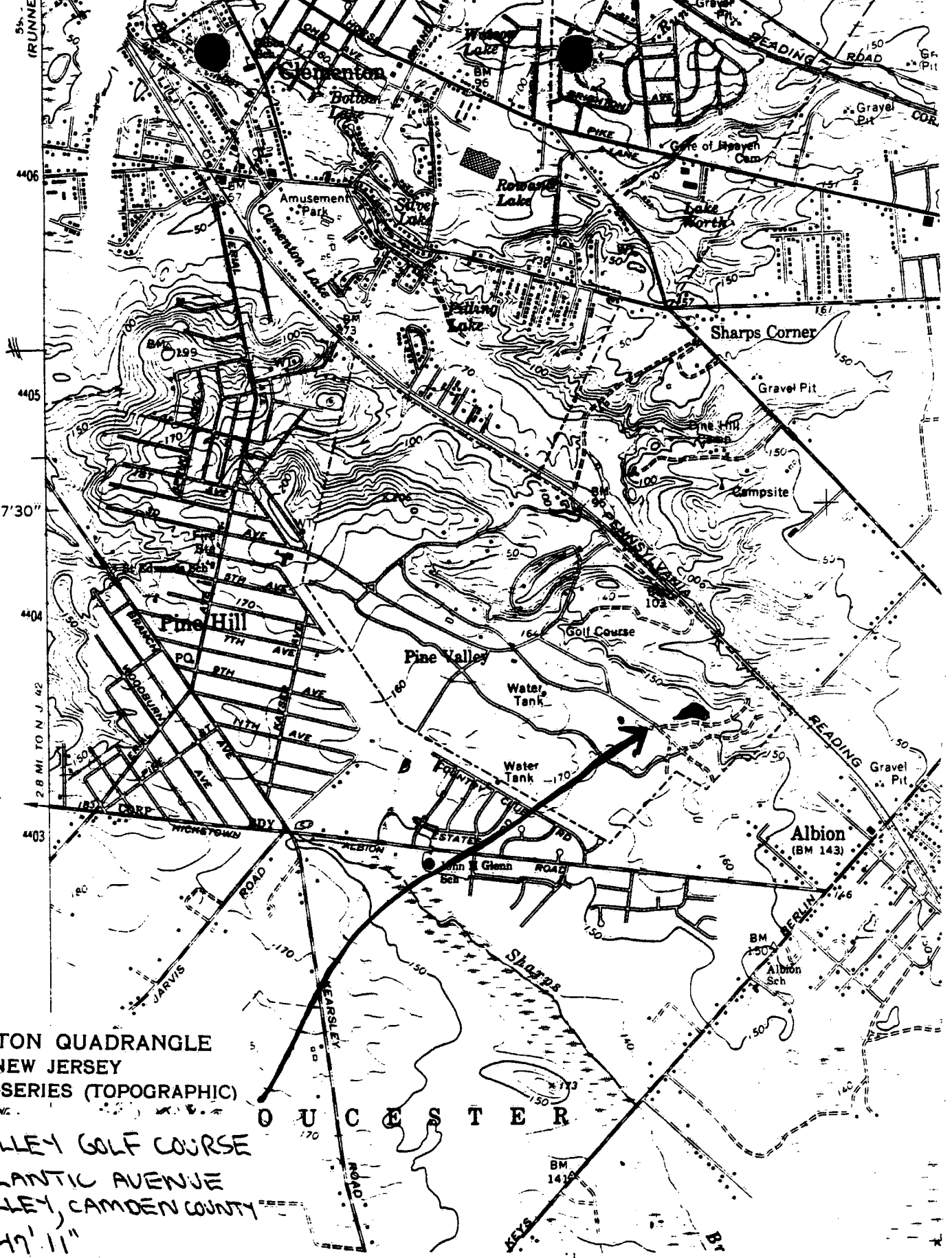
III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

IV. COMMENTS

1) Hazardous Waste Management - South Att: F, H, I, P, V
2) Well Map
3) Tax Map
4) USGS Map

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

SITE: PINE VALLEY GOLF COURSE
QUADRANGLE: CLEMENTON
LATITUDE: 39° 49' 11"
LONGITUDE: 74° 58' 26"



CLEMENTON QUADRANGLE
NEW JERSEY
7.5 MINUTE SERIES (TOPOGRAPHIC)

PINE VALLEY GOLF COURSE
EAST ATLANTIC AVENUE
PINE VALLEY, CAMDEN COUNTY
LAT: 39° 49' 11"
LONG: 74° 58' 26"

SCALE 1:24 000

1 ½ 0 1

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

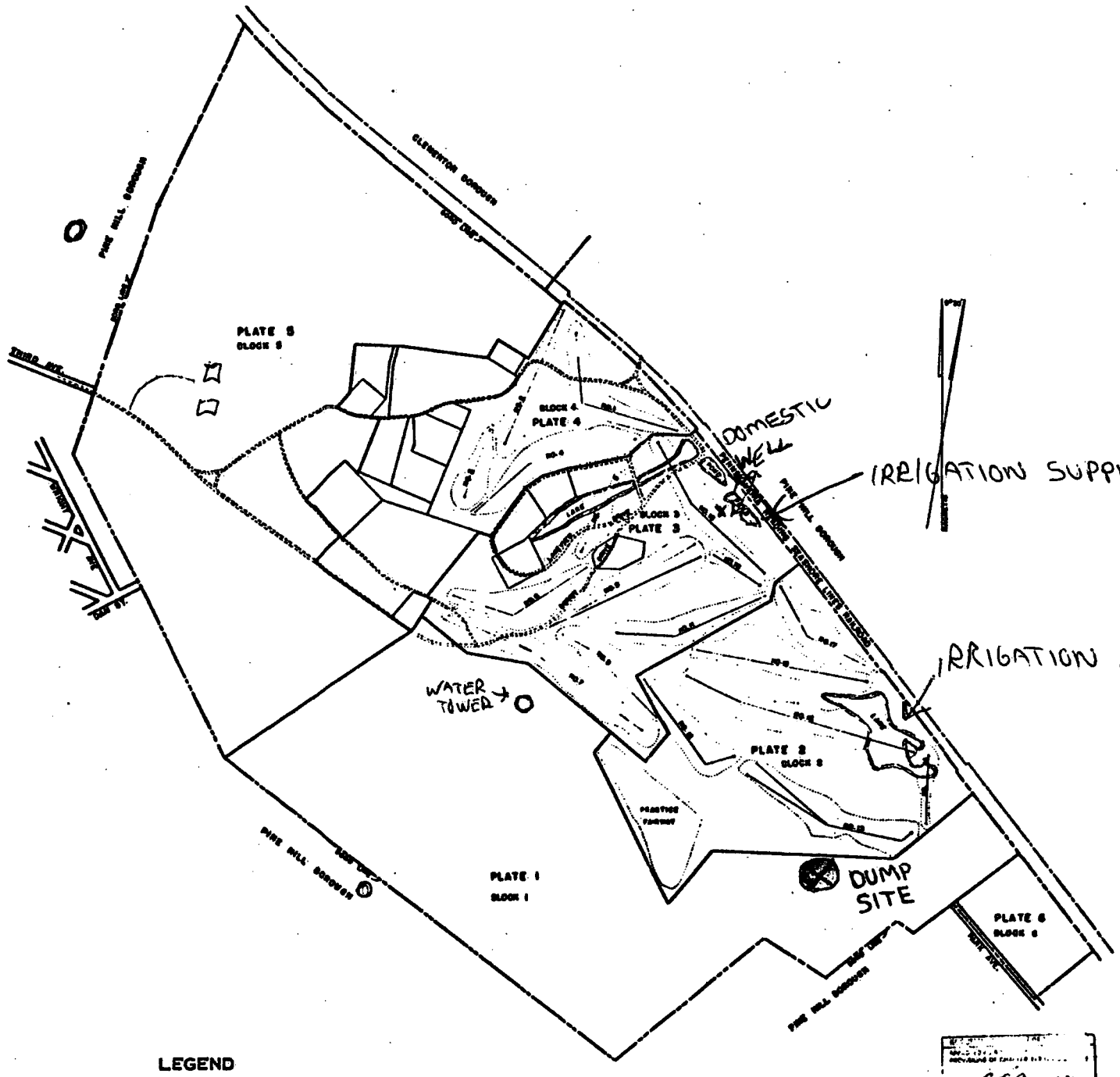
1 .5 0 1 KILOMETER

CONTOUR INTERVAL 10 FEET
DATUM IS MEAN SEA LEVEL

U.S.G.S SURVEY MAP

08083
08012
Stratford
08084
Lindenwold
GLOUCESTER
08021
Clementon
Pine Hill
Pine Valley
Good Intent
Turkey Foot
Davisville
Grenloch
Hickstown
Erial
Kirkwood
Laurel Lane
Albion
Dicktown
PINE VALLEY GOLF CLUB
PINE VALLEY (EAST ATLANTIC AVENUE
CLEMENTON, NJ 08021
CAMDEN COUNTY
© Alfred B. Patton, Inc. 1986
SCALE:
1 MILE
7000 FEET
1 KILOMETER

A

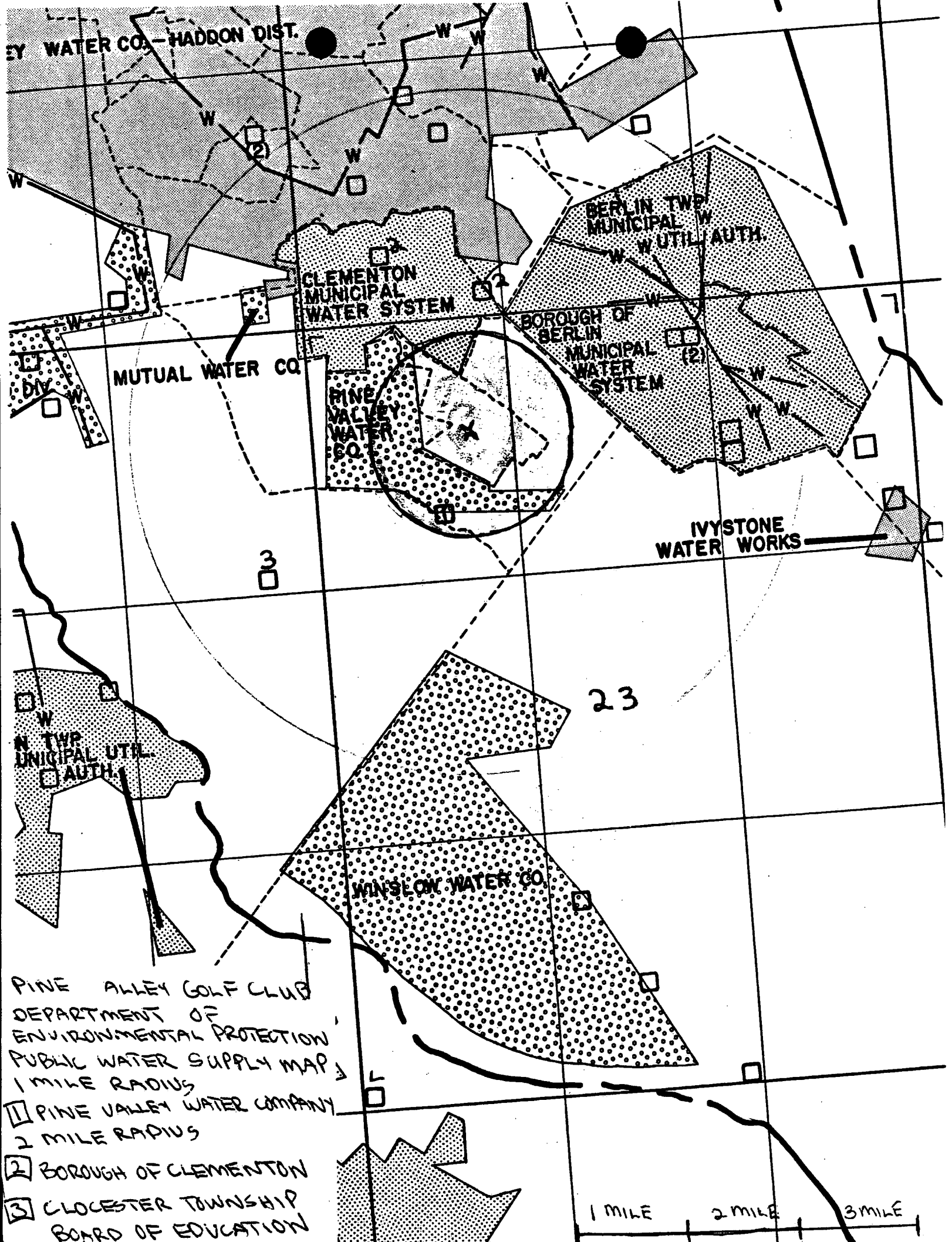


BLOCK 1

INDEX MAP
OF
TAX MAP
OF THE
BOROUGH OF PINE VALLEY
CAMDEN COUNTY, NEW JERSEY
1974 (70)

LEGEND
2...INDICATES MAP PAGE NUMBER

I HEREBY CERTIFY THAT THIS MAP AND THE SURVEY HAS BEEN MADE UNDER MY IMMEDIATE SUPERVISION, AND COMPLIES WITH THE LAWS OF THE STATE OF NEW JERSEY
LICENSED PROFESSIONAL ENGINEER & LAND SURVEYOR


EY WATER CO.—HADDON DIST.
W
(2)
CLEMENTON MUNICIPAL WATER SYSTEM
BERLIN TWP MUNICIPAL UTIL. AUTH.
BOROUGH OF BERLIN MUNICIPAL WATER SYSTEM
MUTUAL WATER CO.
PINE VALLEY WATER CO.
IVYSTONE WATER WORKS
3
23
N TWP UNICIPAL UTIL. AUTH.
WINSLOW WATER CO.
PINE ALLEY GOLF CLUB
DEPARTMENT OF ENVIRONMENTAL PROTECTION
PUBLIC WATER SUPPLY MAP
1 MILE RADIUS
1 PINE VALLEY WATER COMPANY
2 MILE RADIUS
2 BOROUGH OF CLEMENTON
3 CLOCESTER TOWNSHIP BOARD OF EDUCATION
1 MILE
2 MILE
3 MILE

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

November 1, 1979

Borough of Pine Valley
c/o Borough Clerk
Clementon, NJ 08021

CEASE AND DESIST NOTICE
CD-343

Dear Sir:

RE: Solid Waste Disposal Area located at Pine Valley Golf Course, Borough of Pine Valley, Camden County

Investigation by an inspector of the Solid Waste Administration dated October 23, 1979 disclosed that you are operating a refuse disposal operation without having obtained the necessary permits from the Department of Environmental Protection. This operation must cease and desist immediately and must be closed in compliance with the regulations of the Department of Environmental Protection by November 30, 1979.

Proper closure where the fill has been placed in Riparian or Wetlands, or where there has been an encroachment upon streams or flood plains normally entails removal of all illegally deposited materials and restoration of the site to its prior natural condition. Where no land use prohibitions such as these exist, you may elect to terminate the operation in accordance with the applicable Rules of the Solid Waste Administration (copy enclosed).

Failure to comply with the above directive is in violation of N.J.S.A. 13:1E-1 et seq. and N.J.A.C. 7:26-1 et seq. and as such is punishable by a maximum penalty of $3,000 per day.

An application to conduct a refuse disposal operation and a sanitary landfill design must be submitted and approved before further operation can commence.

If you have any further questions regarding this matter, please contact Alan Kaczoroski, of my staff, at (609) 292-0415.

Very truly yours,

Walter Burshtin

Walter Burshtin, P.E., P.P.
Chief, Engineering and Enforcement
Solid Waste Administration

WB:jb
Enclosure

HWM-5

A-1

Red Sian

U.S. ENVIRONMENTAL PROTECTION AGENCY

POLLUTION REPORT

DATE:

TO: J. Schafer, EPA
R. Dewling, EPA
B. Metzger, EPA
Emergency Response Division
J. Marshall, EPA
W. Mugdan, EPA
F. Rubel, EPA
R. Spear, EPA
NRC
USCG 3rd Dist. (mep)
J. Stanton, NJDEP
K. Stoller, EPA
B. Ogg, EPA
TAT
C. Simon, EPA

Region II
Emergency Response and Hazardous
Materials Inspection Branch
Edison, N.J. 08837

(201) 321-6670 - Commercial
(201) 548-8730 - 24 Hour Emergency
340-6670 - FTS

POLREP NO.: One (1)
INCIDENT NAME: Pine Valley Golf Club
SITE/SPILL NO: 242-83
POLLUTANT: Pesticides and Possibly Other Substances
CLASSIFICATION:
SOURCE: Disposal Site at Pine Valley Golf Club
LOCATION: Pine Valley, Clemonton, New Jersey
AMOUNT: Uncertain
WATER BODY:

1. SITUATION:

A. A number of substances including a variety of pesticides have been buried on property of the Pine Valley Golf Club, Pine Valley, Clementon, Camden County, New Jersey 08021.

