215533

FINAL
SITE INSPECTION PRIORITIZATION
FRANKLIN PLASTIC
KEARNY, HUDSON COUNTY, NEW JERSEY

PREPARED UNDER

REPORT NO.: 8003-447
WORK ASSIGNMENT NO. 038-2JZZ
CONTRACT NO. 68-W9-0051

September 20, 1995
Updated: September 29, 1995
REV. NO. 1

VOLUME 3 OF 3

REFERENCE NO. 15

NUS CORPORATION

TITLE: THREE MILE VICINITY MAP

SITE:

FRANKLIN PLASTICS CORP.
KEARNY, N.J.

DATE: 02/23/90

TDD: 02-9002-24

QUAD: ORANGE, N.J.

FIGURE NUMBER:

SCALE: 1" = 2000'

REFERENCE NO. 16

02 10

NUS CORPORATION AND SUBSIDIARIES

TELECON NOTE

CONTROL NO:	DATE:	TIME:
02-9001-11/NJDHSI	January 18, 1990	0930

DISTRIBUTION:

Edson Tool and Manufacturing

BETWEEN:	OF:	PHONE:
Ms. Carol Donnelly	Kearny Water Dept.	(201) 991-2700

AND:

Sue Lenczyk

DISCUSSION:

The water supply for Kearny comes from the Wanaque Reservoir. Drinking water wells are not allowed in Kearny, but there are wells used for industrial purposes. For example, the hospital on Bergen Avenue has one that its uses for its boiler only. The industrial wells in Kearny are permitted by the NJDEP and are monitored. The wells have cross connections, which prevent the well water from getting into the Kearny drinking water system.

ACTION ITEMS:

Sue Lenczyk 1/18/90

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NUS 087 REVISED 0686

REFERENCE NO. 17

NUS CORPORATION AND SUBSIDIARIES — **TELECON NOTE**

CONTROL NO:	DATE: 6 July 1989	TIME: 3:45 pm

DISTRIBUTION:

Keegan Landfill

BETWEEN: Carole Schmidt	OF: Kearny Water Department	PHONE: (201) 991-2700

AND: David Heim. NUS

DISCUSSION:

I asked where Kearny Water Department drew its water for distribution. She said that Kearny is part of the North Jersey Water Association, and owns 12% of the Wanaque Reservoir. Other partners include Newark, Hackensack, Secaucus, Paterson, Harrison, Belleville, Montclair North Arlington, and East Orange. The Kearny Water Department has 8000 customers

David Heim 7.6.89

ACTION ITEMS:

NUS 087 REVISED 0686

REFERENCE NO. 18

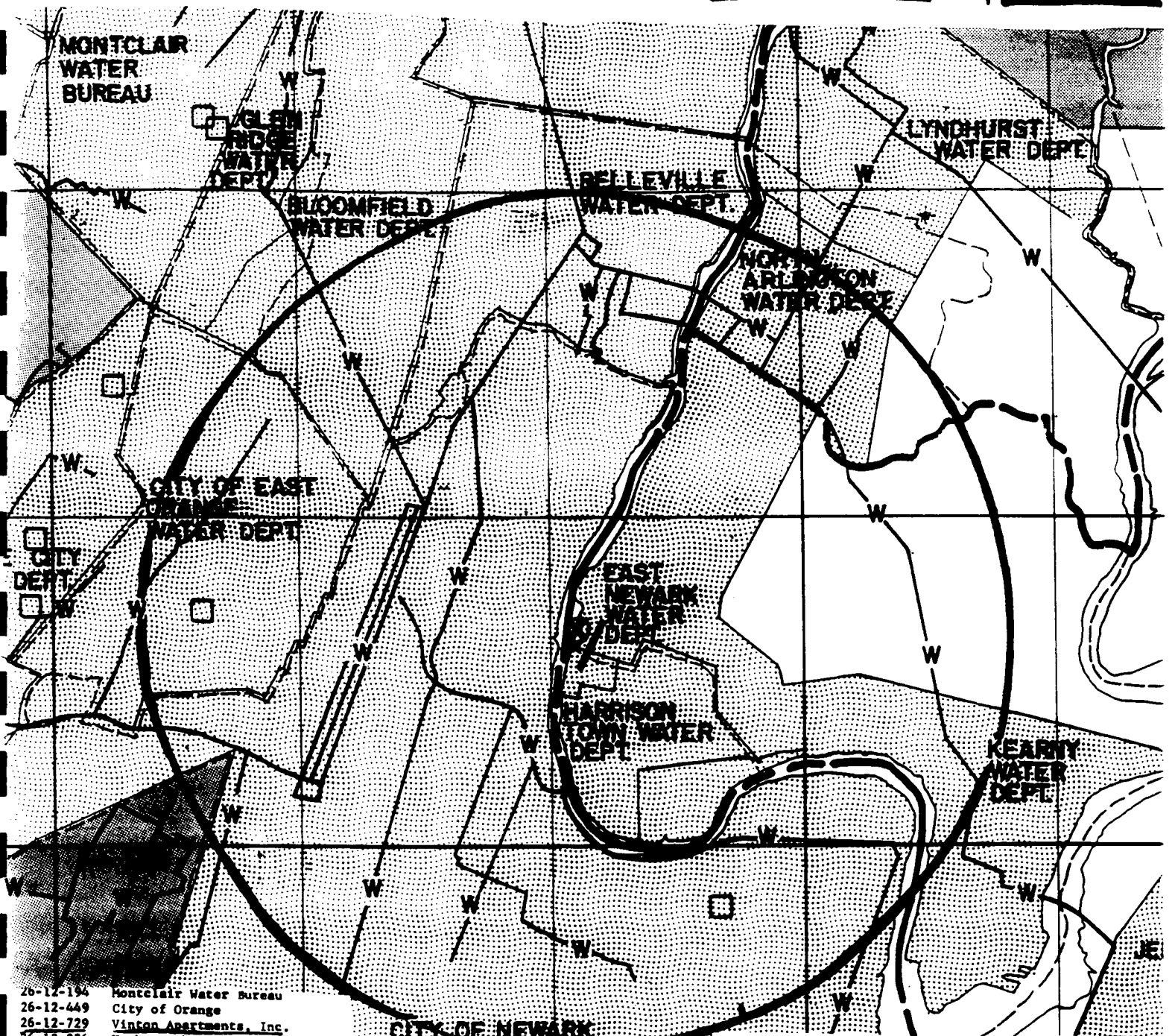
Scale: 1:63,360

1 ½ 0 1 2 3 Kilometers

¾ ½ ¼ 0 1 2 3 Miles

SUPERVISED BY GEORGE J. HALASI-KUN, TOPOGRAPHIC ENGINEER
DRAFTED BY JOHN E OLSCHEWSKI

New Jersey Department of Environmental Protection



26-12-194	Montclair Water Bureau
26-12-449	City of Orange
26-12-729	Vinton Apartments, Inc.
26-13-226	Hackensack Water Company
26-21-131	City of Orange
26-21-138	Township of Millburn
26-21-155	Short Hills Water Company
26-21-159	Short Hills Water Company
26-21-246	Elizabethtown Water Company
26-21-247	Elizabethtown Water Company
26-21-364	Irvington, City of
26-21-484	Plainfield-Union Water Co.
26-21-491	Elizabethtown Water Company
26-21-538	Union County Park Commission
26-21-573	Plainfield-Union Water Co.
26-21-663	Elizabethtown Water Co.
26-21-834	Plainfield-Union Water Co.
26-22-834	U. S. Navy
26-22-293	New York Port Authority
26-22-449	Elizabethtown Water Company
26-31-243	Rahway, City of
26-31-274	Rahway, City of
26-31-465	Middlesex Water Company
26-41-133	N. J. Highway Authority
26-41-578	City of South Amboy
26-41-594	City of South Amboy

AREA SERVED BY PRIVATE WATER SERVICE COMPA

AREA SERVED BY REGIONALLY OWNED WATER SER COMPANIES

AREA SERVED BY MUNICIPALLY OWNED WATER SER COMPANIES

AREA NOT PRESENTLY SERVED BY WATER SERVICE

PUBLIC SUPPLY WELLS

SURFACE WATER INTAKE

—W— MAJOR WATER MAINS

TOWNSHIP BOUNDARIES

COUNTY BOUNDARIES

STATE BOUNDARIES

ALL MAP COORDINATES ARE FOR THE LOWER LE

WATER SUPPLY OVERLAY
SHEET 26

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REFERENCE NO. 19

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Surface Water Classifications

Surface Water Quality Standards
N.J.A.C. 7:9-4

Index D-
Surface Water Classifications of the Passaic, Hackensack and N.Y. Harbor Complex Basin

July 1985

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State of New Jersey Department of Environmental Protection/Division of Water Resources

(Stockholm) - Brook between Hamburg Turnpike and Williamsville-Stockholm Rd. to its confluence with Lake Stockholm Brook, north of Rt. 23	FW1 [tm]
LITTLE POND BROOK (Oakland) - Entire length	FW2-TP(C1)
LOANTAKA BROOK	
(Green Village) - Entire length, except segment described below	FW2-NT
(Great Swamp) - Brook and all tributaries within the boundaries of Great Swamp National Wildlife Refuge	FW2-NT(C1)
LUD-DAY BROOK	
(Camp Garfield) - Source to confluence with a tributary from Camp Garfield	FW1
MACOPIN RIVER	
(Newfoundland) - Source to Echo Lake dam	FW2-NT
(Newfoundland) - Echo Lake dam to Pequannock River	FW2-TM
MEADOW BROOK (Wanaque) - Skyline Lake to Wanaque River	FW2-NT
MILL BROOK	
(Randolph) - Source to Rt. 10 bridge	FW2-TP(C1)
(Randolph) - Rt. 10 bridge to Rockaway River	FW2-NT
MORSES CREEK - Entire length	FW2-NT/SE3
MOSSMAN'S BROOK - See CLINTON BROOK	
MT. TABOR BROOK (Morris Plains) - Entire length	FW2-NT
NEWARK BAY (Newark) - North of an east-west line connecting Elizabethport with Bergen Pt., Bayonne up to the mouths of the Passaic and Hackensack Rivers	SE3
NOSENZO POND (Upper Macopin)	FW2-NT(C1)
OAK RIDGE RESERVOIR (Oak Ridge)	FW2-TM
OAK RIDGE RESERVOIR (Oak Ridge) - Northwestern tributary to Reservoir	FW1 [tm]
OVERPECK CREEK (Palisades Park) - Entire length	FW2-NT/SE2
PECKMAN RIVER (Verona) - Entire length	FW2-NT
PACACK BROOK	
(Stockholm) - Source to Pequannock River, excluding Canistear Reservoir, except segments described separately below	FW2-NT
(Canistear) - Brook and tributaries upstream of Canistear Reservoir located entirely within the boundaries of the Newark Watershed	FW1
PASSAIC RIVER	
(Mendham) - Source to Rt. 202 bridge (Van Doren's Mill), except tributaries described separately below	FW2-TM
(Paterson) - Rt. 202 bridge to Dundee Lake dam	FW2-NT
(Little Falls) - Dundee Lake dam to confluence with Second River	FW2-NT/SE2
(Newark) - Confluence with Second River to mouth	SE3

propagation of fish, shellfish, and wildlife, and recreation in and on the water, which are not included in the designated uses listed in this subchapter are attainable.

(f) A reclassification for more restrictive uses may be made when:

1. It is demonstrated to the satisfaction of the Department that the waters should be set aside to represent the natural aquatic environment and its associated biota; or

2. It is demonstrated to the satisfaction of the Department that a more restrictive use is necessary to protect a unique ecological system or threatened/endangered species.

(g) In those cases in which a thermal discharge is involved, the procedures for reclassifying segments for more restrictive uses shall be consistent with section 316 of the Federal Clean Water Act.

7:9-4.12 Designated uses of FW1, PL, FW2, SE1, SE2, SE3, and SC Waters

(a) In all FW1 waters the designated uses are:

1. Set aside for posterity to represent the natural aquatic environment and its associated biota;

2. Primary and secondary contact recreation;

3. Maintenance, migration and propagation of the natural and established aquatic biota; and

4. Any other reasonable uses.

(b) In all PL waters the designated uses are:

1. Cranberry bog water supply and other agricultural uses;

2. Maintenance, migration and propagation of the natural and established biota indigenous to this unique ecological system;

3. Public potable water supply after such treatment as required by law or regulations;

4. Primary and secondary contact recreation; and

5. Any other reasonable uses.

(c) In all FW2 waters the designated uses are:

1. Maintenance, migration and propagation of the natural and established biota;

2. Primary and secondary contact recreation;

3. Industrial and agricultural water supply;

4. Public potable water supply after such treatment as required by law or regulation; and

5. Any other reasonable uses.

(d) In all SE1 waters the designated uses are:

1. Shellfish harvesting in accordance with N.J.A.C. 7:12;

2. Maintenance, migration and propagation of the natural and established biota;

3. Primary and secondary contact recreation; and

4. Any other reasonable uses.

(e) In all SE2 waters the designated uses are:

1. Maintenance, migration and propagation of the natural and established biota;

2. Migration of diadromous fish;

3. Maintenance of wildlife;

4. Secondary contact recreation; and

5. Any other reasonable uses.

* (f) In all SE3 waters the designated uses are:

1. Secondary contact recreation;

2. Maintenance and migration of fish populations;

3. Migration of diadromous fish;

4. Maintenance of wildlife; and

5. Any other reasonable uses.

(g) In all SC waters the designated uses are:

1. Shellfish harvesting in accordance with N.J.A.C. 7:12;

REFERENCE NO. 20

REPORT ON THE QUALITY OF THE INTERSTATE WATERS OF THE LOWER PASSAIC RIVER AND UPPER AND LOWER BAYS OF NEW YORK HARBOR

U. S. DEPARTMENT OF THE INTERIOR

FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

NORTHEAST REGION

HUDSON DELAWARE BASINS OFFICE

Edison, New Jersey

November 1969

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c) construction started by July 1, 1967; d) construction completed and plants placed into operation by January 1, 1970...". The complete recommendations of the Secretary for the first and second sessions and the recommendations to the Secretary by the conferees for the third session are contained in the Appendix of this report.

3. At the June 1969 session, preliminary reports were presented by the Federal Water Pollution Control Administration regarding the operation of the Passaic Valley Sewerage Commissioners' waste treatment facility, direct discharges to the Lower Passaic River and the effect of the direct discharges on water quality in the Lower Passaic River. Since that session, additional studies have been conducted by the Federal Water Pollution Control Administration to evaluate the operational efficiency of the Passaic Valley Sewerage Commissioners' waste treatment facility and the effect of its effluent on the water quality of the Upper and Lower Bays of New York Harbor. Studies were also conducted by the Federal Water Pollution Control Administration and the New Jersey State Department of Health to identify waste discharges to and evaluate the water quality of the Lower Passaic River.

CONCLUSIONS

1. The quality of the interstate waters of the Upper and Lower Bays of New York Harbor and the Passaic River is below that required by the approved Federal-State Water Quality Standards. In the interstate waters of New Jersey, the present standards prescribe the highest use as follows: in the Upper Bay — limited recreation and fish survival and in the Passaic River

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upstream to the head of tide-fish survival. In the interstate waters of New York, the present standards prescribe the highest use as follows: in the Lower Bay-bathing and in the Upper Bay-fishing.

2. The quality of water in the Upper and Lower Bays of New York Harbor is affected by the discharge of inadequately treated waste from Passaic Valley Sewerage Commissioners and other discharges originating in the New Jersey-New York City Metropolitan area.

3. As a result of inadequately treated wastes originating in Upper Bay of New York Harbor, a public health hazard exists in the waters of Lower Bay which are classified for recreational purposes. Pathogenic organisms have been isolated in the effluent of the Passaic Valley Sewerage Commissioners, in the waters of Upper Bay of New York Harbor, in the vicinity of Passaic Valley Sewerage Commissioners' dispersal field and in the waters off the bathing beaches of the Lower Bay of New York Harbor.

4. Most of the municipalities and industries in the conference area are moving to meet the conference recommendations.

5. The Passaic Valley Sewerage Commissioners have not initiated adequate action to comply with the conference recommendations for needed treatment facilities.

6. Court action against the Passaic Valley Sewerage Commissioners for not complying with New Jersey treatment requirements was initiated in 1967 by the New Jersey State Department of Health. The Chancery Division of the Superior Court and the Appellate Division of the Superior Court upheld the Department's orders in dealing with the quality of effluent discharges from the Commissioners' facility.

DESCRIPTION OF THE PASSAIC RIVER BASIN

The Passaic River Basin, situated in northeastern New Jersey and southeastern New York, drains an area of approximately 935 square miles. The Basin is roughly elliptical in shape with a northeasterly length of about 56 miles and a maximum width of 28 miles. It spans across eight counties in New Jersey (Bergen, Essex, Hudson, Morris, Passaic, Somerset, Sussex and Union) and two counties in southeastern New York (Rockland and Orange).

The headwaters of the Passaic River are located north of Millington, New Jersey. From Millington, the River flows northeast for about 32 miles to the Great Piece Meadows above Caldwell, New Jersey, and continues east for 16 miles to Great Falls near Paterson, New Jersey. At Paterson, the river turns due south for 24 miles to its confluence with Newark Bay. The last 17 miles of the Passaic River from Dundee Dam to Newark Bay are tidal.

The Basin can be divided into three distinctly separate physiographical regions: The Highland Area in the northwest part of the Basin, comprising about 55 percent of the total watershed area; the Central Basin located in the southerly portion of the watershed and representing a little over 25 percent of the total area; and the Lower Valley comprising only about 20 percent of the watershed area and located in the eastern fringe of the Basin.

The Highland area is characterized by broad ridges and narrow valleys with terrain that is rugged and wooded. It contains many natural and man-made lakes. The area is sparsely settled and supports minor industrial activity.

The Central Basin consists of small hills, flat meadows and extensive areas of fresh water swamps. The major part of this Basin is rapidly undergoing residential and commercial development.

The Lower Valley is similar in physiographic characteristics to the Central Basin. It is essentially a flat, wide, flood plain with abutting low rolling hillsides. The area is densely populated and contains some of the most highly developed land in New Jersey. Extensive industrial activities are concentrated in the Valley.

The population of the Basin in 1968 totaled about 2,000,000 persons, the majority of which are located in the highly urbanized Lower Valley. Population densities varied from a low of about 130 persons per square mile in Sussex County to a high of 7,140 persons per square mile in Essex County.

At least 155 municipal and 23 industrial facilities discharge treated wastewaters into the Passaic River Basin. The majority of the municipal facilities, all generally located in the Highland and Central Basin areas, provide secondary treatment with chlorination to a total flow of approximately 50 mgd. The Passaic Valley Sewerage Commissioners, the largest wastewater collection and treatment facility in the Basin, handles the domestic and industrial wastes primarily within the Lower Valley. The Commissioners' plant, serving 1,200,000 people, nearly three-fifths of the total sewered population in the Basin, discharges primary treated effluent without disinfection into the interstate waters of Upper Bay of New York Harbor.

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The main stem of the Passaic River below the confluence with the Pompton River is considered interstate water under Section 10 of the Federal Water Pollution Control Act, as amended. The classifications established for these interstate waters are given below. Detailed definitions of these classes and their criteria are provided in Appendix B.

WATER	CLASSIFICATION	HIGHEST USE
Newark Bay	TW-3	Navigation not recreation
Passaic River (main stem from mouth to head of tide at Dundee Lake Dam)	TW-3	Navigation not recreation
Passaic River (main stem and tributaries between Dundee Lake Dam and Little Falls)	FW-3	All recreational purposes but not for public potable water supply
Passaic River (main stem between Little Falls and its confluence with the Pompton River)	FW-2	Public potable water supply after treatment and all recreational purposes

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WATER QUALITY CRITERIA

(NOTE: Except where noted by an asterisk (*), these criteria have been approved by the Secretary of the Interior).

STATE OF NEW JERSEY

CLASS TW-3

DEFINITION OR BEST USAGE: Tidal surface waters used primarily for navigation, not recreation. These waters, although not expected to be used for fishing, shall provide for fish survival. These waters shall not be an odor nuisance and shall not cause damage to pleasure craft traversing them.

FLOW CONDITIONS:

1	Floating Solids	None which are noticeable in the water or contribute to the formation of sludge deposits along the shores.
2	Settleable Solids	See Number 1.
3	Sludge Deposits	Harmful sludge deposits are not permitted.
4	Solid Refuse, Garbage, Cinders, Ashes, Oils, Sludge or Other Refuse	Not Specified.
5	Sewage or Other Effluent	Effective disinfection if required by the State Department of Health.
6	Oil, Grease, Oil Slicks, or Scum	Oil, Grease: See Number 1.
7	Coliform Density	None in such concentration that would impair the waters for assigned uses.
8	pH	Between 6.5 and 8.5 unless naturally outside thereof.
9	Dissolved Oxygen	Not less than 30% of saturation, if such value is greater than 2.5 ppm. Otherwise, not less than 2.5 ppm.
10	Color	Not Specified.
11	Turbidity	Not Specified.
12	Taste, Odor	Taste and odor producing substances: None which shall be offensive or that would detrimentally affect finfish, shellfish, or other aquatic life in higher quality waters.
13	Toxic Wastes, Deleterious Substances:	See over.
14	Heated Effluents and Temperature Criteria:	See over.

REMARKS:

13 Toxic Wastes, Deleterious Substances:

None in such concentrations as to cause fish mortality or inhibit their natural migration.

14(a) Heated Effluents:

Not Specified.

*(b) Temperature Criteria - Allowable Temperature Increase:

None that will have a detrimental effect upon the natural aquatic biota or reasonably anticipated reuse of the waters.

REFERENCE NO. 21

PRELIMINARY SITE ASSESSMENT
FRANKLIN PLASTICS - KEARNY, NJ

September 1984

Michael A. Barbara, P.E.
N.J. P.E. No. 29277

FRED C. HART ASSOCIATES, INC.
530 Fifth Avenue
New York, NY 10036

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Introduction

On June 27, 1984, James Mack and Thomas Morahan of Hart Associates visited Franklin Plastics (Figure 1) a manufacturer of plastic pellets, to collect soil samples for chemical and physical analysis. Tom Morahan picked up the sample shuttle at ETC and we arrived at the facility at approximately 9:15. Mr. Joe Ronzo of Franklin Plastics observed the site sampling. These sites were identified by an Organic Vapor Analyzer (OVA) survey performed by Hart Associates on June 7, 1984. Mr. Ronzo stated that the plant had previously been engaged in the manufacturing of asphalt and that the tanks had stored the asphalt. He was not aware of any recent dumping in the spill area.

Intent

The purpose of this trip was to obtain four surface soil samples for chemical analysis and subsurface soil samples for physical inspection and OVA analysis. One surface sample was to consist of a composite of several samples in a spill and vegetative stress area near the air pollution control units and the other three were to be collected inside the tank containment area. In addition, at each surface sampling location in thse tank containment area, soil samples were to be collected at various depths. Subsurface conditions and sampling equipment controled depth of sampling. The three borings were to be logged as normal test pits and samples screened with OVA.

Chemical samples were required in order to determine the types of contaminants present. Because of the uncertainty with regard to types of wastes involved, samples were to be analyzed for the 129 priority pollutants. The tests were to determine subsurface soil conditions, water table elevations and if contaminants are migrating vertically.

Procedures

Chemical sampling sites and boring locations are shown on Figure 2. The locations chosen for the composite chemical sample were selected based on OVA readings, vegetative stress, surface soil conditions and soil discoloration. Three samples were collected and mixed on a sheet of plastic. The surface soils were black, compact; were largely composed of fine sandy silts, but contained a large amount of debris such as plastics, broken bottles, metal scraps, bricks, etc. At one location (C1-A), the soils were covered with a silvery material. In amber, oven baked sample jar (bottle number E9507) was filled with material from the composite pile.

Sampling location in the tank containment area are also shown in Figure 2. This area consists of a square concrete walled structure within which were five columnar tanks formally used for asphalt storage. Currently one or two tanks are used in the plastics manufacturing process. Around the base of the tanks, and formerly covering a majority of the containment area, are solidified asphalt flows. Surface samples and test pit locations were selected to provide as fairly even distribution as well as possible worst case conditions. Chemical samples were obtained with decontaminated trowels and placed in amber, oven baked sample jars provided by ETC (Bottle number

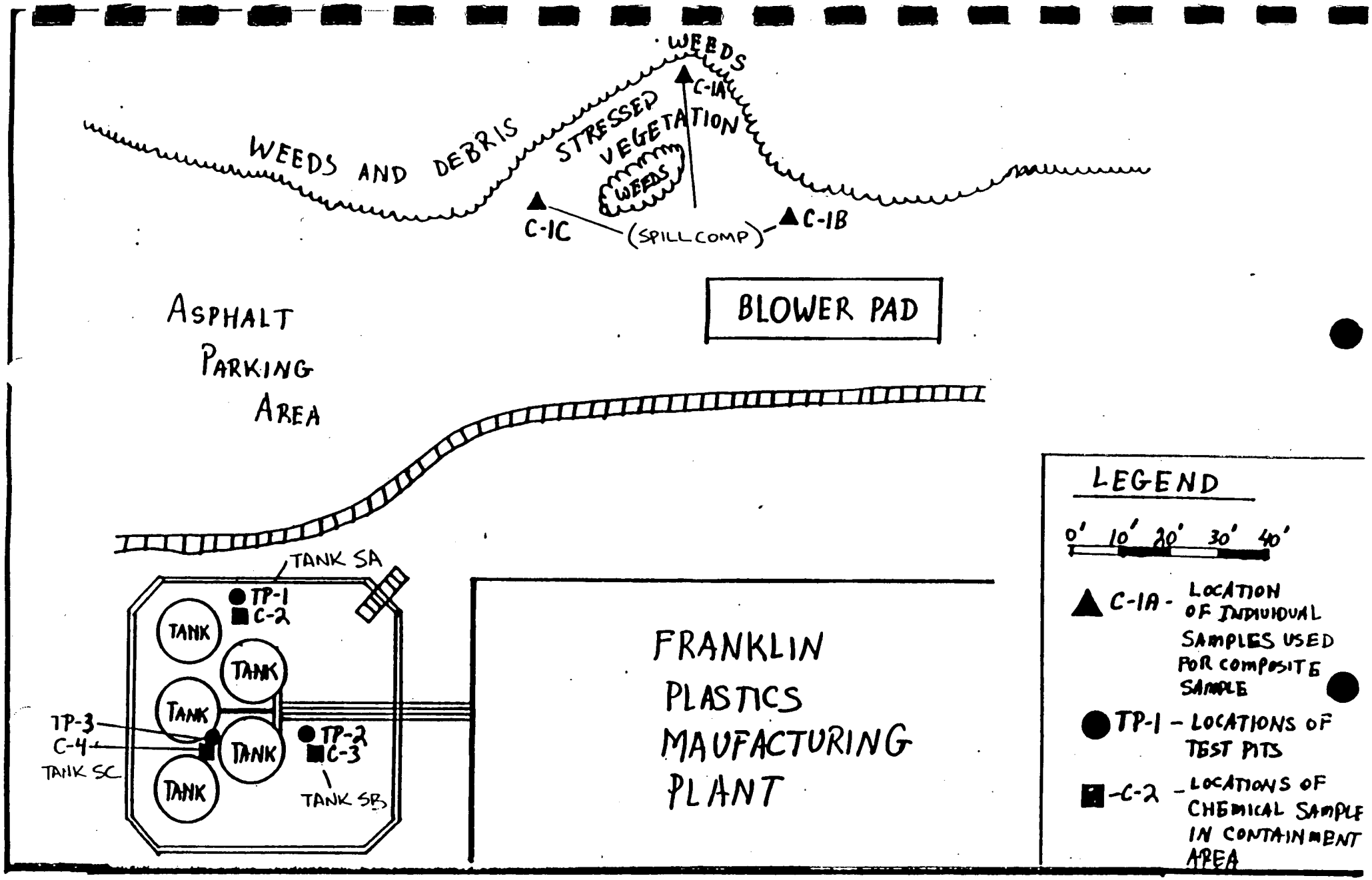

FIGURE 2. LOCATION OF SAMPLING SITES

E-9508, 9509, 9510). At test pits 1 and 2, the pits were first dug by hand to approximately 2.5 feet and then further sampling was performed with a hand auger. At test pit 3, samples wre obtained by driving a steel pipe.

A. Field Observations

Logs for the three test pits are attached in Appendix 1. TP-1 went deepest and encountered a marsh soil layer at approximately 5.7 feet. While TP-1 was the only pit to reach this layer, it can be assumed that this layer is continuous, possibly extending as far as Passaic Ave. This layer consists of low permeability material and may act as a barrier to vertical migration of potential contaminants. Neither of the other two test pits penetrated to this depth because of difficult excavating conditions. Groundwater was encountered at approximately 2.5 feet below land surface in each hole. The soil above the marsh layer are fill materials consisting of a wide variety of materials. There seemed an oily quality and slight chemical odor to all samples except the marsh soil samples. OVA analysis of the samples indicate the presence of no volatile organic compounds.

The shallow water table is a perched zone and cannot be considered a viable aquifer. Flow is most likely toward the Passaic River, but at a very slow rate. The lack of OVA results in the ppm range indicates that little to no volatile organic compounds are migrating downward. The surrounding area are heavily industrialized and it is possible that the shallow perched zone is contaminated through the area.

B. Analytical Data

Table 1 summarizes the results obtained from laboratory analysis of the soil samples collected at the site. These samples all contained extremely high levels of metals, plasticizers, and coal tar derivatives. The presence of these priority pollutants in such high concentrations requires additional site investigations to be performed before a complete environmental assessment of this site can be made.

In order to provide some perspective on these data, Table 2 lists the maximum concentration of priority pollutants found and compares these data to available standards for drinking water and human health criteria. While it is unlikely that significant receptors exist for these constituents, the presence of these materials in the groundwater and site soils must be well defined before a credible risk assessment can be performed. Toxicity data on the constitutents found in these samples is summarized in Appendix C.

ETC ENVIRONMENTAL TESTING and CERTIFICATION

DATA MANAGEMENT SUMMARY REPORT
(DM-1L) - All Parameters Present, Samples Linked by Order

Chain of Custody Data Required for ETC Data Management Summary Report

See Below ETC Sample No.	FRED C. HART ASSOCIATES, INC Company	FCHFRANKLN Facility	See Below Sample Point	Date

Parameters	Units	S SPILLCOMPSS 840627 E9507	TANKSA 840627 E9508	S TANKSB 840627 E9509	S TANKSC 840627 E9510				
		Sample Points, Sampling Dates, and ETC Sample No.'s							
PP Volatile Compounds									
Methylene chloride	ug/kg	646	BMDL	371	62				
Trichlorofluoromethane	ug/kg	368	ND	150	297				
PP Acid Compounds									
Phenol	ug/kg	2450	BMDL	BMDL	10300				
PP Base/Neutral Compounds									
bis(2-Ethylhexyl)phthalate	ug/kg	605E+6	89000	295000	149E+4				
Butyl benzyl phthalate	ug/kg	589E+4	ND	ND	ND				
Dimethyl phthalate	ug/kg	BMDL	ND	ND	6390				
Di-n-octyl phthalate	ug/kg	129E+5	BMDL	ND	ND				
Fluoranthene	ug/kg	ND	5740	ND	ND				
Phenanthrene	ug/kg	ND	5100	BMDL	ND				
Pyrene	ug/kg	ND	6690	ND	ND				
PP Metals									
Antimony	ug/kg	100E+4	13000	ND	9000				
Arsenic	ug/kg	7900	7500	14000	1700				
Beryllium	ug/kg	BMDL	500	500	BMDL				
Cadmium	ug/kg	350000	3500	9200	1800				
Chromium	ug/kg	120000	19000	26000	10000				
Copper	ug/kg	79000	120000	290000	38000				
Lead	ug/kg	590E+4	640000	110E+4	64000				
Mercury	ug/kg	BMDL	7100	200	BMDL				
Nickel	ug/kg	25	16	17000	18000				
Selenium	ug/kg	ND	1400	ND	500				
Silver	ug/kg	BMDL	BMDL	1000	ND				
Thallium	ug/kg	BMDL	BMDL	900	BMDL				
Zinc	ug/kg	340000	470000	210E+4	110000				
Cyanide, Total	ug/kg	700	<500	1100	<500				
Phenolics, Total	ug/kg	2600	200	6400	1600				

Footnotes BMDL=Below Method Detection Limit ND=Parameter not detected '-'=Parameter not tested

ETC ENVIRONMENTAL TESTING and CERTIFICATION

DATA MANAGEMENT SUMMARY REPORT
(DM-1L) - All Parameters Present, Samples Linked by Order

July 25, 1984
Page 2

Chain of Custody Data Required for ETC Data Management Summary Report

See Below	FRED C. HART ASSOCIATES, INC	FCHFRANKLN	See Below	
ETC Sample No.	Company	Facility	Sample Point	Date

Parameters	Units	S SPILLCOMPSS 840627 E9507	S TANKSA 840627 E9508	S TANKSB 840627 E9509	S TANKSC 840627 E9510				
		Sample Points, Sampling Dates, and ETC Sample No.'s							
Conventionals									
Phenolics, Total	mg/kg	2.6	0.2	6.4	1.6				

Notes: BMDL = Below Method Detection Limit ND = Parameter not detected '-' = Parameter not tested

TABLE 2

MAXIMUM CONCENTRATIONS DETECTED

Parameter	Maximum Concentration Detected ug/kg
Trichlorofluoromethane	368
Phenol	10,300
Bis (2 Ethyl hexyl) Phthalate	605 E+5
Butyl Benzyl Phthalate	589 E+4
Dimethyl phthalate	6,390
Fluoranthene	5,740
Phenanthrene	5,100
Pyrene	6,700
Antimony	100 E+4
Arsenic	14,000
Beryllium	500
Cadmium	350,000
Chromium	120,000
Copper	290,000
Lead	690 E_4
Mercury	7,100
Nickel	18,000
Senium	1,400
Silver	1,000
Thallium	900
Zinc	210 E+4
Total Cyanide	1,100
Total Phenolics	6,400

LOG OF TEST PIT

FRED C. HART ASSOCIATES, INC.