2. ACTION TAKEN:

A. At 0100 hours on January 21, 1983, EPA received an anonymous phone call describing a possible illegal dumping of chemicals at the Pine Valley Golf Club, Pine Valley, Clementon, New Jersey.

B. A response team consisting of one EPA person, two TAT members and one person from the NJDEP Southern Emergency Response Center responded on scene on January 21, 1983. The team met with the Superintendent of the Pine Valley Golf Club (PVGC) and performed an initial survey of the suspected dump site.

Hwm-5

C. PVGC admitted that PVGC personnel buried a number of substances on the site on January 19, 1983 in an "L" shaped trench approximately 15 feet long on each leg, and 8 to 10 feet deep and 8 to 10 feet wide. It was reported that five feet of earth covered these substances. The area where this trench was dug had been buried on the site of a municipal landfill and had been closed approximately 5 years ago. PVGC provided a list of substances thought to have been buried on January 19, 1983. The majority of the substances are apparently pesticides including organophosphates, chlorinated hydrocarbons and possible carbamates.

D. PVGC agreed to a private clean up operation and contracted to A.C. Shultes and Sons, Inc. for the clean up which commenced operations on January 24, 1983. It was agreed between EPA, NJDEP and PVGC that NJDEP will act as OSC and oversee the clean up activities.

E. Clean up activities consisting of unearthing the substances, placing the substances in a shed for segregation, identification and temporary storage and daily covering of the exposed site with a plastic sheet continues on a daily basis.

F. NJDEP, EPA and TAT are on site daily during the contractor's operations. TAT continues to research data concerning the potential hazards of the buried substances.

3. FUTURE PLANS AND RECOMMENDATIONS:

A. Following the excavation of all materials buried in the pit, they will be segregated for proper disposal under NJDEP and EPA supervision.

CASE PENDS X CASE CLOSED ____ SUBMITTED BY Paul R Ellis

for W. Gad Tawadros
Emergency Response
(TAT)

HWM-5

CP 11/26/83

Club cleans up buried garden chemicals

By LEE SEGLEM
Of the Courier-Post

FINE VALLEY — A quick-fix winter groundskeeping job last week has turned into a costly chemical cleanup operation for the exclusive Pine Valley Golf Club here.

Using shovels and a front-end loader, workers yesterday began excavating a large, L-shaped trench on the club's property into which a groundskeeping crew dumped numerous canisters, bottles and bags of chemicals and fertilizers last Wednesday, a spokesman for the state Department of Environmental Protection (DEP) said.

The spokesman, George Klenk, said the materials, including a variety of fungicides, pesticides and herbicides, had been disposed of in the pit after the club's groundskeeper determined that they were old and outdated.

In a prepared statement, club officials called the incident a mistake and said they had taken steps to correct the situation.

"Realizing this error," the statement said, "the club started the removal of these materials immediately under close supervision of the New Jersey DEP and the federal Environmental Protection Agency (EPA) to assure the proper handling and disposal of the materials."

A man who answered the club's phone and identified himself only as a club spokesman declined additional comment. The identity and whereabouts of the person who ordered the on-site dumping were not disclosed.

Please see CLUB, Page 2A

25 CENTS

last

Hwm-5

C-1

Club leans up buried chemicals

Continued from Page 1A

Klenk said the DEP had not yet decided whether the club, any of its officers or any of its employees would be formally charged with environmental violations in connection with the dumping.

"Technically, this was an illegal disposal," Klenk said. "When the case is finalized and the cleanup is completed, the file will be forwarded to the agency's enforcement unit. It will then be up to officials there to determine what action should be taken."

Klenk could not immediately describe the location of the trench but said it was on a plot of club property that is not part of the golf course fairways or rough.

He said technicians from the DEP and the EPA had determined the site presented no hazard to municipal and residential water wells and were satisfied, based on their inspection, that rains would probably cause no chemical runoff into adjacent areas.

Investigators from DEP's hazardous waste division visited the club last week based on reports from a telephone tipster who apparently had observed the Wednesday disposal operation, Klenk said. The freshly covered dump site was determined to be L-shaped, 8 feet wide, 8 feet deep and 15 feet long on each side.

Klenk said club equipment and workers were being used to perform the cleanup and the club had offered to pay the full cost, which has not been determined.

He said the chemicals and fertilizers were being removed one by one to prevent breakage and then taken to a club storage building to be placed on wooden pallets atop a plastic floor covering.

U.S. ENVIRONMENTAL PROTECTION AGENCY

POLLUTION REPORT

DATE: February 2, 1983

TO: J. Schafer, EPA
R. Dewling, EPA
B. Metzger, EPA
Emergency Response Division
J. Marshall, EPA
W. Mugdan, EPA
F. Rubel, EPA
R. Spear, EPA
NRC
USCG 3rd Dist. (mep)
J. Stanton, NJDEP
K. Stoller, EPA
B. Ogg, EPA
TAT
C. Simon, EPA

Region II
Emergency Response and Hazardous
Materials Inspection Branch
Edison, N.J. 08837

(201) 321-6670 - Commercial
(201) 548-8730 - 24 Hour Emergency
340-6670 - FTS

POLREP NO.: Two (2)
INCIDENT NAME: Pine Valley Golf Club
SITE/SPILL NO: 242-83
POLLUTANT: Pesticides and Possibly Other Substances
CLASSIFICATION:
SOURCE: Disposal Site at Pine Valley Golf Club
LOCATION: Pine Valley, Clementon, New Jersey
AMOUNT: Uncertain
WATER BODY:

1. SITUATION:

A. A number of substances including a variety of pesticides have been buried on property of the Pine Valley Golf Club, Pine Valley, Clementon, Camden County, New Jersey 08021.

B. Clean up activities consisting of excavating the substances; placing the substances in a shed, identification and temporary storage; and daily covering of the exposed site with a plastic sheet continues on a daily basis.

2. ACTION TAKEN:

A. EPA, TAT and NJDEP continue to monitor the site on a daily basis.

B. Clean up actions continue and materials are being removed to temporary storage daily. Apparently, approximately 50 percent of the materials buried have been removed to date. The following is a list of the materials removed up to January 28, 1983, as reported by the contractor, and as verified by G. Tawadros.

HWM-5

D-1

SUBSTANCE	CONTAINER	TOTAL QUANTITY	STATUS
Acti-Dione Ferrated Antibiotic Fungicide	3 boxes		At least one box contains 2 jar (6.35 oz size)
Acti-Dione RZ	2 bags (1 1/2lb)	3 lbs	Damaged and placed in plastic bag
Acti-Dione Thiram for Gold Greens and Fine Grasses	18 bags	22.5 lbs	Intact
Amizine General Weed Killer	1 container (5 lbs)	5 lbs	Intact
Aspen GE Emulsifiable Liquid Soil Insecticide	1 glass jug (1 gal)	1 gallon	Intact
Bromosan Systemic Turf Fungicide	18 bags (3 lbs)	54 lbs	Intact
Cadminate Turf Fungicide	13 paper containers (5 lbs)	65 lbs	Intact
Calo-Grain Mercurial Turf Fungicide	14 bags (30 lbs)	420 lbs	At least one is damaged
Check Wilt With Stoma Seal	53 bottles (1 gallon)	53 gallons	32 damaged and placed in plastic bags with surrounding soil
Chemagro Dexon Turf and Soil Fungicide	7 bags (3 lbs)	21 lbs	1 bag is damaged and placed in plastic box
Chip Cal Crabgrass Controller	1 paper bag (12 lbs)	12 lbs	Damaged
Chipco Hi Test Lead Arsenate	8 bags (4 lbs)	32 lbs	Intact
Chipco Microgreen	3 bags (4 lbs)	12 lbs	Intact
Chipco Turf Kleen	3 cans (1 gallon)	2 gallons	2 cans are full, 1 can is empty
Chlordane 40 WP	1 bag (50 lbs)	20 lbs	Damaged; contains approx. 20 lbs; placed into plastic bag

HWM-5

SUBSTANCE	CONTAINER	TOTAL QUANTITY	STATUS
Corson's Dolomitic Limestone	1/2 bag (50 lbs)	25 lbs	Open Bag
DDT	1 bag (60 lbs)	60 lbs	Original bag damaged, the DDT and surrounding soil was placed in 3 plastic bags
Diamond Chemical Dacthal W-75	12 bags (4 lbs)	48 lbs	One bag is damaged
Dinoxol Weedone Product	1 can (5 gallons)	5 gallons	Intact
Dursban 2 E Insecticide	18 cans (1 gallon)	18 gallons	Intact
Dyrene Turf Fungicide	13 paper bags (4 lbs)	52 lbs	One bag is damaged
Experimental Product 25105 Dormant Crabgrass Killer	Paper Container	Approx. 10 lbs	Damaged
FMC Corp-Agricultural Chemical Division-Unknown	1 bag (50 lbs)	50 lbs	Damaged and placed into plastic bag with the contaminated soil
Gro-Tone Crabgrass Preventer	81 bags (30 lbs)	2480 lbs	55 bags intact 26 damaged bags placed in plastic bag, tagged and sealed
Hyvar-XL Weed Killer	1 jug (1 gallon)	1 gallon	Intact
Lebanon Country Club	1 paper bag (50 lbs)	12 lbs	Damaged; contains approx. 12 lbs; placed into plastic bag
Linch's Di-Met Liquid	4 jugs (1 gallon)	4 gallons	Intact
Mallinckroft Calo-Glor Turf Fungicide	3 paper containers (25 lbs)		At least one is damaged and less than full
Mallinckroft PO-San	2 cans (1 gallon)		Intact

HWM-5

SUBSTANCE	CONTAINER	TOTAL QUANTITY	STATUS
Mallinckroft Trex-San	5 cans (1 gallon)	5 gallons	Intact
Manhattan Turf Type Grass Seed		20 lbs	Placed in plastic bag
Methoxychlor EC-2 Insect Spray	1 can (5 gallons)	5 gallons	Intact
Miller	2 cans (5 gallons)	5 gallon	Intact, one can empty
Miller Fertilizer	3 bags		
Ortho Dielorin-Chlo Lawn & Garden Granules	1 paper container (5 lbs)	5 lbs	Damaged and placed into plastic bag
Ortho Lawn & Turf Fungicide	1 bag (2 lb 8 oz)	2 lb 8 oz	Placed in plastic bag
PM 2, 4-D Turf Weed Killer	1 glass jug (1 gallon)	1 gallon	Intact
PMAS	1 can (5 gallons)	5 gallons	Intact
PMAS Crabgrass Killer and Fungicide Liquid	7 jugs (1 gallon)	7 gallons	Intact
Proxol 80 SP Insecticide	12 bags (2 lbs)	24 lbs	Intact
Spectro Turf Fungicide	6 bags (2 1/2 lbs)	15 lbs	Intact
Spotrete F Flowable Thiram Turf Fungicide	4 jugs (1 gallon)	4 gallons	Intact
Spotrete Thiram Turf Fungicide	126 paper bags (3 lbs)	378 lbs	Intact
Surf-Side Surf Precoat 33-6	1 can		Intact
Thimer Turf Fungicide and Crabgrass Killer	2 containers (20 oz)	40 oz.	Intact
Tupersan Dupont Experimental Weed Killer	1 paper container (10 lbs)	5 lbs	No lid on container which is half full

SUBSTANCE	CONTAINER	TOTAL QUANTITY	STATUS
Unknown	1 tin can (1 gallon)	1 gallon	Intact
Unknown	1 plastic can (1 gallon)	1/3 gallon	Approx. 1/3 full with yellow substance
Unknown	2 cans (5 gallons)	10 gallons	Intact
Unknown	2 tin containers		One container is empty
Unknown Brown Colored Liquid	1 jug (1 gallon)	<1 gallon	Hole in container, estimated 1 pint lost, surrounding soil removed from trench
Unknown Brown Colored Liquid	1 plastic jug (1 gallon)	1/2 pint	Jug contains approx. 1/2 pint
Unknown Liquid	1 plastic bag (20 lbs)	20 lbs	Damaged and placed into plastic bag with contaminated soil
Unknown Solid	1 metal can (5 gallons)	5 gallons	Intact
Velsicol Banuel and 2, 4-D	2 cans (5 gallons)	10 gallons	Intact
Velsicol Banuel D 4-S Herbicide	1 can (5 gallons)	5 gallons	Damaged and placed into plastic bag with the contaminated soil
Velsicol Banuel Herbicide	1 plastic jar (1 gallon)	1/2 gallon	Damaged, appr. half full
Velsicol Chlordane 40 WP	17 bags (4 lbs)	68 lbs	4 bags are damaged
Vigoro-Rid Crabgrass Preventer	9 1/2 bags	190 lbs	All but one damaged
Weedone 64 Weed Killer	1 can (5 gallons)	5 gallons	Intact

3. FUTURE PLANS AND RECOMMENDATIONS:

A. Following the excavation of all materials buried in the pit, they will be segregated for proper disposal under NJDEP and EPA supervision.

CASE PENDS X CASE CLOSED ____ SUBMITTED BY: Paul R Elal

W. Gad Tawadros
Emergency Response
(TAT)

Red Sion

U.S. ENVIRONMENTAL PROTECTION AGENCY

POLLUTION REPORT

DATE: February 8, 1982

TO: J. Schafer, EPA
R. Dewling, EPA
B. Metzger, EPA
Emergency Response Division
J. Marshall, EPA
W. Mugdan, EPA
F. Rubel, EPA
R. Spear, EPA
NRC
USCG 3rd Dist. (mep)
J. Stanton, NJDEP
K. Stoller, EPA
B. Ogg, EPA
TAT
C. Simon, EPA

Region II
Emergency Response and Hazardous
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POLREP NO.: Three (3)
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SOURCE: Disposal Site at Pine Valley Golf Club
LOCATION: Pine Valley, Clementon, New Jersey
AMOUNT: Uncertain
WATER BODY:

1. SITUATION:

A. A number of substances including a variety of pesticides have been buried on property of the Pine Valley Golf Club, Pine Valley, Clementon, Camden County, New Jersey 08021.

B. Clean up activities consisting of excavating the substances; placing the substances in a shed, identification and temporary storage; and daily covering of the exposed site with a plastic sheet continues on a daily basis.

2. ACTION TAKEN:

A. Clean up contractor continues to extract and separate pesticide and substances, moving material from the dump site into a secure, temporary storage shed located approximately 200 feet from the site. Attached is an alphabetical list of all material removed through February 3, 1983 according to contractors log as verified by G. Tawadros and G. Crawford.

HWM-5

E-1

B. Safety performance by the contractor has been cause for concern over the past week. Particularly of concern were lack of a safety plan watch when workers are in the contaminated zones, and the cave-in potential from the steepness of the pit walls. By weeks end, these problems were resolved.

C. Paul Elliot visited the site for a progress update on 2/1/83.

D. The contractor could not work for two days because of weather conditions. On 2/3/83, Peter Capitano, EPA; John Hammond, TAT; and Anne Benedict, TAT; were on site for sampling of materials of particular concern to Paul Elliot. These include: arsenate of lead, DDT, chlordane, methoxychlor and Millers potash. Peter Capitano, John Hammond and George Crawford sampled material. Anne Benedict was recorder and Gad Tawadros was air monitor and safety. Level B protection was used. Split samples were provided to Pine Valley Golf Club. Bob Mather accepted custody of split samples.

E. On 2/4/83 , Gad Tawadros, Federal OSC met with Bob Mather, Pine Valley Golf Club and G. Zeigler, A.C. Shultes, Inc. to resolve safety issues and all agreed to follow EPA safety requirements.

3. FUTURE PLANS AND RECOMMENDATIONS:

A. Continue extraction of pesticide and other material from dump site.

B. Pine Valley Golf Club chemist will be on site on 2/7/83 to begin identification of materials and work for preparation of excavated material for shipment.