PROJECT NO. B-182

PROJECT NAME: FRANKLIN PLASTICS	TEST PIT NO. 1
LOCATION: PASSAIC AVE, KEARNY, N.J.	COORDINATES: 5ft east of west side wall
	EQUIPMENT OPERATOR:
DATE: 6/27/84 — GROUND SURFACE ELEVATION: Unknown	INSPECTOR: JM&TM

DEPTH (FT.)	DESCRIPTION OF MATERIALS	REMARKS
0		S-1 - Surface sample collected for chemical analysis - Bottle # E9503
S-1	Solidified Asphalt Flows	
1	FILL MATERIAL - Black, granular where dry; particles of glass, bricks, plastics; angular pebbles, zone of reddish orange clay - chemical odor to samples	
S-2		
2		
3 S-3		Perched water encountered at 2.5 feet below landsurface - Water [illegible]
4 S-4		
5 S-5		
6		
S-6	Black silty clay - evidence of roots probably former marsh soils	
7 S-7		
8		
9	Test pit terminated at 7.2 ft	
10		
11		
12		
13		
14		
15		

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LOG OF TEST PIT

FRED C. HART ASSOCIATES, INC.

PROJECT NO. B-192

PROJECT NAME: FRANKLIN PLASTICS	TEST PIT NO. 2
LOCATION: [illegible]SAIC RIVE, KEARNEY, N.J.	COORDINATES: 16' South of north side wall
	EQUIPMENT OPERATOR:
DATE: 6/27/94	GROUND SURFACE ELEVATION:
	INSPECTOR: JM [illegible]

DEPTH (FT.)		DESCRIPTION OF MATERIALS	REMARKS
0			S-1 - [illegible]
	S-1	Solidified Asphalt Flows	Sample [illegible]
1			
	S-2	FILL MATERIAL - Black, gr[illegible]	for [illegible]
2			analysis
	S-3	large particles of asphalt like ma[illegible]	bottle # E[illegible]
3		chemical [illegible]	
	S-4		
4		FILL MATERIAL - Re[illegible] brown	
	S-5	with [illegible] asphalt glass,	[illegible]
5			
	S-6	plastic [illegible]. P[illegible]	
6	S-7		
7		Re[illegible] at 5.4 ft	
8			
9			water [illegible]
10			[illegible]
11			
12			
13			
14			
15			

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LOG OF TEST PIT

FRED C. HART ASSOCIATES, INC.

PROJECT NO. B-13[illegible]

PROJECT NAME: FRANKLIN PLASTICS	TEST PIT NO. 3
LOCATION: PASSAIC AVE, KEARNY, N.J.	COORDINATES: [illegible]
	EQUIPMENT OPERATOR:
DATE: 5/27/84	GROUND SURFACE ELEVATION: Unknown
	INSPECTOR: [illegible]

DEPTH (FT.)		DESCRIPTION OF MATERIALS	REMARKS
0	S-1	Solidified Asphalt Flows	S-1 - [illegible] for [illegible]
1		FILL MATERIAL - Reddish brown poorly sorted - particles of plastic, glass, rocks.	
2			
3	S-2		
4			
5	S-3	-no recovery	
6	S-4	very little recovery - black	2.5 [illegible]
7			
8			
9			
10			
11			
12			
13			
14			
15			

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REFERENCE NO. 22

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C. Carcinogenicity Testing

1. DEHP was tested by the National Toxicology Program[3] (NTP) in a two year study on F344 rats and B6C3F1 mice. This single study was sufficient to satisfy the legislative requirement to list DEHP as a suspected animal carcinogen. When fed at extremely high doses, DEHP exhibited a statistically significant increase in hepatocellular tumors (0.1 lbs/day-equivalent lifetime daily consumption in humans). Table 1 lists the various federal statutes, regulations, and advisory programs for the phthalate esters found at Franklin Plastics[4]. EPA is currently under a court order to remove DBP and DOP from its list of extremely hazardous substances issued under Title III of the Superfund Amendments of Reauthorization Act (SARA).[5]

2. The Chemical Manufacturers Association (CMA) phthalate esters panel has conducted extensive research under Section 4 of the Toxic Substances Control Act (TSCA) on phthalates[6]. In its research program the CMA panel has done metabolism studies, mutagenicity studies and studies on liver effects aimed at understanding the results of the NTP study. Most chemicals that cause tumors do so by damaging genetic material. Current theory is that DEHP causes peroxisome proliferation in the livers of rodents. This leads to excess hydrogen peroxide release which is known to damage genetic material and causes neoplastic nodules and hepatocellular carcinomas. If the assumption is made that DEHP causes tumors in rodents and humans by the same mechanism, it is reasonable to expect that DEHP is also a mutagen and has genotoxic effects. Highlights of the (CMA) research on phthalates include the following:

3. Genotoxic Effects

a. Ames Assays[7]

On DEHP using five strains of *Salmonella* had no increase in mutant colonies over control group.

b. Mouse Lymphoma Forward Mutation Assay[7]

DEHP, BBP, and DOP produced no mutagenic activity in the L5178Y cell line in the presence or absence of rat liver 5-9 activation system. Only DBP gave weak positive response, but only in the presence of rat liver S-9 activation system.

c. Unscheduled DNA Synthesis in Primary Rat Hepatocytes[7]

No increase in DNA repair synthesis was observed indicating that DEHP does not damage DNA under the conditions of the assay.

d. Micronucleus Assay[7]

DEHP was not clastogenic in this assay.

e. Transformation in BALB 3T3 Cells[7,8]

DEHP, BBP, DBP and DOP produced no statistically significant increase in numbers of foci over background under either set of test conditions.

The above studies indicate that DEHP does not have genotoxic effects.

D. Risk Assessment

1. Dose response data from the NTP study were used to extrapolate risks at low dose levels using models which take into account the likely mechanism of action. Genotoxicity, metabolism, and pharmacokinetics were used in risk estimates. Assuming rodents and humans to be at the same risk, the daily dose level of DEHP most likely to result in a risk of one in one million is 116 ug/kg per day[9].

2. Using the most conservative risk extrapolation procedures the predicted lifetime risk from DEHP containing children's products is less than one in one million. When the mechanism of action is taken into account, estimated risks are no greater than one in 500 million. Even smaller risks are projected based on the different responses of humans and rodents to DEHP[10]

E. Environmental Studies

1. Biological Testing Results[11]

Aquatic toxicity of fourteen phthalate esters on nine aquatic species at different food chain levels in both fresh and salt water habitats were tested. Table II lists pertinent physical data for the phthalates found at Franklin Plastics. The general pattern of toxicity was primarily a function of relative molecular weight/side chain length/water solubility. Phthalate esters with side chains of C_6 or greater exhibited no toxic effect up to their limits of water solubility. Lower molecular weight phthalates did exhibit toxic effects below their limits of water solubility, however they were not unusually severe effects.

2. Fate Testing Results[11]

Phthalate esters are practically non-volatile at ambient temperatures; therefore the environmental compartment for entry is water. Higher molecular weight phthalates have solubilities in the 0.1 - 1.2 mg/l range. Low molecular weight phthalates range from 2.69 - 4000 mg/l. However, the lower molecular weight phthalates are also more readily biodegraded. Shake flask tests and semi-continuous activated sludge tests confirmed this. Degradation half-lives of 1.9 - 27.7 days with an average of eight days for all phthalates was found in the shake flasks. Fifty percent primary degradation occurred within 24 hours for most phthalates in high microbial, sewage treatment plant simulated conditions.

3. Environmental Exposure Assessment[11]

DEHP, DBP, and BBP were monitored at twenty-four sites in the United States and measured at 0.5 ug/l, <0.8 ug/l and generally none detectable, respectively. Phthalate ester analysis is particularly susceptible to laboratory and sampling contamination.

4. Preliminary Safety Assessment[11]

Environmental safety assessment is based on the concept of the magnitude of difference, or safety factor, between the exposure concentration in the environment and the affects concentration using the most sensitive species tested to represent the most sensitive organisms in the environment. Based on this concept the low molecular weight phthalates have safety factors ranging from 228 - 132,000. The high molecular weight phthalates range from 90 to 4200.

5. Bioconcentration Potential[11]

Bioconcentration factors (BCF) for all the phthalates tested measured less than 1,000, which falls into the category defined by Barrows, et. al. (1980 US EPA) of relatively low potential for bioconcentration.

F. Contaminant Migration

Groundwater velocity at Franklin Plastics was calculated to be approximately 0.15 ft/day (see calculation of groundwater velocity). Thus it would take water 7.3 years to reach the Passaic River (from building). Retardation coefficients (R) were calculated for DEHP, DBP, DOP and BBP. At 1% organic soil

content, DEHP ranged from a low of 614.26 to a high of 1,431.94. DBP, DOP and BBP had ranges of 73.5 - 170.17, 355.02 - 833.04, and 162.46 - 383.74, respectively. R values increased for all four phthalates at higher percentages of organic content (up to 5% organic content).

In terms of migration time, for DEHP, even at the lowest organic content in the soil (1%) and lowest bulk solids/effective porosity ratio it would take 4,500 years for DEHP to migrate to the Passaic River. The existing soil is more likely however to have a higher bulk solids/effective porosity value, and thus DEHP would migrate to the river in 10,500 years.

Calculation of Groundwater Velocity

FROM: R. Allan Freeze and John A. Cherry, 1979, Groundwater, Prentice Hall Table 2.2, page 29 - Range of Values of Hydraulic Conductivity and Permeability.

Silty Sand = 10 Gallons/Day/ft^2

Using Darcy's Law

$$V = -K \left(\frac{-h}{L}\right)$$

$$V = -10 \left(\frac{-1}{65}\right)$$

$$V = 0.15 \text{ ft/day}$$

Distance from building to Passaic River is approximately 400 feet.

0.15 ft/day x 365 days/year = 54.75 ft/year

$$\frac{400 \text{ ft}}{54.75 \text{ ft/year}} = \underline{7.3 \text{ years}}$$

The above calculation is an approximation based on the water table map and hydraulic conductivity assumption. Tides were between high and low tide on June 10, 1987.

Calculation of Retardation Coefficient of DEHP DBP, DOP and BBP

Solubility in Water

	S (ppm)	M.W.
DEHP	0.34	390.54
DBP	11.2	278.35
DOP	0.9	390.54
BBP	2.9	312.15

Assume:

ρ = bulk solids density; 1.4 - 1.2 (Textbook of Lithology).

η = effective porosity; 0.2 - 0.4 (per J. D. Reid-Green, Geologist).

f_{oc} = 1 - 5 % organic content

Using the correlation of Chiou et. al.

$$\log K_{oc} = 0.557 \log S \left(\frac{\text{umoles}}{1}\right) + 4.277$$

$$S \left(\frac{\text{umoles}}{1}\right) = S \frac{(\text{mg/l} * 10^3)}{\text{MW}}$$

Where:

S = Solubility
MW = Molecular weight in grams.
K_{oc} = octanol/water coefficient

$K_d = (f_{oc})\ (K_{oc})$

Where: K_d = Soil/water distribution coefficient.

K_{oc} (DEHP) = 20,442
K_{oc} (DBP) = 2,417
K_{oc} (DOP) = 11,886
K_{oc} (BBP) = 5,468

$R = 1 + (\rho/\eta)\ K_d$; where R = Retardation Coefficient

	f_{oc}	$\rho/\eta = \frac{1.2}{0.4} = 3$	$\rho/\eta = \frac{1.4}{0.2} = 7$
(DEHP)	1%	614.26	1431.94
	2%	1227.52	2862.88
	3%	1840.78	4293.82
	4%	2454.04	5724.76
	5%	3067.30	7155.71
(DBP)	1%	73.50	170.17
	2%	147.00	339.34
	3%	222.50	508.51
	4%	294.00	677.68
	5%	367.50	846.85
(DOP)	1%	355.02	833.04
	2%	710.03	1655.08
	3%	1065.05	2497.12
	4%	1420.07	3329.15
	5%	1775.09	4161.19
(BBP)	1%	162.46	383.74
	2%	324.92	766.48
	3%	487.38	1149.22
	4%	649.84	1531.96
	5%	812.30	1914.69

FOOTNOTES

1 Patty's Industrial Hygiene and Toxicology, 3rd Revised Edition, G.D. Clayton and F.E. Clayton, Editors. 1981, Wiley - Interscience Publication.

2 Dangerous Properties of Industrial Materials, Sixth Edition, N. Irving Sax, 1984, Van Nostrand Reinhold Company, Inc.

3 National Toxicology Program, PB82-184011, Carcinogenesis Bioassay of Di (2-Ethylhexyl) Phthalate (CAS. No. 117-81-7) in F344 rats and B6C3F1 mice (Feed Study), March 1982.

4 Suspect Chemicals Sourcebook., sixth Edition 1987., Roytech Publications Inc., Kenneth B. Clansky, Editor.

5 Chemical & Engineering News, 12/21/87, Government Concentrates, Page 12.

6 Chemical Manufacturers Association, Phthalate Esters Program, Health Effects, Research Status Report, January 1987.

7 Phthalate Esters; A Screening Program to Priorities for Health Effects Testing. Phase I-Validation and Optimization Summary and Reports. Volume I-Chemical Manufacturers Association, January 1987.

8 Evaluation of Eight Phthalate Esters in the In Vitro Transformation of BALB/3T3 cells assay. Chemical Manufacturers Association, 1985.

9 Assessment of Possible Carcinogenic Risk to Humans Resulting from exposure to Di (2-Ethylhexyl) Phthalate (DEHP). J. of the American College of Toxicology. D. Turnbull and J.V. Rodricks, Volume 4 (2), 1985.

10 Assessment of Possible Carcinogenic Risk Resulting from Exposure to Di (2-Ethylhexyl) Phthalate (DEHP) in Children's Products., for Phthalate Esters Program, Chemical Manufacturers Association., J.V. Rodricks and D. Turnbull, July 9, 1984.

11 Chemical Manufacturers Association - Phthalate Esters Program Panel - Summary Report - Environmental Studies, Phase I, Generation of Environmental Fate and Effects Data Base on Fourteen Phthalate Esters, G.V. Cox and E.J. Moran, December 15, 1984.

TABLE I
SUSPECT CHEMICALS SOURCEBOOK

Federal Statues, Regs.	DEHP	DBP	DOP	BBP
TSCA 8(a)/40 CRF 712	X	X	X	X
TSCA 8(d)	X	X	X	X
CWA/304	X	X	X	X
CWA/307	X	X	X	X
RCRA	X	X	X	X
CERCLA Hazardous Substances	X	X	X	X
SARA Extremely Hazardous				
SARA Toxic Chemicals	X	X	X	X
NTP Testing Program	X	X	X	X
DOT Hazardous Chemicals	X	X	X	X
TSCA CHIPs	X			
NIOSH Criteria Documents	X			
NIOSH Special Hazards Review	X			
OSHA Air Contaminants	X	X		
NTP Annual Report on Carcinogens	X			
ACGIH TLV Chemicals	X	X		
Additional IARC Human Carcinogens	X			
CWA/311		X		

*DBP and DOP were removed by US EPA from SARA III list of Extremely Hazardous Substances, effective December 17, 1987.

TABLE II

Pertinent Physical Data on Phthalate Esters Found at Franklin Plastics, Kearny, New Jersey

Phthalate	B.P. (oC)	Density	Flash Point (oC)	M.W.	Solubility (mg/l at 25oC)	Vapor Pressure (mmHg) (oC)
DEHP	230	0.9861	219	390.54	0.34	1.32 (200)
BBP	240	1.12	198.9	312.15	2.9	0.16 (150)
DBP	340	1.046	157.2	278.35	11.2	2.0 (150)
DOP	230	0.9861	218.3	390.54	0.9	<0.2 (150)]

DEHP = di (2-ethylhexyl) phthalate

BBP = butyl benzyl phthalate

DBP = di-n-butyl phthalate

DOP = di-n-octyl phthalate

REFERENCE NO. 23

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

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

DIRK C. HOFMAN, P.E.
DEPUTY DIRECTOR

JUN 2 8 1985

Joseph Ronzo
Franklin Plastics Corp.
113 Passaic Avenue
Kearny, New Jersey 07032

RE: NJPDES Permit No. NJ0002194
Effective Date: August 1, 1985

Dear Mr. Ronzo:

Enclosed is the Final NJPDES/DSW Permit and Notice of Authorization to discharge pollutants to the Passaic River, issued in accordance with the New Jersey Pollutant Discharge Elimination System Regulations, N.J.A.C. 7:14A-1 et seq. Violation of any condition of this permit may subject you to significant penalties.

Within 30 calendar days following your receipt of this permit, under N.J.A.C. 7:14A-8.6, you may submit a request to the Administrator for an adjudicatory hearing to reconsider or contest the conditions of this permit. Regulations regarding the format and requirements for requesting an adjudicatory hearing may be found in N.J.A.C. 7:14A-8.9 through 8.13. The request should be made to:

Administrator
Water Quality Management Element
Division of Water Resources
CN-029
Trenton, New Jersey 08625

Applications for renewal of this permit must be submitted at least 180 days prior to expiration of this permit pursuant to N.J.A.C. 7:14A-2.1(f)5.

If you have any questions on this action, please contact Mr. Edward Post, P.E., Chief, Industrial Permits Section at (609) 292-0407.

Sincerely,

Paul C. Kurisko

Paul C. Kurisko, P.E., Chief
Bureau of Industrial Waste Management
Water Quality Management

New Jersey Is An Equal Opportunity Employer

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Let's protect our earth

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION

NOTICE OF AUTHORIZATION

PERMIT NO.	ISSUANCE DATE	EFFECTIVE DATE	EXPIRATION DATE
NJ0002194	June 28, 1985	August 1, 1985	July 31, 1990

ISSUED TO	FOR ACTIVITY/FACILITY AT	OWNER
Franklin Plastics Corp. 113 Plastics Avenue Kearny, N.J. 07032	Same as Applicant	Same as Applicant

ISSUING DIVISION	TYPE OF PERMIT	STATUTE(S)	APPLICATION I
Water Resources	NJPDES/DSW	N.J.S.A. 58:10A-1 et seq.	NJ0002194

A PERMIT TO

Discharge to the Passaic River classified as TW-3 waters, in accordance with effluent limitations, monitoring requirements and other conditions as set forth in Parts I, II, and III hereof.

By the Authority of:
John W. Gaston Jr., P.E.
Director
Division of Water Resources

DEP AUTHORIZATION

DEP-008
2/84

THIS NOTICE MUST BE CONSPICUOUSLY DISPLAYED AT THE ACTIVITY/FACILITY SITE.

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STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
CN 402
Trenton, N.J. 08625

PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachmer accompanying same application, and applicable laws and regulations. This permit is also subject to the further conditic and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the perm

Permit No.	Issuance Date	Effective Date	Expiration Date
NJ0002194	June 28, 1985	August 1, 1985	July 31, 1990

Name and Address of Applicant	Location of Activity/Facility	Name and Address of Owner
Franklin Plastics Corp. 113 Plastics Avenue Kearny, N.J. 07032	Same as Applicant	Same as Applicant

Issuing Division	Type of Permit	Statute(s)	Application No
Water Resources	NJPDES/DSW	N.J.S.A. 58:10A-1 et seq.	NJ000219

This permit grants permission to:

Discharge to the Passaic River classified as TW-3 waters, in accordance with effluent limitations, monitoring requirements and other conditions as set forth in Parts I, II, and III hereof.

Approved by the Department of Environmental Protection
By the Authority of:
John W. Gaston Jr., P.E.
Director
Division of Water Resources

Arnold Schiffman, Administrator
Water Quality Management

6/28/85
DATE

* The word permit means "approval, certification, registration, etc."

(GENERAL CONDITIONS ARE ON THE REVERSE SIDE.)

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

GENERAL CONDITIONS FOR ALL NJPDES DISCHARGE PERMITS

1. Duty to Comply

A. The permittee shall comply with all conditions of this New Jersey Pollutant Discharge Elimination System (NJPDES) permit. No pollutant shall be discharged more frequently than authorized or at a level in excess of that which is authorized by the permit. The discharge of any pollutant not specifically authorized in the NJPDES permit or listed and quantified in the NJPDES application shall constitute a violation of the permit, unless the permittee can prove by clear and convincing evidence that the discharge of the unauthorized pollutant did not result from any of the permittee's activities which contribute to the generation of its wastewaters. Any permit noncompliance constitutes a violation of the New Jersey Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.; hereinafter referred to as the State Act) or other authority of the NJPDES regulations (N.J.A.C. 7:14A-1 et seq.) and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

B. A permittee shall not achieve any effluent concentration by dilution. Nor shall a permittee increase the use of process water or cooling water or otherwise attempt to dilute a discharge as a partial or complete substitute for adequate treatment to achieve permit limitations or water quality standards.

C. The permittee shall comply with applicable effluent standards or prohibitions established under Section 307 (a) of the "Federal Water Pollution Control Act" (PL 92-500 et seq.; hereinafter referred to as the Federal Act) and Section 4 of the State Act for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

D. The State Act provides that any person who violates a permit condition implementing the State Act is subject to a civil penalty not to exceed $10,000 per day of such violation. Any person who willfully or negligently violates permit conditions implementing the State Act is subject to a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment for not more than 1 year, or both.

E. The permittee is required to comply with all other applicable federal, state and local rules, regulations, or ordinances. The issuance of this permit shall not be considered as a waiver of any other requirements.

2. Permit Expiration

This permit and the authorization to discharge shall expire at midnight on the expiration date of the permit. The permittee shall not discharge after the above date of expiration of the permit.

A. Duty to Reapply. If the permittee wishes to continue an activity regulated by a NJPDES permit after the expiration date of the permit, the permittee shall apply for and obtain a new permit. (If the activity is to be continued, the permittee shall complete, sign, and submit such information, forms, and fees as are required by the Department no later than 180 days before the expiration date.) The permittee shall follow the requirements stated in paragraph 12.A. when signing any application.

B. Continuation of Expiring Permits

(1) The conditions of an expired permit are continued in force pursuant to the "Administrative Procedure Act," N.J.S.A. 52:14B-11, until the effective date of a new permit if:

a. The permittee has submitted a timely and complete application for renewal as provided in Sections 2.1 and (3.2 DSW) (4.4 IWMF) (5.8 UIC) and Subchapter 10 of the NJPDES Regulations; and

b. The Department through no fault of the permittee, does not issue a new permit with an effective date under Section 8.6 of the NJPDES Regulations on or before the expiration date of the previous permit (e.g., when issuance is impracticable due to time or resource constraints).

(2) Permits continued under this section remain fully effective and enforceable.

(3) Enforcement. When the permittee is not in compliance with the conditions of the expiring or expired permit the Department may choose to do any or all of the following:

a. Initiate enforcement action based upon the permit which has been continued;

b. Issue a notice of intent to deny the new permit under Section 8.1 of the NJPDES Regulations. If the permit is denied, the owner or operator would then be required to cease the activities authorized by the continued permit or be subject to enforcement action for operating without a permit;

c. Issue a new permit under Subchapters 7 and 8 of the NJPDES Regulations with appropriate conditions; or

d. Take other actions authorized by the NJPDES Regulations or the State Act.

3. Duty to Halt or Reduce Activity

A. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

B. Upon reduction, loss, or failure of the treatment facility, the permittee shall, to the extent necessary to maintain compliance with its permit, control production or discharges or both until the facility is restored to its permitted limits or an alternative method of treatment is provided. This requirement applies, for example, when the primary source of power of the treatment facility fails or is reduced or lost.

4. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit, including but not limited to accelerated and/or additional types of monitoring, temporary repairs or other mitigating measures.

5. Proper Operation, Maintenance and Licensing

A. The permittee shall at all times maintain in good working order and operate as efficiently as possible all treatment works, facilities, and systems of treatment and control (and related appurtenances) for collection and treatment which are installed or used by the permittee for

water pollution control and abatement to achieve compliance with the terms and conditions of the permit. Proper operation and maintenance includes but is not limited to effective performance based on designed facility removals, adequate funding, effective management, adequate operator staffing and training and adequate laboratory and process controls including appropriate quality assurance procedures as described in 40 CFR Part 136 and applicable State Law and regulations. All permittees who operate a treatment works, except for sanitary landfills and land application of sludge or septage, must satisfy the licensing requirements of the "Licensing of Operators of Wastewater and Water Systems" N.J.S.A. 58:11-64 et seq. or other applicable law. This paragraph requires the operation of back-up or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit or where required by applicable law or regulation.

B. Facilities Operation and Operator Certification. The operation of any treatment works shall be under the supervision of an operator on the first day of operation of the treatment works and continually thereafter in accordance with paragraph 5.A above. The operator shall meet the requirements of the Department of Environmental Protection of the State of New Jersey pursuant to the provisions of N.J.S.A. 58:11-64 et seq. and amendments thereto. The name of the proposed operator shall be submitted to this Department in order that his qualifications may be determined prior to inititating operation of the proposed treatment works.

6. Permit Actions

A. This permit may be modified, suspended, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

B. Causes for modification, revocation and reissuance, and suspension are set forth in N.J.A.C. 7:14A-2.12 et seq.

C. The following are causes for terminating or modifying a permit during its term, or for denying a permit renewal application:

(1) Noncompliance by the permittee with any condition of the permit;

(2) Failure to pay applicable fees (N.J.A.C. 7:14A-1.8), including the annual NJPDES permit fee which has been assessed by the New Jersey Department of Environmental Protection (NJDEP, hereinafter referred to as the Department);

(3) The permittee's failure in the application or during the permit issuance process of a National Pollutant Discharge Elimination System (NPDES), Discharge Allocation Certificate (DAC), NJPDES, Treatment Works Approval (TWA) or Construct and Operate permit to disclose fully all relevant facts, or the permittee's misrepresentation of any permit condition;

(4) A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination;

(5) When there is a change in any condition that requires either a temporary or a permanent reduction or elimination of any discharge controlled by the permit (for example, plant closure or termination of discharge by connection to a Domestic Treatment Works (DTW);

(6) The nonconformance of the discharge with any applicable facility, basin or areawide plans;

(7) If such permit is inconsistent with any duly promulgated effluent limitation, permit, regulation, statute, or other applicable state or federal law; or

(8) If a toxic effluent standard or prohibition is established pursuant to New Jersey Water Pollution Control Act N.J.S.A. 58:10A-1 et seq. or the regulations adopted pursuant to it, for a toxic pollutant which is present in the discharge, and such is more stringent than any limitation for such pollutant in this permit, this permit shall be revised or modified in accordance with the toxic effluent standard or prohibition and the permittee so notified of the revision or modification and date of required compliance.

7. Property Rights, Liability, and Other Laws

A. This permit does not convey and property rights of any sort or any exclusive privileges.

B. Nothing in this permit shall be deemed to preclude the institution of any legal action nor relieve the permittee from any responsibilities or penalties to which the permittee is or may be subject to under any federal, state or local law or regulation.

C. Nothing in this permit shall be construed to exempt the permittee from complying with the rules, regulations, policies, and/or laws lodged in any agency or subdivision in this State having legal jurisdiction.

8. Duty to Provide Information

A. The permittee shall furnish to the Director, Division of Water Resources, NJDEP, (hereinafter referred to as the Director),within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, suspending, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

B. Where the permittee becomes aware that he has failed to submit any relevant facts in a permit application, or has submitted incorrect information in a permit application or in any report to the Director, the permittee shall promptly submit such facts or information.

9. Inspection and Entry

A. The permittee shall allow the Regional Administrator of the United States Environmental Protection Agency (USEPA), the Department, or any authorized representative(s), upon the presentation of credentials and other documents as may be required by law, to:

(1) Enter upon the permittee's premises where a discharge source is or might be located or in which monitoring equipment or records required by a permit are kept, for purposes of inspection, sampling, copying or photographing. Photography shall be allowed only as related to the discharge;

(2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

(3) Inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

(4) Sample or monitor, at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the State Act, any substances or parameters at any location. This shall include, but not be limited to, the drilling or installation of monitoring wells for

the purpose of obtaining samples of ground water, soil and vegetation and measuring ground water elevations.

B. Any refusal by the permittee, facility land owner(s), facility lessee(s), their agents, or any other person(s) with legal authority, to allow entry to the authorized representatives of the NJDEP and/or USEPA shall constitute grounds for suspension, revocation and/or termination of this permit.

C. By acceptance of this permit, the permittee hereby agrees, consents and authorizes the representatives of the NJDEP and/or USEPA to present a copy of this permit to any municipal or state police officer having jurisdiction over the premises occupied by the permittee in order to have said officer effectuate compliance with the right of entry, should the permittee at any time refuse to allow entry to said inspectors.

D. By acceptance of this permit, the permittee waives all rights to prevent inspections by authorized representatives of the NJDEP and/or USEPA to determine the extent of compliance with any and all conditions of this permit and agrees not to, in any manner, seek to charge said representatives with the civil or criminal act of trespass when they enter the premises occupied by the permittee in accordance with the provisions of this authorization as set forth hereinabove.

10. Ground Water Monitoring Wells

The permittee shall install and maintain ground water monitoring wells if required by this permit at locations and according to specifications provided by the Department. All permit required monitoring wells shall be installed within 30 days of the Effective Date of the Permit. The monitoring wells shall provide turbidity-free water at a minimum rate of two gallons per minute or what the formation will yield with a properly installed and developed ground water monitoring well.

When a monitoring well cannot be used for the purpose of sample collection or ground water level measurements, the permittee shall replace the well at his own expense within 30 days of the missed sampling and/or measurement date. Said unuseable wells shall be sealed, also at the permittee's own expense, in accordance with Department well sealing specifications within the same 30 day period in which the well is replaced. Monitoring wells as required in this permit shall be considered as a monitoring device, which are required to be maintained under the provisions of the New Jersey Water Pollution Control Act N.J.S.A. 58:10A-10(f).

All monitoring wells must be installed by a New Jersey licensed well driller. The elevation to the nearest hundredth of a foot of the top of each well casing shall be established by a New Jersey licensed land surveyor within 30 days of the installation of the monitoring wells. The elevation established shall be in relation to the New Jersey geodetic control datum. Ground water monitoring wells and all point source discharges to ground water shall be located by horizontal control (latitude and longitude) using third order work, class II specification and by vertical control (elevation) using third order work. Within 30 days of the installation date of the monitor well, the permittee shall submit to the Department completed "Ground Water Monitoring Well Certifications - Forms A and B for each well required to be sampled by the permit. Within 60 days of the Effective Date of the Permit, the permittee shall submit to the Department a plot plan of the facility showing the location of all discharges and the ground water monitoring well locations. The scale of the plot plan shall be at least one inch equals fifty (50) feet.

Each ground water monitoring well casing shall have permanently affixed to it a monitoring well number to be assigned by the Department, elevation of the top of the well casing, elevation of the top of the well casing above the ground level and latitude and longitude of the monitoring well.

11. Monitoring and Records

A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

B. The State Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of no more than $10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both. This is specifically intended to include, but not be limited to, ground water monitoring wells and lysimeters.

C. The applicant shall perform all analyses in accordance with the analytical test procedures approved under 40 CFR Part 136. Where no approved test procedure is available, the applicant must indicate a suitable analytical procedure and must provide the Department with literature references or a detailed description of the procedure. The Department must approve the test procedure before it is used. The laboratory performing the analyses for compliance with this permit must be approved and/or certified by the Department for the analysis of those specific parameters. Information concerning laboratory approval and/or certification may be obtained from:

New Jersey Department of Environmental Protection
Office of Quality Assurance
CN 409
Trenton, New Jersey 08625
(609) 292-3950

D. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 5 years from the date of the sample, measurement, report or application. This period may be extended by request of the Department at any time.

E. Records of monitoring information shall include:

(1) The date, exact place, and time of sampling or measurements;

(2) The individual(s) who performed the sampling or measurements;

(3) The date(s) analyses were performed;

(4) The individual(s) who performed the analyses;

(5) The analytical techniques or methods used; and

(6) The results of such analyses.

F. Monitoring results shall be reported on a Discharge Monitoring Report (DMR) and/or on the Department's Monitoring Report Form (MRF); or, where these forms do not apply, in another format approved by the Department.

G. If the permittee monitors any pollutant more frequently than required by the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR, MRF, or other approved format.

H. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Department in the permit.

I. Discharge Monitoring Reports

(1) Monitoring results shall be summarized and reported on the appropriate Monitoring Report Forms following the completed reporting period. Signed copies of these, and all other reports required herein, shall be submitted to the following address:

Water Quality Management
Division of Water Resources
CN 029
Trenton, New Jersey 08625
ATTN: Monitoring Reports

(2) If a contract laboratory is utilized, the permittee shall submit the name and address of the laboratory and the parameters analyzed at the time it submits its monitoring reports (See Section 11.E. above). Any change in the contract laboratory being used or the parameters analyzed shall be reported prior to or together with the monitoring report covering the period during which the change was made.

J. Monitoring Reports. Monitoring results shall be reported at the intervals and starting date specified elsewhere in this permit.

K. Compliance Schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

12. Signatory Requirement

A. Signature Requirements. All permit applications, except those submitted for Class II wells for a UIC discharge (see paragraph B) shall be signed as follows:

(1) For a corporation, by a principal executive officer of at least the level of vice president;

(2) For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or

(3) For a municipality, state, federal or other public agency, by either a principal executive officer or ranking elected official.

B. Reports. All reports required by permits, other information requested by the Department and all permit applications submitted for Class II wells under N.J.A.C. 7:14A-5.8 shall be signed by a person described in paragraph A of this section or by a duly authorized representative only if:

(1) The authorization is made in writing by a person described in paragraph A of this section;

(2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as a position of plant manager, operator of a well or well field, superintendent or person of equivalent responsibility; and

(3) The written authorization is submitted to the Department.

C. Changes to Authorization. If an authorization under paragraph B of this section is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph B of this section shall be submitted to the Department prior to or together with any reports, information, or applications to be signed by an authorized representative.

D. Certification (N.J.A.C. 7:14A-2.4(d)). Any person signing any document under paragraph A or B of this section shall make the following certification: "I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

E. False Statements. Any person who knowingly makes a false statement, representation, or certification in any application, record, or other document filed or required to be maintained under the State Act shall upon conviction, be subject to a fine of not more than $10,000.00 or by imprisonment for not more than 6 months or by both.

13. Reporting Changes and Violations

A. Planned Changes. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility. The permittee shall comply with N.J.A.C. 7:14A-12.1 et seq. which requires approval for building, installing, modifying, or operating treatment works. (NOTE: Sewer Extensions require such an approval. A connection of a single building through which less than 2000 gpd flows by gravity through a single lateral is exempt from the requirement to obtain the approval of this Department.). Construction of a sewer extension without this Department's approval will be a violation of this permit.

B. Anticipated Noncompliance. The permittee shall give reasonable advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

14. Reporting Noncompliance

A. The permittee shall report any noncompliance which may endanger health or the environment. The permittee shall provide the Department with the following information:

(1) A description of the discharge;

(2) Steps being taken to determine the cause of noncompliance;

(3) Steps being taken to reduce and eliminate the noncomplying discharge;

(4) The period of noncompliance, including exact dates and times. If the noncompliance has not been corrected, the anticipated time when the discharge will return to compliance;

(5) The cause of the noncompliance; and

(6) Steps being taken to reduce, eliminate, and prevent reoccurence of the noncomplying discharge.

B. The permittee shall orally provide the information in paragraphs A.(1) through (3) to the DEP Hotline (609) 292-7172 within 2 hours from the time the permittee becomes aware of the circumstances.

C. The permittee shall orally provide the information in paragraphs A.(4) through (5) to the DEP Hotline within 24 hours of the time the permittee becomes aware of the circumstances.

D. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain the information in A.(1) through (6).

E. Other Noncompliance. The permittee shall report all instances of noncompliance not reported under paragraphs 11.J, 11.K, 13.A, and 14.A through D at the time monitoring reports are submitted. The reports shall contain the information required in the written submission listed in paragraph 14.D.

F. The following shall be reported to the Department in accordance with paragraphs 14.A through D:

(1) In the case of any discharge subject to any applicable toxic pollutant effluent standard under Section 307(a) of the Federal Act or under Section 6 of the State Act the information required by paragraphs 14.A(1) through (3) regarding a violation of such standard shall be provided to the Department within 2 hours from the time the permittee becomes aware of the circumstances. The information required by paragraphs 14.A(4) through (6) shall be provided to the Department within 24 hours from the time the permittee becomes aware of the circumstances. Where the information is provided orally, a written submission covering these points must be provided within five working days of the time the permittee becomes aware of the circumstances covered by this paragraph.

(2) In the case of other discharges which could constitute a threat to human health, welfare, or the environment, including but not limited to, discharge of pollutants designated under Section 311 of the Federal Act, under Section 6 of the State Act, under the "Spill Compensation and Control Act", N.J.S.A. 58:10-23.11 et seq., or under the "Safe Drinking Water Act", N.J.S.A. 58:12A-1 et seq., the information required by paragraph 14.A(1) through (3) shall be provided to the Department within 2 hours from the time the permittee becomes aware of the circumstances. The information required by paragraphs 14.A(4) through (6) shall be provided to the Department within 24 hours from the time the permittee becomes aware of the circumstances. Where the information is provided orally, a written submission covering these points must be provided within five working days of the time the permittee becomes aware of the circumstances covered by this paragraph.

(3) The information required in paragraphs 14.A(1) through (3) shall be provided to the Department within 2 hours where a discharge described under paragraphs 14.F(1) or (2) is located upstream of a potable water intake or well field. The information required by paragraphs 14.A(4) through (6) shall be provided to the Department within 24 hours. If this information is provided orally, a written submission covering these points must be provided within five days of the time the permittee becomes aware of the discharge.

(4) Any bypass which violates any effluent limitations in the permit shall be reported within 24 hours unless paragraphs 14.F(1) through (3) are applicable. (See Section 15.)

(5) Any upset which violates any effluent limitation in the permit shall be reported within 24 hours unless paragraphs 14.F(1) through (3) are applicable. (See Section 16.)

(6) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Department in the permit shall be reported within 24 hours unless paragraphs 14.F(1) through (3) are applicable (See N.J.A.C. 7:14A-3.13(a)7.).

15. Bypass

A. Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it is also for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs B. and C. of this section.

B. Notice

(1) Anticipated Bypass. If the permittee knows in advance of the need for a bypass, he shall submit prior notice, if possible, at least thirty (30) days before the date of the bypass.

(2) Unanticipated Bypass. The permittee shall submit notice of an unanticipated bypass as required in paragraph 14.F.(4).

C. Prohibition of Bypass

(1) Bypass is prohibited, and the Department may take enforcement action against a permittee for bypass unless:

a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if the permittee could have installed adequate backup equipment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

c. The permittee submitted notices as required under paragraph B of this section.

(2) The Department may approve an anticipated bypass, after considering its adverse effects, if the Department determines that it will meet the three conditions listed above in paragraph C.(1) of this section.

16. Upset

A. Effect of An Upset. An upset may constitute an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of paragraph B. of this section are met. Where no determination was made during administrative review of claims that noncompliance was caused by upset, and there has been no Departmental action for noncompliance, the lack of such determination is final administrative action subject to judicial review.

B. Conditions Necessary for A Demonstration of Upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

(1) An upset occurred and that the permittee can identify the specific cause(s) of the upset;

(2) The permitted facility was at the time being properly operated;

(3) The permittee submitted notice of the upset as required in paragraph 14.F.(5); and

(4) The permittee complied with any remedial measures required under Section 4 above.

C. Burden of Proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

17. Emergency Plan (DSW and DGW permits only)

A. The permittee shall develop, submit, and implement an Emergency Plan report prepared in accordance with N.J.A.C 7:14A-3.12(b) unless exempted pursuant to N.J.A.C. 7:14A-3.12(e). If not previously submitted to and approved by NJDEP, the Emergency Plan (or a request for exemption) must be submitted within six (6) months of the effective date of the permit unless otherwise required by N.J.A.C. 7:14A-3.12(a).

B. Liability

(1) Submission of an Emergency Plan pursuant to this section shall not exempt a permittee from liability for violations arising from an emergency situation. A permittee shall take all necessary actions to mitigate the damage to the waters of the State arising from an emergency situation. Such actions shall not be limited by the emergency operating plan and the manual of procedures.

(2) Exemption from development of an Emergency Plan under this section does not exempt the permittee from liability for violations arising from an emergency situation. Such permittee shall take all necessary actions to mitigate the damage to the waters of the State arising from an emergency situation.

C. Violations

Failure to submit an emergency plan in compliance with paragraph A. of this section and failure to implement the emergency plan shall each constitute a violation of this permit.

18. Residuals Management

A. Collected grit and screenings, scums, sand bed sands, slurries, and sludges, and all other solids from the treatment process shall be disposed of in such a manner as to prevent such materials from entering the ground and/or surface waters of the state except in accordance with a NJPDES permit. If for any reason such materials are placed in the water or on the lands where they may cause pollutants to enter the ground and/or surface waters of the State, the following information shall be reported to the Division of Water Resources Enforcement Element together with the monitoring data required in Part I, Section 11.I.:

(1) Dates of occurrence;

(2) A description of the noncomplying discharge (nature and volume);

(3) Cause of noncompliance;

(4) Steps taken to reduce and eliminate the noncomplying discharge; and

(5) Steps taken to prevent recurrence of the condition of noncompliance.

B. The permittee shall not be permitted to store sludge on-site beyond the capacity of the structural treatment and storage componenets of the treatment facility, except in accordance with a NJPDES Emergency On-site storage Permit. Nor shall the permittee be permitted to store sludge on-site in any manner which is not in accordance with Solid Waste Management Rules, N.J.A.C. 7:26-1 et seq. Any violations must be reported by the permittee to the Division of Water Resources Enforcement Element within 24 hours.

C. The permittee shall comply with the Sludge Quality Assurance Regulations (N.J..A.C. 7:14-4.1 et seq.). Where quality information is required by these regulations analyses must reflect the quality of the final sludge product of which the permittee must dispose.

D. The permittee shall dispose of sludge from this facility in compliance with the New Jersey Solid Waste Management Act N.J.S.A. 13:1E-1 et seq., which requires conformance with Statewide and District Sludge Management Plans, and prohibits the disposal of municipal sewage sludge in landfills. The permittee shall also comply with all applicable rules and regulations promulgated pursuant to the Federal Resource Conservation and Recovery Act governing the treatment, storage and disposal of hazardous waste.

E. The permittee shall at all times have on file with the Department proof of proper disposal at a facility duly licensed and permitted by the State to dispose of sludge. To satisfy this requirement the permittee shall submit proof of ownership or contractual arrangement with a permitted facility for the composting, land application, thermal reduction, or other approved method of sludge disposal.

Where such permitted sludge disposal does not extend the full term of this permit, the permittee shall submit similar proof of new permitted disposal arrangements which shall become effective no later than the expiration date of previous arrangements. All such proofs of disposal site must be submitted to the Bureau of Permits Administration in duplicate to:

Chief
Bureau of Permits Administration
CN-029
Trenton, N.J. 08625
ATTN: Sludge Disposal Site Proof

F. By issuance of this permit the Department hereby gives the permittee notice that the permittee is bound by the New Jersey Pollutant Discharge Elimination System regulations regarding proper sludge disposal (Section 25 (a)13.).

G. The permittee shall comply with the Rules and Regulations for the Statewide Management of Septage Disposal (N.J.A.C. 7:14-5.1 et seq.).

H. The permittee shall conform with the requirements under Section 405 of the Federal Act governing the disposal of sewage sludge from publicly owned treatment works and with Sections 4 and 6 of the State Act.

19. Discharge Permitted

The permittee shall discharge to surface waters, land or ground waters of the State, directly or indirectly, only as authorized herein and consistent with the terms and conditions of this permit.

20. Operation Restrictions

The operation of a waste treatment or disposal facility shall at no time create: (1) a direct discharge to surface waters of the State, except as authorized by NJDEP; (2) a persistent standing or ponded condition for water or waste on the permittee's property except as specifically authorized by this permit, or (3) any standing or ponded condition for water or waste on adjacent properties unless these activities are specifically included within the permit.

21. Oil and Hazardous Substance Liability

The imposition of responsibilities upon, or the institution of any legal action against the permittee under Section 311 of the Federal Act shall be in conformance with regulations promulgated pursuant to Section 311 of the Federal Act governing the applicability of Section 311 to discharges from facilities with NPDES permits.

22. Reopener Clause for Toxic Effluent Limitations

Notwithstanding any other condition of this permit, if any applicable toxic effluent standards, limitation or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the Federal Clean Water Act or Sections 4 or 6 of the State Act for a toxic pollutant and that effluent standard, limitation, or prohibition is more stringent than any limitation on the pollutant in the permit (or controls a pollutant not limited in the permit), this permit shall be promptly modified or revoked and reissued to conform to that effluent standard, limitation or prohibition.

23. Availability of Information

A. NJPDES permits, effluent data, and information required by NJPDES application forms provided by the Regional Administrator or Director (including information submitted on the forms themselves

and any attachments used to supply information required by the forms) shall be available for public inspection at the offices of the Director.

B. In addition to the information set forth in paragraph A., any other information submitted to EPA and/or the Department in accordance with the conditions of this permit shall be made available to the public without further notice unless a claim of business confidentiality is asserted at the time of submission in accordance with the procedures in 40 CFR Part 2 (Public Information) and/or Subchapter 11 of the "Regulations Concerning the New Jersey Pollutant Discharge Elimination System."

C. If a claim of confidentiality is made for information other than that enumerated in paragraph A., the information shall be treated by the Department in accordance with the procedures in N.J.A.C. 7:14A-11.1 et seq. Only information determined to be confidential under those procedures shall not be made available by NJDEP for public inspection.

24. Effective Date of Permit

A. This permit shall become effective in its entirety on the date indicated (Effective Date) on the first page of this permit unless a request for an adjudicatory hearing is granted pursuant to the provisions of N.J.A.C. 7:14A-8.11 et seq.

B. For purposes of judicial review, final agency action on a permit does not occur unless and until a party has exhausted its administrative remedies under N.J.A.C. 7:14A-8.9 et seq. Any party which neglects or fails to seek such review thereby waives its opportunity to exhaust available agency remedies.

25. Transfer of Permit

A. This permit is not transferable to any person except after notice to the Department. The Department may require modification, revocation, or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the appropriate Act. (See N.J.A.C. 7:14A-2.12; in some cases, modification or revocation and reissuance is mandatory).

B. Transfer by Modification. Except as provided in paragraph (C) of this section, a permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued (under Section 2.12(c)1.ii.) or a minor modification made (under Section 2.14(a)4. of the NJPDES Regulations), to identify the new permittee and incorporate such other requirements as may be necessary under the State and Federal Acts.

C. Automatic Transfers. As an alternative to transfers under paragraph (B) of this section, any NJPDES permit, except a UIC permit for a well injecting hazardous waste, may be automatically transferred to a new permittee if:

(1) The current permittee notified the Department in writing by certified mail of the proposed transfer as follows:

a. Where production levels, products produced, rates of discharge, and wastewater characteristics will remain unchanged, the following information shall be submitted at least 90 days prior to a proposed transfer date:

(1) Name and address of current facility;

(2) Name and address of new owners;

(3) NJPDES permit number;

(4) Names of the new principal persons responsible;

(5) Names of persons upon whom legal process can be served; and

(6) A notarized statement signed by the new principal officer stating that he has read the NJPDES permit and agrees to abide by all the conditions of the permit and that the production levels, products produced, rates of discharge, and wastewater characteristics will remain unchanged.

b. Where there will be a change in production levels, products produced, rates of discharge, or wastewater characteristics, the information required in paragraph 25.C(1)(a)above shall be submitted at least 180 days prior to a proposed transfer date.

(2) The current permittee shall include in the notice of proposed transfer a written agreement between the existing and new permittee which includes a specific date for transfer of permit responsibility, coverage, and liability between the parties. In the case of a UIC permit, the notice shall demonstrate that the financial responsibility requirements of Section 5.10(a)7. of the NJPDES Regulations will be met by the new permittee;

(3) The Department does not notify the existing permittee and the proposed new permittee, within thirty (30) days of receipt of notice of proposed transfer, of an intent to modify, revoke or revoke and reissue the permit or, for a discharge to surface water (DSW), require a DAC. A modification under this paragraph may also be a minor modification under Section 2.14 of the NJPDES Regulations. If such notice is not received, the transfer is effective on the date specified in the agreement mentioned in paragraph 25.C(2) of this section; and

(4) Whenever the regulated discharge has ceased prior to the proposed permit transfer, any compliance schedule shall not be automatically reinstated but shall be subject to revision or complete withdrawal if circumstances leading to its imposition have changed.

26. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

27. Stay of Conditions, N.J.A.C. 7:14-8.10

A request for an adjudicatory hearing shall not automatically result in a stay of the conditions of this permit.

28. Definitions

A. Unless otherwise stated, all terms shall be as defined in the "Regulations Concerning the New Jersey Pollutant Discharge Elimination System", N.J.A.C. 7:14A-1 et seq.

(1) "Aliquot" means a sample of specified volume used to make up a total composite sample.

(2) "Bypass" means the intentional diversion of wastes from any portion of a treatment facility.

(3) "Composite" means a combination of individual (or continuously taken) samples (aliquots) of at least 100 milliliters, collected at periodic intervals over the entire discharge day. The composite must be flow proportional; either the time interval between each aliquot or the volume of each aliquot must be proportional to either the stream flow at the time of sampling or the total stream flow since the collection of the previous aliquot. Aliquots may be collected manually or automatically. For a continuous discharge, a minimum of 24 aliquots (at hourly intervals) shall be collected and combined to constitute a 24-hour composite sample. For intermittent discharges of more than 4 hours duration, aliquots shall be taken at a minimum of 30-minute intervals. For intermittent discharges of less than 4 hours duration, aliquots shall be taken at a minimum of 15-minute intervals.

(4) "EDP" means Effective Date of Permit.

(5) "Grab" means an individual sample of at least 100 milliliters collected over a period not exceeding 15 minutes.

(6) "Monthly" means one day each month (the same day each month) and a normal operating day (e.g., the 2nd Tuesday of each month).

(7) "Multiple Grab Composite" - means a combination of individual samples (aliquots) collected at a specified frequency over a specified time period. Each aliquot must be collected in a glass vial with septum cap, filled to the top leaving no air bubbles, and iced until delivered for analysis. Each aliquot shall be analyzed individually. The recorded value will be flow proportioned average of the individual analyses for the specific time period.

(8) "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.

(9) "Weekly" means every seventh day (the same day each week) and a normal operating day.

29. <u>Annual Permit Fee, N.J.A.C. 7:14A-1.8</u>

The permittee shall pay the annual NJPDES permit fee which has been assessed by the Department.

WQM122-A/GWM:fmm

ADDITIONAL GENERAL CONDITIONS FOR NJPDES/DSW PERMITS FROM INDUSTRIAL/COMMERCIAL AND/OR THERMAL DISCHARGES

1. The following additional conditions applicable to specified categories of DSW permits in accordance with N.J.A.C. 7:14A-3.11, in addition to those set forth in N.J.A.C. 7:14A-2.5, 3.10 and 3.12, hereby apply to all DSW permits within the categories specified below:

Existing manufacturing, commercial, mining, and silvicultural dischargers and research facilities. In addition to the reporting requirements under Section 2.5(a)12 and Section 3.10 of N.J.A.C. 7:14A-1 et seq., all existing manufacturing, commercial, mining, and silvicultural dischargers and research facilities must notify the Department as soon as they know or have reason to believe:

[illegible] activity has occurred [illegible] which would result in the discharge [illegible] discharge will exceed [illegible] notification [illegible]

[illegible] one hundred micrograms per liter [illegible]

[illegible] two hundred micrograms [illegible] for acrolein and acrylonitrile, five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4, 6-dinitrophenol, and one milligram per liter (1 mg/l) for antimony;

(3) Five (5) times the maximum concentration value reported for the pollutant in the permit application in accordance with N.J.A.C. 7:14A-10.3(a)9. or 10.3(a)12; or

(4) The level established by the Department in accordance with N.J.A.C. 7:14A-3.13(a)6.

B. That they (except for research facilities) have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in the permit application under N.J.A.C. 7:14A-3.2 and 10.3(a)11.

[illegible] and/or [illegible]

[illegible] the completed reporting period.

CHECKLIST OF PARTS AND MODULES COMPRISING THIS NJPDES PERMIT

1. Cover Page

2. Checklist ✓

3. Part I (General Conditions for All NJPDES Discharge Permits) ✓

4. Part II - Additional General Conditions for the types of NJPDES Permits checked as follows:

   ____ Part II - A (Municipal/Sanitary)
   _X_ Part II - B/C (Industrial/Commercial/Thermal)
   ____ Part II - L (SIU)
   ____ Part II - IWMF (Industrial Waste Management Facility)
   ____ Part II - DGW Specify type(s): _____

5. Part III - Effluent Limitations and Monitoring Requirements

   ____ Part III - A
   _X_ Part III - B/C
   ____ Part III - L
   ____ Part III - DGW Specify type(s): _____

6. Part IV - Special Conditions

   ____ Part IV - A
   ____ Part IV - B/C
   ____ Part IV - L
   ____ Part IV - IWMF
   ____ Part IV - DGW Specify type(s): _____

FINAL PERMIT DISTRIBUTION FORM

Reviewer: A. Walker

Date Submitted to OPA

Applicant: Franklin Plastics Corp.
113 Passaic Ave
Kearny, N.J. 07032

Section: Industrial Pers.

Permit # NJ 0002194

Date Mailed: JUN 28 1985

Discharge Category Code: C

Recipient	Final Permit	Cover Letter		Addresses/Remarks
Central File	X	X		
Applicant	X	X		
Applicant's Agent				
Mayor	X	X	—	
Planning Board				
Health Board				
Sewerage Authority (Specify)				
ANJEC				
Enforcement Region # Metro	X	X		Peter Lynch
Technical Reviewer	X	X		A Walker
Chron File		X		
OPA	X	X		
EPA				
Bureau's Chron File				

705

ADM-012

MEMO

NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION

TO Bureau of Permits Administration

FROM Bureau of Industrial Waste Management DATE

SUBJECT Issuance of Final NJPDES Permit No. NJ 0002194 Type Demo

Attached is the Final NJPDES Permit package for:

Franklin Plastics Corp.
113 Passaic Ave.
Kearny, N.J. 07032

The 30-day comment period has expired.

X We understand that we did not receive any comments.

__ Comments were received and are included/addressed in the accompanying material.

Please commence the permit issuance procedures.

Thank you.

Adrian Walker
Environmental Engineer ~~or Specialist~~

Ram Pyarilal
Section Chief

Bureau Chief

WQM3:tmc

1A EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning EDP and lasting through EDP + 5 years the permittee is authorized to discharge from outfall(s) serial number(s):.DSN 001

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the specified monitoring requirements shall be taken at the following location(s): at the outfall of DSN(s) .001; and shall be reported quarterly.

EFFLUENT CHARACTERISTIC	DISCHARGE LIMITATIONS			MONITORING REQUIREMENTS	
	Minimum	Average	Maximum	Frequency	Sample type
Flow MGD	N/A	N/A	N/A	Quarterly	--
Chemical Oxygen Demand	N/A	N/A	40 mg/l	Quarterly	Grab
Oil & Grease*	N/A	N/A	10 mg/l	Quarterly	Grab
Temperature	N/A	N/A	30 C(86 F)	Quarterly	Grab
Toatl Zinc**	N/A	N/A	1.0 mg/l	Quarterly	Grab
Total Chromium**	N/A	N/A	0.5 mg/l	Quarterly	Grab
pH	6.0	N/A	9.0	Quarterly	Grab

* The permittee shall sample utilize the EPA Enviromental Monitoring and Support Laboratory Method (Freon Extraction-Silica Gel Adsorption-Infrared Measurement) for the analysis of this parameter.

** Monitoring for this parameter is not required unless a corrossion inhibitor containing this metal is used for water treatment purposes.

2. SURFACE WATER QUALITY REQUIREMENTS

The permittee shall discharge so as not to violate Surface Water Quality Standards for the Passaic River, classified as TW-3 waters, pursuant to N.J.A.C. 7:9-4.1 et seq., including, but not limited to, the following:

A. Floating, Colloidal, Color, Settleable, and Suspended Solids (Nonfilterable Residue); Petroleum Hydrocarbons and Other Oils and Greases

1. None noticeable in the water or deposited along the shore or on the aquatic substrata in quantities detrimental to the natural biota. None which render the waters unsuitable for the designated uses.

2. For "Petroleum Hydrocarbons" the goal is none detectable utilizing the federal EPA-Environmental Monitoring and Support Laboratory Method (Freon Extractable-Silica Gel Absorption-Infrared Measurement); the present criteria, however, are those of paragraph 1. above.

B. Toxic or Hazardous Substances

None, either alone or in combination with other substances, in such concentrations as to affect humans or be detrimental to the natural aquatic biota, produce undesirable aquatic life, or which would render the waters unsuitable for the designated uses.

C. Turbidity (Nephelometric Turbidity Unit - NTU)

Maximum 30-day average of 15 NTU, a maximum of 50 NTU at any time.

D. pH (Standard Units)

6.5 to 8.5

E. Temperature

No heat shall be added which would cause temperatures to deviate from ambient stream temperatures by more than 2.2 C (4.0 F) during September through May, nor more than 0.8 C (1.5 F) during June through August, nor shall temperatures exceed 29.4 C (85 F).

REFERENCE NO. 24

FRANKLIN PLASTICS CORP.
02-9002-24
TDD MANAGER-K. CAMPBELL
LOGBOOK #0563
APRIL 12, 1990

GUIDANCE FOR PROPER USE OF LOG BOOKS

Purpose

- Serves to document onsite activities and be understandable to an outside reader.
- Provides the basis for later written reports.
- Used as an evidentiary document and may be used in legal proceedings.

- A person not present when field activities were being documented should read each completed page, and countersign and date when satisfied that the written notes are understandable.

Specific Field Activities To Be Documented

02-9002-24
Franklin Plastics Corp.

Table of Contents

Description	Page No.
I. On-Site Reconnaissance	pp. 4-10
II Site Map	stapled to back of p. 4
III. Summary of On-Site Recon	pp. 11-14
IV. Photo Log On-Site Recon	pp. 15-17
V. Photo Direction Map	stapled to back of 35
VI. Sampling Site Inspection	pp. 18-27
VII. Sample Management Documentation	p. 29
VIII. Photo Log - Sampling Site Inspection	pp. 34-36

02-9002-24

Date: 04/30/90
Time: 10:22
TDD No: 02-9002-24 BRICS: NJEP$I

Site: Franklin Plastics Corp.
Location: 113 Passaic Avenue
Kearny, Hudson County, New Jersey

NUS Personnel	Responsibility	
Kathy Campbell	SM / Surveillance	KC 4/30/90
Dave Grupp	SSO / Surveillance	DG 4/30/90

~~Surveillance~~ KC

- All of the above personnel have read and understood the work plan. [02-9002-24-W2]

Weather Conditions: Periodic Light Rain, approx. 45-50° F, Cloudy
Wind {0-3 mi./hr.}

Non-NUS Personnel: Joseph Ronzo - Plant Engineer for Franklin Plastics
Robert Becker, esq. - Lawyer for Franklin Plastics

Objective: on-site recon to determine if sampling is necessary.

Kathy Campbell 4/30/90 Matthew J. Melski 6-12-90

712

Franklin Plastics Corp 02-9002-24

April 30, 1990

10:22 - Arrive on Site at Franklin Plastics

Conducted Tailgate safety meeting.

10:28 - Meet w/ JR & RB in main office
Joseph Ronzo — Robert Becker

JR says Urban fill used along Passaic River. Franklin

Buys all raw materials (plastic resins), color the pellets & give them amount of plasticity customer specifies, ship to customer.

1035 Laurence Powers enters office. Mr. Powers is Chairman and Chief Executive C
Franklin receives product as a solid or powder & finishes ~~to~~ with a solid PVC pellets
KC 4/30/90
bought 1986.

1041 - LP leaves. Sportech bought Franklin Plastics Corp. in 1986.

JR & RB stated that they did not know why they were on the Cerclis List. We did not know the event that put them there. RB pointed out the "No Further Action" recommendation on the 1980 PA report. Finish meeting with JR & RB.

1051 - Put on PPE & conduct on-site recon

DG tests HNu / OVA, mini-rad.

HNU - 307138 Background readings 0 ppm

OVA - 469759

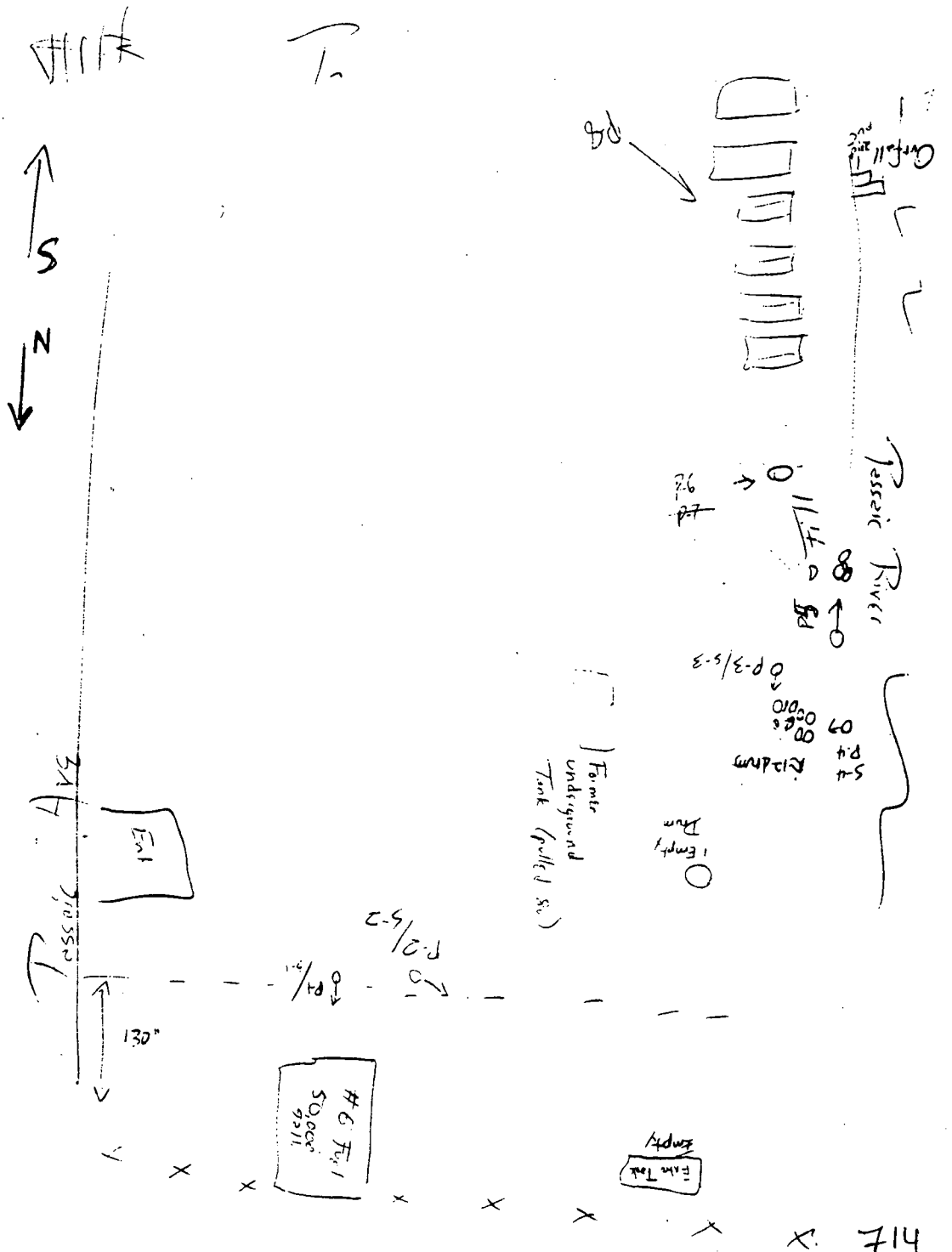
Mini-rad - 428588 6 counts/min - Background.

No readings / instruments above background calibrated to "0" ppm

JR and RB accompany us on recon.

713

Kathy Campbell 4/30/90 Matthew T Melchi 6-12-90



714

Kathy Campbell 4/30/90

Matthew J Meddi 6-12-90

Franklin Plastics Corp. 4/30/90 02-9002-24

1059 IP-1/IS-1 #6 Fuel Oil Tank - bermed
50,000 gallon capacity

1103 - IP-2/IS-2 Empty tank (aboveground & empty) Possible future use inside manufacturing building.
No readings above background on OVA/HNu, mini-rad.

11:06 IP-3/IS-3 Looking South at drums - approximately 12 drums poor condition.

11:08 IP-4/IS-4 What appears to be
Looking west tile pieces in some of these drums
J. Ronzo doesn't know what drums contain.

11:12 IP-5/IS-5 - 3 more Drums along Passaic River slope.
Drums are deteriorated. They appear to be empty.
What appears to be
11:19 Solidified Sludge along Passaic River slope. Scattered
IP-6 ~~IS-6~~ KC 4/30/90 IS-6 pieces of this solidified sludge strewn about this immediate area.