C. Overpack material and transport for disposal.

D. A meeting will be held on 2/7/83 to discuss disposal.

CASE PENDS X CASE CLOSED ____ SUBMITTED BY W. Gad Tawadros

W. Gad Tawadros
Emergency Response
(TAT)

HWM-5

E-2

SUBSTANCE	MATERIALS REMOVED BY DATE TO STORAGE			
	2/1/83		2/3/83	
	TOTAL AMOUNT	NUMBER DAMAGED	TOTAL NUMBER	NUMBER DAMAGED
Acti Dione RZ	7		7	
Agriform Planting Tablets			1	1
Amizine 5 lbs	1		1	
*Aqua Gro 5-5 gallon drums				
*Aqua T 2-1 gallon can				
Arsenate of Lead Chipco	12	2	14	2
Acme			1	1
Aspen GE			1	
*Atlas A 4 gallons				
*Banuel 4S 1-5 gallon drum		1	1	1
1 1/2-1 gallon jug		1	1	1
2 gallon can			1	1
*Banuel + 2, 4-0 1-5 gallon drum	2		2	
4-1 gallon jug	2		4	1
*Bromosan 30-3 lb bags	30		30	
Calor Glor 25 lbs	2	1	2	1
*Cadminate 25-5 lb bags	14			
Chip Cal 12 lb bag		1	1	1
*Chem Gro Dexon 16-3 lb bags	6	1	14	1
Chlordane 40 WP 4 lb bag	9	5	18	7
50 lb bag		1	1	1
72 EC 5 gallon can			1	1
*DDT 75 lbs		60 lbs	3	3=60lbs
Dacthal WP 24-4 lb bags	11	1	11	1
5% Green Keeper 25 lb bag	2	2	2	2
*Diazinon 10-1 gallon cans	8		8	
Dielorin-Chlo 5 lb bag		1	1	1
Dimet 6-1 gallon jugs	4		5	

HWM-6

SUBSTANCE	MATERIALS REMOVED BY DATE TO STORAGE			
	2/1/83		2/3/83	
	TOTAL AMOUNT	NUMBER DAMAGED	TOTAL NUMBER	NUMBER DAMAGED
Dinoxol 5 gallons	1		1	
*Diquet 3-1 gallon jugs				
Di-System			1	1
Dithane 4 lb bag	4	4	4	4
*Dolomite Limestone	1/2		1/2	
Dormant Crab Grass Killer 10 lbs	1	1	1	1
Dursban 1 gallon can	18		18	
*Dyrene 16-4 lb bags	12	2	12	2
Ferrated Antibiotic Fungicide 6-35 oz jar	6	1	6	1
*Fore Fungicide 18-4 lb bags				
Fungicide - Acti-Dione			7	
*Fungison 60-3 lb bags				
Grass Keeper (Borden) 50 lb bag			1	1
Grass Seed (Manhattan)	1		1	
Gro Tone Crabgrass Preventer	57	29	57	29
*Hyvar X-L 7-1 gallon jugs	1		5	
*Koben 4 1/2-25 lb drums		1	1	1
Kromad 25 lbs	1		1	
Lebanon Country Club Fert. 50 lb bag		12 lbs	1	1=12 lb
Lebanon Crabgrass Control 25 lb bag		1	1	1
*Liquid Lime	5		8	
*MCPP 1-5 gallon drum 1 gallon			4	
*MCPP + 2, 4-D 1 gallon				

HWM-5

E-4

SUBSTANCE	MATERIALS REMOVED BY DATE TO STORAGE			
	2/1/83		2/3/83	
	TOTAL AMOUNT	NUMBER DAMAGED	TOTAL NUMBER	NUMBER DAMAGED
*Malathion 50% 1-5 gallon drum	1	1	1	1
Malathion Chipman 4 lb bag			1	1
Manz			1	1
Mercurial Calo Gram Turf Fungicide	17	7	17	7
*Methoxychlor EC2 2-5 gallon drums	1		1	
Microgreen WP 15-4 lb bags	4	1	4	1
Miller Potash?	1	1	1	1
*Nemacide VC 13 2-1 gallon jugs				
*Nemagon EC 2 2-5 gallon drums	1		2-1 empty 0	
Ortho Lawn & Turf 2 1/2 lb bag	3	3	6	6
P.O. San 1 gallon	1		1	
P.O. San Formulation B			2	
*PMAS 2-5 gallon drums	2	1	2	1
37-1 gallon jugs	11	2	23	5
20 gallon container			1	
*Proxol 80 SP 12-1 lb bags	12		12	
Rich Yield Bags		3	3	3
*Soil Life "300" 1 gallon				
Sofin Soil Lawn&Garden Gypsum 50 lb bag		6	6	6
*Spectro Turf Fungicide 6-2 1/2 lb bags	6		6	
*Spotrete F 8-1 gallon jugs	4		8	
*Spotrete WP 36-3 lb bags	140	6	140	6
*Spreader Sticker 1 gallon				
*Stoma Seal 33-1 gallon jugs	21	3	25	3
Surf Pre Coat	1		1	

HWM-5

E-5

SUBSTANCE	MATERIALS REMOVED BY DATE TO STORAGE			
	2/1/83		2/3/83	
	TOTAL AMOUNT	NUMBER DAMAGED	TOTAL NUMBER	NUMBER DAMAGED
Surf Side 1 pint can 1 gallon can	1		1	
TAT 42 1 gallon		1	1	1
Thimer Turf Fungicide 20 oz.	2		2	
*2, 4-D PM 3 1/2-1 gallon jugs	1		1	
30 lb containers		1	1	1
*Thiram	18		18	
Trex San 1 gallon can	5		5	
Tuperson 11-4 lb bags		1	2	2
Turf Clean	1	2	6-3 empty	5
Vigoro-Rid 30 lb bags		10 1/2	10 1/2	10 1/2
*Weedone 64 2-5 gallon drums	1		1	
Weedone LV 4 11-1 gallon cans	7		7	
UNKNOWN				
Brown liquid 1 gallon		1	1	1
1 gallon can	1		1	
Yellow plastic container		1	1	1
5 gallon can solid			1	
1 gallon jug			1	
1 pint brown liquid	1		1	
2 tins	1	1	2	1
FMC 50 lbs		1	1	1
20 lb liquid bag		1	1	1
Plastic bag 25 lbs	1		1	
1 gallon plastic container (brown liq)	3	1	3	1
25 lb blade green powder		1	1	
16 gallon tin can			1	
30 lb white powder			1	1

HWM-5

ADM-012

MEMO

NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION

TO Vince Krisak

FROM David E. Bute DATE 2/16/83

SUBJECT Pine Valley Golf Club

On January 21, 1983 at 0900 hours, the Red Lion Office received a call from Mr. Gad Tawadros, US EPA. This call was taken by Mr. Gary Allen. This case was then turned over to Mr. Vince Krisak. At 0945 hours, Mr. Krisak requested that this writer contact Mr. Tawadros and arrange to meet with him and conduct an inspection of the complaint.

At 1122 hrs., this writer met with Mr. Tawadros at the Red Lion office. We then departed the office and went to the Pine Valley Golf Club where we met with the police chief of the Boro of Pine Valley a Mr. George Kenble. Mr. Kenble then took us to met the man that is in charge of the maintenence for the grounds, a Mr. Richard Bator. His title is Golf Course Superintendent.

At that point and time, Mr. Tawadros, Mr. Kenble, Mr. Bator and this writer went to the old landfill that the chemicals had been buried in. The location of the trench was marked off by Mr. Bator. Mr. Bator was then advised that his personnel and equipment could not uncover the chemicals. Mr. Bator was told that he would have to hire a clean up contractor to remove the chemicals from the ground. Mr. Bator was given a copy of the contractor's list and was told that it would be up to him and the personnel that he worked for to pick the contractor that they wanted to handle the clean up. At that point, Mr. Bator and this writer went to the storage room that housed the rest of the chemicals and a 1980 list was updated with the names of the chemicals that were believed to be in the trench. After that was completed, this writer out briefed the personnel at the Pine Valley Golf Club clubhouse and talked to Mr. Gary Ziegler from A. C. Schultes and Sons Inc. Mr. Ziegler stated that his company could handle the clean up and he would meet with me on Monday.

On January 23, 1983 at 0900 hours, this writer returned to the Pine Valley Golf Course and met with the personnel from the course, A. C. Schultes and Son, EPA and Mr. H. A. Alsentzer from Counsuling Division Waste Conversion Inc. At that meeting this writer took charge of the meeting and outlined the following plan of attack:

1. The problem and how it came about.
2. The actions that would be taken to handle the clean up.
3. The four phases that we were going to go through.

    a. The removal phase - removing the chemicals from the ground.
    b. The staging phase - stage the chemicals on site and evaluate them for the ones that could be put back into stock and reused.
    c. The analysis phase - to identify the waste and any chemicals that had to be disposed of.
    d. The disposal phase - arrange for disposal and manifest all waste to an approved landfill I.A.W New Jersey, ID classification.

1100 hours, A.C. Schultes equipment arrived on site and started to prepare the work area.

1210 hours, working with Mr. Bator and the club, a building next to the site was cleaned out and prepared for use as a staging area. This building was a black construction with a cement floor. The floor was covered with 6mm plastic and pallets were used to set the bages and bottles of chemicals on during the staging phase.

HWM-S

F-1

1600 hours, the first bags were placed in the building and the area was secured for the day.

On January 24, 1983, the work continued without any major problems.

On January 25, 1983 at 0925 hours, Don Patterson from the Bureau of Pesticides was contacted and advised of the problem.

A meeting was held once again to talk over any problem areas and this writer was advised that the PVGC was going to make up a press release. The work on the site continued without any major problems.

On January 26, 1983, this writer arrived on site at about 0930 hours and found that one of the survyair masks that were being used was out of service. After checking the other mask it was noted that this safety equipment had not been cleaned up after the last day's use. Mr. Jim Schultes was contacted by this writer and advised of the problem with the safety equipment. He was also advised that if this equipment could not be maintained in good operating order then the personnel could not be allowed to work or handle the chemicals.

January 27, 1983, 1010 hours, this writer arrived on site and made an inspection of the work area. It was noted that at that point and time the worker had started to uncover chlordane and other highly volatile chemicals. The work continued until 1400 hours in the hole and during the next 2½ hours, the chemicals that were removed from the hole were moved to the staging area and secured.

January 28, 1983 at 1100 hours, this writer arrived on site. An inspection of the site was conducted and the work was continuing.

January 31, 1983 at 0920 hours, this writer arrived on site and made an inspection of the trench. The trench was found to be dry and the contractor was at work.

I was advised by EPA that they were not satisfied with the safety of the personnel in the work area. The level of safety in the area is not the responsibility of this writer. That responsibility lies with the contractor and Mr. Tawadros was advised of that fact.

February 1, 1983, the work on the site continued. Paul Ellet from EPA was on site. He did not have any questions or suggestions.

February 2, 1983, this writer was told that Weston and the EPA would have a sampling team on site tomorrow, February 3, 1983. They were told that this OSC would not allow that team to sample anything for the following reasons:

1. This clean up is being paid for by the golf course and not the state or federal.
2. All work will be done under my control and when the sampling is done they can have a split sample.

February 3, 1983

I Gad Towadros from EPA Region II, do hereby take full responsibility for all samples that are removed from the property of the Pine Valley Golf Cours.

I am also aware that this sampling is being done under the protest of the OSC.

David E. Bute, February 3, 1983.

At 0925 hours on 3/2/83, Mr. Tawadros was asked if he would sign the above two state-

HWM-S

F-2

ments. His answer was I have to check with my boss. He then called his boss and returned to the table. Once again, he was asked if he would sign the statements. This time his answer was we will provide you with a split sample and a chain of custody. This writer then told Mr. Tawadros that his personnel would be responsible for all security of any container or bag that would be open up by them. Mr. Tawadros refused to sign the statements.

This writer then proceeded to the building that the chemicals were being staged in and at 0930 hours this writer opened up the building and waited for the EPA sampling team.

1020 hours, the sampling team arrived on site. Five samples were taken. Pete Capitano EPA, John Hammon, TAT, Nan Bendix, TAT, George Crawford, TAT and Gad Tawadros, EPA.

1045 hours this writer secured from the site and returned to Red Lion.

Conclusion

The individual that was assigned to this case by the EPA, in this writer's judgement, should not be allowed to handle a case of this type.

Recommendation

That onece the case has been turned over the OSC, either from the State of the EPA, the other agency should back out until they have a question and that question should be addressed to the OSC.

David E. Bute
Prin. Env. Tech.

U.S. ENVIRONMENTAL PROTECTION AGENCY

POLLUTION REPORT

DATE: February 16, 1983

TO: J. Schafer, EPA
R. Dewling, EPA
B. Metzger, EPA
Emergency Response Division
J. Marshall, EPA
W. Mugdan, EPA
F. Rubel, EPA
R. Spear, EPA
NRC
USCG 3rd Dist. (mep)
J. Stanton, NJDEP
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B. Ogg, EPA
TAT
C. Simon, EPA

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Emergency Response and Hazardous
Materials Inspection Branch
Edison, N.J. 08837

(201) 321-6670 - Commercial
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340-6670 - FTS

POLREP NO.: Four (4)
INCIDENT NAME: Pine Valley Golf Club
SITE/SPILL NO: 242-83
POLLUTANT: Pesticides and Possibly Other Substances
CLASSIFICATION:
SOURCE: Disposal Site at Pine Valley Golf Club
LOCATION: Pine Valley, Clementon, New Jersey
AMOUNT: Uncertain
WATER BODY:

1. SITUATION:

A. A number of substances including a variety of pesticides have been buried on property of the Pine Valley Golf Club, Pine Valley, Clementon, Camden County, New Jersey 08021.

B. Clean up activities consisting of excavating the substances; placing the substances in a shed, identification and temporary storage; and daily covering of the exposed site with a plastic sheet continues on a daily basis.

2. ACTION TAKEN:

A. No excavation was done because of snow and adverse weather conditions during this week.

B. On 2/9/83, a meeting was held at the Pine Valley Golf Club to develop plans for completion of the clean-up, determination of environmental impact, and disposal of the material. The following people were present:

HWM-5

G-1

1. Robert Mather - Pine Valley Golf Club/Local Health Officer
2. Gary Zeigler - A. G. Schultes, Contractor to PVGC
3. Harry Alsentzer - Waste Conversions Incorporated, Contractor to PVGC.
4. Gad Tawadros- EPA
5. Tom Hughes - TAT, Region II
6. George Crawford - TAT, Region II

The NJDEP was notified of this meeting but did not attend due to training commitments.

C. The meeting began with Harry Alsentzer, consultant to PVGC briefing attendees on the agreement developed between NJDEP and PVGC that concurred with by EPA as follows:

1. Cover slough over the dumped material would be removed and set aside.

2. Chemicals would be removed, tagged, and placed in secure temporary storage pending a decision on disposal.

3. Leaking containers would be repacked in plastic bags or drums.

4. Obviously contaminant soil and soil under damaged containers would be removed as completely as possible, bagged and labelled.

5. Usable material may be recovered and used by PVGC.

6. No material would be disposed of until all material and contaminated soil can be removed.

7. Judgement regarding the soil remaining in the pit would be made after all material was removed.

8. No work would be done during rain or snow.

9. The pit would be covered when not being worked on.

D. Harry Alsentzer, proposed that soil samples, taken as directed by EPA and NJDEP, could be analyzed for E.P. Toxicity, TOX (Total Organic Halogens) and pH as a means of determining if contamination has been satisfactorily removed. EPA recommended split spoon sampling from 3 corners of the pit and a composite background. This proposal was accepted pending concurrence by NJDEP and the findings of EPA's and TNT's continued evaluation of the proposal. It was preliminarily agreed that a NJ state certified lab would be used for the analysis.

E. It was proposed by PVGC that once all material has been removed from the pit, Dick Bator, PVGC, and Harry Alsentzer would determine what materials are usable. These materials will be removed to proper storage. All other materials would be prepared for shipment to disposal by drumming in RCRA approved drums. Manifesting and placarding would be proposed for approval by NJDEP and EPA.

F. EPA recommended that once all materials have been satisfactorily removed the pit would be closed as follows, if acceptable to NJDEP:

1. A covering layer of clean fill.
2. A layer of clay acceptable for landfill caping.
3. Sloping the clay layer in the direction of groundwater flow.
4. A final layer of fill including material removed from above the dumped material when the pit was opened.

G. A possibility of a monitoring well was discussed. A decision will be made after original sample analysis is completed.

H. It was agreed that no work will be done in the pit when it is raining or snowing, but that work can proceed with care when there is snow on the ground.

3. FUTURE PLANS AND RECOMMENDATIONS:

A. It was estimated that the project would continue as follows:

1. February 14 and 15 - Completion of removal of material from the pit.
2. February 16 or 17 - Split spoon samples taken and sent to an acceptable laboratory.
3. February 16 or 17 - Pit will be completely covered with plastic. Plastic will be supported by boards placed across the pit and tented to control run-off of snow or rain.
4. February 16 or 17 - Work would begin on determining which materials are reusable. All other materials will be repackaged, manifested and placarded with the concurrence of EPA and NJDEP. Material will not be shipped until the pit is declared acceptably decontaminated.
5. Analysis of initial split samples should be completed by March 1, 1983. If the results are satisfactory, the pit will be refilled as described above. If the results are unsatisfactory, a joint decision as to how to proceed will be made.
6. The earliest completion date would be March 7, 1983.

CASE PENDS X CASE CLOSED ____ SUBMITTED BY _____

W. Gad Tawadros, OSC
Emergency Response and
Hazardous Materials
Inspection Branch
(TAT)

HWM-5

ADM-012

MEMO

NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION

TO Vince Krisak

FROM David E. Bute DATE 2/18/83

SUBJECT Pine Valley Golf Club

On February 18, 1983, this writer made a final inspection of the excavation of the Pine Valley Golf Club (PVGC). This excavation was due to the removal of the chemicals that had been buried on 1/12/83.

At 0810 hours, this writer arrived at the golf course and found that all of the chemicals reported to have been buried, had been removed from the excavation. At that point, this writer requested that the back hoe operator make some test digs to make sure that all of the chemicals had indeed been removed from the environment.