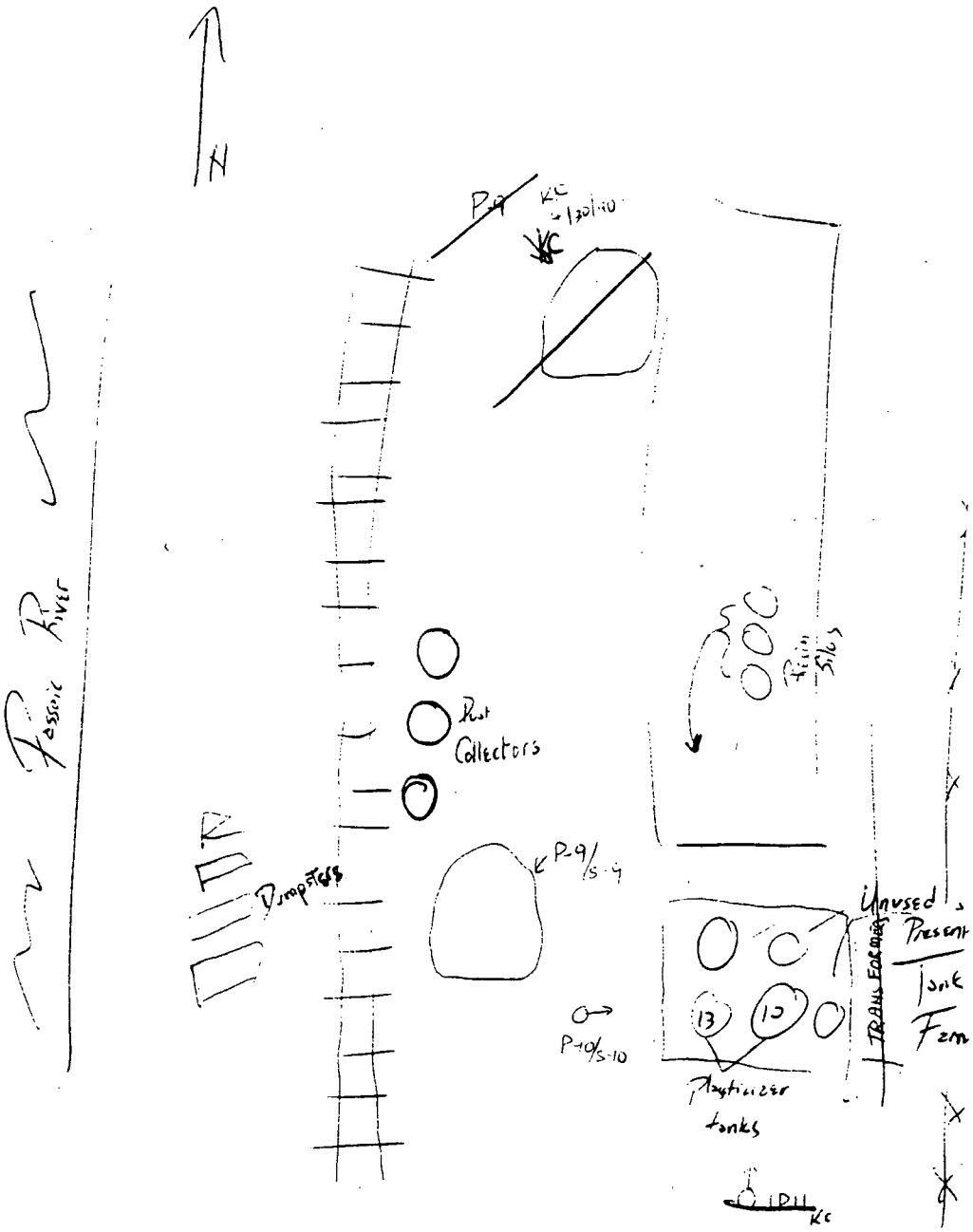
11:22 Outfall pipe for Franklin Plastics Corp.
DG - OVA readings up to 50 ppm. from pipe.
KC 4/30/90 No readings on HNu.
11:25 Outfall pipe ~~IP-7~~ IS-7
+ 2nd pipe no longer in use / below waterline. It is located just south of current discharge pipe.
One Discharge is permitted for non-contact cooling water into the Passaic River. NJPDES Permit No. NJ0002194.

An area of approx. 1 acre is leased to Franklin by Sears along North end of property from Passaic Ave. to the Passaic River.

Kathy Campbell 4/30/90 Matthew J. Melore 6-12-90

(715)

6-12-90



Kathy Campbell 4/30/90 Matthew J Meade

716

Franklin Plastics Corp. 4/30/90 02-9002-24

1129 NOT TAKEN KC 4/30/90 ~~P-8~~ Dumpsters kept on property (south-western portion of pr that belong to A. Miele & Sons. They are not used here; only stored for Miele & Sons on Franklins property. Approximately 12 lg. dumpsters and several (number unknown) s ones are stored here.

Three resin silos protrude from top of southern section of manufacturing building.

1134 NOT TAKEN KC 4/30/90 ~~P-9~~/S-8 Stained Soil east of RR tracks, west of manufacturing building.

Spartech bought Franklin Plastics Corp in 2/86. Spartech operates other plastic companies in addition to Franklin.

No readings above background on HNu or OVA, mini-rad.

11:36 Tank Farm on South side of manufacturing building

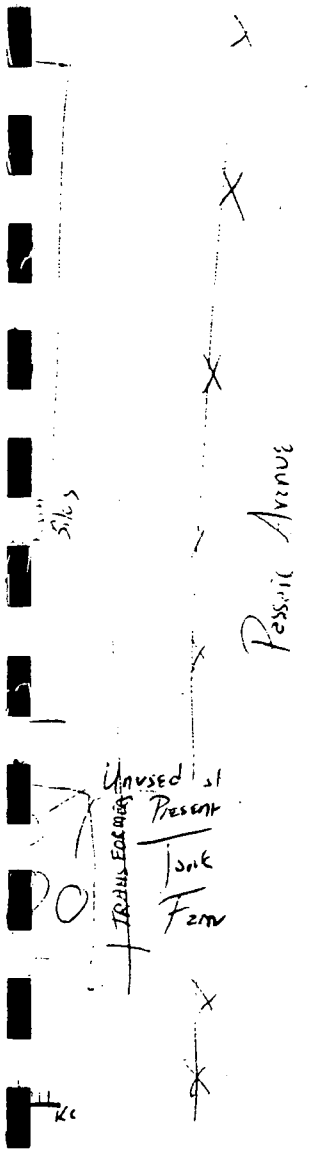
KC 4/30/90 ~~P-10~~/S-9 Five large Tanks - three not in use, two of which hold plasticizers. (Each has capacity of approx. 20,000 gall Area is bermed with concrete wall, unlined along bottom of tank farm. Loading and unloading area is paved with asphalt. Areas paved with Asphalt have 1½ ft. cracked stone underneath. The groundwater is 3 feet below surface.

11:41 IS-10 ~~IP-11~~ KC 4/30/90 Tank area from ~~South~~ KC 4/30/90 west. Soil, no concrete lining underneath tanks.

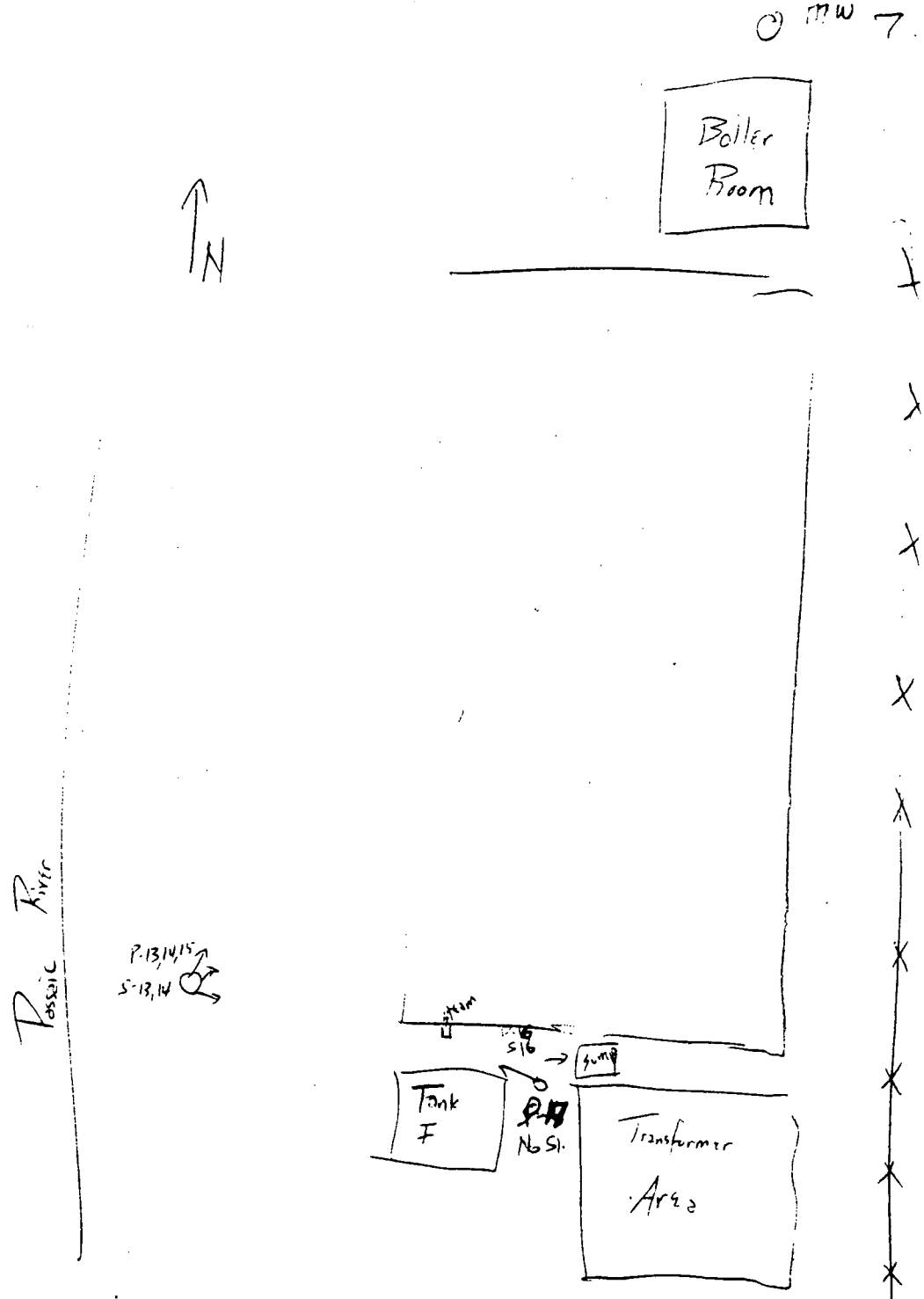
11:42 Blowdown from condenser on South side of main building - visible drainage pathway. Blowdown percolates into ground.

IP-11/IS-11

Kathy Campbell 4/30/90



7-90



MW 7
Boiler Room
N
Passaic River
P-13,14,15
S-13,14
steam
S16
sump
Tank F
No Sl.
Transformer Area

Franklin Plastics Corp. 4/30/90 02-9002-24

11:44 Composite - back of plant - (west side) Loading/Unloading area - via tractor/tra train cars. Dust collectors including tank farm.
IP-12 / IS-12
IP-13 / IS-13
IP-14 / —

Property occupies approx. 7.8 acres, including approximately one acre leased by Franklin.

No readings above background on HNu or OVA, mini rad.

11:46 P-15, S-15 Transformer Area
One known PCB-containing transformer.
Area is entirely fenced. Fence along front (east) of plant serves also as fence for transformer area.

11:48 IP-16 / IS-16 Sump pit on southeast wall of manufacturing building
11:50 IP-17 - ~~Runoff~~ KC 4/30/90 Between substation and tank farm, looking at run-off.
Tanks - 2 in use with plasticizers. Riveted tanks.

#13 DOP-CAS 68648-93-1 Tanks visibly numbered with CAS Nos.

#12 DOP-CAS 117-81-7

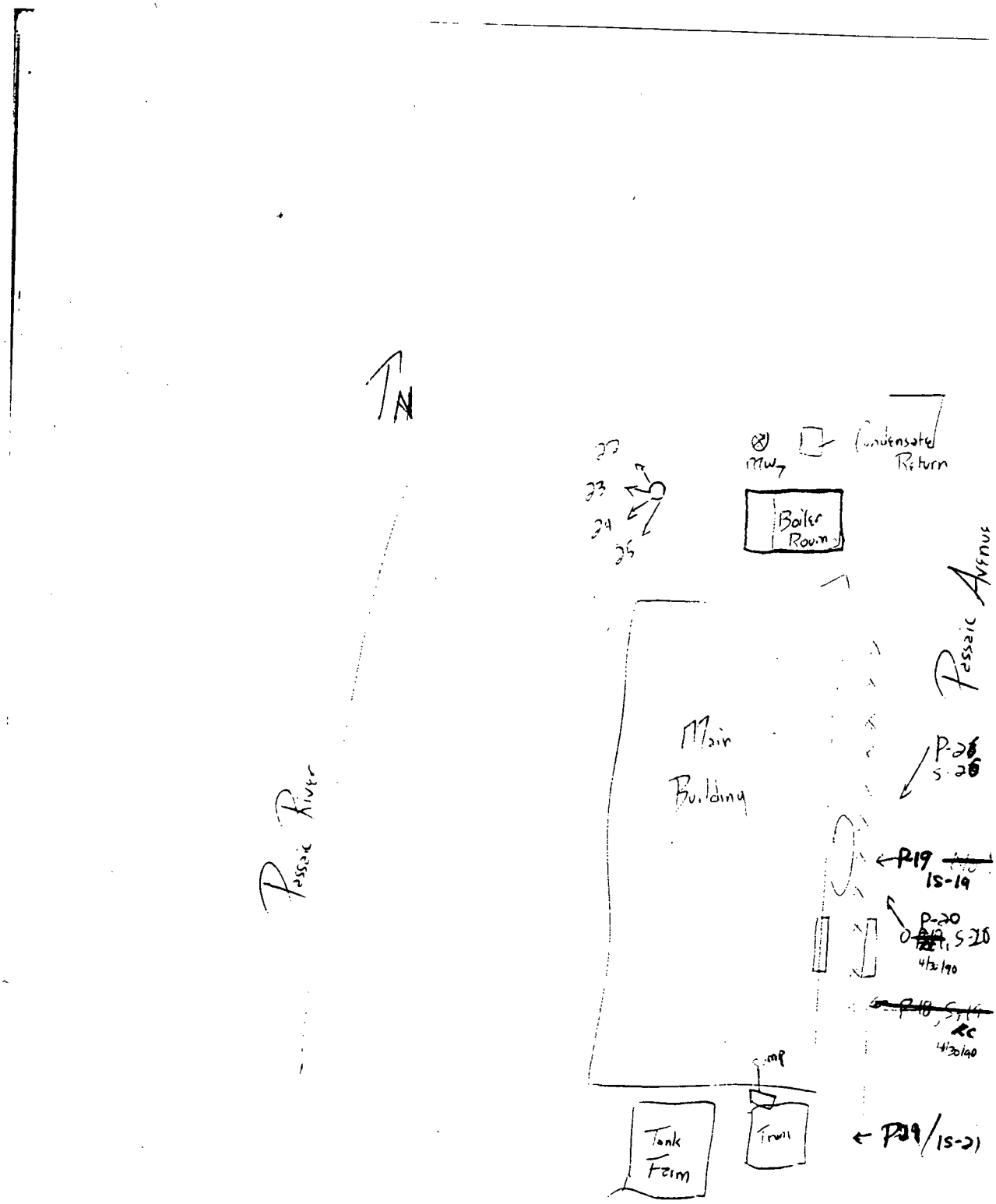
~~11:50~~ KC 4/30/90
Site was leased or owned by Congoleum prior to Franklin occupying the property. Congoleum's Floor Covering Division operated here.
White powder and small blue pellets noted along west (loading area) of manufacturing building. GR: White powder is resins from manufacturing. The pellets are an end product of manufacturing.

11:55 - NOT DEVELOPED KC 4/30/90 ~~P-18~~/S-18
→ Rear of manufacturing building

Kathy Campbell 4/30/90 Matthew J. Melch 6-12-90

Passaic Avenue

6-12-90



Kathy Campbell 4/30/90 Matthew J Mellon

Franklin Plastics Corp. 4/30/90 02-9002-2

11:58 MW #7 Site has been sampled once before under ECRA and they plan to perfor another round of sampling.

~~S-17~~ / ~~IP-17~~ Not taken 5/1/90 KC 4/30/90

IP-19 / IS-19 Soil stained - possibly due to oily-contaminated steam. Some clean fill put down in area. Appears to be at the same location of 1984 report of oil-contaminated soil. JR could not explain how this soil became stained. Stains are near an observed run-off path to Passaic Avenue approx 20 feet away from a storm drain. No readings above background on HNu, OVA or mini-rad.

~~IS-20~~ KC 5/3/90

12:02 ~~P-17~~ Possible run-off pathway to storm drain, exists. On east side of manufacturing building near bay door of facility, there are patches of stained soil.

~~IP-18~~ ~~S-19~~ KC 4/30/90

1207 ~~KC 19~~ / IS-20 Possible run-off into nearby sewer drain

1210 IP-21 Looking west at transformer area from Passaic Ave.

12:14 S-22/S-23/P-24/P-25 Composite view ~~of~~ west of manu. bldng. NW to

1217 M.W. No. 7 To east of MW7 is machine to return condensate to plant.

No readings above background on OVA/HNu, mini-rad. Return to command post.

Kathy Campbell 4/30/90 Matthew J. Meldi 6-12-90

Condensate Return

Passaic Avenue

P-26 S-26

← P-19 ~~KC~~ IS-19

P-20 S-20 4/30/90

~~P-18 S-19~~ KC 4/30/90

← P-29/IS-21

721

Franklin Plastics Corp. 4/30/90 02-9002-24

12:15 Dispose of day decon materials. JR and RB wait near office door. Air instruments packed up.

KC 4/30/90

12:20 Meet with JR & RB briefly before leaving site. They would like to be informed of any actions taken regarding the site. Mr. Ronzo ~~previously~~ KC 4/30/90 worked for Congoleum for 35 years prior to working for Franklin as Plant Engineer. JR worked for Franklin since its inception.

JR & RB were told that they could obtain a copy of the final draft report only through the EPA. They were given the name of our EPA representive.

KC 4/30/90

12:25 Leave site. Pull to side of road, heading south on Passaic Avenue.

1P-26 / 1S-26

KC 4/30/90 ~~1P-26/ 5-26~~

From Passaic Ave. looking southwest.
Possible Run-off Path to Sewer Drain.

Immediate area mostly industrial, while farther out there are commercial businesses & residential areas. Urban area overall.

Kathy Campbell 4/30/90 Matthew J. Melde 6-D-91

Franklin Plastics Corp. 4/30/90 02-9002-04

Summary of On-Site Reconnaissance

After meeting with Joseph Ronzo, Plant Engineer, and Robert Becker, lawyer for Franklin Plastics, they accompanied us on the recon. We began at the front gate at the northeast corn of the site. Approximately 130 feet running north/south and from Passaic Avenue to the Passaic River is leased by Franklin from Sears Co. On this portion of the site, there is a parking area and a 50,000 gallon No. 6 fuel oil tank surrounded by a concrete wall. Railroad tracks run north/south across the entire property just west of center. Franklin receives some of its raw materials via railcar in the form of solids or powders.

The area is fenced along the north from the Passaic River to Passaic Avenue, along the east down Passaic Avenue, then to the river again along the south. There are gates at the entrance, at each point where the RR tracks pass across property boundaries, and at mid-way point along Passaic Avenue. The main entrance was the only gate open when we arrived on site.

Kathy Campbell 4/30/90 Matthew J. Melak 6-12-90 (72)

Franklin Plastics Corp. 4/30/90 02-9002-24

Summary - Continued

We walked west toward the river and noticed a tank on wheel west of the railroad tracks. J.R. told us it was empty and w used indoors should the need for it arise. Approaching the rive we noticed an area of flattened reeds/vegetation, apparently flooded occasionally by high tides. From this point to the river, the terrain appeared to consist of urban fill, such as old brick and debris. JR stated that this part is occasionally flooded by the river.

Moving south along the Passaic River across the flattened vegetat we came across three different locations of drums: 1) one empty drum in poor condition, 2) approximately twelve drums, some containing what appeared to be tile pieces, some partially underground, and 3) three drums similar to the other groups. We returned to R.R. tracks and walked past former location of undergrou tank. No visible signs of contamination. Walked west down to the Passaic River again. We noticed a pile of debris, which included small mounds of solidified sludge.

At the southwest corner of the property along the river, we observed Franklin's outfall pipe. This discharge is permitted under NJPDES Permit No. NJ 0002194 for non-contact cooling water. DG recorded readings on the OVA of up to 50 ppm from this pipe. A second older pipe is located immediately south of the pipe currently in use. JR said he thought it was the pipe used in the past, but not removed. At the time of the recon, the second pipe's opening was entirely underwater.

Kathy Campbell 4/30/90 Matthew J Moldi 6-12-90

Franklin Plastics Corp. 4/30/90 02-9002-24

Summary - Continued

On the southwest part of the site, approximately twelve large dumpsters and several smaller ones were noted. JR told us that Franklin only stores them for A. Miele & Sons. Between the R.R tracks and the manufacturing building, we noted an area of dark stained soil - approximately 50 sq.yds.

The tank farm is located along the south side of the manufacturing building. Five large tanks are surrounded by a concrete wall; there is no containment lining for this area. Three of the tanks are not in use, while two tanks hold plasticizers. Each tank being used (2) has a capacity of approximately 20,000 gallons and is labelled with corresponding CAS No.: Tank #12 - 117-81-7 and Tank #13 - 68648-93-1. Between the tank farm and the south face of manufacturing building, we noted a small flow of liquid running East to west in a small trench - probably blowdown from the condenser. Its destination could not be determined. Almost immediately East of tank farm (walkway between) is the transformer area or substation. The substation is entirely fenced; JR knew of only one PCB-containing transformer. The open air sump pit is situated between the substation and main manufacturing building.

We walked north along the west side of manufacturing building. In the loading/unloading area, we noted white powder patches and small blue pellets on the asphalt. RB said the white powder is resin from manufacturing while the pellets were stray finished product. JR told us that the areas paved with asphalt are underlain 1.5 feet of crushed stones.

Kathy Campbell 4/30/90 Matthew J Meloche 6/12/90

Summary - Continued

We exited the main entrance gate to walk along the eastern face of the property. Approximately mid-way along the manufacturin building, we observed patches of stained soil intermixed with patches of clean fill. There was a visible (probable) run-off pathway to Passaic Avenue approximately 4/30/90 twenty feet north of a storm drain.

This property belonged to Congoleum Corporation / Floor Covering Division from 1946 to 1974. Congoleum manufactured asphalt and/or vinyl tile during this time. In 1976, Franklin Plastics bought this property. Sportech Corporation purchased Franklin in February 1986, though Franklin retained its name. JR work for Congoleum Corp for thirty-five years prior to working for Franklin Plastics.

Before leaving, we walked to rear (east side) of boiler room. Grassy area where we observed MW No. 7 and a dry well for condensate return. Concluded the recon at this point.

Kathy Campbell 4/30/90 Martin J Meade 4-12-90

Franklin Plastics Corp. 4/30/90 02-9002-24

Photo Log

Photo Number	Description	Time
1P-1/1S-1	Looking North at 50,000 gallon No. 6 Fuel Oil Tank	10:57
1P-2/1S-2	Looking north west at empty tank - currently unused.	11:03
1P-3/1S-3	Approximately twelve drums along the Passaic River, looking southwest.	11:06
1P-4/1S-4	Apparent tile pieces in abandonned drums on Passaic River, looking west.	11:08
1P5/1S-5	One of three drums in this grouping abandonned along Passaic River.	11:12
1P-6/1S-6	On site Debris - including solidified sludge, looking east	11:19
— 1S-7	Outfall pile southwest corner of property.	11:25
— 1S-8	Stained soil west of railroad tracks, east of manufacturing building	11:34
— 1S-9	Tank Farm from west	11:36

Kathy Campbell 4/30/90 [illegible]

Franklin Plastics Corp. 4/30/90 02-9002-24

Photo Log - Continued

Number	Description	Time
— / IS-10	Soil below tanks in tank farm - unlined	11:41
IP-11 / IS-11	Run-off from area of condensers, looking east.	11:42
IP-12 / IS-12 IP-13 / IS-13 IP-14 / —	Composite view west face of manufacturing building. Loading area	11:44
IP-15 / IS-15	Transformer Area	11:46
IP-16 / IS-16	Sump pit between substation and manufacturing building.	11:48
IP-17 / —	West from sidewalk between substation and tank farm. Run-off	11:50
— / IS-18	Looking south/southwest along rear of manufacturing building	11:55
IP-19 / IS-19	Stained soil along east face of manufacturing building, Passaic Ave.	11:58
— / IS-20	Possible runoff path to storm drain, looking NW	12:07 ~~12:02~~ 4/30/90
IP-21 / —	Transformer substation from Passaic Avenue.	12:10

~~Kathy Campbell~~ 4/30/90 Matthew J Meade

Franklin Plastics Corp. 4/30/90 02-9002-24

Photo Log - Continued

Number	Description	Time
—/1P-22 —/1S-23 1P-24/— 1P-25/—	Composite of area west of facility NW to SW.	12:14
1P-26/1S-26	South along Passaic Avenue Possible Run-off path to storm drain.	12:25

Kathy Campbell 4/30/90 Matthew J. Mulcahy 6-12-90

Franklin Plastics Corp. 02-9002-24 Sampling
Kearny, New Jersey 06/05/90 Site Inspection
Time:

NUS Personnel	Responsibility	*
Kathy Campbell	SM	Kathy Campbell 6/5/90
LC 6/1/90 ~~Dave Grupp Bob Carson~~ T. Varner 6/4/90	SSO	Tom Varner 6/5/90
Chris Agnew	SMO	[illegible] 6/5/90
Bob Yaeger	Sampler	Bob Yaeger 6/5/90
Rich Settino	Sampler	Rich Settino 6/5/90

* All above personnel have read and understood the work plan.

Weather Conditions: Sunny, 60-65°, wind NW 0-5 mph

Non-NUS Personnel: Joseph Ronzo, Plant Engineer - (noted as SJR)

Bill Moody, of Recon Systems, Inc. - Consultant for Franklin Plastics Corp.

Objective: Sampling site inspection to further characterize the site & to determine if any contaminant migration exists. Information w be used in Final Draft SI Report.

EPA ID Nos.

OVA: 469783 · Background: 1 to 3 ppm
HNU: "E" 307142 Probe #: 307143 Background: 0 ppm
Mini-rad: 428588 — Background radiation - 8 cpm
Compass: 684177
Cameras: 469772 / 469774

Kathy Campbell 6/6/90 Matthew J. Mel[illegible] 730

Franklin Plastics Corp.
02-9002-24

06/05/90
Sampling Site Inspection

0820 Arrive on site. Meet with Joe Ronzo, Plant Engineer.

0830 Set up decon pad, asked to set up behind the manufacturing bu out of view from the roadway.

0850 Bill Moody arrives on site. Mr Moody is consultant for Recon Systems, Inc. He will be accompanying us on the sampling $ would like to split some samples, not all of our proposed samples.

0910 Deconning equipment. Asked BM which samples he wants to sp Mr. Moody would like to split samples on:
SW1, $-5, $-1, ~~$-2~~ KC 6/5/90, $-3, $-4. - Tentatively SED-1 possible.
TV. checks air instruments and SCBA's: All check out

0940 TV holds Tailgate Safety Meeting. Those attending:
(KC) K Campbell
(TV) T. Varner
(CA) C Agnew
(RS) R Settino
(RY) R Yaeger
} NUS Personnel
(BM) Bill Moody - Consultant from Recon Systems, Inc.

* All soil samples will be collected at a depth of 0" to 6", unless otherwise noted

SCBA's	~~Bottle~~	Regulator
Rich Settino	~~684926~~ KC 6/5/90	307172
R. Yaeger		307168
Tom Varner		No EPA ID # 1QG244-03

* All sample numbers are preceded by NJEP. (e.g. NJEP-SW-1)

K Campbell 6/6/90 Matthew J Melski 6-12-90 73

SW-1

SCBA Use	Times On	Times Off
Rich Settino	0957	1010
Bob Yeeye	0957	1010
T. Weiner	/	/

— 1000 - Rinsate 1 collected from trowel. by CA.

— 1020 - Rinsate 2 collected from bowl. by CA.

732

Matthew J Melak

Franklin Plastics Corp.
02-9002-24

06/05/90
Sampling Site Inspection

0955 - Arrive at SW-1, outfall pipe. Sample will be collected directly from
No readings above background on HNU/OVA. Non-Contact Cooling Water
Discharge Water is clear. Low tide on Passaic River.
RS & BY test pH for VOA's, add HCl - 5 drops pH < 2 6/5/90
- BM collects three VOA's.

1002 - RS & BY collect ~~extractables~~ 6/6/90 (RC) VOA's
IP-1, IS-1 - RS collecting SW-1 sample from SW-1 location.
- BM collects (2) Base Neutral/Acid Extractables from discharge pipe.
No reading
1008 - RS & BY collect extractables, inorganics, finish collecting SW-1.
1010 Return to command post.

1020 - Getting ready to take - SED 3, SED-4 and
, S-8, S-9.

RS decons SW-1 samples.

1055 Arrive at ~~SED-3 location~~ SED-3 location. RC 6/5/90 Set up safety cones along Passaic Avenue
RS & BY Pry open storm drain.
OVA: readings between 10-18 ppm
HNu - no readings above background.
Contents of storm drain - dry soil. Will use deconned
large scoop on pole to collect sample.

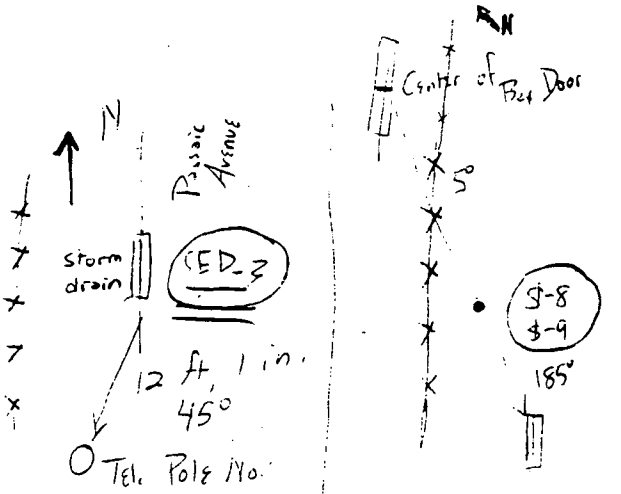
1100 IP-2, IS-2 Looking N from SED-3 location.

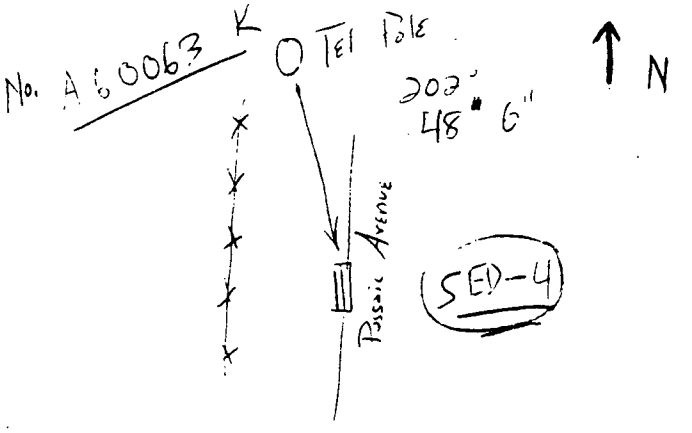
733

Relak
12-90

K. Campbell 6/6/90 [signature] 6-12-90

	SED-3		S-8 S-9		SED-4			
(IRR)	On	Off	On	Off	On	Off	On	Off
RS	1109	1121	1132	1147	1157	1202	/	/
BY	1109	1121	1132	1147	1157	1202	/	/
TV	/	/	/	/	/	/	/	/





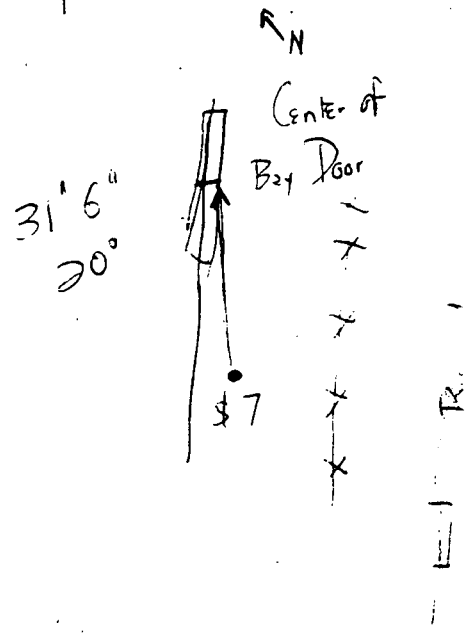
734

K. Campbell 6/6/90 Matthew J Melchi 6-12-90

	S-7		SW-2 SW-3 ~~SW-3~~ KC 6/5/90		SED2 ~~SW-3~~ KC 6/5/90	
APR	On	Off	On	Off	On	Off
RS	1240	1253	1317	1350	1355	1432 ~~1432~~ KC 9/5/90
BY	/	/	1317	1350	1355	1432
TV	/	/	/	/	/	/

- 1300 - CA collects Rinsate - 3 from Eckman dredge.

- 1320 - CA collects Rinsate - 4 from Large Stainless Steel Scoop.



735

K. Campbell 6/6/90 Matthew J Melch 6-12-90

Franklin Plastics Corp. 06/05/90

02-9002-24 Sampling Site Inspection

1200 BM leaves for lunch. Finish collecting SED-4 sample.

1235 Leave for S-7 location. BM returns from lunch.

BY stays to decon at command post.

1240 Arrive at S-7 location.

- BM collects at this location also.

Soil, - Brownish/Tan, med grain sand. Darker at the immediate surface.

1246 IS-7 } R Settino collecting S-7.
IP-7 }

No readings from bowl on OVA/HNU.

1255 Return to command post, after finishing collecting S-7.

1310 Leave for sump pit. Ambient air - 1 to 3 ppm

No readings on HNU/OVA.

Prepare to use bailer to collect SW-2/SW-3.

BY tests pH = 6, Added 5 drops HCl till pH < 2

1345 IP-8 } BY collects SW-2 from bailer.
IS-8 }

No readings on HNU or OVA above background.

Sump pit-water is partially cloudy. Slight oily film on top. Pit is divided into two sections - one settling section and one section which eventually is discharged to NJPDES Permit No. NJ0002194. (SW-1).

1348 Finish collecting SW-2 sample.

1350 IP-9 } BY collects ~~SW-3~~ KC. 6/5/90 SW-3 from bailer.
IS-9 }

736

K. Campbell 6/6/90 Matthew J. Mulder 6-12-90

Passaic Avenue

E-1

90

KC 6/5/90
~~SED 5~~

APR	On	OFF
BY	/	/
RS	/	/
TV	/	/

1400 – CA collects Rinsate 5 from bailer.

737

K. Campbell 6/6/90 [signature] J Meldi 6-12-90

Franklin Plastics Corp. 06/05/90
02-9002-24 Sampling Site Inspection

1354 - Finish collecting SW-3 sample.
1400 - prepare Eckman dredge for SED-2 collection.
1402 - RS sends dredge down into sump pit.
RS places Eckman into bowl to collect VOA's.
No readings on OVA / HNU from top of dredge. KC 6/5/90
Not enough sediment to collect VOAs. RS sends dredge down into pit again. This must be done several times to get necessary volu
No readings on HNU/OVA from dredge.
1408 IP-10 IS-10 } BY collects SED-2.

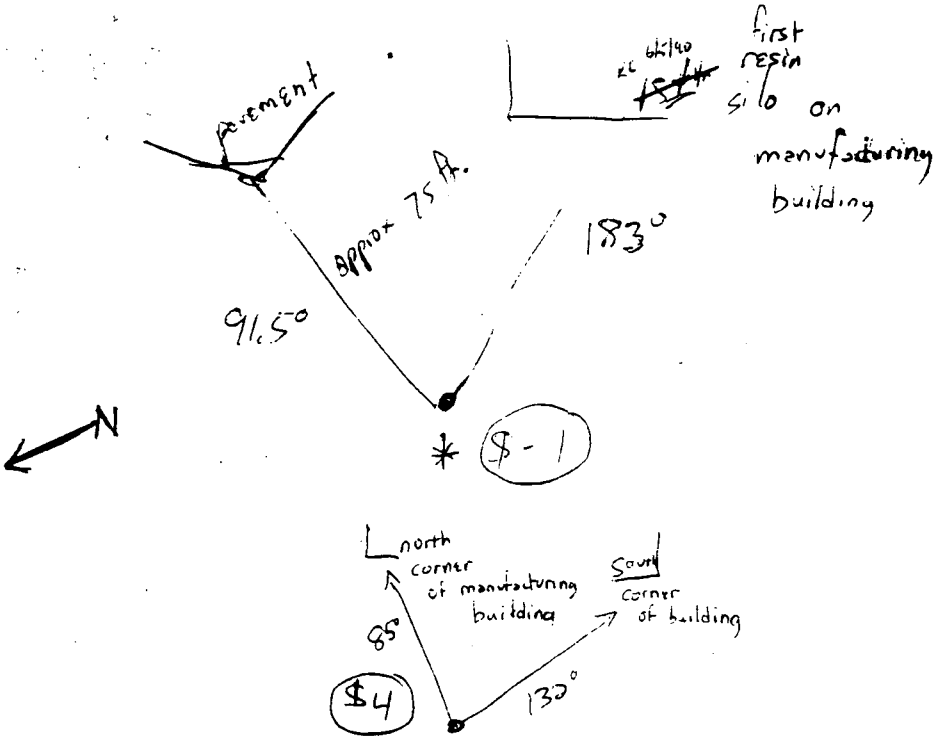
Sediment is brownish / black silt-like sediment.
Mini-rad - 9 cpm
HNU } Both no readings above background from bowl.
OVA }
1432 BM says sump pit gets cleaned out every years. Pit is drained and sludge / sediment is removed. Finish collecting SED-sam
1440 Return to command post. Decon personnel. Pick up bottles for ~~SED-1~~ KC 6/5/90, $-5, ~~$-6~~ KC 6/5/90, $-1, $-3, $4.

1515 - Locate $-1 - single drum location. Weeds have grown waist-high since onsite recon in April, 1990. Some areas of vegetation were approximately five feet high. The ground underneath ~~was~~ was uneven. $-1 will be collected from an area just underneath the drum. Drum is empty and deteriorated. BM lifts drum remains onto its end. Prepare to collect sample $-1.

738

K. Campbell 6/6/90 Matthew J Melah 6-12-90

	S-1		S-4	
APR	On	Off	On	Off
RS	/	/	/	/
BY	1522	1530	1555	1600
TV	/	/	/	/



739

K. Campbell 6/6/90 Matthew J Mel[illegible] 6-12-[illegible]

Franklin Plastics Corp.
02-9002-24

06/05/90
Sampling Site Inspection

1520 ~~1P-11, 1S-11~~ ~~1P-12~~ } BY collects $-1 sample.
1P-12, 1S-12 ~~1S-12~~ KC 6/5/90 stet No readings above background on OVA/HNu.
- BM collects 2 wide-mouth jars from bowl at $-1 locat
1523 Soil - Burnt orange color, med. grain sand, dry, some larger pieces of shale-like rock. Finish collecting S-1 sample.

1525 1P-13, 1S-13 ~~1P-13~~ ~~1S-13~~ KC 6/5/90 } Approx. 60 ft from Passaic River - silo No 1 from $-1.

1526 1P-14 } Pavement
1P-14 } Azimuth of 91.5° to corner of pavement near leased property line.

1555 1P-15 } Tiles surrounding ~~1555~~ KC 6/5/90 animal burrow along filled
1S-15 } area next to Passaic River.

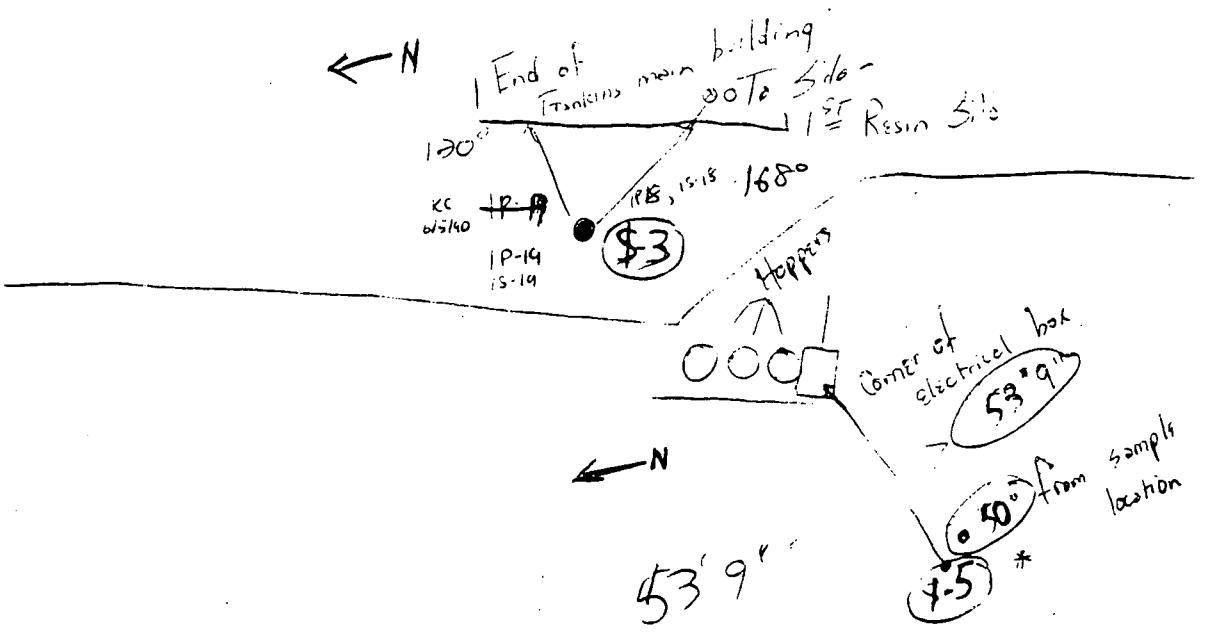
KC ~~1552~~ 1557 6/5/90 Find $-4 location.
Sludge pile, large & small clumps of solidified sludge. BM says it's vinyl asphalt. He will not be splitting this sample. Soil is stained brownish/red with red tile-like pieces above surface. No readings on HNu/OVA. BM believes solidified sludge and tile pieces are from Congoleums past operations.
1600 P-16 } BY collecting $4 sample.
S-16 }

1605 Finish collecting $-4 sample.

740

-90 K. Campbell 6/6/90 Matthew J Mill 6-12-90

	S-3		S-5	
APR	On	Off	On	Off
BY	1612	1620	/	/
RS	/	/	1632	1649



741

K. Campbell 6/6/90 Matthew J Muelder 6-13-90

Franklin Plastics Corp. 06/05/90
02-9002-24 Sampling Site Inspection

1610 Locate S-3. Cannot find other two drums that were there in recon. BM lifts rusted drum remains on end.
Soil is brown with mulch and organic debris.
No readings on HNU/OVA.
Mini-rad = 7 cpm

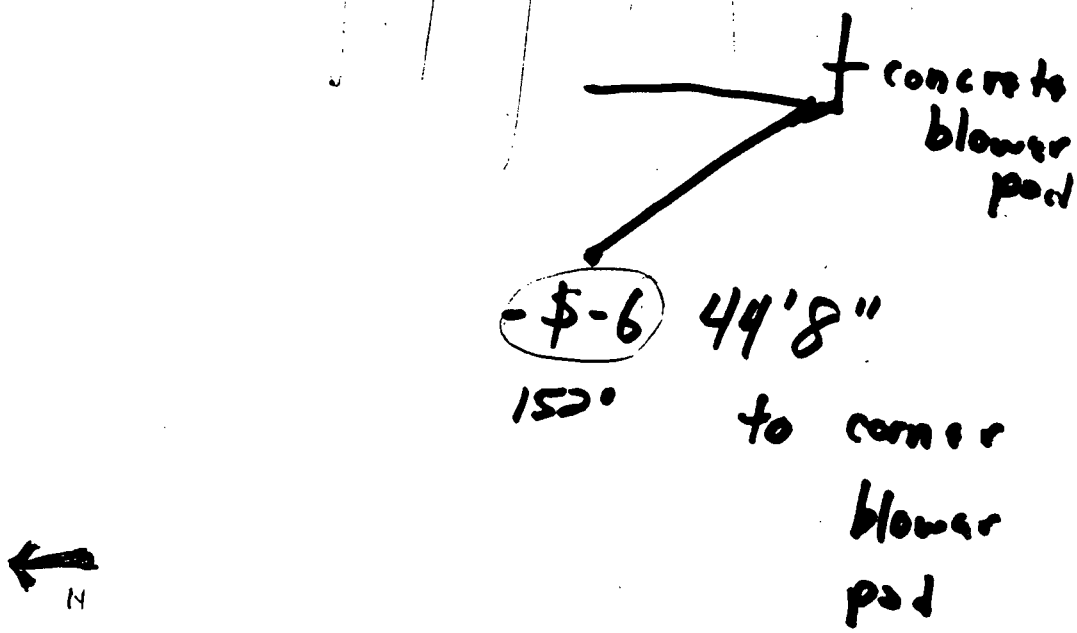
1612 IP-17 } BY Collecting S-3 sample.
IS-17 }
BM collects two wide-mouth jars.
1613 No readings on HNU/OVA from bowl.
1614 IP-18, IS-18 - looking south from S-3 location.
1615 IP-19, IS-19 looking southeast from S-3 location. Finishes collecting S-3 samp
~~1622~~ 1622 KC 6/5/90 Locate S-5 location - Area mostly covered by vegetation, some bare patches, smaller grasses than along river's edge.
Soil is moist, dark at surface, brown just under surface clayey, stiff soil, but not rocky. KC tan, sandier soil 2 to 3 in under surface. No readings on OVA/HNU above background.
No readings above background on OVA/HNU from bowl.

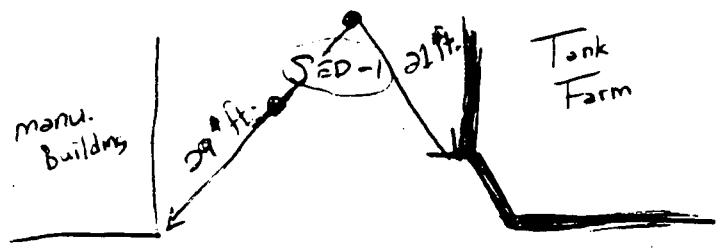
KC 6/5/90 ~~1631~~ 1639 IP-20 } RS collecting S-5 sample.
IS-20 }
RM collects 2 wide-mouth jars.
1642 Complete collection of S-5 sample.

742

K. Campbell 6/6/90 Matthew J Melch 6-12-90

	S-6		SED-1		S-2	
APR	On	Off	On	Off	On	Off
RS	1651	1702	1706	1715	1734	1745





K. Campbell 6/6/90

Matthew J Mielke
6-12-90

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Franklin Plastics Corp. 06/05/90

02-9002-04 Sampling Site Inspection

1651 BM goes to make a phone call.

KC 6/5/90 ~~1651~~ Locate S-6 - behind/west of blower area.

Soil is dry, gray/black, very little brown slightly deeper than surface (1 inch below). Area has scattered vegetation. Some bare spots. BM does not want to split samples at this location.

1655 IP-21, IS-21 } RS collecting S-6 sample.

- No readings above background on HNU or OVA.

1657 - No readings above background on HNU or OVA in bowl. Finish collecting S-6

1702 - Locate SED-1 location. Drainage pathway of condenser blowdown. Pathway is approx. 1 foot below grade.

1710 IP-22, IS-22 } RS collecting SED-1 sample.

Pathway has gold/orange liquid with inside. Appears slightly viscous. Liquid percolates into the ground. The source of the liquid is not readily visible though JR believes it to be blowdown from the facility's condenser(s). [From on-site recon of April 30, 1990 - Logbook 0563, p.8]

1713 IP-23, IS-23 - Drainage pathway, south of manu. building.

No readings above background on HNU or OVA.

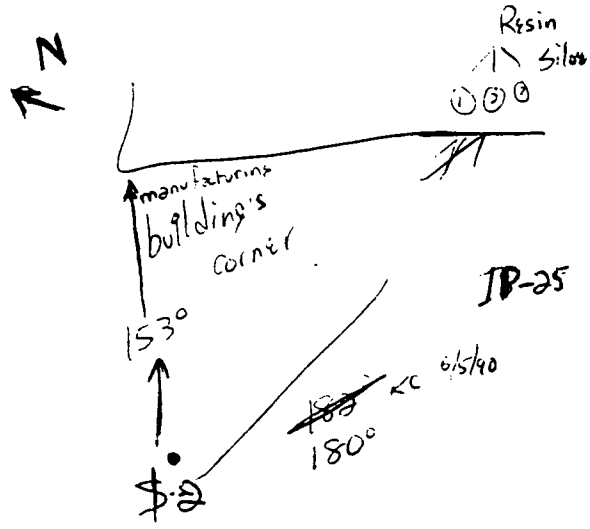
No readings above background on HNU or OVA in bowl.

1714 Finish collecting SED-1 sample.

1715 Return to command post. Pick up bottles for S-2 sample. RS, TV & KC will go with BM to S-2 location. BM already at command post when we returned from SED-1.

K Campbell 6/6/90 Matthew J Muldi 6-12-90

1744 - Finish collecting
3-2 sample.



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K. Campbell 6/6/90 Matthew J Melch
6-12-90

Franklin Plastics Corp. 06/05/90
02-9002-24 Sampling Site Inspection

1724 Prepare to leave for S-2, large drum area, Drum Area No. 2. Arrive. BM decides he will not collect S-2; he believes the drum contents are from Congoleum's past operations on the site. Some drums are partially buried. S-2 sample will be collected as a composite of contents of two of the drums containing soil / tile pieces. Sample will not be homogenized until after the VOA fraction is collected.

1737 BM leaves site.

1740 IS-24, IP-24 } RS collect S-2 sample.

1745 - IP-25, IS-25 - Prep. Site No 1 from S-2 location. Drum Contents - Tile interspersed with soil. Two representative drums contents are two different shades of gray. Complete sampling. Return to decon pad. Samples deconned. Personnel deconned.

1750 Break down decon pad.

CA Packages samples for shipment.

1815 KC - go to main office to find JR. He's left for the day but the receipt for samples was left at the reception area.

1820 Leave site

1905 Samples shipped via Fed. Ex in Edison, N.J.

Organic - Airbill No. 7211135693

Inorganic - Airbill No. 6097382970

K. Campbell 6/6/90 Matthew J. Meldi 6-12-90

Franklin Plastics Corp Sampling Site Inspection
02-9002-24 06/05/90 All Photos taken by K. Campbell

Photo Log

Photo No.	Description	Time
IP-1, IS-1	RS collecting NJEP-SW-1 from Franklins Discharge Pipe on the Passaic River.	1002
IP-2, IS-2	Looking north from location of NJEP-SED-3, storm drain on Passaic Ave.	1100
IP-3, IS-3	RS collecting NJEP-SED-3 from storm drain on Passaic Avenue. (south)	1114
IP-4, IS-4	BY collects NJEP-S-8 along Passaic Avenue.	1135
IP-5 IS-5	BY collecting NJEP-S-9 along Passaic Avenue	1140
IP-6, IS-6	BY collecting NJEP-SED-4 from storm drain on Passaic Avenue (north)	1200
IP-7, IS-7	RS collecting NJEP-S-7 east of manufacturing building.	1246
IP-8, IS-8	BY collects NJEP-SW-2 from sump pit on south face of manufacturing building.	1345
IP-9, IS-9	BY collects NJEP-SW-3 from sump pit on south side of manufacturing building.	1350

K. Campbell 6/13/90 Matthew J. Melah 6-13-90

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Franklin Plastics Corp. 02-9002-24 Sampling Site Inspection 06/05/90

Photo Log - Continued

Photo No.	Description	Time
1P-10, 1S-10	BY collects NJEP-SED-2 from Eckman dredge - sump pit on south side of manufacturing building	1408
1P-12, 1S-12	BY collects NJEP-S-1 from drum area No. 1, along Passaic River.	1520
1P-13, 1S-13	Looking ~~east~~ due south from location of NJEP-S-1 at Resin Silo No. 1 - approx. 60 feet from Passaic River.	1525
1P-14, 1S-14	Looking east from location of NJEP-S-1, toward corner of pavement near leased property line.	1526
1P-15, 1S-15	Animal burrow in urban fill area showing tile pieces. ~~dug~~ KC 6/6/90	1555
1P-16, 1S-16	BY collecting NJEP-S-4 from area of sludge pile.	1600
1P-17, 1S-17	BY collecting NJEP-S-3 from drum area No. 3, along Passaic River.	1612
1P-18, 1S-18	Looking south at Resin Silo No. 1 from location of NJEP-S-3.	1614
1P-19, 1S-19	Looking southeast at rear of manufacturing building.	1615

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K. Campbell 06/13/90 Matthew J Mildi 6-13-90

Franklin Plastics Corp. 02-9002-24 Sampling Site Inspection 06/05/90

Photo Log - continued

Photo No.	Description	Time
1P-20, 1S-20,	RS collecting NJEP-S-5 from area of stained soil west of manufacturing building.	1639
1P-21, 1S-21	RS collecting NJEP-S-6 from hopper / blower area west of manufacturing building.	1655
1P-22, 1S-22	RS collecting NJEP-SED-1 from drainage pathway for condenser blowdown, south of manufacturing building.	1710
1P-23, 1S-23	Drainage ditch for condenser blowdown	1713
1P-24, 1S-24	RS collecting NJEP-S-2 from drum area No. 2, along Passaic River.	1740
1P-25, 1S-25	Looking south at Resin Silo No. 1 from location of NJEP-S-2.	1745

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K. Campbell 06/13/90 Matthew J Meldi 6-13-9

REFERENCE NO. 25

750

Let's protect our earth

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES
CN 029
Trenton, N.J. 08625-0029

George G. McCann, P.E.
Director

30 Day Notice

January 17, 1989

FRANKLIN PLASTICS CORP.
113 143 PASSAIC AVENUE
KEARNY, NJ 07032

Re: Violation of Discharge Monitoring Report Non-Submittal
NJPDES Permit No: NJ0002194

Dear Sir:

The "Water Pollution Control Act" (hereinafter "The Act"), N.J.S.A. 58:10a-1 et seq. prohibits the discharge of pollutants, except in conformity with a valid New Jersey pollutant Discharge (hereinafter "NJPDES") permit pursuant to N.J.A.C. 7:14A-1 et seq. The Department has issued this facility a permit in accordance with the Act. Your facility was provided an opportunity to comment on the draft permit in accordance with N.J.A.C. 7:14A-8.1. Your facility has been on notice of requirements of the permit since the final permit was issued.

The Department has determined that your facility is in violation of the "Water Pollution Control Act" and the implementing regulations (N.J.A.C. 7:14A-1 et seq.) by failing to comply with the following permit condition:

According to the terms of your permit, you are required to submit a discharge monitoring report (DMR). You were required to submit a DMR covering the following periods for the following pipes:

PIPE NO.	MONITORING PERIOD END DATE
001A	88/10

The permittee is therefore MANDATED to comply with the permit conditions identified above, within 30 days of receipt of this letter.

You will find enclosed a blank DMR form, which may be photo copied to satisfy your reporting needs.

In accordance with N.J.S.A. 58:10A-10(d) and the "NJPDES Regulations", specifically N.J.A.C. 7:14-8.1 and 8.16, failure to submit the report as required by the NJPDES permit subjects this facility to civil administrative penalties per day per each violation as follows:

1. Basic penalty up to a maximum of $5,000.
   i. One to three days late: No penalty
   ii. Four to ten days late: $10.00/day.
   iii. Eleven to twenty days late: $25.00/day.
   iv. More than 20 days late: $100.00/day

These penalties shall be assessed where a permittee fails to comply with this 30 DAY NOTICE. In addition, penalties may be assessed up to $500.00 for each day during which such violation continues after receipt of an Administrative Order from the Department. Furthermore, N.J.S.A. 58:10A-10(f) provides that any person who willfully or negligently violates the Act shall, upon conviction, be guilty of a misdemeanor and shall be punished by a fine of not less than $2,500.00 nor more than $25,000.00 per day of violation, or by imprisonment for not more than one year or by both.

Pursuant to Section 10 of the General Conditions for all NJPDES Permits, all monitoring reports and other required submissions must be submitted to:

Bureau of Permits Administration
Water Quality Management Element
Division of Water Resources
CN 029
Trenton, New Jersey 08625.

If you have any questions or have already submitted the required information, please call Nat Cooperman the person responsible for this case, who can be reached at (609) 984-4428.

Your cooperation in this matter is appreciated.

Sincerely,

George Caporale

George Caporale, Chief
Bureau of Permits Administration
Water Quality Management Element

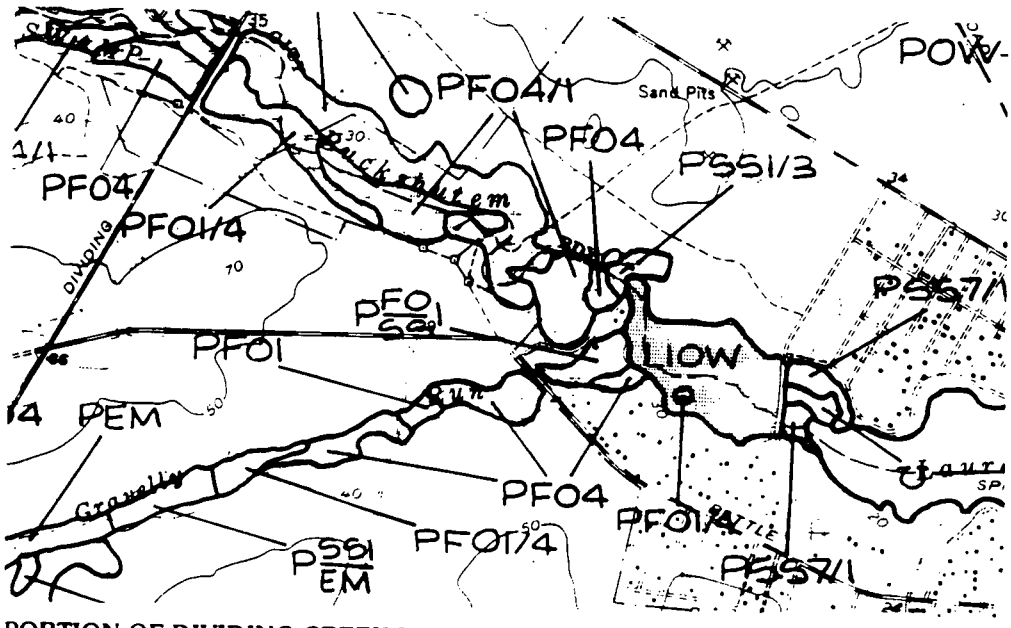
Enclosure

c: James Mumman

WOMF48:pam:DMRVIOLT

REFERENCE NO. 26

ATLAS
OF
NATIONAL WETLANDS INVENTORY MAPS
FOR
NEW JERSEY



PORTION OF DIVIDING CREEK MAP

SCALE: 1:24,000

UNITED STATES
DEPARTMENT OF THE INTERIOR
Fish and Wildlife Service
Region Five
Habitat Resources
One Gateway Center, Suite 700
Newton Corner, Massachusetts

1984

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ATLAS OF

NATIONAL WETLANDS INVENTORY MAPS

FOR NEW JERSEY

Ralph W. Tiner, Jr.
Regional Wetland Coordinator
U.S. Fish and Wildlife Service
Region 5
1 Gateway Center, Suite 700
Newton Corner, MA 02158

February 1984

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HOW TO USE THIS ATLAS

The Atlas contains reductions of all 1:24,000 National Wetlands Inventory maps. Maps appear in alphabetical order. Map names can be located on the index map (Figure 2). Each map shows the configuration, location and type of wetlands and deepwater habitats found within a given area.

WETLAND LEGEND

Wetland data are displayed on maps by a series of letters and numbers (alpha-numerics). Mixing of classes and subclasses are represented by a diagonal line. The more common symbols are shown below; less common symbols have been omitted for simplicity. For identifying these latter symbols, the reader should refer to an actual NWI map legend.

Examples of Alpha-numerics:

E2EMN6	=	Estuarine (E), Intertidal(2), Emergent Wetland(EM), Regularly Flooded(N), Oligohaline(6)
E2FL	=	Estuarine(E), Intertidal(2), Flat(FL)
PF01	=	Palustrine(P), Forested Wetland(FO), Broad-leaved Deciduous(1)
PEM/OW	=	Palustrine(P), Emergent Wetland/Open Water(EM/OW)
PFO/SS1	=	Palustrine(P), Forested Wetland/Scrub-Shrub Wetland(FO/SS), Broad-leaved Deceduous(1)

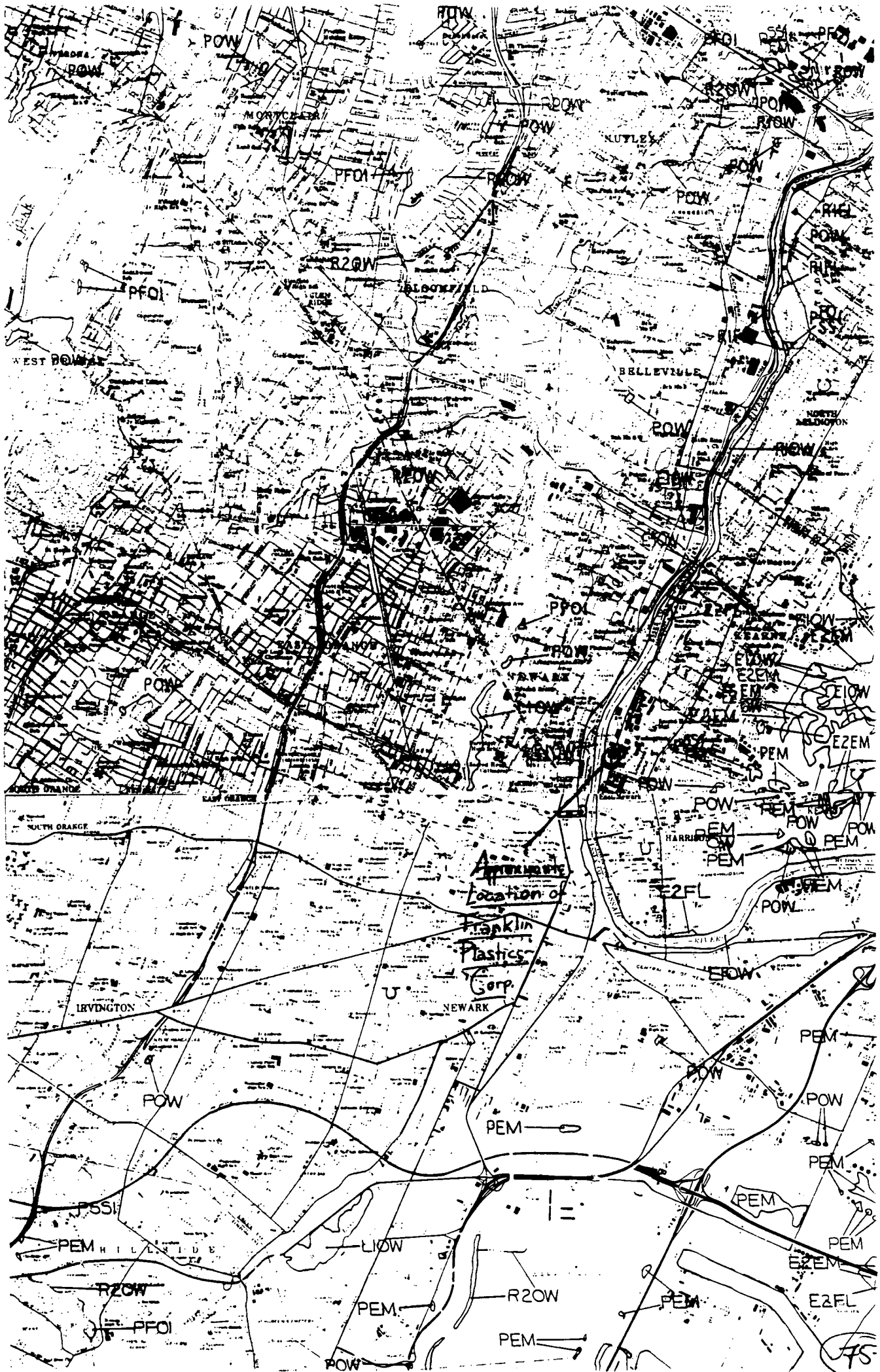
SYMBOLOGY

Systems and Subsystems:

M 1	=	Marine Subtidal	R 3	=	Riverine Upper Perennial
M 2	=	Marine Intertidal	R 4	=	Riverine Intermittent
E 1	=	Estuarine Subtidal	L 1	=	Lacustrine Limnetic
E 2	=	Estuarine Intertidal	L 2	=	Lacustrine Littoral
R 1	=	Riverine Tidal	P	=	Palustrine
R 2	=	Riverine Lower Perennial	U	=	Upland

Classes (subclasses and modifers designated where appropriate):

AB	=	Aquatic Bed
BB	=	Beach/Bar
EM	=	Emergent Wetland
EMN6	=	Emergent Wetland, Regularly Flooded, Oligohaline
EMP6	=	Emergent Wetland, Irregularly Flooded, Oligohaline
EMR	=	Emergent Wetland, Seasonally Flooded-Tidal
FL	=	Flat
FO1	=	Forested Wetland, Broad-leaved Deciduous
FO2	=	Forested Wetland, Needle-leaved Deciduous
FO4	=	Forested Wetland, Needle-leaved Evergreen
OW	=	Open Water/Unknown Bottom
SS1	=	Scrub=Shrub Wetland, Broad-leaved Deciduous
SS3	=	Scrub-Shrub Wetland, Broad-leaved Evergreen
SS4	=	Scrub-Shrub Wetland, Needle-leaved Evergreen
SS5	=	Scrub-Shrub Wetland, Dead
SS7	=	Scrub-Shrub Wetland, Evergreen



Approximate Location of Franklin Plastics Corp.
MONTCLAIR
NUTLEY
BLOOMFIELD
BELLEVILLE
NORTH BELLEVILLE
WEST ORANGE
EAST ORANGE
SOUTH ORANGE
IRVINGTON
NEWARK
HARRISON
HILLSIDE
POW
PFO1
R2OW
R1OW
E1OW
E2EM
PEM
E2FL
PSS1
L1OW

INTRODUCTION

The U.S. Fish and Wildlife Service, Office of Habitat Resources, is conducting an inventory of the wetlands of the United States using convential aerial photo interpretation techniques. All wetlands are classified according to the Service's new system - "Classification of Wetlands and Deepwater Habitats of the United States" (Cowardin, et al. 1979). The National Wetlands Inventory (NWI) is establishing a wetland data base, in both map and computer forms for the entire country. The present emphasis is on map production and in the future, wetland data will be digitized to create an automated wetland data base, as funding becomes available. The NWI information will serve to identify the current status of the U.S. wetlands and can be used as a reference point from which future changes in wetlands can be evaluated.