After the test digging had been completed and the hole was found to be clean, this writer advised Mr. Gad Tawadros of the EPA, of that fact. At that point, Mr. Tawadros was also told that in this writer's judgement the hole had beencleaned up and that I was going to have the contractor fill in the excavation. Mr. Tawadros did not voice any objection at that time. However, Mr. Tawadros did request that before the excavation was closed, that 3 core samples be taken at 3 locations in the bottom of the hole. This request was complied with.

This writer and personnel from A. C. Schults and Son, under the direction of Mr. Tawadros did take 4 core samples from four areas that were pointed out by Mr. Tawadros. The four samples that were taken in the hole were split samples. The EPA and Mr. Harry ~~Eisenburger~~ Alsentzer, the chemical engineer retained by the golf course, each received half of the samples. Mr. ~~Eisenburger~~ Alsentzer then removed the samples from the site and returned to the club house. After Mr. Tawadros had returned to the club house, from the site, Mr. ~~Eisenburger~~ Alsentzer and this writer asked him what he wanted the samples analyzed for. Mr. Tawadros could not answer that question without first checking with his supervisor. This was Mr. Tawadros standard answer to any question asked of him during the whole operation. From this one can only conclude that Mr. Tawadros is not properly trained to handle on site problems that might arise from day to day.

Conclusion

Due to the fast action on the part of the golf course personnel and the 1000 percent cooperation from same, it is the judgement of this writer that the removal phase of this operation has gone quite well, with one exception. I do not and I never will, accept the fact that it was necessary to have personnel from EPA and NJDEP trying to tell the golf course personnel what had to be done.

This case was turned over to the NJDEP on January 21, 1983, by Mr. Tawadros when he made the statement to this writer in front of two other personnel that the State was in charge.

Recommendations

1. That the Federal EPA back off and let the personnel that run the golf course and NJDEP complete the last three phases of this operation without any further conflicts.

2. When phase 3 and 4 have been completed that a meeting be held with all personnel.

David E. Bute
Prin. Env. Tech.

HWM-5

H-1

U.S. ENVIRONMENTAL PROTECTION AGENCY

POLLUTION REPORT

DATE: February 23, 1983

TO: J. Schafer, EPA
R. Dewling, EPA
B. Metzger, EPA
Emergency Response Division
J. Marshall, EPA
W. Mugdan, EPA
F. Rubel, EPA
R. Spear, EPA
NRC
USCG 3rd Dist. (mep)
J. Stanton, NJDEP
K. Stoller, EPA
B. Ogg, EPA
TAT
C. Simon, EPA

Region II
Emergency Response and Hazardous
Materials Inspection Branch
Edison, N.J. 08837

(201) 321-6670 - Commercial
(201) 548-8730 - 24 Hour Emergency
340-6670 - FTS

POLREP NO.: Five (5)
INCIDENT NAME: Pine Valley Golf Club
SITE/SPILL NO: 242-83
POLLUTANT: Pesticides and Possibly Other Substances
CLASSIFICATION:
SOURCE: Disposal Site at Pine Valley Golf Club
LOCATION: Pine Valley, Clementon, New Jersey
AMOUNT: Uncertain
WATER BODY:

1. SITUATION:

A. A number of substances including a variety of pesticides have been buried on property of the Pine Valley Golf Club, Pine Valley, Clementon, Camden County, New Jersey 08021.

B. Clean-up activities consisting of excavating the substances; placing the substances in a shed, identification and temporary storage; and daily covering of the exposed site with a plastic sheet continues on a daily basis.

2. ACTION TAKEN:

A. Excavation was completed on 2/16/83.

B. On 2/17/83, split spoon samples were taken at 4 locations in the pit. Samples were split with Pine Valley Golf Club. The pit was then filled by order of the NJDEP.

C. ERT visited the site and assisted in locating or defining locations for background sampling if needed. The sampling of 2/17/83 and analytical protocol proposed by ERT were discussed.

HWM-5

D. A meeting convened at the Pine Valley Golf Club with the following attendees to discuss determination of how "clean is clean" relative to the situation:

Robert Mather, Manager, Pine Valley Golf Club
Dave Bute, NJDEP
Harry Alsentzer, Contractor to PVGC
Gad Tawadros, EPA
Royal Nadeau, EPA
John Hammond, TAT
George Crawford, TAT

NJDEP requested an explanation of the regulation used to justify sampling and provide criteria for determining how clean is clean. It was explained that because of the chemicals involved, heavy metals and chlorinated pesticides, and the results of leaching model forecasts, sampling was needed to assure decontamination was sufficient for protection of drinking water.

NJDEP questioned EPA's understanding of the geological profile of the area, then went into a somewhat detailed explanation of area geology and the rationale for feeling the pit was not a threat to the environment including the small amount of material, shortness of time in the ground, distance of the pit from drinking water and the intervening soils.

ERT explained that it was felt sampling was required to protect all parties to the clean-up.

D. Bute asked if samples taken on 2/18/73 would be usable, indicating that if further sampling required opening the pit again that this would be EPA's responsibility and advising PVGC to request such a direction in writing.

After discussion of the sampling it was agreed that these samples would be accepted. Analysis recommended by EPA was TOX (Total Organic Halogens) and metals. ERT proposed an analytical protocol for the TOX. One laboratory, Atlantic Ecology, had been contacted and can do the procedures required. If PVGC wanted to use another lab, it was suggested that the lab contact Mike Urban, EPA to confirm the ability to do the procedure. Determination of cleaness would be dependent upon the relation of the pit sample analysis to a background sample taken at an area of the golf course unexposed to chemicals.

Written instruction for the analyses were requested by PVGC and agreed to by EPA. It was agreed that these sample analyses would suffice if the lab met quality assurance criteria and levels were below background. PVGC will be advised by 2/28/83 when they can expect analysis instructions.

EPA concurred with plans made to complete the project which include:

1. Completion of separating usable from unusable material
2. Moving usable material to a separate location
3. Calling in disposal contractors for the unusable material
4. When manifesting and packaging meet disposer and NJDEP approval, transportation of material to the disposal site will occur

3. FUTURE PLANS AND RECOMMENDATIONS:

A. Pine Valley Golf Club will have disposal contractors inspect excavated unusable material and obtain bids for disposal.

B. EPA will monitor progress.

C. When sample analysis is completed a meeting will be held to discuss future considerations.

CASE PENDS X CASE CLOSED ____ SUBMITTED BY W. Gad K

W. Gad Tawadros, OSC
Emergency Response and
Hazardous Materials
Inspection Branch
(TAT)

HWM-5

Ch. Evans

Done FYI & file

U.S. ENVIRONMENTAL PROTECTION AGENCY

POLLUTION REPORT

DATE: March 4, 1983

TO: J. Schafer, EPA
R. Dewling, EPA
B. Metzger, EPA
Emergency Response Division
J. Marshall, EPA
W. Mugdan, EPA
F. Rubel, EPA
R. Spear, EPA
NRC
USCG 3rd Dist. (mep)
J. Stanton, NJDEP
K. Stoller, EPA
B. Ogg, EPA
TAT
C. Simon, EPA

Region II
Emergency Response and Hazardous
Materials Inspection Branch
Edison, N.J. 08837

(201) 321-6670 - Commercial
(201) 548-8730 - 24 Hour Emergency
340-6670 - FTS

POLREP NO.: Six (6)
INCIDENT NAME: Pine Valley Golf Club
SITE/SPILL NO: 242-83
POLLUTANT: Pesticides and Possibly Other Substances
CLASSIFICATION:
SOURCE: Disposal Site at Pine Valley Golf Club
LOCATION: Pine Valley, Clementon, New Jersey
AMOUNT: Uncertain
WATER BODY:

1. SITUATION:

A. A number of substances including a variety of pesticides have been buried on property of the Pine Valley Golf Club, Pine Valley, Clementon, Camden County, New Jersey 08021.

B. Clean-up activities now consist of storing the substances in a locked shed while awaiting bids from three disposal companies.

2. ACTION TAKEN:

A. TAT member, George Crawford, visited the site on February 24, 1983 and confirmed that the situation remains secure. Pine Valley Golf Club (PVGC) reported that three disposal companies visited the site on this date. NJDEP was on hand to instruct disposers on manifesting and disposal requirements. Bids are expected in the near future after which excavated unuseable material will be consigned for disposal.

B. On February 25, 1983, the ER&HMI Branch Chief, Emergency Response Section Chief, EPA Project OSC, the Acting Chief, Hazard Assessment, ERT, and two TAT members and the TATL met to review the sampling of February 17, 1983 and proposed analytical procedures.

J-1

DHW-S

It was agreed that the February 17, 1983 samples which were taken on the spur of the moment due to NJDEP insistance on pit closure were unusable and that a new sampling plan with proper QA/QC must be developed. Since there will be Enforcement action, TAT will prepare a draft of a letter to PVGC from Enforcement requiring further sampling along with a sampling plan by March 7, 1983. The Branch Chief will contact Enforcement regarding this. ERT agreed to provide analytical support by establishing protocols to perform TOX and metals analysis either in the EPA Lab or a lab approved by ERT. It was also agreed that the basis for deciding if cleanup is complete will be comparison of site samples to background samples, and evaluating total amounts of residue material estimated as remaining in the pit.

3. FUTURE PLANS AND RECOMMENDATIONS:

A. Material for disposal will be packed and disposed of by the selected contractor in accordance with appropriate regulations.

B. Perform sampling at PVGC after approval of a sampling plan with proper QA/QC procedures and agreement by PVGC.

C. Meet with PVGC after finalization of the sampling analytical report to discuss the need for further cleanup.

D. Continue to visit the site weekly to monitor the situation with more frequent visits if activity warrants.

CASE PENDS X CASE CLOSED _____ SUBMITTED BY W. Gad Tawadros

W. Gad Tawadros, OSC
Emergency Response and
Hazardous Materials
Inspection Branch
(TAT)

DHW-5

J-2

U.S. ENVIRONMENTAL PROTECTION AGENCY

POLLUTION REPORT

DATE: March 21, 1983

TO: J. Schafer, EPA
R. Dewling, EPA
B. Metzger, EPA
Emergency Response Division
J. Marshall, EPA
W. Mugdan, EPA
F. Rubel, EPA
R. Spear, EPA
NRC
USCG 3rd Dist. (mep)
J. Stanton, NJDEP
K. Stoller, EPA
B. Ogg, EPA
TAT
C. Simon, EPA

Region II
Emergency Response and Hazardous
Materials Inspection Branch
Edison, N.J. 08837

(201) 321-6670 - Commercial
(201) 548-8730 - 24 Hour Emergency
340-6670 - FTS

POLREP NO.: Seven (7)
INCIDENT NAME: Pine Valley Golf Club
SITE/SPILL NO: 242-83
POLLUTANT: Pesticides and Possibly Other Substances
CLASSIFICATION:
SOURCE: Disposal Site at Pine Valley Golf Club
LOCATION: Pine Valley, Clementon, New Jersey
AMOUNT: Uncertain
WATER BODY:

1. SITUATION:

A. A number of substances including a variety of pesticides have been buried on property of the Pine Valley Golf Club, Pine Valley, Clementon, Camden County, New Jersey 08021.

B. All suspected hazardous substances which were excavated, were removed for disposal by Rollins Environmental Services on March 17 and 18, 1983.

2. ACTION TAKEN:

A. TAT visited the site on March 3 and 11, 1983 and confirmed that the situation remained unchanged. The OSC and TAT were on-site on March 16, 17, and 18, 1983 for sampling and monitoring of clean-up actions.

B. On Wednesday, March 16, 1983, the OSC and TAT were on-site to obtain samples of three of the unknown substances recovered from the dump site. All samples were placed in separate 16-oz. glass jars with plastic lids and teflon lid liners. Sample #61994 was of a reddish colored solid material obtained from a 50-lb. bag of material. Sample #61995 was of a white colored powder obtained from a 25-lb. bag of material. Sample #61996 was of soil contaminated by an unknown liquid, obtained from a 50-lb. bag of material. Equal, duplicate samples were requested by and provided to the Pine Valley Golf Club. Samples obtained for EPA were placed in a locked refrigerator at the EPA Region II Laboratory. QA/QC procedures were as described for the February 3, 1983 sampling effort at Pine Valley Golf Club.

HWM-5

K-1

C. On March 17 and 18, 1983, Rollins Environmental Services collected and transported all substances recovered from the dump site. All materials removed are to be incinerated. All hazardous materials removed were manifested and labeled as "Pesticides N.O.S., ORM-C". On March 17, 1983, a total of 73 drums containing 16,000 lbs. of solid material and 2 sealed, DOT-approved bins containing 300 lbs. of liquid were removed. On March 18, 1983, a total of 12 drums containing 660 gals. of solid materials were removed.

3. FUTURE PLANS AND RECOMMENDATIONS:

A. A sampling plan (including QA/QC procedures and methodology) which was developed to determine the levels of contamination in the dump site, was submitted by EPA to the Pine Valley Golf Club. Sampling will be at 4 different locations at 3 depths in the pit, and will involve the services of the Pine Valley Golf Club drilling contractor. EPA is awaiting a response from the Pine Valley Golf Club.

CASE PENDS X CASE CLOSED _____ SUBMITTED BY W. Gad Tawadros

W. Gad Tawadros, OSC
Emergency Response and
Hazardous Materials
Inspection Branch
(TAT)

HWM-5

K-2

U.S. ENVIRONMENTAL PROTECTION AGENCY

d-28-2

POLLUTION REPORT

DATE: 4/29/83 File

Region II
Emergency Response and Hazardous
Materials Inspection Branch
Edison, N.J. 08837

(201) 321-6670 - Commercial
(201) 548-8730 - 24 Hour Emergency
340-6670 - FTS

TO: J. Schafer, EPA
R. Dewling, EPA
B. Metzger, EPA
Emergency Response Division
J. Marshall, EPA
W. Mugdan, EPA
F. Rubel, EPA
R. Spear, EPA
NRC
USCG 3rd Dist. (mep)
J. Stanton, NJDEP
K. Stoller, EPA
B. Ogg, EPA
TAT
C. Simon, EPA

POLREP NO.: Twelve (12)
INCIDENT NAME: Pine Valley Golf Club
SITE/SPILL NO: 242-83
POLLUTANT: Pesticides and Possibly Other Substances
CLASSIFICATION:
SOURCE: Disposal Site at Pine Valley Golf Club
LOCATION: Pine Valley, Clementon, New Jersey
AMOUNT: Uncertain
WATER BODY:

1. SITUATION:

A. A number of substances including a variety of pesticides had been buried on property of the Pine Valley Golf Club, Pine Valley, Clementon, Camden County, New Jersey 08021.

B. All suspected hazardous substances which were excavated from the dump site, were removed for disposal by Rollins Environmental Services on March 17 and 18, 1983.

2. ACTION TAKEN:

A. On May 3, 1983, EPA travelled to the Pine Valley Golf Club to affect recombining and resplitting of the core samples taken on 2/17/83 and to obtain background samples. All samples taken previously, i.e. all PVGC and EPA core samples were combined, mixed and resplit. Grab samples from the fill pile were also combined, mixed and split. Background samples were taken from two 24" deep holes about 200 yards east of the pit. Samples were composited and split.

L-1

3. FUTURE PLANS AND RECOMMENDATIONS:

A. Samples will be analyzed for Total Organic Halogens (TOX), E.P. Toxicity (metals only) and specific metals, arsenic, cadmium, lead and mercury and possibly a pesticide scan will be run.

B. Data will be evaluated by:
   1. Comparing pit samples to background, and
      a. If results are below background, considering the pit clean
      b. If results are above background:
         1) Determining mass and relating mass to Clean Water Act -311(b)(2)(A) Standards;
         2) Determining potential impact on water aquifers through contaminant fate modelling, and;
         3) Comparing E.P. Toxicity data to RCRA criteria.

CASE PENDS X CASE CLOSED _____ SUBMITTED BY W. Gad Tawadros

W. Gad Tawadros, OSC
Emergency Response and
Hazardous Materials
Inspection Branch
(TAT)

L-2

Consulting Division
WASTE CONVERSION, INC.

127-4127
P.O. BOX 4[illegible] WOODBURY, NEW JERSEY 08096
PHONE: (609) 845-0967 - 0968

March 21, 1983

Mr. Robert Mather
Pine Valley Golf Club
Clementon, NJ 08021

Dear Bob:

I read the document from U.S. EPA and marked certain paragraphs. The original is hereby returned; I've made a copy for my file.

If Ernie or you want me to review the case with George Hauptfuhrer, after you obtain copies of Dave's report please let me know. I enclose a synopsis of the notes I took during my visits.

I appreciate the courtesy and cooperation you and your people extended. Please keep me informed of future developments.

Regards,

CONSULTING DIVISION,
WASTE CONVERSION, INC.

H.A. Alsentzer,
Technical Director

HAA:bac
Enclosure

cc: Gary J. Ziegler, P.E.