The New Jersey inventory commenced in 1982 and was completed in 1984. Wetland maps and acreage summaries are now available for the entire state. A state wetland report that describes in detail the procedures and results of the inventory is in preparation and should be ready for distribution in late 1984.

The Atlas includes reductions of all NWI maps for New Jersey. It was developed mainly to facilitate office use of NWI information. The Atlas presents a good picture of the distribution of wetlands within large geographic areas. It also serves as the companion document for the forthcoming state wetland report. The Atlas is not intended to replace the use of NWI maps. The original NWI maps are available at the standard U.S. Geological Survey topographic map scale of 1:24,000. These maps are the best products to use in the field for site-specific wetland evaluations.

Copies of original NWI maps for New Jersey can be ordered from the New Jersey Department of Environmental Protection, Maps and Publications, Bureau of Collections and Licensing, Maps and Publications CN-402, Trenton, NJ 08625 (609-292-2506). Other information, including a topical brief about the NWI program, can be obtained by contacting the Regional Wetland Coordinator, U.S. Fish and Wildlife Service, One Gateway Center, Newton Corner, MA 02158.

WETLAND DEFINITION

Wetlands include the variety of wet habitats commonly called marshes, bogs, and swamps. They are lands where saturation with water or periodic flooding during the growing season determines the nature of soil development and types of plants and animals living there. The Service specifically defines "wetland" as follows: "Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of this classification wetlands must have one or more

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of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes, (2) the substrate is predominantly undrained hydric soil, and (3) the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season of each year" (Cowardin, et al. 1979).

HYDRIC SOILS

The presence of undrained hydric soil is one of the three major criteria used to define wetlands (Cowardin, et al. 1979). Hydric soils are soils that are either: (1) saturated at or near the soil surface with water that is virtually lacking free oxygen for significant periods during the growing season or (2) flooded frequently for long periods during the growing season (U.S.D.A. Soil Conservation Service 1982). The U.S.D.A Soil Conservation Service is preparing a list of hydric soils to accompany the Fish and Wildlife Service's wetland classification system. Table 1 is a list of hydric soils for New Jersey.

For specific information regarding hydric soils in New Jersey, contact the State Soil Scientist, U.S.D.A. Soil Conservation Service, P.O. Box 219, Somerset, NJ 08873.

WETLAND COMMUNITIES

The Fish and Wildlife Service is preparing a list of wetland plants (i.e., hydrophytes) to help identify wetlands. Hydrophytes are defined as any plant growing in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content (Cowardin, et al. 1979). A tentative regional list is now available for distribution. In the future, the Service plans to develop a list of the Nation's wetland plant communities. At this time, however, such information is not available.

Table 2 represents a list of major wetland plant communities observed during inventory work in New Jersey. Map symbols are also given. They reflect dominant vegetative life-form and water regimes where identified (i.e., the degree of flooding and/or soil saturation).

PHOTO INTERPRETATION PROBLEMS

Wetland photo interpretation, although extremely efficient and accurate for inventorying wetlands, does have certain limitations. Consequently, some problems arose during the course of the survey. Additional field work or use of collateral data was necessary to overcome these constraints. These problems and their resolution are discussed below.

1. Delineation of estuarine and riverine (tidal) systems. For inventory purposes, the boundary between brackish tidal waters and fresh tidal waters needed to be established. To do this, the results of Zich (1977) were used. This study of anadromous fishes identified approximate limits of saltwater penetration and the head of tide (upstream limit of tidal influence) in New Jersey's coastal rivers.

2. Delineation of the oligohaline (slightly brackish) segment of estuaries. Obviously, this cannot be accomplished by photointerpretation. Collateral data was consulted to identify this zone. NJDEP coastal wetlands maps provided information on plant species composition of coastal marshes. Occurrence of more typical freshwater plants like wild rice (*Zizania aquatica*) and arrow arum (*Peltandra virginica*) in estuarine waters were indicative of strong freshwater influence characteristic of the oligohaline zone. Delineation of oligohaline marshes in this way was conservative.

3. Identification of submerged vegetation in coastal waters. The seasonality of the imagery did not allow identification of submerged aquatic beds. However, the State of New Jersey has completed a detailed survey of these areas and has produced a set of submerged vegetation maps for the coast. This information was transferred directly to NWI maps to provide a more complete picture of New Jersey's wetlands.

4. Identification of riverine tidal emergent wetlands. Due to the use of fall photography in many freshwater tidal areas, nonpersistent emergent wetlands, especially those dominated by wild rice, may be included within the palustrine system. These areas, however, have been designated as tidally influenced by use of the seasonally flooded-tidal water regime.

5. Problem associated with tidal flooding. Photography used for this survey was not tide-coordinated, therefore, on rare occasions, some emergent wetlands

may have been obscured by flooding waters. In this situation, undetected emergent wetlands were included as part of the open water class in estuaries and tidal rivers. This was noted in one area along Mantua Creek and probably occurred elsewhere.

6. Identification of forested wetlands in Southern New Jersey. In the Pinelands the available aerial photography for mapping was unfortunately taken in the fall when leaves were still on many of the deciduous trees. This made identification of some forested wetlands particularly difficult. To resolve this problem, soil surveys and additional field investigations were used to help identify these wetlands. Results of recent field checking of NWI maps by N.J. Pinelands Commission biologists have confirmed that, overall, these wetlands have been accurately classified.

7. Identification of freshwater aquatic beds. Due to use of spring photography in many areas, aquatic beds in freshwater ponds and lakes were not identifiable and were therefore, classified as open water. Aquatic beds observed during field investigations are shown on the maps.

8. Inclusion of small upland areas within wetland boundaries Small islands of higher elevation and better drained upland soil naturally exist in many wetlands. Due to minimum mapping units, small upland areas may be included within designated wetlands. Field inspections and/or use of larger scale photography can be used to refine wetland boundaries when necessary.

WETLAND ACREAGE STATISTICS

Wetland acreage summaries have been generated for all New Jersey counties. These data combined with the availability of final NWI maps and other information collected during the inventory allow the Service to prepare its first state wetland report. This report will present the findings of the NWI for New Jersey and should be available by mid-1984.

A total of 915,960 acres of wetlands and 757,783 acres of deepwater habitats were inventoried in New Jersey. Palustrine or freshwater wetlands represented 67% of the State's wetlands, while nearly all of the remainder were estuarine or coastal wetlands. County wetland acreage summaries are listed below. More detailed county statistics, such as individual wetland type acreages, will be presented in the state wetland report (Tiner, in prep).

Table 3. Wetland acreage summaries for New Jersey counties.

County	Wetland Acreage	% of County	County	Wetland Acreage	% of County
Atlantic	148,149	40.7	Mercer	11,819	8.1
Berger	10,084	6.7	Middlesex	24,022	12.0
Burlington	136,297	26.0	Monmouth	32,700	10.7
Camden	20,922	14.8	Morris	40,264	13.4
Cape May	89,581	52.4	Ocean	128,531	31.3
Cumberland	98,950	30.9	Passaic	5,042	4.1
Essex	6,833	8.2	Salem	58,987	25.3
Gloucester	36,844	17.5	Somerset	11,127	5.7
Hudson	3,897	13.0	Sussex	30,771	9.1
Hunterdon	5,450	2.0	Union	3,053	4.6
			Warren	12,637	5.5

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762

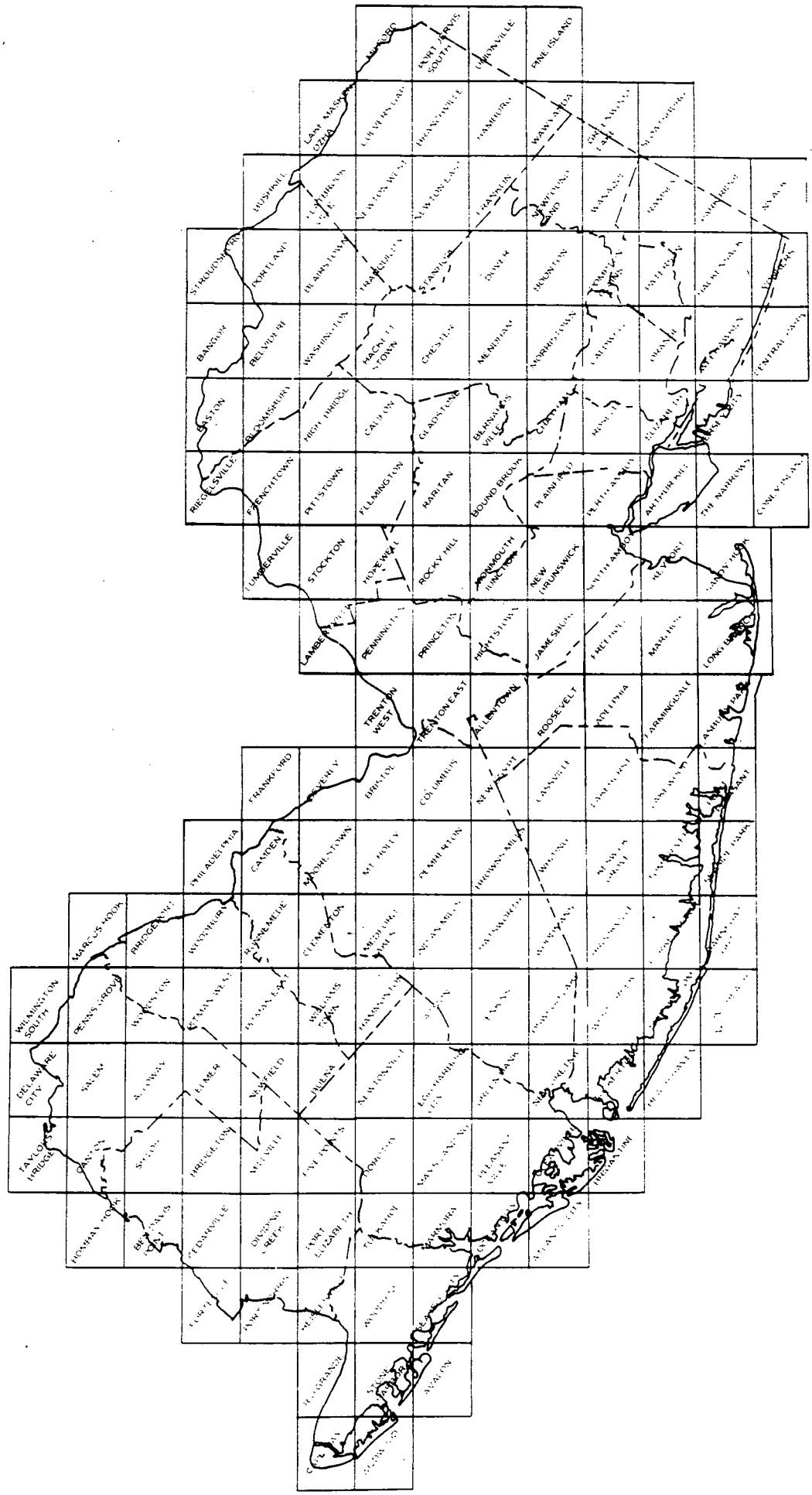

Figure 2. Location and names of 1:24,000 maps for New Jersey

REFERENCE NO. 27

7627

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Fish and Wildlife Enhancement
927 North Main Street (Bldg. D)
Pleasantville, New Jersey 08232
(609) 646-9310

IN REPLY REFER TO:

spes-438

March 19, 1990

Ms. Kathy Campbell
NUS Corporation
1090 King Georges Post Road, Suite 1103
Edison, New Jersey 08837

Dear Ms. Campbell:

This letter is in response to your March 8, 1990, request to the Fish and Wildlife Service (Service) for information on the presence of federally listed or proposed endangered and threatened species within the study area of a site, under consideration by the U.S. Environmental Protection Agency's Superfund Program, located in Kearny, Hudson County, New Jersey.

Except for occasional transient species such as the peregrine falcon (Falco Peregrinus), no federally listed or proposed threatened or endangered flora or fauna are known to exist within the study area. Enclosed is a summary of federally listed and candidate species in New Jersey for your information. Candidate species are those species under consideration by the Service for possible inclusion on the List of Endangered and Threatened Wildlife and Plants. Although these species receive no substantive or procedural protection under the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et. seq.),the Service encourages federal agencies and other planners to consider candidate species in the project planning process. The New Jersey Natural Heritage Program provides the most up-to-date data source for candidate species in the State, as well as maintaining information on State listed species, and may be contacted at the following address:

Mr. Thomas Breden
Natural Heritage Program
Division of Parks and Forestry
CN 404
Trenton, New Jersey 08625
(609/984-0097)

Should the Natural Heritage Program data search reveal the presence of any candidate species on the site, the Service should be contacted to ensure that these species are not adversely affected by project activities.

Further information on State listed species may be obtained from the following office:

Ms. JoAnn Frier-Murza
Endangered and Nongame Species Program
Division of Fish, Game and Wildlife
CN 400
Trenton, New Jersey 08625
(609/292-9101)

The information contained in this letter and additional information obtained from the aforementioned State sources represents the public interest for fish and wildlife resources and should warrant full consideration in the project planning process. The Service requests that no part of this letter be taken out of context and if reproduced, the letter should appear in its entirety.

Please contact Lynn Wilson of my staff should you have any questions or require further assistance.

Sincerely,

Clifford G. Day

Clifford G. Day
Supervisor

Enclosures

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CANDIDATE SPECIES IN NEW JERSEY

Candidate species are species which appear to warrant consideration for addition to the List of Endangered and Threatened Wildlife. Although these species receive no substantive or procedural protection under the Endangered Species Act, the Service encourages federal agencies and other planners to give consideration to these species in the environmental planning process.

COMMON NAME	SCIENTIFIC NAME	STATUS
VERTEBRATES		
Reptiles:		
Turtle, bog	Clemmys muhlenbergi	2
Terrapin, northern diamondback	Malaclemys terrapin terrapin	2
Snake, northern pine	Pituophis melanoleucas melanoleucas	2
Birds:		
Shrike, migrant loggerhead	Lanius ludovicianus migrans	2
Mammals:		
Bat, eastern small-footed	Myotis subulatus leibii	2
Rabbit, New England cottontail	Sylvilagus transitionalis	2
Shrew, long-tailed	Sorex dispar	2
Shrew, Tuckahoe masked	Sorex cinereus nigriculus	2
Woodrat, eastern	Neotoma floridana magister	2
INVERTEBRATES		
Dragonflies and Damselflies:		
Dragonfly, banded bog skimmer	Williamsonia lintneri	2
Beetles:		
beetle, northeastern beach tiger	Cicindela dorsalis dorsalis	1
beetle, cobblestone tiger	Cicindela marginipennis	2
Butterflies and Moths:		
butterfly, Mitchell satyr	Neonympha mitchelli	2
butterfly, regal fritillary	Speyeria idalia	2
butterfly, tawny crescent	Phyciodes batesi	2
moth, Albarufan dagger	Acronicta albarufa	2
moth, Bucholz' dart	Agrotis bucholzi	2
moth, Daecke's pyralid	Crambus daeckeellus	2*
moth, Hebard's noctuid	Erythroecia hebardi	2
moth, Lemmer's noctuid	Lithophane lemmeri	2
moth, precious underwing	Catocala pretiosa	2

Mussels:		
Mussel, dwarf wedge	Alasmidonta heterodon	1
Plants:		
Beaked-rush, Knieskern's	Rhynchospora knieskernii	1
Bitter cress, Long's	Cardamine longii	2
Boneset, Pine Barrens	Eupatorium resinosum	2
Bulrush, Long's	Scirpus longii	2
Chaffseed	Schwalbea americana	2
Fern, Curly-grass	Schizaea pusilla	2
Grass, sand	Calamovilfa brevipilis	2
Jacob's ladder	Polemonium vanbruntiae	2
Joint-vetch, sensitive	Aeschynomene virginica	2
Lobelia, Boykin's	Lobelia boykinii	2
Meadowbeauty, awned	Rhexia aristosa	2
Micranthemum, Nuttall's	Micranthemum micranthemoides	1*
Morning-glory, Pickering's	Stylisma pickeringii var. pickerigii	2
Muhly, Torrey's	Muhlenbergia torreyana	1
Bog asphodel	Narthecium americanum	2
Panic grass, Hirst's	Panicum hirstii	2
Pigweed, sea-beach	Amaranthus pumilus	2
Pipewort, Parker's	Eriocaulon parkeri	2
Quillwort, Eaton's	Isoetes eatonii	2
Rush, New Jersey	Juncus caesariensis	2
Sedge, Barratt's	Carex barrattii	2
Sedge, variable	Carex polymorpha	2
Spurge, Darlington's	Euphorbia purpurea	2

STATUS:
1: Taxa for which the Service currently has substantial information to support the appropriateness of proposing to list the species as threatened or endangered. Development and publication of proposed rules on these species is anticipated.

2: Taxa for which information now in possession of the Service indicates that proposing to list the species as threatened or endangered is possibly appropriate, but for which conclusive data are not available to support proposed rules at this time.

*indicates those species for which there have been no authenticated records in New Jersey since 1963; some of these are possibly extinct, but further research is needed to determine their status with any confidence.

(Note: for complete listing of taxa under review refer to Federal Register Vol. 54, No. 4, January 6, 1989 (Animal) and Vol. 50, No. 188, September 27, 1985 (Plants)).

FEDERALLY ENDANGERED AND THREATENED SPECIES IN NEW JERSEY

An **endangered species** is any species which is in danger of extinction throughout all or a significant portion of its range.

A **threatened species** is any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

COMMON NAME	SCIENTIFIC NAME	STATUS	DISTRIBUTION
Fishes:			
Sturgeon, shortnose*	Acipenser brevirostrum	E	Hudson, Delaware and Atlantic coastal rivers
Reptiles:			
Turtle, Atl. Ridley*	Lepidochelys kempii	E	Oceanic, summer resident coastal waters
Turtle, green*	Chelonia mydas	T	Oceanic, summer visitor coastal waters
Turtle, hawksbill*	Eretmochelys imbricata	E	Oceanic, summer visitor coastal waters
Turtle, leatherback*	Dermochelys coriacea	E	Oceanic, summer visitor coastal waters
Turtle, loggerhead*	Caretta caretta	T	Oceanic, summer resident coastal waters, rarely nests: Atlantic and Cape May Counties
Birds:			
Eagle, bald	Haliaeetus leucocephalus	E	Entire state
Falcon, Am. peregrine	Falco peregrinus anatum	E	Entire state, re-establishment to former breeding range in progress
Falcon, Artic peregrine	Falco peregrinus tundrius	T	Entire state migratory
Plover, piping	Charadrius melodus	T	Entire state
Tern, roseate	Sterna dougallii dougallii	E	Entire state

Mammals:			
Cougar, eastern	Felis concolor couguar	E	Entire state, probably extinct
Whale, blue*	Balaenoptera musculus	E	Oceanic
Whale, finback*	Balaenoptera physalus	E	Oceanic
Whale, humpback*	Megaptera novaeangliae	E	Oceanic
Whale, right*	Balaena glacialis	E	Oceanic
Whale, sei*	Balaenoptera borealis	E	Oceanic
Whale, sperm*	Physeter catodon	E	Oceanic
Plants:			
Pogonia, small whorled	Isotria medeoloides	E	Sussex County
Swamp pink	Helonias bullata	T	Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Middlesex, Monmouth, Morris, Ocean, and Salem Counties
Orchid, eastern prairie fringed	Platanthera leucophaea	T	Presumed extirpated

E: endangered species
T: threatened species

* Except for sea turtle nesting habitat, principal responsibility for these species is vested with the National Marine Fisheries Service.

(note: for complete listing of Endangered and Threatened Wildlife and Plants refer to 50 CFR 17.11 and 17.12, January 1, 1989)

Rev. 11/89

REFERENCE NO. 28

GSC-TR8645

GRAPHICAL EXPOSURE MODELING SYSTEM

(GEMS)

USER'S GUIDE

VOLUME 2. MODELING

Prepared for:

U.S. ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF PESTICIDES AND TOXIC SUBSTANCES
EXPOSURE EVALUATION DIVISION
Task No. 3-2
Contract No. 68023970
Project Officer: Russell Kinerson
Task Manager: Loren Hall

Prepared by:

GENERAL SCIENCES CORPORATION
8401 Corporate Drive
Landover, Maryland 20785

Submitted: December 1, 1986

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MASTER AREA REFERENCE FILE (MARF) OF THE 1980 CENSUS

Source

The Master Area Reference File (MARF) is a proprietary product of Donnelly Marketing, Inc., a subsidiary of Dunn and Bradstreet, and is available only to EPA users and to contractors engaged in EPA projects.

Description

The complete corrected MARF of the 1980 Census, with geographic coordinates for small geographic areas, is installed for GEMS on a separate disk pack. It consists of four subfiles, one for each major census geographic region, and is available to users when that disk pack is mounted. The file has a variety of location identification information, including region, state, county, place, census tracts and enumeration districts or block groups (See Figure C-1 for illustrations). It also contains population count by race, the number of occupied and owner-occupied housing units, group quarters, and number of families for all the enumeration districts/block groups for the continental United States, Hawaii, and Alaska.

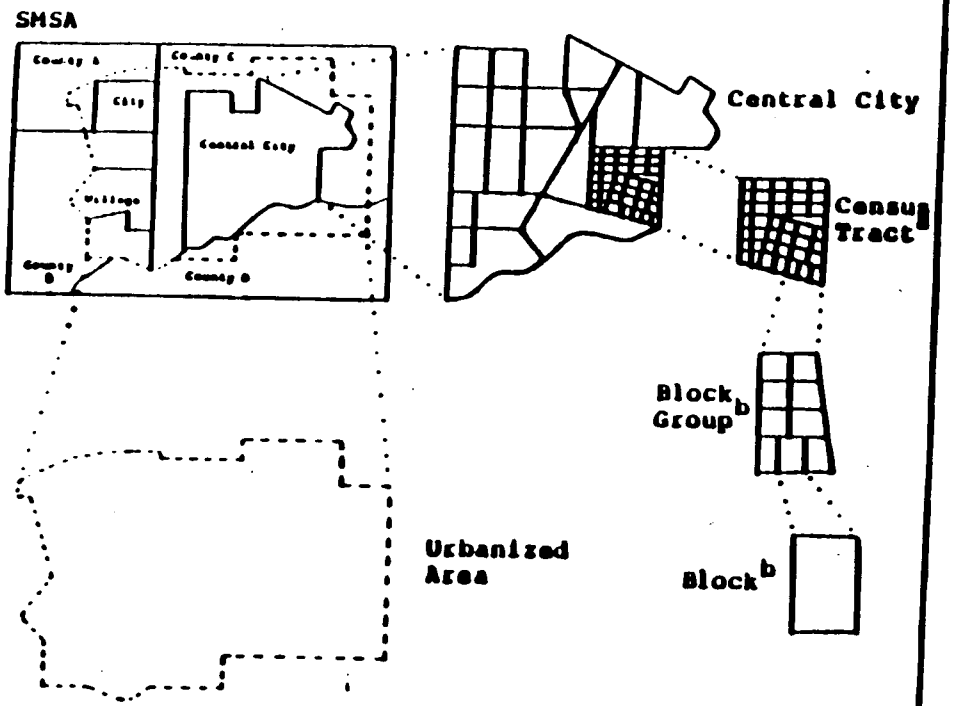
CEDPOP, a subset of the MARF of the 1980 Census, is accessible through GEMS. In addition to total population and household counts, the file includes geographic coordinates for the population-weighted centroid of each census block group or enumeration district (BG/ED) in the file.

Use

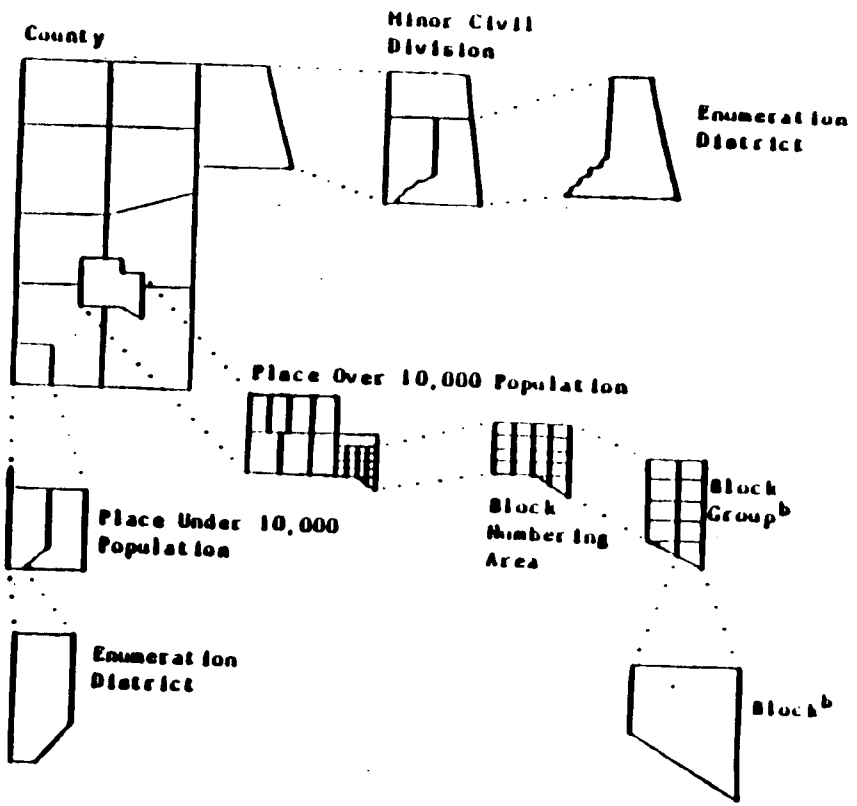
The complete MARF 80 Census file, installed in GEMS on a separate disk, is expected to be used heavily by GEMS users to identify household and population by racial groups at any required geographic level. County aggregate populations have already been created from this file.

CEDPOP was interfaced with ATM80 in GEMS to provide estimates of population sizes exposed to concentrations of airborne chemicals around a release site and with BOXMOD80 to provide population estimates within area source regions. The population centroids are identified, and populations are accumulated in sectors (typically the sixteen wind direction sectors) surrounding the center point within a user-specified number of radial distances out from the center.

The CEDPOP file also is accessed by CENSUS DATA and RADII-5 procedures under the GEODATA HANDLING operation in GEMS. CENSUS DATA accumulates population and housing counts by up to ten user-specified radial distances and from one-to-sixteen sectors. The RADII-5 program tabulates the same information (except housing counts) and displays the centroid locations for user-specified circular distances around a center point.



Inside Urbanized Area



Outside Urbanized Area

[a]The entire SMSA is subdivided into census tracts.

[b]Blocks and block groups do not have symbolized boundaries as do the other areas, but are identified by number.

Figure C-1. Geographic Hierarchy Inside and Outside Urbanized Areas (UA's)

GEMS>

FRANKLIN PLASTICS CORP.
LATITUDE 40:45:15 LONGITUDE 74: 9:48 1980 POPULATION

KM	0.00-.400	.400-.810	.810-1.60	1.60-3.20	3.20-4.80	4.80-6.40	SECTOR TOTALS
S 1	1279	11545	50722	132699	177055	196263	569563
RING TOTALS	1279	11545	50722	132699	177055	196263	569563

GEMS> I

FRANKLIN PLASTICS CORP.
LATITUDE 40:45:16 LONGITUDE 74: 9:48 1980 HOUSING

KM	0.00-.400	.400-.810	.810-1.60	1.60-3.20	3.20-4.80	4.80-6.40	SECTOR TOTALS
S 1	431	4016	18059	45637	62469	70895	201507
RING TOTALS	431	4016	18059	45637	62469	70895	201507

Distance of Radius	Population	Housing
1/4-mile	1,279	431
1/2-mile	12,824	4,447
1 mile	63,546	22,506
2 miles	196,245	68,143
3 miles	373,300	130,612
4 miles	569,563	201,507

REFERENCE NO. 29

Nepcco
New England Pollution Control Co., Inc.
P. O. Box 8364, Trenton, NJ 08650 609/259-3333
TERMINAL ROUTE 130, ROBBINSVILLE, N J

SPILL PREVENTION, CONTROL
AND
COUNTERMEASURE PLAN

FRANKLIN PLASTICS CORPORATION

113 Passaic Avenue

Kearny, New Jersey

CORPORATE HEADQUARTERS 7 EDGEWATER PLACE, NORWALK, CT 06855 203/853-1990

The following Spill Prevention, Control, and Countermeasure Plan prepared for Franklin Plastics, has been implemented in some part; however, in light of anticipated remedial efforts arising under ECRA, some modification of the plan may be required.

1126.ses 3/19/86

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The following Spill Prevention, Control and Countermeasure (SPCC) Plan was prepared by Mr. Frank Wright, P.E. and New England Pollution Control Company, Inc. (NEPCCO) for Franklin Plastics Corporation, 113 Passaic Avenue, Kearny, New Jersey.

This plan achieves full compliance with sections 7:1E - 4.6 to 7:1E - 4.21 of the regulations of the State of New Jersey Department of Environmental Protection, Hazard Management Division.

Franklin Plastics will complete modifications necessary for compliance by June, 1985.

signed F C Wright

Francis C. Wright, P.E.

GE27318NJ

As a result of promulgation of the Federal Water Pollution Control Act's Oil Pollution Prevention Regulations in December 1973, many non-transportation related facilities that store oil are required to develop and implement a Spill Prevention, Control and Countermeasure (SPCC) Plan. The need for development and implementation of an SPCC Plan is based on certain criteria. The first of these criteria is to determine whether the possibility of the discharge of oil in harmful quantities into or upon navigable waters of the U.S. exists. Navigable waters have been broadly defined to include waterways, swamps, lowlands, and intermittent ditches as well as storm and sanitary sewers.

The second criteria is the determination of whether the specified oil storage capacity volumes are exceeded. These volumes are as follows:

1. Greater than 42,000 gallons underground oil storage capacity;
2. Greater than 1,320 gallons combined above ground oil storage capacity (including drummed oils), and
3. Greater than 660 gallons single container above ground oil storage capacity.

Once these criteria are met, an SPCC Plan must be developed. The major objectives of an SPCC plan are to reduce the potential for spills and improve the ability to handle such incidents should they occur.

On Friday, June 8, 1984, Mr. Frank Wright, P.E. and Cheryl McCoy of New England Pollution Control Company (NEPCCO) conducted a site inspection at Franklin Plastics Corporation in Kearny, NJ, to confirm the need for an SPCC Plan for this facility.

Franklin Plastics Corporation, located on the banks of the Passaic River in Kearny, NJ, began operations in 1976. They are a manufacturer and prime supplier of vinyl compounds used in the automobile, wire and cable, and shoe manufacturing industries as well as in extrusion processes. Franklin Plastics has a total above ground oil storage capacity of 90,000 gallons. In addition to oil storage, there are a number of above-ground storage tanks at this facility which contain plasticizers used in their manufacturing processes (See Sketch 1).

The oil storage volume capacity and the location on the Passaic River warrant the need for an SPCC Plan at Franklin Plastics Corporation.

The following plan addresses both the oil and plasticizer storage tank areas, where the potential for spills exists, as well as the equipment and materials needed to prevent and/or contain these spills.

I. Fuel Storage Areas

There is one (1) 50,000 gallon fuel oil storage tank and two (2) 20,000 gallon fuel oil storage tanks at this facility.

A.) The 50,000 gallon oil storage tank located to the rear of the production building is surrounded by a 6' high by 1' wide brick containment wall which allows for a containment capacity of 50,000 gallons. The tank sits on a square concrete pad which does not extend out to the containment wall. The area between the concrete pad and the containment wall is filled with gravel. Underlying the gravel is sand. In the event of a spill, the oil would readily permeate down through the gravel and sand. The gravel within the containment wall should be removed and replaced with concrete.

The surface level of the newly installed concrete should be several inches below the surface of the existing concrete pad, which supports the tank. The newly installed concrete should extend from the containment wall to within 2-3 inches of the existing concrete pad. This 2-3 inch gap should then be filled in with clay to a depth of 1 foot. This design will allow the tank to rise and lower in accordance with tank weight changes without imparting stress on the newly installed concrete.

A valved drain for removing any collected water within the containment wall should be installed at the lowest point in the containment area. This drain will lead out into a bermed loading area, which surrounds the containment wall (See Sketch 3).

The bermed loading area should be 40' x 40' x 1' depth. A valved gravity drain pipe extending out of the bermed loading area will again be used to remove any collected water. During oil loading, both valved drains will be closed. The storage tank has a level indicator visible from the truck loading site. All fuel loadings should be attended by

a plant employee, and should be logged in noting date, time, volume and closing and opening of valve.

Absorbent materials such as Ergon 18" x 18" sorbent pads, should be kept in close proximity to the filling areas so that in the event of a spill, the oil can be readily absorbed.

8.) The two (2) 20,000 gallon fuel oil tanks are located outside of the production area within a 5' high, 1' wide brick containment wall. The containment area has over 60,000 gallon containment capacity. The ground inside the containment wall should be covered with concrete or macadam to prevent subsurface contamination. A valved drain extending out from inside the containment wall should be installed to allow for removal of any collected water inside the containment wall. In this area, as in the other oil storage area, absorbent material should be placed so that it is readily accessible for spill cleanup.

Before removal, a sample of any accumulated water should be analyzed for oil contamination. If contaminated, the water should be collected and properly disposed of.

II. Transformer Area

There are five (5) transformers and two (2) oil-containing circuit breakers at the facility. These are located outside, adjacent to the production building, and are completely enclosed by a chain-link fence (See Sketches 1 and 2). The total volume of oil contained within the five transformers and two circuit breakers is 4,403 gallons.