HWM-5

M-1

Synopsis of notes taken by H.A.A. at PVGC

1/24 Present: Bute, Mather, Bator, Ziegler
Bute presented clean up format as follows:

a) Remove cover soil and place beside pit.
b) Contractors people to wear protective clothing.
c) Remove chemicals from pit; label, place in staging area building on pallets, cover entire floor with plastic sheet, place any leakers in plastic containers.
d) If broken containers found in pit, remove 6" of soil beneath and around the container and place in drums.
e) Club may re-stock any material recovered for subsequent use on grounds.
f) Material to be removed from the site only after pit is clean. It must be identified per RCRA, manifested and hauled to a licensed TSD facility.
g) If the virgin ground is found to be contaminated the analysis required and the quantity of earth to be removed will be determined.

We agreed to this plan because it was logical and correct. I reviewed the chemistry of the compounds based on a 1980 stock list.

1/26 Present: Bute, Mather, A.C.S. men.

Clean up underway; most of containers are being recovered in tact. The broken bags were noted, for the most part, to contain potash.

Six 80 gallon overpacks all ready are filled with damaged bags and soil removed from around them. Noted the care exercised by the ACS men when removing the containers and soil to prevent contamination by their action.

2/7 Present: Tawadros, Crawford, Mather

Crawford estimates 80% of material out of pit. Tawadros suggests recovered material be removed immediately from site. I disagree and Crawford concurrs Tawadros reports Edison E.P.A. has soil sample taken by him (location not identified).

Crawford spoke of removal of core samples from 3 locations in pit for pesticide analyses by GC mass spec.

I repeatedly asked for clarification of which agency had jurisdiction - no response.

HWM-5

M-2

2/9 Present: Tawadros, Crawford, Hughes, Mather, Ziegler

Schedule reviewed concerning removal of remaining material from pit. Crawford reported pounds of damaged containers he recorded as removed and placed in staging area. Discussion on soil core samples to be taken and possible monitoring wells to be installed.

I recommended specific analysis for E/P toxic metals and TOX, only if the Club was directed to do this. Tawadros did not confirm: said NJDEP or EPA would contact us in next few days to specify the analysis required.

2/17 Present: Bute, Tawadros, Crawford, Mather

Pit is empty and clean as inspected by Bute and me. Took four core soil samples and two surface soil samples at the request of Tawadros. Split each sample; I have our set.

Bute ordered the pit to be filled by ACS men on the authority of Kraus using the soil and cover previously placed beside the pit.

Bute directed the Club to remove any undamaged containers from the staging area for return to inventory. The Club was to record this material against the list removed from the pit.

We will contact three contractors to quote on the packaging, removal and disposal of material in the staging area and in the drums located beside the pit.

2/18 Present: Bute, Tawadros, Crawford, Hammond, Nadeau, Mather

Bute - "State is satisfied." All products the Club will re-use have been removed from the staging area.

It was obvious Hammond and Nadeau had not been accurately informed as to the scope of the project and what had been done. Nadeau discussed soil sampling and analysis for metal contamination at much lower detection levels than specified by RCRA. He did not define the limits. Hammond said he would send a letter to the Club in this regard by 2/23.

Tawadros requested further meetings. I said none were required.

HWM-S

M-3

2/23 Present: Bute, McDonald, Focazio, Frank, Mather

Contractors inspected the site and staging area so that they could propose their bids for packaging, transportation and disposal. Bute defined the requirements. Bute and I outlined the chemistry of the products involved.

3/9 Present: Bute, Pettit, Ransome, Mather

Bute and Pettit outlined recommendations for closure of the pit. Contractors bids were reviewed: R.E.S. selected mainly because they proposed to incinerate the entire volume.

3/10 Present: McDonald, Mather

Questions concerning R.E.S. proposal resolved in writing. R.E.S. awarded contract to start on 3/17. McDonald will be present.

3/17 Present: Bute, McDonald, Mather

All material removed from staging area properly packaged and labeled. Bute and I were satisfied. Mather will sign all manifests on behalf of PVGC.

HWM-5

M- 4

PINE VALLEY GOLF CLUB
PINE VALLEY, N.J. 08021

April 7, 1983

Richard A. Baker, Ph.D.
Chief
Permits Administration Branch
Room 432
United States Environmental Protection Agency
26 Federal Plaza
New York, N.Y. 10278

Dear Dr. Baker:

In response to the attached letter from John Witkowski, I am submitting herewith the following information.

All hazardous waste was removed from the Pine Valley Golf Course site, transported by a licensed transporter, and accepted by a licensed treatment, storage and disposal facility in accordance with the Resource Conservation and Recovery Act and applicable New Jersey laws and regulations. Enclosed are copies of the manifest forms for this activity. Since there will be no further shipments of hazardous waste from this site, no application for a permanent EPA I.D. number is needed. There will be no treatment, storage or disposal of any hazardous wastes at this site.

For your records we are enclosing an executed form No. 8700-12 "Notification of Hazardous Waste Activity".

If you have further questions, please contact me.

Sincerely yours,

Robert W. Mather

Robert W. Mather

RWM:cvf
Encls.

cc: John Witkowski
David Bute

HWM-5

W-1

ADM-012

MEMO

NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION

TO Vince Krisak

FROM David E. Bute DATE 4/8/83

SUBJECT Summary of the handling of the clean up and disposal of the reported chemicals that had been buried at the Pine Valley Golf Course.

The above incident was reported to the Red Lion office on January 21, 1983 by a Mr. Gad Tawadros from EPA Region II (see incident report).

On January 21, 1983, a meeting was held with Mr. Tawadros at the Red Lion office and Mr. Tawadros stated, at that time, that his office would provide assistance to DEP and that the NJDEP would be the on OSC on this indicent. At that point, Mr. Charles Krauss assigned the case to Mr. David Bute, Prin. Env. Tech. On the same day, an inspection of the incident area was performed (see memo dated 2/16/83).

As outlined in 2/16/83 memo, a plan was formulated by this writer and presented to Mr. Tawadros and the personnel at the PVGC. Said plan was accepted by PVGC and did not receive any objections from Mr. Tawadros.

On January 23, 1983, said plan was placed into action. This plan consisted of four phases as outlined in 2/16/83 memo. This same memo also outlines the dates that this writer spent on site with one opjective in mind; to make sure that the environment and the personnel on site were being protected.

As of February 15, 1983, phase one and two had been completed and we had an environmentally stable condition. Phase three was not needed due to the markings on the containers and it was not requested by the disposal contractor. Phase four was completed by the golf course contracting with Rollins Environmental Service in Bridgeport to handle the disposal. Said disposal was performed by incineration.

Conclusions

The chemicals that were involved were old and out of date chemicals that had not been used on the golf course for one reason or another.

The total time that the containers of chemicals were in the ground was about 30 days.

Recommendation

That this case be considered a problem that was handled in a very professional manner on the part of the golf course and the NJDEP and can be closed out as of this date.

David E. Bute
Prin. Env. Tech.

HWM-S

O-1

WESTON • SPER
Building 10, GSA Depot
Woodbridge Avenue, Edison, NJ 08837 • (201) 549-5032

TECHNICAL ASSISTANCE TEAM FOR EMERGENCY RESPONSE REMOVAL AND PREVENTION
EPA CONTRACT 68-01-6669

EVALUATION OF ANALYTICAL RESULTS OF PINE VALLEY GOLF CLUB SAMPLES

I. INTRODUCTION

This report summarizes the interpretation of residual pollutant results obtained from samples taken of the disposal pit and of background locations at the Pine Valley Golf Course (PVGC), Clementon, N.J.

The results have been reviewed with regard to RCRA EP Toxicity criteria for hazardous wastes, Reportable Quantities established under the Comprehsensive Environmental Response, Compensation & Liability Act (CERCLA),local background concentrations and literature reported background concentrations. Attempts were made to determine the potential for migration of these pollutants to groundwater. Based on limitations inherent in the samples taken, and lack of other data, a scientific prediction of,this migration and its significance cannot be made. The following is a rough evaluation of the extent of residual contamination in the disposal pit.

II. COMPARISON OF RESULTS TO RCRA TOXICITY CRITERIA

A waste can be considered hazardous if it is found to be toxic as defined through the Extraction Procedure (EP) Toxicity Test. In this test, a sample of the waste is subjected to simulated leaching conditions at a pH of 4.8-5.2. The extract thus produced is analyzed and compared to the EP Toxic threshold levels which are 100 times the Primary Drinking Water Standards. These threshold levels and the results of the disposal site EP Toxic analysis are shown in Table 1. No concentration has exceeded the threshold level, thus the waste is not defined as hazardous under the toxicity criteria for metals analyzed.

TABLE 1: E.P. Toxicity Analysis Results as Compared to RCRA Toxicity Criteria*

Parameter	Pit Base Sample	Fill Sample	Background Sample	RCRA Criterion
As	NF	NF	NF	5.0
Ba	0.14	0.14	NF	100.0
Cd	NF	NF	NF	1.0
Cr	NF	NF	NF	5.0
Pb	NF	NF	NF	5.0
Hg	0.004	0.040	NF	0.2
Se	NF	NF	NF	1.0
Ag	NF	NF	NF	5.0

NF = Not found at limits of detection shown below:

Limit of Detection

As = 0.010 mg/l
Ba = 0.02 mg/l
Cd = 0.05 mg/l
Cr = 0.05 mg/l
Pb = 0.5 mg/l
Hg = 0.001 mg/l
Se = 0.010 mg/l
Ag = 0.1 mg/l

*All results expressed in mg/l.

III. ESTIMATION OF THE TOTAL MASS OF POLLUTANTS ANALYZED WITHIN THE PIT

A) Pit Dimensions

The disposal site was a "V"- shaped pit, with the deepest part being the point of the "V". Each leg was estimated at 15 feet in length, 6 feet in width and with a depth sloping from 4 to 10 feet.

The volume of this figure is 943.2 cu.ft. Assuming a soil weight of 76 lb/cu.ft.(dry, loose earth) the total mass of soil in the pit is 71,683 lb. or 32515.5 kg.

B) Mass of Pollutants

For the pesticides, total halogenated organics (TOX), and the total metals, laboratory results were provided on a weight to weight basis. From these data, a factor in terms of gram pollutant per kilogram soil was derived. Multiplication of this factor and the mass of soil in the pit (32515.5 kg) provides a figure for the total amount of residual pollutant in the pit as shown in Table 2.

For the EP Toxicity leaching test results, data was reported in terms of mass per unit volume leachate, as mg/l. These results were based on the leaching of 100g of soil with 1.6 liter of water. Thus, multiplying the mg/l results by 10 and then by 1.6, a factor in terms of grams "leachable pollutant" per kilogram soil can be derived. ("Leachable pollutant" in this case means the amount of substance leached under the EP Toxicity Test conditions. These test conditions are more severe and likely overestimate the levels of pollutants to be leached at the disposal site.)

These fill samples were taken from soil that was uncovered last during the clean up which was at the base of the pit where the pesticides were located. The soil first uncovered, which was above the pesticides, would be expected to show lower levels of residuals.

C) Comparison of Results to Reportable Quantities

The results from the above described calculations (shown in Tables 2 and 3) can be compared to "reportable quantities" for discharges pursuant to CERCLA. Note that the pit base and fill results shown in the Residuals Column in Table 2 reflect the substraction of background levels, thus showing only the residuals due to the disposal action This comparison shows that the one pound reportable quantities of mercury and lead are exceeded, if the results of the fill samples are considered. If pit base samples are used, no reportable quantity is exceeded. (All substances listed on Table 2 with the exception of barium have a one pound reportable quantity. Barium has no established reportable quantity.)

IV. DISCUSSION AND CONCLUSIONS

A) General

Due to circumstances on the date of sampling, fully representative sampling could not be employed. These analytical results, therefore, do not provide a firm estimate of the amount of residuals in the pit. Some extent of contamination is evident, however, and in some points in the pit these levels are above background (see Table 4). Due to the nature of the sampling, these levels could be to some degree higher or lower than the actual average values in the pit.

B) Potential Impact

With these data, it is difficult to form a firm conclusion concerning any potential environmental impact posed by these levels of residuals. The items of most concern in this site appear to be the chlorinated pesticides (due to their low recommended drinking water standards and other criteria, see Appendix II), mercury (due to its potential mobility on this site under EP Toxicity test conditions), and TOX (as most of this likely reflects halogenated pesticides). As these substances are within the ground, and the area is not planned for crop production use, the potential impacts of concern are with respect to groundwater. Based on available data, the potential impact of this site on groundwater cannot be firmly established.

In general, the literature indicates that the chlorinated hydrocarbon pesticides are readily absorbed and bound to particulate matter and soil. Comparison of the total metals results and the EP Toxicity testing for the sample indicates that most of the metals in this case are relatively immobile. While the rate of movement of these substances through the soil may be minimal, a reliable estimate of this rate cannot be determined without further data and analysis. (These data and analyses would concern soil parameters such as pH, organic matter content, permeability, cation exchange capacity, etc., and other items such as the forms of the metals in the soil, solubilities, etc. In addition, data concerning the nature of the underlying aquifer and the use of the aquifer would be generated and evaluated).

Table 2: Total Mass of Residuals

Parameter	Location	Concentration	Factor	Residual**
DDT	Pit Base	0.13 ug/g	1.3×10^{-4} g/kg	4.18 g (0.009 lb.)
	Fill	6.0 ug/g	6×10^{-3} g/kg	195 g (0.43 lb.)
	Background	0.0015 ug/g	1.5×10^{-6} g/kg	0.05 g (0.00 lb.)
Heptachlor	Pit Base	0.45 ug/g	4.5×10^{-4} g/kg	14.30 g (0.03 lb.)
	Fill	0.72 ug/g	7.2×10^{-4} g/kg	23.1 g (0.005 lb.)
	Background	<0.01 ug/g*	$<1 \times 10^{-5}$ g/kg	<0.33 g (0.00 lb.)
Heptachlor-Epoxide	Pit Base	2.15 ug/l	2.15×10^{-3} g/kg	69.6 g (0.15 lb.)
	Fill	5.9 ug/g	5.19×10^{-3} g/kg	191.5 g (0.42 lb.)
	Background	<0.01 ug/g*	$<1 \times 10^{-5}$ g/kg	<0.33 g (0.00 lb.)
TOX***	Pit Base	34 mg/kg	3.4×10^{-2} g/kg	992 g (2.19 lb.)
	Fill	45 mg/kg	4.5×10^{-2} g/kg	1349 g (2.97 lb.)
	Background	<3.5 mg/kg*	$<3.5 \times 10^{-3}$ g/kg	<114 g (0.25 lb.)
As Total	Pit Base	9.1 mg/kg	9.1×10^{-3} g/kg	140 g (0.31 lb.)
	Fill	18.1 mg/kg	1.81×10^{-2} g/kg	433 g (0.95 lb.)
	Background	4.8 mg/kg	4.8×10^{-3} g/kg	156 g (0.34 lb.)
Hg Total	Pit Base	5 mg/kg	5×10^{-3} g/kg	130.5 g (0.29 lb.)
	Fill	52 mg/kg	5.2×10^{-2} g/kg	1659 g (3.66 lb.)
	Background	<1 mg/kg	$<1 \times 10^{-3}$ g/kg	<32.5 g (0.07 lb.)
Hg Leach	Pit	0.004 mg/l	6.4×10^{-5} g/kg	1.6 g (0.00 lb.)
	Fill	0.040 mg/l	6.4×10^{-4}	20.3 (0.04 lb.)
	Background	<0.001 mg/l*	$<1.6 \times 10^{-5}$ g/kg	0.52 g (0.00 lb.)

Table 2: Total Mass of Residuals (Continued)

Parameter	Location	Concentration	Factor	Residual**
Cd	Pit Base	<1 mg/kg*	$<1 \times 10^{-3}$ g/kg	<32.5 g (0.07 lb.)
	Fill	4.6 mg/kg	4.6×10^{-3} g/kg	118 g (0.26. lb.)
	Background	<1 mg/kg *	$<1 \times 10^{-3}$ g/kg	32.5 g (0.07 lb.)
Pb	Pit Base	17.1 mg/kg	1.71×10^{-2} g/kg	231 g (0.51 lb.)
	Fill	46.4 mg/kg	4.64×10^{-2} g/kg	1184 g (2.61 lb.)
	Background	<10 mg/kg*	1×10^{-2} g/kg	325 g (0.72 lb.)
Ba Leach	Pit	0.14 mg/l	2.24×10^{-3} g/kg	62.6 g (0.14 lb.)
	Fill	0.14 mg/l	2.24×10^{-3} g/kg	62.6 g (0.14 lb.)
	Background	<0.02 mg/l*	3.2×10^{-4} g/kg	10.4 g (0.02 lb.)

*Concentration reported reflects the limits of detection.

**Value shown for pit base and fill samples reflects the substraction of background levels, and thus are estimates of the "net" residuals which might be attributed to the disposal action.

***TOX is a measure of the total halogenated organic compounds in the soil. It is expressed as milligram halogen (as chlorine) per kilogram soil.