It is suggested that a 75' x 53' x 2" high berm surround this area. The area inside of the berm should be filled with concrete or macadam to prevent subsurface contamination in the event of a leaking transformer or circuit breaker.

A valved gravity drain would extend from within the bermed area to the nearest sump. This valve would be opened to allow for removal of accumulated water only after the water has been analyzed for oil contamination. If contaminated, the water would be collected and properly disposed of. Each opening and closing of the valve should be recorded by a plant employee in a log book kept in this area.

Since the transformers are in close proximity to the two (2) 20,000 gallon oil storage tanks, the absorbent materials that will be kept in the oil storage area will also be accessible to the transformer area should a leak or spill occur.

III. Plasticizer Loading Area

Two plasticizers, DOP (DioctylPhthalate) and Jayflex 251 (Ditridecyl-Phthalate) are received in tanks outside of the production building. See Sketch 3 and Table I below.

Seven other plasticizers are received in the same loading area and are transferred and stored within the production building (See Sketch 2).

TABLE I

Storage Locations of Plasticizers

Tank No.	Tank Capacity	Franklin Designation	Chemical Identification
1	1500 Gal.	TOTM Plasticizer	TRI-2 Ethylhexel-Trimelliate
2	1500 Gal.	TOTM Plasticizer	TRI-2 Ethylhexel-Trimelliate
3	1500 Gal.	DRAPEX 68	Epoxidized Soy Bean
4	1500 Gal.	DRAPEX 68	Epoxidized Soy Bean
5	1500 Gal.	DRAPEX 4.4	Octyl-Epoxy-Tallate
6	1500 Gal.	DTDP-JAYFLEX	Ditridecyl-Phthalate
7	1500 Gal.	DTDP-JAYFLEX	Ditridecyl-Phthalate

Tank No.	Tank Capacity	Franklin Designation	Chemical Identification
8	2000 Gal.	711 Plasticizer	Dialkyl-Phthalate
9	2000 Gal.	711 Plasticizer	Dialkyl-Phthalate
10	2000 Gal.	711 Plasticizer	Dialkyl-Phthalate
11	2000 Gal.	DOA Plasticizer	Bis (Zethylaexil) Adipate
12	25,000 Gal.	#6 Oil	#6 Oil NJ std.
13	20,000 Gal.	#6 Oil	#6 OIl NJ std.
15	6000 Gal.	DIDP-JAYFLEX	Disodecyl Phthalate
16	6000 Gal.	DIDP-JAYFLEX	Disodecyl Phthalate

The truck loading station for these plasticizers is located on the southwest corner of the plant, near the Passaic River. [redacted] by 120' long macadam strip with a 6" berm around it would contain any spills that may occur in this area during the loading of plasticizer into the storage tanks. A valved drain pipe will permit collected water to be released from this area, after it has been analyzed for organic contamination. If uncontaminated, the water is released by opening the drain valve. See Sketch 2. It is suggested that absorbent materials be available in this area to clean up any spills that may occur.

IV. Plasticizer Storage Within the Production Building

There are 14 plasticizer storage tanks located throughout the plant. The plasticizers are transferred from the delivery truck to the individual storage tanks at approximately 25 gpm. Each tank has a level indicator which extends the full height of the tank and gives a clear liquid level indication during filling of the tank. It is standard procedure that a plant employee be present to observe the tank filling.

Each plasticizer tank should have a log book noting date, time from initiation to termination of filling, and the observer's signature. Suitable cleanup and recovery equipment should be stored near the storage tanks within the building. These would include absorbent materials for cleanup and/or a suction pump and collection tank for recovery of reusable product.

In the event of a major spill, the following agencies should be contacted:

1. Fire Department, Kearny, NJ
   (201) 991-1400 (24 Hr. Number)

2. New England Pollution Control Co., Inc.
   (609) 259-3333 (24 Hr. Number)

3. State of New Jersey, Dept. of Environmental Protection,
   Oil & Hazardous Materials Spill Division
   (201) 292-5560 (24 Hr. Number)

4. Police Department, Kearny, NJ
   (201) 998-1313 (24 Hr. Number)

5. US Coast Guard, Captain of the Port, NY Office
   (212) 668-7917 or 7936 (24 Hr. Number)

6. US Environmental Protection Agency, Region II
   (201) 548-8730

7. National Response Number, US Coast Guard, Washington, DC
   (800) 424-8802 (24 Hr. Number)

Plant personnel authorized to make these calls are:

Mr. Joseph Ronzo
Mr. Frank Udis

Repcco
New England Pollution Control Co., Inc.
7 Edgewater Place • Norwalk, CT 06855

☐ 7 Edgewater Place • Norwalk, CT 06855 • (203) 853-1990
☒ P.O. Box 8364 • Trenton, NJ 08650 • (609) 259-3333
☐ 110 Cedar Street • Batavia, NY 14020 • (716) 343-6444
☐ 395 Washington Street • Dedham, MA 02026 • (617) 329-68

ON-CALL WORK AGREEMENT

This Agreement is made this 21st day of June, 1984 between FRANKLIN PLASTICS CORPORATION (hereinafter called "Company") and New England Pollution Control Co., (hereinafter called "Contractor).

SCOPE OF WORK

Contractor agrees to provide services, material, and equipment upon issuance of a company work order or annual purchase order whether issued verbally or by mail. Verbal orders are to be confirmed in writing within 10 days.

AREA OF OPERATION

Contractor will respond to work locations as directed by the "Company".

DURATION OF AGREEMENT

This agreement shall be in force until terminated in writing. Contractor and company shall have the right to terminate this agreement at any time by giving 30 calendar days written notice to the other.

PRICES

Contractor will submit their price list as part of the agreement. If price changes occur, the contractor will submit a new price list to become effective 30 calendar days after submission. Contractor agrees to charge rates according to their standard price list utilized in billing commercial customers.

TERMS OF PAYMENT

Contractor shall submit invoices due net 30 days. Over 30 days, 1½% per month.

LIMITATIONS

The provisions of this agreement in no way guarantee that work will be let to the contractor. The contractor will have the right of refusal because of other commitments without penalty. However, contractor will endeavor to provide alternative sources for competent emergency services should his forces be commited to other projects.

New England Pollution Control Co., Inc.
Company

Cheryl McCoy
Signature

Sales Manager
Title

June 21, 1984
Date

FRANKLIN PLASTICS CORPORATION
Company

Joseph Ronzo
Signature

Plant Manager
Title

June 21, 1984
Date

The following is a list of NEPCCO personnel on-call for emergencies:

Joseph Feyti, Branch Operations Manager

Ron Gould, Hazmat Operations Manager

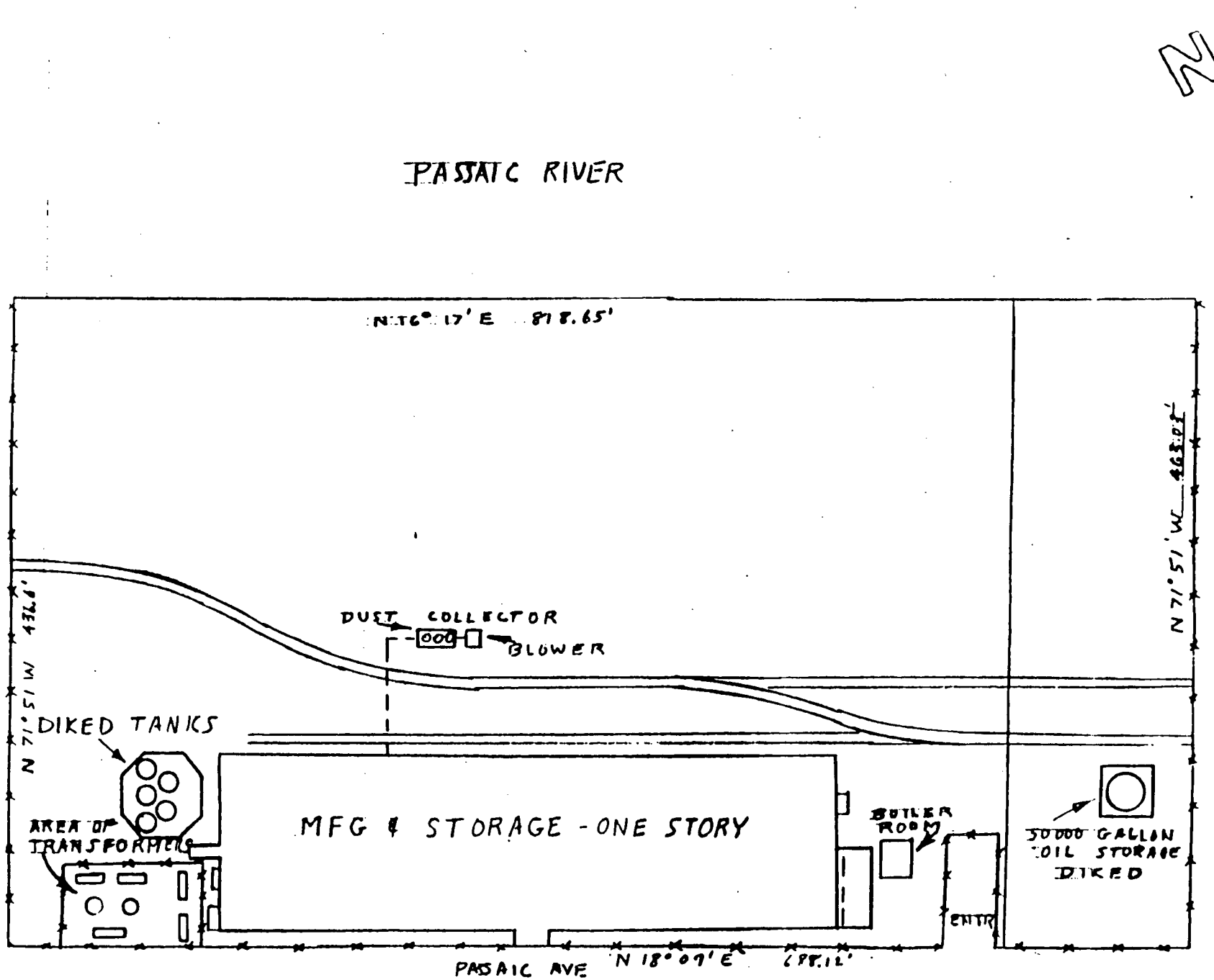
Robert Stockwell

Stephen Smith

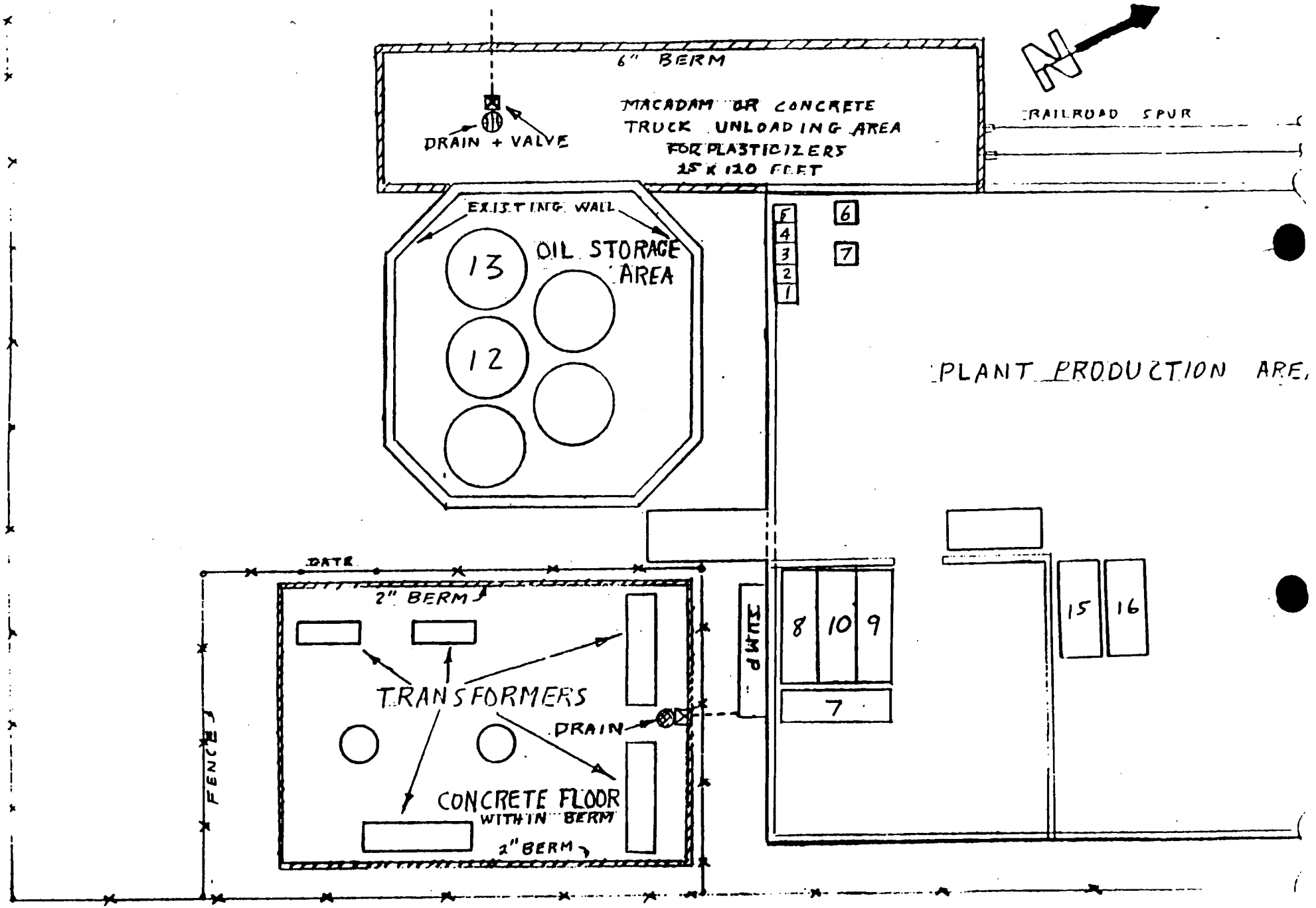
Pat Penders

Richard Chester

Brian Beahan

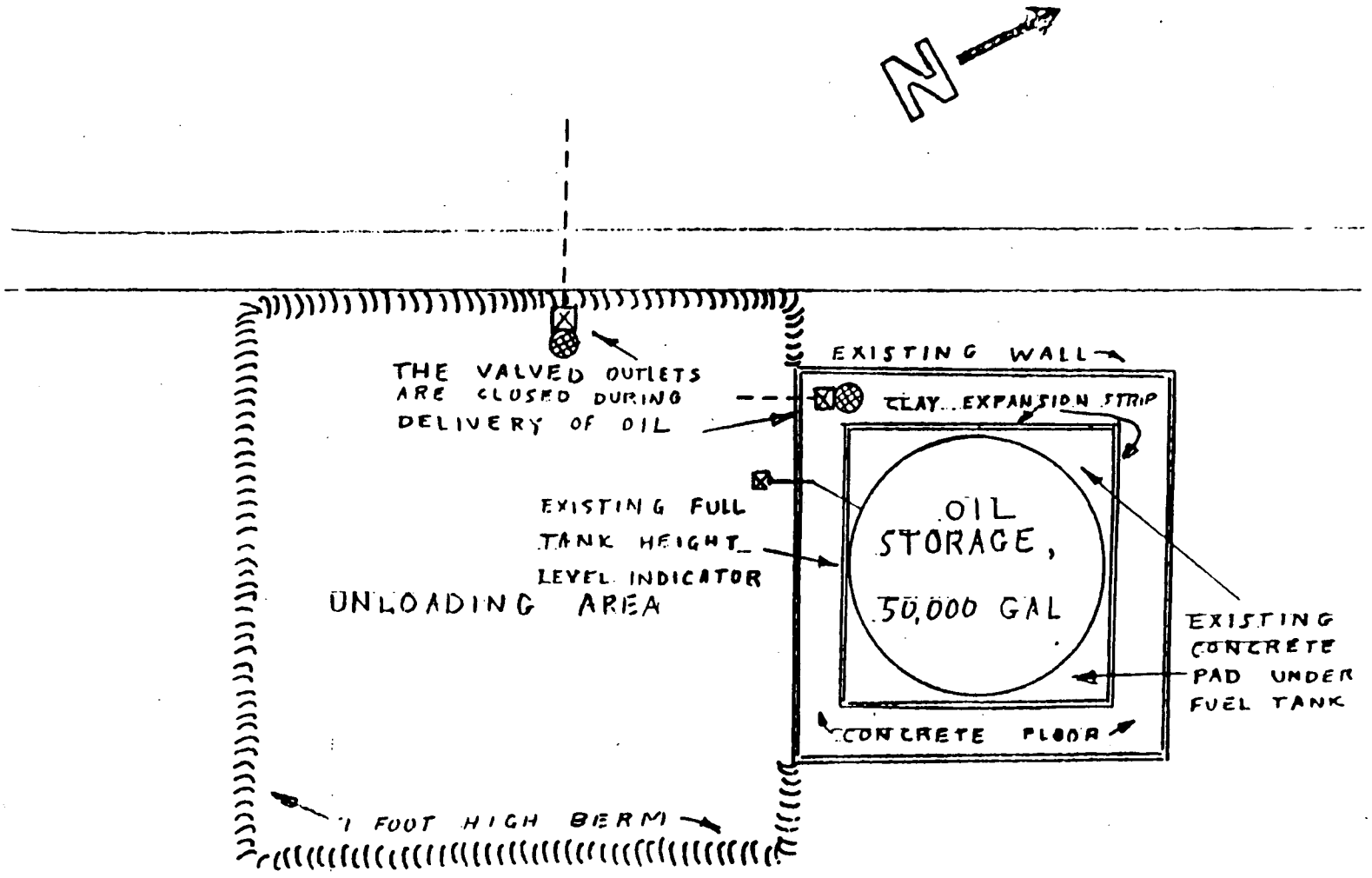


FRANKLIN PLASTICS- PLOT PLAN SKETCH 1 SC 1"= 100'



FRANKLIN PLASTICS SOUTHEAST AREA SKETCH 2 1"=25'

792



FRANKLIN PLASTICS - FUEL OIL TANK SKETCH 3 SC 1" = 12.5'

193

It is recommended that the following products (see attached literature), which are available for purchase through NEPCCO, be kept on hand at this facility to be used for containment and/or clean-up in the event of a spill:

Ergon Absorbent Products

Plug N' Dike Patching Products

Containment Systems Corp. Containment Boom

REFERENCE NO. 30

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WASTE MANAGEMENT
HAZARDOUS SITE MITIGATION ADMINISTRATION
CN 028, Trenton, N.J. 08625

MARWAN M. SADAT, P.E.
DIRECTOR

JORGE H. BERKOWITZ, PH.D.
ADMINISTRATOR

IN THE MATTER OF	:	ADMINISTRATIVE
FRANKLIN PLASTICS CORP.	:	CONSENT ORDER
ECRA CASE #86026	:	

The following FINDINGS are made and ORDER is issued pursuant to the authority vested in the Commissioner of the New Jersey Department of Environmental Protection (hereinafter "NJDEP") by N.J.S.A. 13:1D-1 et seq. and the Environmental Cleanup Responsibility Act, N.J.S.A. 13:1K-6 et seq., and duly delegated to the Assistant Director for Enforcement and Field Operations within the Division of Waste Management pursuant to N.J.S.A. 13:1B-4.

FINDINGS

1. The Environmental Cleanup Responsibility Act, N.J.S.A. 13:1K-6 et seq. ("ECRA" or "the Act"), was signed into New Jersey State Law by Governor Thomas H. Kean on September 2, 1983, and took effect on December 31, 1983.

2. ECRA required the NJDEP to adopt rules and regulations to implement the Act. On March 6, 1984, NJDEP adopted the Interim ECRA Regulations, N.J.A.C. 7:1-3 ("Regulations") in compliance with the Administrative Procedure Act, N.J.S.A. 52:14B-1 et seq., upon acceptance for filing by the Office of Administrative Law pursuant to N.J.A.C. 1:30-4.4(d).

3. ECRA requires that the owner or operator of an industrial establishment planning to sell or transfer operations (a) notify the NJDEP in writing within five (5) days of the execution of an agreement of sale pursuant to N.J.A.C. 7:1-3.7, (b) submit within (60) days prior to transfer of title a Negative Declaration or Cleanup Plan to the NJDEP for approval, and (c) obtain, upon approval of any necessary Cleanup Plan by the NJDEP, a surety bond or other financial security approved by the NJDEP guaranteeing performance of the Cleanup Plan in an amount equal to the cost estimate for the approved Cleanup Plan.

4. N.J.S.A. 13:1K-13 provides that failure to submit a Negative Declaration or Cleanup Plan pursuant to ECRA is grounds for voiding the sale by NJDEP. Any person who knowingly gives or causes to be given any false information or who fails to comply with the provisions of ECRA is liable for a penalty of not more than $25,000.00 for each occurrence, and each day of a violation of a continuing nature constitutes an additional and separate offense. Furthermore, any officer or management official of an industrial establishment who knowingly directs or authorizes the violation of any provisions of the Act shall be personally liable for the $25,000.00 penalties for each violation described above.

5. Franklin Plastics Corp. ("Franklin"), a New Jersey corporation, owns and operates a plastics manufacturing facility located at 123 Passaic Avenue, Kearny, Hudson County; said site being further known as Block 1, Lot 1; on the tax map of the Town of Kearny ("Kearny facility" or "subject Industrial Establishment"). Franklin has informed NJDEP that the Standard Industrial Classification ("SIC") number which best describes the operations at the Kearny facility is 3079. Franklin has further informed NJDEP that hazardous substances are used in the operations at the Kearny facility. The Kearny facility is an Industrial Establishment as defined by ECRA.

6. On January 7, 1986 (dated December 31, 1985), all of the shareholders of Franklin entered into a stock purchase agreement with Spartech Corporation and Spartech-Franklin, Inc. ("SFI"), a Delaware corporation wholly owned by the Spartech Corporation, to sell all the issued and outstanding shares of capital stock of Franklin to SFI ("Transaction") by February 15, 1986. NJDEP and Franklin expressly agree that the Transaction is a change of ownership of the Kearny facility subject to ECRA and the Regulations.

7. On January 13, 1985, Franklin submitted to NJDEP the General Information Submission ("GIS") portion of the ECRA Initial Notice as required by N.J.A.C. 7:1-3.7. NJDEP reviewed the GIS, assigned the Kearny facility ECRA Case #86026, and in a letter dated January 15, 1986 found the GIS to be incomplete.

8. Franklin has informed NJDEP that due to the nature of the Transaction and for business, financing and other reasons, the Transaction must be consummated by the contract closing date of February 15, 1986. Franklin has further informed NJDEP that Franklin cannot comply with all of the requirements of ECRA and the Regulations prior to February 15, 1986. Therefore, Franklin has requested that NJDEP prepare an Administrative Consent Order which, when effective, will allow the Transaction to be consummated prior to the completion of all administrative requirements.

9. In appropriate cases, NJDEP may allow transactions subject to ECRA to proceed prior to completing the standard ECRA administrative process by execution of an Administrative Consent Order. The Administrative Consent Order specifies a time schedule for completion of ECRA requirements by the industrial establishment and provides for financial assurance in a form and amount acceptable to NJDEP prior to consummation of any transactions subject to ECRA. Failure to fully comply with all the terms and conditions of the Administrative Consent Order shall subject the Ordered Party(ies) to the full range of penalties and remedies prescribed in the Act, the Regulations, and the Administrative Consent Order.

ORDER

NOW, THEREFORE, IT IS ORDERED AND AGREED THAT:

10. ECRA Program Requirements

    A. Franklin shall complete the Initial Notice (commonly referred to as ECRA I and II) required by N.J.A.C. 7:1-3.7 within thirty (30) days from the effective date of this Administrative Consent Order.

B. Within ninety (90) days from receipt of NJDEP's written approval of the Sampling Plan prepared, pursuant to N.J.A.C. 7:1-3.7(d)14 and N.J.A.C. 7:1-3.9, Franklin shall initiate, complete, and submit to NJDEP the results from any NJDEP-approved Sampling Plan including, but not limited to, complete delineation of environmental contamination on-site, and any off-site environmental contamination resulting from discharges of hazardous wastes or substances on or from the subject Industrial Establishment. NJDEP and Franklin recognize that additional sampling may be necessary during the various stages of the implementation of this Administrative Consent Order and ECRA, including during the implementation of a Cleanup Plan, at the subject Industrial Establishment to delineate fully the nature and extent of environmental contamination on-site, and any off-site environmental contamination resulting from discharges of hazardous substances or wastes on or from the subject Industrial Establishment. Therefore, Franklin agrees to submit any additional sampling plans for NJDEP review and approval required by NJDEP in writing during the various stages of the implementation of this Administrative Consent Order and ECRA, including during the implementation of a Cleanup Plan, to further delineate the nature and extent of environmental contamination on or from the subject Industrial Establishment. NJDEP and Franklin mutually agree that Franklin shall submit any additional sampling plans required to NJDEP for review and approval within thirty (30) days of the receipt of said written request. Within ninety (90) days from receipt of NJDEP's written approval of any additional sampling plans, Franklin shall initiate, complete and submit to NJDEP the results from any additional NJDEP-approved sampling plan required pursuant to this paragraph.

C. Franklin shall submit a Negative Declaration or Cleanup Plan within sixty (60) days from receipt of a written demand from NJDEP for a Negative Declaration or Cleanup Plan. If a Cleanup Plan is required, the Cleanup Plan shall address remediation of any contamination identified on or from the subject Industrial Establishment. Any Negative Declaration or Cleanup Plan submitted shall conform to N.J.A.C. 7:1-3. NJDEP shall notify Franklin in writing requiring Franklin to submit either a Negative Declaration or Cleanup Plan when sampling results have satisfied NJDEP's requirement to delineate fully the nature and extent of environmental contamination on or from the subject Industrial Establishment.

D. Franklin shall implement any NJDEP approved Cleanup Plan in accordance with the approved time schedule or defer implementation of all or part of the Cleanup Plan subject to NJDEP approval pursuant to N.J.A.C. 7:1-3.14.

E. Should NJDEP determine that any submittal made under Paragraph 10 of this Administrative Consent Order is inadequate or incomplete, then NJDEP shall provide Franklin with written notification of the deficiency(ies), and Franklin shall revise and resubmit the required information within a reasonable period of time not to exceed thirty (30) days from receipt of such notification.

F. All submissions requred pursuant to Paragraph 10 or any other provision of this Administrative Consent Order shall be accompanied by all appropriate fees required pursuant to the Fee Schedule for ECRA, N.J.A.C. 7:1-4.

11. Financial Assurance

A. Franklin shall obtain and provide to NJDEP financial assurance in the form of a surety bond or letter of credit in the amount of $500,000 within seven (7) days from the effective date of this Administrative Consent Order. The financial assurance must conform with the requirements of N.J.S.A. 13:1K-9(b)3, N.J.A.C. 7:1-3.10, N.J.A.C. 7:1-3.13, and this Administrative Consent Order.

B. Franklin shall establish and submit to NJDEP a standby trust fund within seven (7) days from the effective date of this Administrative Consent Order. The financial institution which issues the financial assurance shall agree to promptly and directly deposit all amounts up to the total value of the financial assurance into the standby trust fund upon demand by NJDEP.

C. Upon NJDEP approval of a Cleanup Plan, Franklin shall amend the amount of the financial assurance, described in A. above, to equal the estimated cost of implementation of the approved Cleanup Plan, or shall provide such other financial assurance as may be approved by NJDEP in an amount equal to the estimated cost of implementation of the approved Cleanup Plan.

D. In the event that NJDEP determines that Franklin has failed to perform any of its obligations under this Administrative Consent Order or ECRA, NJDEP may draw on the financial assurance provided, however, that before any such demand is made, NJDEP shall notify Franklin in writing of the obligation(s) with which it has not complied, and Franklin shall have reasonable time, not to exceed fourteen (14) calendar days, to perform such obligation(s) to NJDEP's satisfaction. Nothing in this paragraph shall prevent NJDEP from collecting stipulated penalties pursuant to the terms of this Administrative Consent Order for cause.

E. Upon NJDEP's written approval of a Negative Declaration, Franklin shall be relieved of any further obligation to maintain in full force and effect the financial assurance required by this Administrative Consent Order for the facility which is the subject of the NJDEP-approved Negative Declaration. Upon NJDEP's written approval of the completion of any cleanup required by this Administrative Consent Order, as verified by final site inspection pursuant to N.J.A.C. 7:1-3.12(e) and upon Franklin's satisfaction of all financial obligations in connection therewith, Franklin shall be relieved of any further obligation to maintain in full force and effect the financial assurance required by this Administrative Consent Order for the facility at which the approved cleanup has been completed.

12. Additional Conditions of Consent

A. Franklin shall allow NJDEP access to the subject Industrial Establishment for the purpose of undertaking all necessary monitoring and environmental cleanup activities. Prior to entry into this Administrative Consent Order, Franklin shall provide NJDEP with appropriate documentation that SFI shall allow the NJDEP access required herein.

B. Compliance with the terms of this Administrative Consent Order shall not excuse Franklin from obtaining and complying with any applicable federal, state or local permits, statutes, regulations and/or orders while carrying out the obligations imposed by ECRA through this Administrative Consent Order. The execution of this Administrative Consent Order shall not excuse Franklin from compliance with all other applicable environmental permits, statutes, regulations and/or orders and shall not preclude NJDEP from requiring that Franklin obtain and comply with any permits, and/or orders issued by NJDEP under the authority of the Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq., the Solid Waste Management Act, N.J.S.A. 13:1E-1 et seq., and the Spill Compensation and Control Act ("Spill Act") N.J.S.A. 58:10-23.11 et seq., for the matters covered herein. The terms and conditions of any such permit shall not be pre-empted by the terms and conditions of this Administrative Consent Order if the terms and conditions of any such permit are more stringent than the terms and conditions of this Administrative Consent Order. Should any of the measures to be taken by Franklin during the remediation of any ground water and surface water pollution result in a new or modified discharge as defined in the NJPDES regulations, N.J.A.C. 7:14A-1 et seq., then Franklin shall obtain a NJPDES permit or permit modification from NJDEP prior to commencement of said activity.

C. NJDEP agrees that it will not bring any action, nor will it recommend that the Attorney General's Office bring any action for failure to comply with (a) the time requirements in N.J.S.A. 13:1K-9(b)1 that NJDEP be notified within five (5) days of execution of an agreement of sale and (b) the time requirement in N.J.S.A. 13:1K-9(b)2 that a Negative Declaration or Cleanup Plan be submitted sixty (60) days prior to transfer of title. NJDEP also agrees that it will not bring any action, nor will it recommend that the Attorney General bring any action seeking monetary penalties for Franklin's failure to meet the time requirements specified in (a) and (b) of this paragraph.

D. No obligations imposed by this Administrative Consent Order (other than by paragraph "E" below) are intended to constitute a debt, claim, penalty or other civil action which could be limited or discharged in a bankruptcy proceeding. All obligations imposed by this Administrative Consent Order shall constitute continuing regulatory obligations imposed pursuant to the police power of the State of New Jersey, intended to protect the public health, safety and welfare.

E. In the event that Franklin fails to comply with any of the provisions of this Administrative Consent Order, Franklin shall pay to NJDEP stipulated penalties in the amount of $5,000.00 for each day on which Franklin fails to comply with any obligation under this Administrative Consent Order provided, however, that no such stipulated penalty shall be payable by Franklin with respect to such period that said failure to comply results from Force Majeure.

800,11

F. The provisions of this Administrative Consent Order shall be binding upon Franklin and its officers, management officials, employees, agents, successors in interest, assigns, tenants, and any trustee in bankruptcy or receiver appointed pursuant to a proceeding in law or equity.

G. Franklin's failure to submit an approvable Negative Declaration or Cleanup Plan shall constitute grounds for the NJDEP to void the subject sale or transfer. NJDEP's right to void the subject sale or transfer shall terminate upon NJDEP's written approval of an appropriate Negative Declaration or Cleanup Plan submitted by Franklin pursuant to this Administrative Consent Order and ECRA.

H. Any submission to be made to NJDEP in accordance with this Administrative Consent Order shall be directed to:

Anthony J. McMahon, Chief
Bureau of Industrial Site Evaluation
Division of Waste Management
428 East State Street
Trenton, NJ 08608

13. Force Majeure

If any event occurs which purportedly causes or may cause delays in the achievement of any deadline contained in this Administrative Consent Order, Franklin shall notify NJDEP in writing within ten (10) days of the delay or anticipated delay, as appropriate, referencing this paragraph and describing the anticipated length, precise cause or causes, measures taken or to be taken and the time required to minimize the delay. Franklin shall adopt all necessary measures to prevent or minimize any delay. If any delay or anticipated delay had been or will be caused by fire, flood, storm, riot, strike or other circumstances alleged to be beyond the control of Franklin, then the time for performance hereunder may be extended by NJDEP for a period no longer than the delay resulting from such circumstances, provided that NJDEP may grant additional extensions for good cause. If the events causing such delay are not found by NJDEP to be beyond the control of Franklin, failure to comply with the provisions of the Administrative Consent Order shall constitute a breach of the Administrative Consent Order's requirements. The burden of proving that any delay is caused by circumstances beyond Franklin's control and the length of such delay attributable to those circumstances shall rest with Franklin. Increases in the costs or expenses incurred in fulfilling the requirements contained herein shall not be a basis for an extension of time. Similarly, delay in completing an interim requirement shall not automatically justify or excuse delay in the attainment of subsequent requirements.