Table 3: Pollutants With Residuals Estimated at 1/4 Pound and Greater

Parameters	Residuals
DDT Fill Sample Results	0.43 lb. (195 g)
Heptachlor Epoxide Fill Sample Results	0.42 lb. (191.5 g)
TOX Pit Base Sample Results	2.19 lb. (992 g)
TOX Fill Sample Results	2.97 lb. (1349 g)
Arsenic Pit Base Sample Results	0.31 lb. (140 g)
Arsenic Fill Sample Results	0.95 lb. (433 g)
Mercury Pit Base Sample Results	0.29 lb. (130.5)
Mercury Fill Sample Results	3.66 lb. (1659 g)
Cadmium Fill Sample Results	0.26 lb. (118 g.)
Lead Pit Base Sample Results	0.51 lb. (231 g)
Lead Fill Sample Results	2.61 lb. (1184 g)

Table 4: Pollutant Levels Versus Literature Background Levels*

Parameter	Location	Concentration	Literature Background
DDT	Pit Base	0.13 ppm	0.03-1.87 ppm
	Fill	6.0 ppm	
	Background	0.0015 ppm	
Heptachlor	Pit Base	0.45 ppm	0.01-0.03 ppm
	Fill	0.72 ppp	
	Background	<0.01 ppm	
Heptachlor-Epoxide	Pit Base	2.15 ppm	0.01 ppm and less
	Fill	5.9 ppm	
	Background	<0.01 ppm	
TOX	Pit Base	34 ppm	———
	Fill	45 ppm	
	Background	<3.5 ppm	
As Total	Pit Base	9.1 ppm	5 ppm
	Fill	18.1 ppm	
	Background	4.8 ppm	
Hg Total	Pit Base	5 ppm	0.07 ppm
	Fill	52 ppm	
	Background	<1 ppm	
Cd	Pit Base	<1 ppm	0.1-0.5 ppm
	Fill	4.6 ppm	
	Background	<1 ppm	

Table 4: Pollutant Levels Versus Literature Background Levels*
(Continued)

Parameter	Location	Concentration	Literature Background
Pb	Pit Base	17.1 ppm	10-30 ppm
	Fill	46.6 ppm	
	Background	<10 ppm	
Ba Leach	Pit Base	0.14 ppm	———
	Fill	0.14 ppm	
	Background	<0.02 ppm	

*See Appendix II for additional information and reference.

Note also that TOX levels were above background. Most, if not all, of this TOX likely reflects halogenated pesticides, however, specific pesticides are not determined in this form of analysis and movement of this TOX cannot be predicted.

Note that the leachable concentrations developed under the EP Toxicity testing procedure are likely higher than those that would result from leaching at this disposal pit. The EP Toxicity procedure was developed to simulate the leaching conditions that occurs in landfills. Leachate generating conditions are not likely to be as severe at this site as they are in a typical landfill where much organic material is present and existensive decomposition occurs.

C). Mitigating Factors In Any Potential Impact

There are a number of factors present (NJDEP, 1983) that would tend to mitigate potential environmental impacts. These include:

- The existance of a layer of clay, generally 100 ft. thick, between the pit and the deep aquifer.
- The site surface drainage is away from the closest drinking water supply well.
- All materials buried were stated to be in containers of some sort. Where packages were damaged, careful removal of the surrounding soil occurred.

D) Summary of Results

If the assumption is made that these samples are a rough estimate of the pollutants found in the pit, and that other assumptions made in this data analyses, e.g., contaminated soil volume, are reasonable, then a number of items are evident:

1. Based on the results of one EP Toxicity analysis the soil is not hazardous waste under RCRA toxicity criteria for metals.

2. The TOX levels, total metals levels, EP Toxic extract levels of barium and mercury and the concentrations of heptachlor, heptachlor epoxide and pp'DDT are above local background levels. (Refer to laboratory results in Appendix I).

3. The soil levels of a number of pollutants including pp'DDT, heptachlor, heptachlor epoxide, arsenic, lead and mercury are above soil background levels referenced in the literature. (Refer to Appendix II)

HWM-5

P-9

4. The fill levels of mercury and lead, as estimated, are above the reportable quantities listed for these substances under the Comprehensive Environmental Response, Compensation and Liability Act.

5. The simulated leach conditions of the EP Toxic procedure and analysis for the presence of 8 metals, resulted in only barium and mercury being detected in the leachate thus generated. The levels of barium were below the primary drinking water standard; the levels of mercury were twice the drinking water standard in the pit base sample (EP Toxicity) results and twenty times the drinking water standard in the fill sample (EP Toxicity) results.

E) Alternative Courses of Action

Assuming that the sample results are representative of actual average pit conditions and understanding the limitations present which preclude a reasonable modelling of the fate of these residuals, six basic alternatives have been developed for consideration:

1. No Action Alternative

If no action is taken, residuals (not firmly quantified here) will remain in the pit and will likely move through the soil at some unknown rates. Eventually, some amount of residual material may reach the aquifer and cause contamination to some degree. Without additional, extensive sampling and analyses, it cannot be concluded that significant contamination will not occur. While the potential impacts of this alternative cannot be quantified at this point, a number of factors pertinent to this site exist to mitigate this potential for impact as described in Section IV-C of this report.

2. Additional Sampling Alternative

This alternative would gather more complete data concerning the amount and levels of residuals in the pit. Sampling of the pit and pit base as described in the May 3, 1983, proposed pit sampling plan would occur. Proper QA/QC procedures would be followed to ensure valid samples. Proper laboratory analysis would follow. Other data pertinent to contaminant fate modelling could be gathered. This alternative would allow for a more complete assessment of the potential environmental impact of the residuals in the pit. Based on this information an action alternative could be selected to remedy any confirmed problem. This information may show that the levels in the pit are not significant and that the no-action alternative will not result in significant environmental impacts.

3. Reduction Alternative

To reduce the potential for impact, the site could be capped with clay or another relatively impervious material. The concern with this site is the downward migration of these residuals towards the aquifer. By placing impervious material over the site, the volume of water to pass through the pit would be reduced, thus reducing the rate of movement of these residuals.

4. Monitoring Alternative

This alternative proposes the installation of monitoring wells upgradient and downgradient of the disposal site. A schedule for sampling and a list of parameters to be sampled would be developed and adhered to. This alternative would eliminate the need for futher sampling of the pit and would provide better information concerning the environmental impact to groundwater posed by the residuals than the approximations provided through contaminant fate modelling. Selection of this alternative assumes that if high levels of pollutants attributable to the disposal action are found in the groundwater, corrective measure will be taken to eliminate the impact. Thus, a contingency plan outlining procedures to be implemented, should contamination be detected, must also be developed.

5. Reduction With Monitoring Alternative

This alternative is a combination of the Reduction Alternative and the Monitoring Alternative.

6. Removal Alternative

To eliminate the potential for impact (assuming that the sampling data reflects conditions in the pit), the soil would have to be removed and disposed of properly such that residual levels would be reduced to acceptable levels, be that background or other. The pit would be refilled with clean soil at that point.

REFERENCES

Crockett, A. B., G.B., Wiersma, H. Tai, 1979, Pesticides in Soil. Pesticide Monitoring Journal 8:2 pp. 69-97.

EPA, 1976, Arsenic. Subcommittee an Arsenic, Committee on Medical and Biological Effects of Environmental Pollutants. NRC/NAS. EPA 600/1-76-036. US E.P.A., Washington, D.C.

EPA, 1980. Ambient Water Quality Criteria For Lead. Office of Water Regulations and Standards, Criteria and Standards Division. EPA 440/5-80-057. Washington, D.C.,

EPA, 1980. Ambient Water Quality Criteria For Mercury. Office of Water Regulations and Standards, Criteria and Standards Division. EPA 440/5-80-058.

National Environmental Research Center, 1973. Cycling and Control of Metals - Proceedings of an Environmental Resources Conference, October 1981 - November 2, 1972. National Environmental Research Center, Cincinnati, Ohio.

NJDEP 1983. Statement by D. Bute, NJDEP, during a meeting held on 4/27/83 at the Pine Valley Golf Course.

APPENDIX I

LABORATORY RESULTS

Note: Sample A or RFW #4193 = Base of Pit Sample
" B " " #4194 = Fill Sample
" C " " #4195 = Background Sample

HWM-5

WESTON

EVALUATION OF RESIDUAL PESTICIDES IN DISPOSAL PIT
PINE VALLEY GOLF CLUB

DATA SUMMARY FOR:	WESTON/SPER DIVISION			
DATE:	10 May 1983			
RFW SAMPLE NO:	4192	4193	4194	4195
SAMPLE DESCRIPTION:	Field Blank	Composite A	Composite B	Composite C
	mg/L	mg/kg	mg/kg	mg/kg
ANALYSIS:				
As,	NF	9.1	18.1	4.8
Hg,	NF	5 mg/kg	52 mg/kg	NF
Cd,	NF	NF	4.6	NF
Pb,	NF	17.1	46.4	NF
Ba,	0.05			
Cr,	NF			
Se,	NF			
Ag,	NF			
TOX,		34	45	NF
TOX,	NF			
% solids		99.6%	99.2%	99.8%
Pesticides	See attached diagrams for each			
PCB	See attached diagrams for each			
EP Extraction		*	*	*

NF = Not Found

As = .010 mg/L	Pb = 0.5 mg/L	Ag = 0.1 mg/L	Pb = 10 mg/kg
Hg = .001 mg/L	Cr = 0.05 mg/L	Hg = 1 mg/kg	TOX = 3.5 mg/kg
Cd = .05 mg/L	Se = 0.010 mg/L	Cd = 1 mg/kg	

HWM-5

P-14

WESTON

EVALUATION OF RESIDUAL PESTICIDES IN DISPOSAL PIT
PINE VALLEY GOLF CLUB

DATA SUMMARY FOR:	WESTON/SPER DIVISION			
DATE:	10 May 1983			
RFW SAMPLE NO:	4196	4197	4198	4199
SAMPLE DESCRIPTION:	Leachate of A	Leachate of B	Leachate of C	Lab Blank
ANALYSIS:				
As, mg/L	NF	NF	NF	NF
Ba, mg/L	0.14	0.14	NF	0.06
Cd, mg/L	NF	NF	NF	NF
Cr, mg/L	NF	NF	NF	NF
Pb, mg/L	NF	NF	NF	NF
Hg, mg/L	0.004	0.040	NF	0.004
Se, mg/L	NF	NF	NF	NF
Ag, mg/L	NF	NF	NF	NF
TOX, mg/L				NF
Pesticides, PCBs				See attached

NF = Not Found

Limit of Detection

As = 0.010 mg/L	Cr = 0.05 mg/L	Se = 0.010 mg/L
Ba = 0.02 mg/L	Pb = 0.5 mg/L	Ag = 0.1 mg/L
Cd = 0.05 mg/L	Hg = 0.001 mg/L	TOX = 0.005 mg/L

HWM-5

P-15

EVALUATION OF RESIDUAL PESTICIDES IN DISPOSAL PIT
PINE VALLEY GOLF CLUB

PESTICIDES
(ug/g)

		heptachlor	heptachlor epoxide	pp'-DDT	lindane	endrin
4193 Composite A	Column 1	0.58	2.6	0.3		
	Column 2	0.45	1.2	[illegible]		
4193 Replicate	Column 1	0.54	3.4	0.07		
	Column 2	0.47	2.2	0.18		
4193 Replicate	Column 1	0.51	3.4	0.07		
	Column 2	0.45	3.4	0.21		
4193 Spike	Column 1	0.70	3.4	0.08	32	56
	Column 2	0.43	1.8	0.23		
4194 Composite B	Column 1	0.64	10	4.2		
	Column 2	4.4	5.5	8.7		
4194 Replicate	Column 1	0.80	11	7.8		
	Column 2	5.5	6.3	8.9		
4195 Composite C	Column 1			0.002		
	Column 2			0.001		

Note: Data are reflective of positive-interfering substances. We recommend using the lower of cited concentrations in in decision-making processes.

HW3-5

P-16

WESTON

EVALUATION OF RESIDUAL PESTICIDES IN DISPOSAL PIT
PINE VALLEY GOLF CLUB
QA/QC REPORT

	DESCRIPTION	MATRIX	PARAMETER	DETECTION LIMITS	SAMPLE	REPLICATE	SPIKE	SPIKE AMOUNT	PRECISION	ACCURACY (% Recovery)	REMARKS
3	Composite A lab soil	Soil	As	0.2 mg/kg	10.3 mg/kg 0.190 mg/kg	7.3 mg/kg	.197 mg/kg	.025 mg/kg	8.8±2.1 mg/kg	28%	Invalid spike, lost in background As
3	Composite A lab bkgd soil	Soil	Cd	1 mg/kg	1 mg/kg 0.13 mg/kg	1 mg/kg	4.15 mg/kg	5.0 mg/kg	0 mg/kg	80%	
3	Composite A Lab bkgd soil	Soil	Pb	10 mg/kg	16.5 mg/kg 1.5 mg/kg	17.7 mg/kg	6.12 mg/kg	5.0 mg/kg	17.1±0.8 mg/kg	92%	
3	Composite A lab bkgd soil	Soil	Hg	1.0 mg/kg	9.7 mg/kg	9.9 mg/kg	3.90 mg/kg	4.0 mg/kg	9.8±0.1	98%	
2	Field Blank	Water	TOX	0.005 mg/L	<0.005 mg/l	<0.005 mg/L			<0.005 ± 0 mg/L		
3	Composite A	Soil	TOX	3.5 mg/kg	33.2 mg/kg	33.8 mg/kg			33.5±0.4 mg/kg		
4	Composite B	Soil	TOX	3.5 mg/kg	44.3 mg/kg	44.9 mg/kg			44.6±0.4 mg/kg		
5	Composite C	Soil	TOX	3.5 mg/kg	<3.5 mg/kg	<3.5 mg/kg			<3.5±0 mg/kg		
9	Lab blank	Water	TOX	0.005 mg/L	<0.005 mg/L	<0.005 mg/L			<0.005 ± 0 mg/L		
	Lindane		TOX	TOX method check: mg/kg concentration determined for DDT standard curve used to calculate samples 4192-4195. Target (known) concentration versus found concentration was plotted to determine accuracy.						92%	corr. coefficient = 0.9996
	pp'-DDT		TOX							104%	corr. coefficient = 1.0000
3	Composite A	Soil	heptachlor		0.58 ug/g	0.54 ug/g 0.51 ug/g			0.54±0.04 ug/g		4 separate aliquots of soil were extracted; one of which was spiked with lindane and endrin.
			heptachlor epoxide		2.5 ug/g	3.4 ug/g 3.4 ug/g 3.4 ug/g			3.2±0.5 ug/g		
			pp'-DDT			0.07 ug/g 0.07 ug/g 0.08 ug/g			0.07±0.01 ug/g		
			lindane				.032 ug/g	.015 ug/g		210%	
			endrin				.056 ug/g	.065 ug/g		86%	
4	Composite B	Soil	heptachlor		0.6 ug/g	0.8 ug/g			0.7±0.1 ug/g		1 aliquot of soil was extracted. The extract was split for a duplicate.
			heptachlor epoxide		10 ug/g	11 ug/g			10±1 ug/g		
			pp'-DDT		4.2 ug/g	7.8 ug/g			6±3 ug/g		

HWM-5

P-17

WESTON

ANALYTICAL METHODS

PARAMETER	REFERENCE METHOD
As, Se	AA Furnace
Hg	AA Cold Vapor
Ba, Cd, Cr, Pb, Ag	ICP
EP Extraction	RCRA-3001.261.24 (provided by TAT)
% moisture	Gravimetric
TOX:	
Soxhlet Extraction	Per Analysis of Chlorinated Insecticides in Soil (provided by TAT)
Analysis	Method 450.1 (provided by TAT) with modification described in Michael J. Urban's 3 March 1983 Memorandum (provided by TAT as"attachment 2").
Pesticides, PCB	Analysis of Chlorinated Insecticides in Soil (provided by TAT). Refer to chromatographic conditions.

CHROMATOGRAPHIC CONDITIONS

	Column 1	Column 2
Column	4%SE30-6%SP2401	1.5%SP2250-1.95%SP2401
Size	6' x ¼" OD	6' x ¼" OD
Oven Temperature	180°C	205°C
Time	60 minutes	45 minutes
Injection Temperature	220°C	205°C
Detector Temperature	300°C	300°C
Chart speed	0.5 cpm	0.5 cpm
0 =	10	10
Attenuation	7	7
Flow	60	50
Auto injector	4 ul	4 ul
Carrier Gas	Argon/methane	Argon/methane

Hwm-5

APPENDIX II

RESIDUAL LEVELS VS. PERTINENT BACKGROUND LEVELS AND STANDARDS

pp' DDT

Sample Results:

Pit Base:	0.13 ug/g
Fill:	6.0 ug/g
Background:	0.0015 ug/g

- Average Residue in U.S cropland soils (Crockett et al., 1974) = 0.18 ppm.
- Average Residue in Mid-Atlantic States cropland soils (Crockett et. al., 1974) = 0.03 ppm.
- Average Residue in New York State cropland soils (Crockett et. al, 1974) = 1.87 ppm.
- FIFRA allowable tolerance on agricultural commodities= 0.5 ppm

Heptachlor

Sample Results:

Pit Base:	0.45 ug/g
Fill:	0.75 ug/g
Background:	0.01 ug/g

- Residue in U.S. cropland soils (Crockett et al.,1974): 0.01 ppm mean
- Residue in Mid-Atlantic States cropland soils (Crockett et al.,1974): 0.03 ppm mean.
- FIFRA allowable tolerance on agricultural commodities: 0 ppm.

Heptachlor Epoxide

Sample Results:

Pit Base:	2.15 ug/g
Fill:	5.9 ug/g
Background:	0.01 ug/g

- Residue in U.S. cropland soils (Crockett et al.,1974): 0.01 ppm mean.
- Residue in Mid-Atlantic States cropland soils (Crockett et al.,1974):<0.01 ppm mean.
- Residue in New York State cropland soils (Crockett et al.,1974):<0.01 ppm mean.
- FIFRA allowable tolerance on agricultural commodities: 0 ppm.

HWM-5

P- 20

Arsenic

Sample Results - Total Arsenic:

Pit Base:	9.1 ug/kg
Fill:	18.1 ug/kg
Background:	4.8 ug/kg

Sample Results - EP Toxicity:

Pit Base:	N.F.
Fill:	N.F.
Background:	N.F.

Limits of Detection = 0.010 mg/l

- Common concentration in the Earth's crust (EPA, 1976) = 5 mg/kg.
- Primary Drinking Water Standard: 0.05 mg/l.

Barium

Sample Results - EP Toxicity:

Pit Base:	0.14 mg/l
Fill:	0.14 mg/l
Background:	N.F.

Limits of Detection = 0.02 mg/l

- National Primary Drinking Water Standard: 1 mg/l.

Cadmium

Sample Results - Total Cadmium:

Pit Base:	N.F.
Fill:	4.6 mg/kg
Background:	N.F.

Limits of Detection = 1 mg/kg

- Primary Drinking Water Standard: 10 ug/l.
- Concentration in non-mineralized soil = 0.1-0.5 ppm (National Environmental Research Center, 1973.)

Lead

Sample Results - Total Lead:

Pit Base:	17.1 mg/kg
Fill:	46.4 mg/kg
Background:	N.F.

Limits of Detection = 10 mg/kg

Lead (continued)

Sample Results - EP Toxicity:

Pit Base:	N.F.
Fill:	N.F.
Background:	N.F.

Limits of Detection = 0.5 mg/l

- Usual level in soil from natural sources (EPA, 1980) = 10-30 mg/kg.
- Primary Drinking Water Standard: 0.05 mg/l.

Mercury

Sample Results - Total Mercury:

Pit Base:	5 mg/kg
Fill:	52 mg/kg
Background:	N.F.

Limits of Detection = 1 mg/kg

Sample Results - EP Toxicity:

Pit Base:	0.004 mg/l
Fill:	0.040 mg/l
Background:	N.F.

Limits of Detection = 0.001 mg/l

- Mercury in non-mineralized soil = 0.07 ug/g average (EPA, 1980).
- Mercury in freshwater sediments = <0.1 ug/g average (EPA, 1980).
- Mercury Primary Drinking Water Standard = 0.002 mg/l.

RECEIVED

AUG 0 9 1983

AUG 12 1983

Division of Waste Mgt.

Mr. Robert Mather, Manager
Pine Valley Golf Club
Clementon, NJ 08021

Dear Mr. Mather:

Attached please find a report discussing the results of analyses performed on samples associated with the pesticide burial pit which was excavated at your facility.

In summary, EPA will not require further cleanup of the pit based on the information available to us at this time. If after your technical consultant has reviewed this material you wish to discuss these results, we would be happy to do so. Results indicated the presence of some residuals, and Pine Valley may wish to take action on its own behalf in view of these results.

I thank you for your cooperation in this matter.

Sincerely yours,

Fred N. Rubel
Chief
Emergency Response & Hazardous
Materials Inspection Branch

Attachment

cc: Dave Bute, NJDEP (w/copy) ✓

HWM-5

Q-1

Southern FYI

U.S. ENVIRONMENTAL PROTECTION AGENCY

POLLUTION REPORT

DATE: August 11,1983

TO: J. Schafer, EPA
R. Dewling, EPA
B. Metzger, EPA
Emergency Response Division
J. Marshall, EPA
W. Mugdan, EPA
F. Rubel, EPA
R. Spear, EPA
NRC
USCG 3rd Dist. (mep)
J. Stanton, NJDEP
K. Stoller, EPA
R. Ogg, EPA
TAT
W. Librizzi, EPA

Region II
Emergency Response and Hazardous
Materials Inspection Branch
Edison, N.J. 08837

(201) 321-6670 - Commercial
(201) 548-8730 - 24 Hour Emergency
340-6670 - FTS

POLREP NO.: Nineteen (19) and final
INCIDENT NAME: Pine Valley Golf Club
SITE/SPILL NO: 242-83
POLLUTANT: Pesticides and Possibly Other Substances
CLASSIFICATION:
SOURCE: Disposal Site at Pine Valley Golf Club
LOCATION: Pine Valley, Clementon, New Jersey
AMOUNT: Uncertain
WATER BODY:

1. SITUATION:

A. The situation remains the same as May 13, 1983 report.

2. ACTION TAKEN:

A. A report discussing the significance of the amounts of residuals in the pit was submitted to EPA by TAT on July 1,1983.

B. A meeting between EPA and TAT was held on July 7 to discuss the findings and alternatives of the report.

C. A decision concerning future actions at the site and a copy of the final report was sent to the Pine Valley Golf Club on August 12.

HWM-S

R-1

D. In the cover letter to this report it was stated that the sampling did show evidence of contamination. It was suggested that the PVGC have the report reviewed by their consultants for their opinion regarding future actions. The EPA is not specifically requiring that further action be taken at this time.

3 FUTURE PLANS AND RECOMMENDATIONS:

A. No specific actions are considered at this time.

CASE PENDS_____ CASE CLOSED__X__ SUBMITTED BY W. Gad Tawadros

W. Gad Tawadros, OSC
Emergency Response and
Hazardous Materials
Inspection Branch

(TAT)

HWM-5

R-2

U.S. sues Pine Valley Golf Club over the dumping of toxic waste

A Camden County golf club and its superintendent were charged with illegal toxic-waste dumping in a civil complaint filed yesterday, U.S. Attorney W. Hunt Dumont said in Newark, N.J.

The private Pine Valley Golf Club and the superintendent, Richard Bator of Clementon, were accused of illegally burying 15,000 pounds of pesticides, fertilizers and other toxic chemicals in a 6-foot-deep trench on the club grounds on Jan. 19, 1983.

The government is seeking $150,000 in penalties and about $8,000 in costs incurred by the government in overseeing the cleanup.

The chemicals were buried for six days, apparently in an effort to get rid of old groundskeeping materials, in a trench near the club's maintenance storage building, according to a spokesman for the state Department of Environmental Protection.

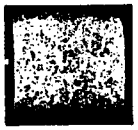
The club cooperated in the cleanup ordered by the DEP and the U.S. Environmental Protection Agency (EPA), and the chemicals were removed to an approved disposal site, the spokesman said. State officials received an anonymous tip a day after the chemicals were buried, and the cleanup began six days after the burial.

An EPA attorney handling the case said that the cleanup had been thorough and that there was no danger of pollution to the region's water supply.

The government's civil complaint, filed in U.S. District Court in Newark, charged that employees acting under Bator's supervision buried the banned insecticides in violation of the federal Resource Conservation and Recovery Act and the 1982 Superfund law. Those statutes prohibit the disposal of hazardous wastes except in facilities licensed by the EPA.

The complaint charges Bator and the golf club with violation of those laws by burying the toxic wastes on club grounds instead of transporting them to a licensed disposal site.

The complaint charged that the toxic substances illegally disposed of included chlordane, a termite-killing chemical banned by EPA in 1980 for use in most situations, and DDT, whose use was banned in 1971.



Golf club sued over dumping

The Associated Press

NEWARK — The U.S. Department of Justice yesterday sued a southern New Jersey golf club for allegedly burying 15,000 pounds of toxic substances on its property.

The complaint, filed by the U.S. attorney's office here, alleged that the toxic wastes were dumped on the grounds of the Pine Valley Golf Club in Camden County, a political subdivision unto itself, on Jan. 19, 1983.

The complaint charged club employees did the dumping under the supervision of club superintendent Richard Bator, Clementon.

The club and Bator were charged with violating the Resource Conservation and Recovery Act and the superfund law.

U.S. Attorney Roger Bernstein said the complaint seeks an injunction against repeated violations, a plan to make sure any residual waste in the burial site will not migrate into adjacent water supplies, and a civil penalty of $150,000.

The government also is seeking reimbursement for the $8,000 to $10,000 it spent investigating the illegal dumping and supervising the cleanup.

Asbury Park Press 5/30/84

Feds want golf club fined for dumping

Associated Press

NEWARK — The U.S. Department of Justice is seeking more than $150,000 in penalties and compensation from a southern New Jersey golf club for allegedly burying 15,000 pounds of toxic substances, including DDT and other insecticides, on its property.

In a suit filed yesterday in federal court, the U.S. attorney's office here alleged that the toxic wastes were dumped on the grounds of the Pine Valley Golf Club, a Camden County political subdivision onto itself, on Jan. 19, 1983.

The complaint charged that club employees dumped the wastes under the supervision of club superintendent Richard Bator of Clementon.

The club and Bator were charged with violating the Resource Conservation and Recovery Act, the superfund law, both of which prohibit the disposal of hazardous wastes except in facilities that are licensed by the U.S. Environmental Protection Agency.

U.S. Attorney Roger Bernstein said the complaint seeks an injunction against repeated violations, a plan to make sure that any residual waste in the burial site will not migrate into adjacent water supplies and a civil penalty of $150,000.

The Government also is seeking reimbursement for the $8,000 to $10,000 it spent investigating the illegal dumping and supervising the cleanup.

Authorities said they learned of the dumping in a 6-foot ditch through an anonymous tip. The complaint said the hazardous substances included DDT and chlordane, chemicals that have been banned by the EPA in most situations, including all food-related uses, because of their extreme toxicity.

Faith Halter, an EPA attorney handling the case, said most of the toxic materials were removed by a contractor hired by the club and working under the EPA's supervision.

She said the site "was thoroughly cleaned up" and there was no danger of polluting local water supplies.

"We found them to be very cooperative," she said of club officials.

A telephone message left for the club's attorney, Bradford Whitman, was not returned. The club's manager, Bob Mather, declined to comment and referred callers to the president, Ernest Ransome III, who did not return a telephone message. Bator also declined comment on the case.

S-1

HWM-5

Halter
22 FEB 1985

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEW JERSEY

Nov. 16, 84
Dorothy E. Castro

UNITED STATES OF AMERICA, Plaintiff, v. PINE VALLEY GOLF CLUB, AN INCORPORATED BOROUGH OF THE STATE OF NEW JERSEY, and RICHARD BATOR, Defendants.	CIVIL ACTION NO. 84-2105(JFG)

FILED
NOV 9 1984
At 8:30 M
ALLYN Z. LITE
CLERK

FINAL JUDGMENT
(ON CONSENT)

WHEREAS Plaintiff, the United States of America, filed its complaint herein on May 29, 1984, alleging that Defendants, Pine Valley Golf Club ("PVGC") and Richard Bator, violated the Resource Conservation and Recovery Act, as amended, 42 U.S.C. §6901 et seq. ("RCRA") by improperly disposing of more than 15,000 pounds of insecticides, fungicides, herbicides and other chemicals, including quantities of hazardous wastes, by burying these materials in the dump on PVGC grounds; and sought injunctive relief and civil penalties therefor; and

WHEREAS, Plaintiff incurred certain costs pursuant to the Comprehensive Environmental Response, Compensation and Liability Act ["CERCLA"], 42 U.S.C. §9601 et seq., in response to the release of hazardous substances by the defendants; and

HWM-5

T-1

WHEREAS, PVGC, at its own expense, retained a waste removal contractor to excavate and transport the alleged hazardous wastes and substances from the PVGC premises to a hazardous waste disposal facility licensed by the State of New Jersey and such excavation, transporation and disposal has been carried out to the satisfaction of the U.S. Environmental Protection Agency ["EPA"]; and

WHEREAS, Plaintiff and Defendants agree that settlement of these matters without further litigation, prior to the time when defendants will be required to file an answer, is in the public interest and that entry of this Final Judgment (On Consent) is the most appropriate means of resolving these matters; and

WHEREAS, Plaintiff and Defendants, by their respective attorneys, have consented to the making and entering of this Final Judgment (On Consent) permanently enjoining and restraining Defendants' activities as specified herein, providing for payment of an appropriate civil penalty, and providing for payment of Plaintiff's costs of response and removal (plus interest), without trial, adjudication or admission by Defendants of any issues of fact or law, and the Court having considered the matter and being duly advised, it is hereby

ORDERED, ADJUDGED, AND DECREED as follows:

I

This Court has jurisdiction over the subject matter of this action and the parties hereto pursuant to 28 U.S.C. §§1331(a) and 1345, and 42 U.S.C. §§6928 and 9613(b). The complaint in this

HWM-5

T-2

action states a claim upon which relief can be granted against Defendants pursuant to 42 U.S.C. §§6928 and 9613(b).

II

The provisions of this Final Judgment (On Consent) shall apply to defendant PVGC and to each of its officers, agents, servants, successors, and assigns, and to all persons, firms or corporations acting under, through, or for them, including defendant Bator. PVGC shall give written notice of this Final Judgment (On Consent) to any successor in interest prior to transfer of ownership of its facility, and shall simultaneously give written notice to the Regional Counsel of the United States Environmental Protection Agency, Region II ["EPA"] that and to whom such notice has been given.

III

Defendants are enjoined and ordered to permanently cease disposing of pesticides, fungicides, herbicides and other chemicals in violation of RCRA or other federal laws, including but not limited to CERCLA.

IV

A. For the purpose of enforcing this Final Judgment (On Consent), any duly designated employee or representative of EPA, including a contractor, shall, upon presentation of credentials, and at a reasonable time, have access to PVGC's facility to confirm PVGC's status of compliance with RCRA and this Final

HWM-5

T- 3

Judgment (On Consent), or to do any additional monitoring of PVGC's dump that may be necessary. If EPA should intend to undertake any extensive monitoring that will involve significant financial costs, EPA shall notify PVGC at least five days before beginning such monitoring. Nothing in this paragraph shall limit EPA's authority to respond to an emergency situation that EPA determines to require immediate action.

B. EPA shall permit PVGC or its designated representative to observe and photograph the taking of samples and to obtain a portion of any sample taken by EPA equal in volume and weight to the Agency's sample. A copy of the results of all analyses shall be provided promptly to PVGC.

V

A. Within twenty (20) calendar days of the date on which this Final Judgment (On Consent) is filed with this Court, defendant PVGC shall pay to plaintiff a civil penalty of $26,830.84, pursuant to Section 6928 of RCRA, and a payment of $8,169.16 to reimburse plaintiff for its response and removal costs pursuant to Section 107 of CERCLA. Said payments shall be made by cashier's or certified check.

B. The check for $26,830.84 shall be payable to the Treasurer, United States of America. It shall be delivered on or before the due date to: W. Hunt Dumont, U.S. Attorney, District of

HWM-5

T-4

New Jersey, Federal Building, 970 Broad Street, Room 502, Newark, New Jersey 07102.

C. The check for $8,169.16 shall be payable to the Hazardous Substance Response Trust Fund, United States of America. It shall be delivered on or before the due date to: Environmental Protection Agency Accounting Operations, P.O. Box 2971, Washington, D.C. 20013, Attention: Collection Officer for Superfund (PM-226), Room 3419M. Either the check itself or a cover letter shall be marked "Cost Recovery."

VI

Upon compliance by Defendants with all conditions of this Final Judgment (On Consent), the United States of America shall release PVGC, its directors, officers, members, agents, successors and assigns and Richard Bator, his successors and assigns, from any liability in connection with the disposal of hazardous materials alleged in the complaint (1) under RCRA for civil penalties or (2) under CERCLA for costs incurred by EPA for removal or remedial action up to the date of lodging this Final Judgment (On Consent). This release does not relieve Defendants from liability regarding: (1) any site other than the site where the alleged release occurred; (2) any future violations; (3) cost recovery and injunctive relief concerning any future response activities that may be necessitated by the discovery of hazardous substances or wastes at the site of the alleged release. Moreover, nothing contained in this Final Judgment (On

T-5

HWM-5

Consent) releases or settles any private claims for injury to persons or property, known or unknown, of any private individual or local government entity, this Final Judgment (On Consent) being a settlement of claims of the United States government only.

Nothing stated herein shall preclude the United States of America, including EPA, from seeking such other and further relief as is authorized by law and consistent with this Final Judgment (On Consent), including any damages or penalties arising after the date of this judgment.

VII

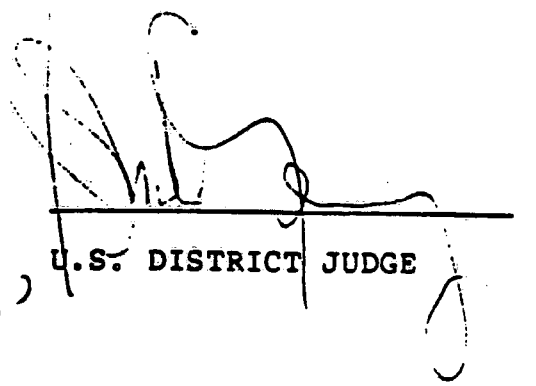
Jurisdiction is retained by this Court for the purpose of enabling the parties to this Final Judgment (On Consent) to apply to this Court at any time for any such further orders and directions as may be necessary or appropriate for the effectuation of this Final Judgment (On Consent); for the enforcement of any provision herein; and for the punishment of violations hereof. Jurisdiction shall terminate after twelve (12) months from the effective date hereof.

Defendants hereby consent to the form and entry of the foregoing Final Judgment (On Consent) without further notice. Plaintiff consents to the form and entry of this Final Judgment (On Consent) subject to consideration of any comments received pursuant to 28 C.F.R. §50.7.

HWM-5

T-6

SO ORDERED,



GERRY, U.S. DISTRICT JUDGE

Entered:

Sep 9, 1984

Date

The parties, by this undersigned representatives, having read the foregoing and having been advised by counsel, do hereby consent to the entry of this Final Judgment.

PINE VALLEY GOLF CLUB
Pine Valley, New Jersey

Date: Sept 18, 1984

BY: Ernest H. Lausanne
Pres

Date: Sept. 18, 1984

Richard M. Bator
RICHARD BATOR

U.S. DEPARTMENT OF JUSTICE

BY: F. Henry Habicht II
F. HENRY HABICHT, II
Assistant Attorney General
Land and Natural Resources
Division
U.S. Department of Justice

HWM-5

T-7

DW.M.

4-29-2

Wednesday, Nov. 21, 1984 The Philadelphia Inquirer

New Jersey and Metro News in Brief

Golf club to reimburse EPA for cleanup of toxic wastes

A consent agreement was filed yesterday in federal court in Camden requiring the Pine Valley Golf Club and one of its employees to pay $35,000 to reimburse the government for the cleanup of toxic substances that allegedly had been disposed of illegally.

place in file

By signing the agreement, the club acknowledged no wrongdoing in the case, said its attorney, Bradford Whitman. The agreement was submitted to U.S. District Judge John F. Gerry, who has 30 days to approve it.

The $35,000 represents civil penalties and reimbursement to the Environmental Protection Agency for cleaning up substances buried Jan. 19, 1983, said Assistant U.S. Attorney Samuel Moulthrop. The government had alleged that the club buried toxic wastes, including DDT and chlordane, on its grounds instead of transporting them to a licensed disposal site.

HWM-5

V-1

Series 1961, No. 42

Issued April 1966

SOIL SURVEY

Camden County New Jersey

OUR SOIL ★ OUR STRENGTH

This is the last report of the 1961 series.

UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
In cooperation with
NEW JERSERY AGRICULTURAL EXPERIMENT STATION

BPA

V-1

Supplement II

The primary factors in rating the limitations of soils for parks and playgrounds are the height of the water table, slope, natural fertility, and the water-holding capacity. For several urban groups, two ratings are used. One rating is for parks and one is for playgrounds. Steep slopes or poor natural fertility are the two factors that cause this dual rating.

A limitation rating of *slight* means that there are few or no problems. Use of the areas may be curtailed somewhat on soils with a moderately high water table.

A rating of *moderate* is listed for soils subject to flooding and for those that are moderately sloping (5 to 10 percent slopes). Also, the droughty and infertile sands are rated *moderate* for playgrounds. Use of the playgrounds may be curtailed at times by flooding, and equipment, buildings, and contents may be damaged.

A rating of *severe* is listed for the moderately sloping, droughty, and infertile sands used for playgrounds and for soils on strong to steep slopes. No severe limitations are listed for soils used for parks.

Campsites.—The primary factors in rating the limitations of soils for campsites are height of the water table, flooding, and slopes. Intensive use of the campsites for tents is assumed.

A limitation rating of *slight* means that there are few or no problems.

A rating of *moderate* is listed for soils that have strong to steep slopes (more than 10 percent). During periods of excessive rainfall, use may be curtailed on the soils that have a fluctuating water table. These soils are also rated moderate.

A rating of *severe* is listed for strongly sloping to steep soils and for soils subject to flooding or that have a high or moderately high water table. Access may be limited, equipment may be damaged, and pollution and health problems may occur on such soils. Strong or steep slopes limit access and free movement of campers.

Formation and Classification of Soils

In this section, the formation of the soils is discussed and the soil series are classified by great soil groups. Detailed descriptions of the soil series are also given.

Formation of the Soils

The important factors that have influenced the development of the soils and their characteristics in Camden County are (1) parent material, (2) climate, (3) relief, (4) biological activity, and (5) time. A discussion of these factors follows.

Parent material

All the soils of Camden County have formed from unconsolidated geologic strata, some of which are mainly sand and some mainly clay. The sand strata contain some clay and silt. The clay strata contain some silt and sand. Gravel occurs in some layers of both beds. These beds were laid down in a succession of ocean deposits and then were tilted to the southeast. The elevation of the land rises in a southeasterly direction from the Delaware River (fig. 15) as far as the drainage divide near the center of the county. From there the elevation gradually declines toward the Atlantic Ocean.

Although glaciers did not reach as far south as this county, it is believed that water from the melting glaciers covered most of the county. Certainly the climate of the area was affected by the great ice sheets that came within 60 miles of the northern boundary of the county. The glacial waters brought more deposits containing much rounded quartzose gravel; the last deposit along the Delaware River was probably mostly a river deposit. During this period the water levels changed from time to time. When the water level was low, much wind and water erosion reworked the original deposits.

The main geologic formations and the soil series developed from them are listed in table 10. This table gives characteristics of the formations and shows the different degrees of drainage under which the soils have developed. Blank spaces in table 10 indicate that a soil of the given drainage class on the formation named is not present to any significant extent in the county. As shown in the table, there is a close relationship between the geologic formation and the soils developed on them. Some soils, however, have formed from mixed parent materials because the older geologic strata were eroded, intermingled, and redeposited. Some soils, the Freehold for example, have developed on several geo-

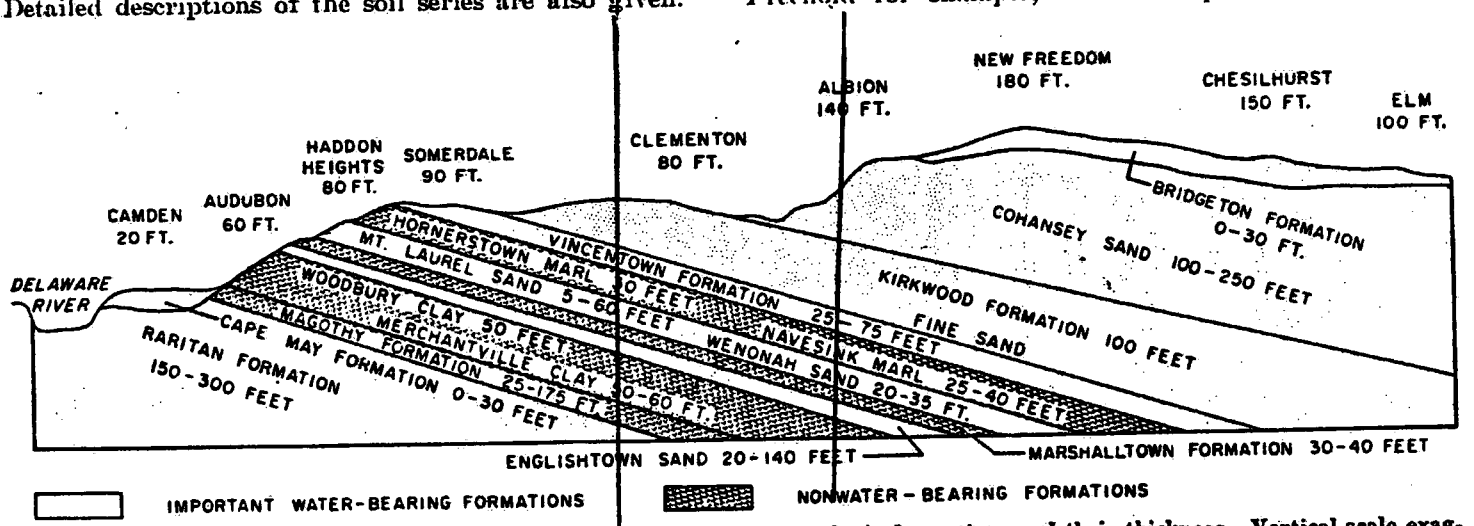


Figure 15.—Section from the Delaware River to Elm showing the main geologic formations and their thickness. Vertical scale exaggerated. Sketch is based on "Geologic Map of New Jersey" (*4*) and Bulletin 50, "The Geology of New Jersey" (*3*).

BPA

V-2 Supplement II

Form ADM-012

MEMO

NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION

TO PINE VALLEY GOLF CLUB FILE DATE

FROM NICHOLAS EISENHAUER, HSMS IV, BUREAU OF PLANNING AND ASSESSMENT

SUBJECT WINDSHIELD SURVEY 9/15/87

On September 15, 1987, this writer performed a windshield survey of the Pine Valley Golf Club (PVGC) waste site. Because of the nature and location of the waste site, it was necessary to be accompanied by two PVGC personnel. John Reddman (Assistant Manager) and Richard Batter (Superintendent of Grounds) took me on a tour of the waste site area and surrounding golf couse. It was noticed that the waste area is currently covered with a seven foot mound of soil and an upper layer of clay as recalled by John Reddman. The area is also currently overgrown with vegetation.

ATTACHMENT W

ADM-012

MEMO

NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION

TO PINE VALLEY GOLF COURSE FILE

FROM NICHOLAS EISENHAUER, HSMS IV, BUREAU OF PLANNING AND ASSESSMENT

DATE

SUBJECT PVGC DOMESTIC WELL #2 AND OTHER PUBLIC SUPPLY WELLS

Rick Schultes of A.L. Schultes of Woodbury, New Jersey, a large well drilling and maintenance company revealed that the well used for domestic consumption located near the 18th fairway at Pine Valley Golf Club is 86 feet deep and is rated at 100 gallons per minute.

A conversation with Mr. James Long, Superintendent for the Clementon Water Department revealed that water is supplied to homes within the Clementon and Pine Hill area by three public wells. These wells are drilled to 457 feet for well number nine, 634 feet for well number ten and 280 feet for well number eleven. Well number nine and eleven are screened in the Englishtown formation and well number ten is screened in the Potomac formation. Mr. Long also stated that there are no private wells within a three mile radius that he knows of.

ATTACHMENT X

Form 87

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

Permit No. 31-3920
Application No.
County Camden

WELL RECORD

1. OWNER Pine Valley Water Co. ADDRESS Pine Hill, N.J.
Owner's Well No. 2 SURFACE ELEVATION _____ Feet (Above mean sea level)

2. LOCATION Country Club Rd. & Hill Drive, Pine Hill, N.J.

3. DATE COMPLETED 3-17-60 DRILLER E.R. Kauffman

4. DIAMETER: top 8 Inches Bottom 8 Inches TOTAL DEPTH 86 Feet

5. CASING: Type plastic Diameter 8 Inches Length 86 Feet

6. SCREEN: Type plastic Size of Opening saw cut Diameter 8 Inches Length 40 Feet

Range in Depth { Top 31 Feet, Bottom 86 Feet } Geologic Formation _____

Tail piece: Diameter _____ Inches Length _____ Feet

7. WELL FLOWS NATURALLY 0 Gallons per Minute at _____ Feet above surface

Water rises to 0 Feet above surface

8. RECORD OF TEST: Date 3-17-60 Yield 100 Gallons per minute

Static water level before pumping 22 Feet below surface

Pumping level 80 feet below surface after 10 hours pumping

Drawdown 58 Feet Specific Capacity 1.7 Gals. per min. per ft. of drawdown

How Pumped turbine How measured orfice flow

Observed effect on nearby wells not observed

9. PERMANENT PUMPING EQUIPMENT:

Type turbine Mfrs. Name Layne & Bowler Pump Co.

Capacity 100 G.P.M. How Driven Elec H.P. 10 R.P.M. 1800

Depth of Pump in well 80 Feet Depth of Footpiece in well 0 Feet

Depth of Air Line in well 80 Feet Type of Meter on Pump ? Size _____ Inches

10. USED FOR Housing dev. ?AMOUNT { Average _____ Gallons Daily, Maximum _____ Gallons Daily }

11. QUALITY OF WATER ? Sample: Yes ☐ No. ✓

Taste good Odor none Color clear Temp. ? °F

12. LOG over 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 Delmarva Drilling Co. Inc.

14. DATA OBTAINED BY E.R. Kauffman Date 9-2-63

(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.) ATTACHMENT Y

0-1 topsoil
1-8 Brown sandy clay
8-9 Cemented iron ore & clay
9-17 Hard - fine brown sand
17-24 Fine tan sand
24-29 " " " w/ yellow clay layers
29-31 " " " " " " & brown
31-49 Gray sand & clay layers
49-55 Gray sand - fine to coarse
55-98 Fine tan sand
98-105 Fine black sand

36" drilled hole with gravel pack from 20' -105'

---

concrete grout 0-20'

RECEIVED
SEP 5 1963
DEPT. OF NATURAL RESOURCES & ECONOMIC DEVELOPMENT
GEOLOGIC & TOP. SURVEY

ATT Y

II. OFFICES CONTACTED

	OFFICES	CONTACT NAME	CONTACT TELE. NO.	CONTACT DATE
1.	Hazardous Waste Management (Southern Office)	Robin Fordyce	346-8000	9/14/87
2.	Central Files	Mike Belviso	2-3209	9/14/87
3.	Pine Valley Golf Course	John Reddman	(609) 783-3000	9/14/87
4.	Pine Valley Borough Hall	John Reddman	783-7078	9/14/87
5.	A. L. Schultes	Rick Schultes	845-5656	9/29/87
6.	Clementon Water Department	James Long	627-1466	10/9/87

I. DOCUMENTS REVIEWED

	DOCUMENT NAME	DATE	AUTHOR	LOCATION	#	NO. PAGES
1.	Solid Waste Disposal Area	11/1/79	Walter Burshtin	HWM-S	A	1
2.	EPA - Pollution Report	Unknown	Gad Tawadros	HWM-S	B	2
3.	Newspaper Article	1/26/83	Lee Seglem	HWM-S	C	2
4.	EPA - Pollution Report	2/8/83	Gad Tawadros	HWM-S	D	6
5.	EPA - Pollution Report	2/8/83	Gad Tawadros	HWM-S	E	6
6.	NJDEP - Memo	2/16/83	David Bute	HWM-S	F	3
7.	EPA - Pollution Report	2/16/83	Gad Tawadros	HWM-S	G	3
8.	NJDEP - Memo	2/18/83	David Bute	HWM-S	H	1
9.	EPA - Pollution Report	2/23/83	Gad Tawadros	HWM-S	I	3
10.	EPA - Pollution Report	3/4/83	Gad Tawadros	HWM-S	J	2
11.	EPA - Pollution Report	3/21/83	Gad Tawadros	HWM-S	K	2
12.	EPA - Pollution Report	4/29/83	Gad Tawadros	HWM-S	L	2
13.	Waste Conversion Memo	3/21/83	H.A. Alsentzer	HWM-S	M	4
14.	Pine Valley Golf Club Memo	4/7/83	Robert Mather	HWM-S	N	1
15.	NJDEP - Memo	4/8/83	David Bute	HWM-S	O	1
16.	Weston - Sper Analytical Results	Unknown	Unknown	HWM-S	P	22
17.	NJDEP - Memo	8/9/83	Fred Rubel	HWM-S	Q	1
18.	EPA - Pollution Report	8/11/83	Gad Tawadros	HWM-S	R	2
19.	Newspaper Article	5/30/84	Associated Press	HWM-S	S	1

I. DOCUMENTS REVIEWED

	DOCUMENT NAME	DATE	AUTHOR	LOCATION	#	NO. PAG
20.	Final Judgement	11/9/84	Henry Habicht	HWM-S	T	7
21.	Newspaper Article	4/29/84	Unknown	HWM-S	U	1
22.	Camden County Soil Survey	4/66	USDA	BPA	V	2
23.	Memo	9/15/87	Nicholas Eisenhauer	BPA	W	1
24.	Memo	9/20/87	Nicholas Eisenhauer	BPA	X	1
25.	Well Log	9/2/63	E. R. Kauffman	DWR	Y	2