14. Reservation of Rights

This Administrative Consent Order shall be fully enforceable in the New Jersey Superior Court having jurisdiction over the subject matter and signatory parties upon the filing of a summary action for compliance pursuant to ECRA. This Administrative Consent Order may be enforced in the same manner as an Administrative Order issued by NJDEP pursuant to other statutory authority and shall not preclude NJDEP from taking whatever action

it deems appropriate to enforce the environmental protection laws of the State of New Jersey in any manner not inconsistent with the terms of this Administrative Consent Order. It is expressly recognized by NJDEP and Franklin that nothing in this Administrative Consent Order shall be construed as a waiver by NJDEP of its rights with respect to enforcement of ECRA on bases other than those set forth in the ECRA Program Requirements section of this Administrative Consent Order or by Franklin of its right to seek review of any enforcement action as provided by the Administrative Procedure Act, N.J.S.A. 52:14B-1 et seq. Furthermore, nothing in this Administrative Consent Order shall constitute a waiver of any statutory right of NJDEP to require Franklin to implement additional remedial measures should NJDEP determine that such measures are necessary to protect the public health, safety and welfare.

15. Franklin hereby consents to entry of this Administrative Consent Order and waives its right to a hearing concerning the terms hereof pursuant to N.J.S.A. 52:14B-1 et seq.

16. This Administrative Consent Order shall take effect upon the signature of all parties. Upon the signature of all parties, Franklin may complete the sale or transfer of the Kearny facility subject to the Administrative Consent Order.

NEW JERSEY DEPARTMENT OF
ENVIRONMENTAL PROTECTION

Date: February 14, 1986

By: Joseph Rogalski
Joseph Rogalski, Assistant
Director for Enforcement &
Field Operations

FRANKLIN PLASTICS CORP.

Date: February 14, 1986

By: Daniel Pomerantz

Name: DANIEL POMERANTZ

Title: PRESIDENT

REFERENCE NO. 31

Franklin Plastics

RECON SYSTEMS, INC.

Route 202 North, P.O. Box 460
Three Bridges, N.J. 08887
201-782-5900

New England 617-752-4217 Pennsylvania 215-433-5511

November 3, 1987

Ms. Christene Hylemon
NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Environmental, Evaluation, Cleanup and
Responsibility Assessment
401 East State Street, Fifth Floor
CN 028
Trenton, NJ 08625

Dear Ms. Hylemon:

Enclosed are three (3) copies of our analytical results from the deep production well (RECON Sample Numbers 8830-8831). The parameters conductivity and pH were measured in the field on September 24, 1987. Base neutrals were not detected. Four unknown phthalates were found in the library search. Table summarized all parameters sampled.

If you have any further questions please do not hesitate to contact us.

Very truly yours,

Bob Wolfertz

Robert M. Wolfertz
Vice President

GHM/rw

per Glenn H. Miller, Jr.
Senior Environmental Specialist

GHM/ab
cc: L. Powers, President
R. Becker, Esq.
J. Ronzo
T. Walker

RECEIVED
BUREAU OF INDUSTRIAL SITE EVALUATION

Ensecc

HAZARDOUS SUBSTANCE LIST (HSL)
SEMIVOLATILE ORGANICS (CONT.)

EPA Method 625/BN/HSL List

Client Name: RECON Systems, Inc.
Client ID: Erco Blank
Laboratory ID: 5429-01B
Matrix: Aqueous Sampled: NA Received: NA
Authorized: NA Prepared: 09/29/87 Analyzed: 10/09/87

Parameter	Result	Units	Reporting Limit
Hexachlorobenzene	ND	µg/L	10
Phenanthrene	ND	µg/L	10
Anthracene	ND	µg/L	10
Di-n-butyl phthalate	ND	µg/L	10
Fluoranthene	ND	µg/L	10
Pyrene	ND	µg/L	10
Butyl benzyl phthalate	ND	µg/L	10
3,3'-Dichlorobenzidine	ND	µg/L	20
Benzo(a)anthracene	ND	µg/L	10
bis(2-Ethylhexyl)phthalate	ND	µg/L	10
Chrysene	ND	µg/L	10
Di-n-octyl phthalate	ND	µg/L	10
Benzo(b)fluoranthene	ND	µg/L	10
Benzo(k)fluoranthene	ND	µg/L	10
Benzo(a)pyrene	ND	µg/L	10
Indeno(1,2,3-c,d)pyrene	ND	µg/L	10
Dibenzo(a,h)anthracene	ND	µg/L	10
Benzo(g,h,i)perylene	ND	µg/L	10

NA = Not applicable.

ND = Not detected.

Reported by NCA Approved by AVL

Enseco

HAZARDOUS SUBSTANCE LIST (HSL)
SEMIVOLATILE ORGANICS

EPA Method 625/BN/HSL List

Client Name: RECON Systems, Inc.
Client ID: Erco Blank
Laboratory ID: 5429-01B
Matrix: Aqueous Sampled: NA Received: NA
Authorized: NA Prepared: 09/29/87 Analyzed: 10/09/87

Parameter	Result	Units	Reporting Limit
bis(2-Chloroethyl)ether	ND	µg/L	10
1,3-Dichlorobenzene	ND	µg/L	10
1,4-Dichlorobenzene	ND	µg/L	10
1,2-Dichlorobenzene	ND	µg/L	10
bis(2-Chloroisopropyl)ether	ND	µg/L	10
N-Nitroso-di-n-propylamine	ND	µg/L	10
Hexachloroethane	ND	µg/L	10
Nitrobenzene	ND	µg/L	10
Isophorone	ND	µg/L	10
bis(2-Chloroethoxy)methane	ND	µg/L	10
1,2,4-Trichlorobenzene	ND	µg/L	10
Naphthalene	ND	µg/L	10
4-Chloroaniline	ND	µg/L	10
Hexachlorobutadiene	ND	µg/L	10
2-Methylnaphthalene	ND	µg/L	10
Hexachlorocyclopentadiene	ND	µg/L	10
2-Chloronaphthalene	ND	µg/L	10
2-Nitroaniline	ND	µg/L	10
Dimethyl phthalate	ND	µg/L	50
Acenaphthylene	ND	µg/L	10
3-Nitroaniline	ND	µg/L	10
Acenaphthene	ND	µg/L	50
Dibenzofuran	ND	µg/L	10
2,4-Dinitrotoluene	ND	µg/L	10
2,6-Dinitrotoluene	ND	µg/L	10
Diethyl phthalate	ND	µg/L	10
4-Chlorophenyl phenyl ether	ND	µg/L	10
Fluorene	ND	µg/L	10
4-Nitroaniline	ND	µg/L	50
N-Nitrosodiphenylamine ----------	*	µg/L	10
4-Bromophenyl phenyl ether	ND	µg/L	10

(continued on following page)

*Trace concentrations detected below the reporting limit.

NA = Not applicable.

ND = Not detected.

Enseco

PRIORITY POLLUTANT SEMIVOLATILE ORGANICS
TENTATIVELY IDENTIFIED COMPOUNDS

EPA Method 625

Client Name: RECON Systems, Inc.

Client ID: B8831

Laboratory ID: 5440-01

Matrix: Aqueous Sampled: 09/24/87 Received: 09/28/87

Authorized: 09/28/87 Prepared: 09/29/87 Analyzed: 10/12/87

Compound Name	Fraction	Scan No.	Estimated concentration	Units
Unknown phthalate & unknown adipate	BN	1562	9.6	µg/L
Unknown phthalate	BN	1658	17	µg/L
Unknown phthalate	BN	1673	9.6	µg/L
Unknown phthalate	BN	1686	8.4	µg/L

Reported by NCA Approved by AVL

Enseco

HAZARDOUS SUBSTANCE LIST (HSL)
SEMIVOLATILE ORGANICS (CONT.)

EPA Method 625/BN/HSL List

Client Name: RECON Systems, Inc.

Client ID: B8831

Laboratory ID: 5440-01

Matrix: Aqueous Sampled: 09/24/87 Received: 09/28/87

Authorized: 09/28/87 Prepared: 09/29/87 Analyzed: 10/12/87

Parameter	Result	Units	Reporting Limit
Hexachlorobenzene	ND	µg/L	20
Phenanthrene	ND	µg/L	20
Anthracene	ND	µg/L	20
Di-n-butyl phthalate	ND	µg/L	20
Fluoranthene	ND	µg/L	20
Pyrene	ND	µg/L	20
Butyl benzyl phthalate	ND	µg/L	20
3,3'-Dichlorobenzidine	ND	µg/L	40
Benzo(a)anthracene	ND	µg/L	20
bis(2-Ethylhexyl)phthalate	ND	µg/L	20
Chrysene	ND	µg/L	20
Di-n-octyl phthalate	ND	µg/L	20
Benzo(b)fluoranthene	ND	µg/L	20
Benzo(k)fluoranthene	ND	µg/L	20
Benzo(a)pyrene	ND	µg/L	20
Indeno(1,2,3-c,d)pyrene	ND	µg/L	20
Dibenzo(a,h)anthracene	ND	µg/L	20
Benzo(g,h,i)perylene	ND	µg/L	20

ND = Not detected.

Reported by NCA Approved by AVL

Enseco

HAZARDOUS SUBSTANCE LIST (HSL)
SEMIVOLATILE ORGANICS

EPA Method 625/BN/HSL List

Client Name: RECON Systems, Inc.
Client ID: B8831
Laboratory ID: 5440-01
Matrix: Aqueous Sampled: 09/24/87 Received: 09/28/87
Authorized: 09/28/87 Prepared: 09/29/87 Analyzed: 10/12/87

Parameter	Result	Units	Reporting Limit
bis(2-Chloroethyl)ether	ND	µg/L	20
1,3-Dichlorobenzene	ND	µg/L	20
1,4-Dichlorobenzene	ND	µg/L	20
1,2-Dichlorobenzene	ND	µg/L	20
bis(2-Chloroisopropyl)ether	ND	µg/L	20
N-Nitroso-di-n-propylamine	ND	µg/L	20
Hexachloroethane	ND	µg/L	20
Nitrobenzene	ND	µg/L	20
Isophorone	ND	µg/L	20
bis(2-Chloroethoxy)methane	ND	µg/L	20
1,2,4-Trichlorobenzene	ND	µg/L	20
Naphthalene	ND	µg/L	20
4-Chloroaniline	ND	µg/L	20
Hexachlorobutadiene	ND	µg/L	20
2-Methylnaphthalene	ND	µg/L	20
Hexachlorocyclopentadiene	ND	µg/L	20
2-Chloronaphthalene	ND	µg/L	20
2-Nitroaniline	ND	µg/L	100
Dimethyl phthalate	ND	µg/L	20
Acenaphthylene	ND	µg/L	20
3-Nitroaniline	ND	µg/L	100
Acenaphthene	ND	µg/L	20
Dibenzofuran	ND	µg/L	20
2,4-Dinitrotoluene	ND	µg/L	20
2,6-Dinitrotoluene	ND	µg/L	20
Diethyl phthalate	ND	µg/L	20
4-Chlorophenyl phenyl ether	ND	µg/L	20
Fluorene	ND	µg/L	20
4-Nitroaniline	ND	µg/L	100
N-Nitrosodiphenylamine	ND	µg/L	20
4-Bromophenyl phenyl ether	ND	µg/L	20

(continued on following page)

ND = Not detected.

Enseco

PRIORITY POLLUTANT SEMIVOLATILE ORGANICS

EPA Method 625 + 625/HSL List

QUALITY CONTROL

Client Name: RECON Systems, Inc.

Client ID: Laboratory Control Spike Dup.

Laboratory ID: 5278-01BSD

Matrix: Aqueous Sampled: NA Received: NA

Authorized: NA Prepared: 09/14/87 Analyzed: 09/26/87

Parameter	% Recovery	QC Advisory Limits
2-Chlorophenol	84	27 - 123%
Phenol	60	12 - 89%
4-Chloro-3-methylphenol	88	23 - 97%
4-Nitrophenol	51	10 - 80%
Pentachlorophenol	83	9 - 103%
1,4-Dichlorobenzene	76	36 - 97%
N-Nitroso-di-n-propylamine	84	41 - 116%
1,2,4-Trichlorobenzene	84	39 - 98%
Acenaphthene	97	46 - 118%
2,4-Dinitrotoluene	91	24 - 96%
Pyrene	124	26 - 127%

NA = Not applicable.

Reported by PK Approved by AVL

Enseco

PRIORITY POLLUTANT SEMIVOLATILE ORGANICS

EPA Method 625 + 625/HSL List

QUALITY CONTROL

Client Name: RECON Systems, Inc.
Client ID: Laboratory Control Spike
Laboratory ID: 5278-01BS
Matrix: Aqueous Sampled: NA Received: NA
Authorized: NA Prepared: 09/14/87 Analyzed: 09/25/87

Parameter	% Recovery	QC Advisory Limits
2-Chlorophenol	65	27 - 123%
Phenol	32	12 - 89%
4-Chloro-3-methylphenol	66	23 - 97%
4-Nitrophenol	34	10 - 80%
Pentachlorophenol	69	9 - 103%
1,4-Dichlorobenzene	64	36 - 97%
N-Nitroso-di-n-propylamine	73	41 - 116%
1,2,4-Trichlorobenzene	70	39 - 98%
Acenaphthene	81	46 - 118%
2,4-Dinitrotoluene	74	24 - 96%
Pyrene	100	26 - 127%

NA = Not applicable.

Reported by PK Approved by AVL

Enseco

SEMIVOLATILE ORGANICS

Surrogate Recovery Summary

Client Name: RECON Systems, Inc.

Matrix: Aqueous

Authorized: 09/28/87 Received: 09/28/87

Erco ID	Client ID	Surrogate Compound					
		2-Fluoro-phenol	d_5-Phenol	2,4,6-Tribro-mophenol	d_5-Nitro-benzene	2-Fluoro-biphenyl	d_{14}-p-Terphenyl
5440-01	B8831	NA	NA	NA	85	89	††
5429-01B	Erco Blank	NA	NA	NA	75	79	††
5278-01BS	Lab Control Spike	53	28	76	74	83	88
5278-01BSD	Lab Control Spike Dup.	73	45	89	80	89	93
QC Advisory Limits:		21-100%	10-94%	35-114%	43-116%	33-114%	18-137%

††No d_{14}-p-Terphenyl present in the surrogate solution.

Reported by NCR Approved by AVL

812

Enseco

OCT 15, 1987

Mr. William Moody
Recon Systems, Inc.
P.O. Box 460
Route 202 North
Three Bridges, NJ 08887

OCT 16

Dear Bill:

RE: Project: 1126
Enseco Booking # 5440

Enclosed are the results of analysis of one water sample received on September 28, 1987. The sample was analyzed for base-neutral extractables using EPA Method 8270.

If you have any questions regarding the data, please call.

Sincerely,

Tom

Thomas R. Copeland, Ph.D.
Director, Industrial Consulting

Encl.

205 Alewife Brook Parkway
Cambridge, Massachusetts 02138
617/661-3111 Facsimile: 617/354-5258

RECON SYSTEMS INC.

ROUTE 202N, P.O. BOX 460, THREE BRIDGES, N.J. 08887
201-782-5900
NEW ENGLAND 617-752-4217 PENNSYLVANIA 215-433-5511

ANALYSIS REPORT

October 9, 1987

TO: Franklin Plastics Project

Attn: William A. Moody
RECON Project No. 1126

SAMPLE: Water, sampled 9/24/87

Analyzed by EPA Method 418.1

RECON Sample No.	Sample Description (Water)	Petroleum Hydrocarbons (mg/l)
8830	Deep Production Well	<0.5
Minimum Detection Limit (Water)		0.5

Samples from this project will be retained for sixty days from the date of this report unless otherwise directed.

Submitted By

Patrick J. Mulrooney, B.S.
Manager, Instrument Lab

Per Susan Leta, A.A.S.
Technician

SL/cp

New Jersey State Certified Water Laboratory
Certification No. 10196

IR#2, p.39,40

AR1126.1

Table 1- Analytical Results of Deep Production Well Sampled September 24, 1987, Franklin Plastics

Parameter	Result	Units
Base Neutrals	ND	mg/l
Library Search		
Unknown phthalate	0.010	mg/l
Unknown phthalate	0.017	mg/l
Unknown phthalate	0.010	mg/l
Unknown phthalate	0.008	mg/l
Petroleum Hydrocarbons	**<0.5**	**mg/l**
pH*	6.0	
Conductivity*	**3100**	**umho**

Notes:

ND = None Detected

* = Measured in the field with Myron pDS meter, Myron L Co., CA

Franklin Plastics

RECON SYSTEMS, INC.

Route 202 North, P.O. Box 460
Three Bridges, N.J. 08887
201-782-5900

New England 617-752-4217 Pennsylvania 215-433-5511

November 3, 1987

Ms. Christene Hylemon
NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Environmental, Evaluation, Cleanup and
Responsibility Assessment
401 East State Street, Fifth Floor
CN 028
Trenton, NJ 08625

Dear Ms. Hylemon:

Enclosed are three (3) copies of our analytical results from the deep production well (RECON Sample Numbers 8830-8831). The parameters conductivity and pH were measured in the field on September 24, 1987. Base neutrals were not detected. Four unknown phthalates were found in the library search. Table I summarized all parameters sampled.

If you have any further questions please do not hesitate to contact us.

Very truly yours,

Robert M. Wolfertz
Vice President

per Glenn H. Miller, Jr.
Senior Environmental Specialist

GHM/ab
cc: L. Powers, President
R. Becker, Esq.
J. Ronzo
T. Walker

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REFERENCE NO. 32

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

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

DIRK C. HOFMAN, P.E.
DEPUTY DIRECTOR

September 27, 1985

Mr. Joseph Ronzo, Plant Engineer
Franklin Plastics Corporation
113 Passaic Avenue
Kearny, NJ 07032

Re: **Compliance Evaluation Inspection**
Franklin Plastics Corporation
NJPDES No. NJ 0002194
Kearny/Hudson County

Dear Mr. Ronzo:

A Compliance Evaluation Inspection of your facility was conducted by a representative of this Division on July 16, 1985. A copy of the completed inspection report form is enclosed for your information.

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

> Sample results for temperature, chromium and zinc exceed permit limitations.

Since the deficiency cited is presently, or could, in the future, adversely affect effluent quality; you are DIRECTED to institute measures to correct the deficiency. A written report concerning specific details of remedial measures to be instituted, as well as an implementation timetable, must be submitted to this Department and USEPA, Permits Administration Branch, within thirty (30) calendar days of the date of this correspondence.

Please direct all correspondence and inquiries to Michael J. Pierdinock, the Compliance Investigator responsible for this case, who can be reached at (201) 648-2200 or by letter through this Division.

Failure to fully comply with the above will result in the initiation of enforcement action by this Department and/or the United States Environmental Protection Agency. This shall in no way be construed, however, to indicate any exemption on your part from possible penalties for violations indicated by the Compliance Evaluation Inspection, as stated above.

Very truly yours,

Thomas B. Harrington

Thomas B. Harrington
Field Operations Supervisor
Metro Bureau of
Regional Enforcement

A28:G25

cc: Dr. Richard A. Baker, USEPA
Mr. Paul Molinari, USEPA
Mr. Edward Grosvenor, H.O.

Enclosure

Gollob Analytical Service

MOLININI-GOLLOB, INC.

47 INDUSTRIAL ROAD, BERKELEY HEIGHTS, NEW JERSEY 07922 • TEL. (201) 464-3331

TO: Mr. M. H. Goldwin
Franklin Plastics
113 Passaic Avenue
Kearny, NJ 07032

G.A.S. REPORT No. 59162

Date Requested: 10/4/85
Date Reported: 10/18/85
P.O. No. 8167

MATERIAL SUBMITTED: 2 (Two) Water Samples

INFORMATION REQUESTED: Gas Chromatography Analysis

NOTEBOOK REFERENCE: LM 1093 page 96

RESULT OF INVESTIGATION

Subject samples, hand delivered to G.A.S. on 10/4/85, have been analyzed for the constituents requested.

Results

	Conc. milligrams/liter	
Constituent:	Chromium	Zinc
Sample Identity		
City Water	0.09	0.07
Drain Water at River	0.03	0.06

Results reported 10/18/85.

t 101885

By _____
GOLLOB ANALYTICAL SERVICE

820

REFERENCE NO. 33

RECON SYSTEMS, INC.
Route 202 North, P.O. Box 460
Three Bridges, N.J. 08887
201-782-5900

New England 617-752-4217 Pennsylvania 215-433-5511

April 4, 1988

Mr. Jeffrey Fehr
NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
Division of Water Resources
Bureau of Groundwater Quality Management
P.O. Box CN-029
Trenton, NJ 08625

RE: Franklin Plastics Corp.
ECRA Case No. 86206

RECON Project No. 1126

Dear Mr. Fehr:

This letter is intended to address the hydrogeologic conditions present at the site of the above referenced ECRA case in Kearney, New Jersey. During our meeting on February 17, 1988 you indicated more data was needed to characterize hydrogeologic conditions within or below the silty clay bed underlying the fill and to obtain a groundwater sample from this zone. The following information and proposed actions should address these tasks.

Additional Site Geotechnical Information

The original interpretation of the gamma log taken from the onsite production well suggested a continuous clay layer approximately 60 feet in thickness. Saline groundwater conditions combined with arkosic sands could result in the same signature which was previously interpreted as clay.

Since our meeting, our client has been able to obtain a number of geotechnical reports containing ample subsurface information to characterize onsite conditions. Please find enclosed the following geotechnical reports based on investigations performed during three separate time periods:

1. 1965 - Two geotechnical reports concerning six test borings and soil conditions present around the south end of the building. The Bykowski report summarizes conditions presented in the Haller Testing Laboratory field report. Both reports are keyed to Drawing No. EX-6725 which also contains cross sections.

2. 1973 - A report by W.M. Walsh Co., Inc. and accompanying map with cross sections presenting data from four borings in the area of the office addition on the north end of the building and two borings in the vicinity of the fuel oil tank.

3. 1976 - A report by N.H. Bettigole Co. with map presenting data from six borings conducted on the west side of the building.

Summary of Hydrogeologic Units

As indicated by the new data, a generalized stratigraphic section would involve the following units with thickening toward the Passaic River and thinning to shale subcrop to the east:

A. Urban Fill; 6-8' thick, water table conditions.

B. Clayey Silt; 5-7' thick, organic, tidal flat, moist.

C. Sand and Gravel; 10-15' thick, medium grain, saturated, very dense; possibly Pensauken Fm.

D. Sand/Silt; 30-40', red, clayey, probably stratified glacial outwash.

E. Bedrock; Brunswick Shale Fm. Average depth 50' below grade.

Thicknesses presented above probably represent those occurring parallel to and half way between the building and the River.

Recommendations

1. Additional Water Table Monitoring Wells

Four unconsolidated monitoring wells will be installed parallel to the Passaic River as indicated on Figure 1, Additional Monitoring Well Locations. These wells will be 4" ID and screened (.020") to a depth equivalent to the top of the clayey silt underlying the urban fill. The wells are located to define groundwater quality being discharged to the Passaic River. The wells will be built according to NJDEP Specifications for

Unconsolidated Monitoring Well Construction. The wells will be developed by overpumping. One week after development, three well volumes will be purged and groundwater samples collected for base neutrals and petroleum hydrocarbon analyses.

2. Monitoring Well Cluster

A monitoring well cluster (or nest) will be constructed to monitor groundwater quality in the saturated zone immediately underlying the clay silt bed. The cluster will be located approximately fifty feet west of MW-4 as indicated on Figure 2, well cluster construction. The cluster will be constructed utilizing 2" ID PVC tubing with .020 slot screen, No. 2 sand pack, and with a 6" ID protective surface casing stick up.

The cluster will be screened at two depths within the medium sand and gravel underlying the clayey silt (see Figure 2). These depths will most likely be 18-23' and 25-30' utilizing five-foot screened intervals. These intervals may vary according to stratigraphy encountered during sampling but the vertical spacing will remain the same. Artesian conditions or vertical flow may exist under the clay silt. The offset screen setting will indicate if confined conditions are present onsite and will allow for groundwater sampling to determine if density stratification of contaminants, if present, has occurred.

The boring will be continuously sampled until the gravel is encountered (approximately 15') then one sample collected every five feet thereafter. 6 1/4" ID hollow stem augers will be utilized for well construction. A 12" ID steel casing will be used to case off the upper 6-8' of urban fill and seated at least 1 foot into the top of the clayey silt bed. This surface casing will prevent groundwater occurring in the water table aquifer overlying the silt from entering the borehole while progressing the auger through the silt into the sand/gravel below. Once the desired total depth of the deepest screen setting has been achieved, the cluster will be constructed by removing the pilot bit, suspending the coupled tubes in the augers, and adding the sand pack as the augers are slowly retracted using the winch line. The two 2" ID tubes will be taped together one foot below their caps to maintain the screen spacing prior to placing in the borehole.

The sand pack will extend from the base of the lower screen to the top of the sand/gravel bed. A bentonite seal will be placed within the depth interval equivalent to the top and bottom of the clayey silt defined during split spoon sampling. The remainder of the borehole will be grouted to grade.

If this proposal meets with your approval, we suggest this work be considered as an amendment to our Sampling and Analysis Plan (SAP) for this ECRA case. We believe this work can be completed within 90 days. Based on satisfactory results of this sampling, RECON proposes to, at that time, prepare a final cleanup plan for the site.

Please advise on the acceptability of this proposed sampling amendment.

If you have any additional questions or would like to discuss this information, please call Stephen Laney at (201) 782-5900 or 788-0829.

Sincerely,

Robert Wolfertz/SEL

Robert M. Wolfertz
Vice President

Stephen Laney

Stephen E. Laney
Senior Geologist

SEL/ab
enclosure
cc: Kevin Kratina
Robert Becker, Esq.
Larry Powers
Joe Ronzo

REFERENCE NO. 34

W. M. WALSH COMPANY, INC.
Cresskill, New Jersey

TEST BORING DATA

HOLE NO. 1

Plastic Company — Location Kearny, N.J.

Made by: W. Casey — Archt. Engr. N.H.Bettigole — Date Started 9/28 — Completed 9/28/76

Ground Water 3'0 below grade — Length of Casing Driven 25'0

Ground Line Elevation

Blows Per Foot of Casing Penetration	Materials Encountered	Sample Number	Blows on Spoon 0/6	6/12	12/18
36		1	11	15	17
21	Cinders, Silt & Misc. Fill				
8		2	6	2	7
3					
4	5'0				
1	Gray Clayey Silt	3	1	1	1
1					
1					
2					
2					
2		4	Push		
4	12'0				
32	Fine brn. Sand, Gravel, Some Silt trc. Boulders				
38					
52					
31		5	32	30	37
55					
70					
2					
150					
30		6	28	30	19
36	22'0				
32	Brown Silt				
32					
36		7	8	7	6
	30'0				
	Bottom of boring				

Inside Dia. of Casing	2½"
" " " Spoon	1⅜"
Weight of Hammer on Casing	300 lbs.
" " " " Spoon	140 lbs.
Drop of Hammer on Casing	24"
" " " " Spoon	30"

DRY SAMPLE DATA

Sample No.	Elevation bottom of Spoon	Total Penetration	Length of Sample
1	2'6"	18"	
2	4'0	"	
3	6'6	"	
4	11'6	"	
5	16'6	"	
6	21'6	"	
7	26'6	"	

CORE DATA

Sample No.	Elevation Top	Elevation Bot.	Core Recovered	Boring Feet Per Hour

Type of Core Drill _____

Core Diameter _____

827

W. M. WALSH COMPANY, INC.
Cresskill, New Jersey

TEST BORING DATA

T HOLE NO. 2

Project Plastic Co. Location Kearny, N.J.

ings made by: W. Casey Archt. Engr. N.H.Bettigole Date Started 9/29 Completed 9/29/76

. of Ground Water 3'0 below grade Length of Casing Driven 15'0

Ground Line Elevation

Blows Per Foot of Casing Penetration	Materials Encountered	Sample Number	Blows on Spoon 0/6	6/12	12/18
99.0	Asphalt	1	4	6	7
8					
11	Cinders & Misc. Fill	2	7	5	3
5					
9	5'0				
8	6'0 Silt & Fill	3	6	3	2
10					
5	Gray Clayey				
3					
1	Silt				
2		4	1	1	2
2	12'0				
15					
18	Fine Brn. & Gray				
24	Sand, Gravel, some				
	Silt	5	17	28	30
	16'6"				
	Bottom of boring				

Inside Dia. of Casing 2½"
" " " Spoon 1⅜"
Weight of Hammer on Casing 300 lbs.
" " " " Spoon 140 lbs.
Drop of Hammer on Casing 24"
" " " " Spoon 30"

DRY SAMPLE DATA

Sample No.	Elevation bottom of Spoon	Total Penetration	Length of Sample
1	2'6"	18"	
2	4'0	"	
3	6'6	"	
4	11'6	"	
5	16'6	"	

CORE DATA

Sample No.	Elevation Top	Elevation Bot.	Core Recovered	Boring Feet Per Hour

Type of Core Drill _____

Core Diameter _____

828

Cresskill, New Jersey

TEST HOLE NO 3

Project Plastic Co. Location Kearny, N.J.

Borings made by W. Casley Archt. Engr. N.H.Bettigole Date Started 9/28 Completed 9/29/

El. of Ground Water 3'0 below grade Length of Casing Driven 15'0

Ground Line Elevation

Materials Encountered

Misc. Fill

5'0

Gray Clayey Silt

13'0

Fine brn & gray Sand, Gravel, some Silt

16'6"

Bottom of boring

Depth in Feet: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50

Blows Per Foot of Casing Penetration: 2, 19, 6, 5, 8, 3, 2, 2, 1, 2, 2, 2, 3, 41, 45

Sample Number	Blows on Spoon 0/6	6/12	12/18
1	4	5	6
2	4	6	3
3	2	1	1
4	1	1	1
5	14	17	20

Inside Dia. of Casing 2½"
" " " Spoon 1⅜"
Weight of Hammer on Casing 300 lbs.
" " " " Spoon 140 lbs.
Drop of Hammer on Casing 24"
" " " " Spoon 30"

DRY SAMPLE DATA

Sample No.	Elevation bottom of Spoon	Total Penetration	Length of Sample
1	1'6"	18"	
2	3'0	"	
~~4~~ 3	6'6	"	
~~5~~ 4	11'6	"	
~~6~~ 5	16'6	"	

CORE DATA

Sample No.	Elevation Top	Elevation Bot.	Core Recovered	Boring Feet Per Hour

Type of Core Drill

Core Diameter

Fill in with Black Drawing Ink

DO NOT WRITE ON BACK OF SHEET

829

W. M. [illegible], INC.
Cresskill, New Jersey

BORING HOLE NO. [illegible]

Proj. Franklin Plastic Co. Location Kearny, N.J.

Logs made by: W. Casey Archt. Engr. N.H.Bettigole Date Started 9/29 Completed 9/29/76

Lev. of Ground Water 2'6" Below Grade Length of Casing Driven 15'0

Ground Line Elevation

Materials Encountered	Blows on Spoon 0/6	6/12	12/18	
6, 10, 7, 4, 6, 2 — Misc. Fill 3'0	1	4	9	36
	2	26	14	11
Misc. Fill & Silt 5'0	3	3	2	2
Gray Clayey Silt 14'0	4	1	1	1
Gray Silt, layers Fine Sand 16'6"	5	4	7	6
Bottom of boring				

Sample Number

Inside Dia. of Casing 2½"
" " " Spoon 1⅜"
Weight of Hammer on Casing 300 lbs.
" " " " Spoon 140 lbs.
Drop of Hammer on Casing 24"
" " " " Spoon 30"

DRY SAMPLE DATA

Sample No.	Elevation bottom of Spoon	Total Penetration	Length of Sample
1	1'6"	18"	
2	3'0	"	
3	6'6"	"	
4	11'6	"	
5	16'6	"	

CORE DATA

Sample No.	Elevation Top	Elevation Bot.	Core Recovered	Boring Feet Per Hour

Type of Core Drill _____

Core Diameter _____

Use only Black Drawing Ink DO NOT WRITE ON BACK OF SHEET

830

W. M. WALSH COMPANY, INC.
Cresskill, New Jersey

TEST BORING DATA

ST HOLE NO. 5

roje Plastic Co. Location Kearny, N.J.

ngs made by: W. Casey Archt. Engr. N.H.Bettigole Date Started 9/29 Completed 9/29/76

. of Ground Water 3'0 below grade Length of Casing Driven 20'0

Ground Line Elevation

Blows per Foot of Casing Penetration	Materials Encountered	Sample Number	Blows on Spoon 0/6	6/12	12/18
11		1	9	16	19
12					
18	Misc. Fill	2	18	25	6
14					
10	5'0				
9		3	8	4	3
12	7'0 Gray Silt & Fill				
8					
4	Gray Clayey				
3					
2	Silt	4	2	1	1
3					
2					
2					
3					
3		5	1	1	1
4					
5	18'0				
42	Fine brn. &Gray				
50	Sand,Gravel, some				
	21'6" Silt	6	16	20	23
	Bottom of boring				

Inside Dia. of Casing 2½"
" " " Spoon 1⅜"
Weight of Hammer on Casing 300 lbs.
" " " " Spoon 140 lbs.
Drop of Hammer on Casing 24"
" " " " Spoon 30"

DRY SAMPLE DATA

Sample No.	Elevation bottom of Spoon	Total Penetration	Length of Sample
1	1'6"	18"	
2	3'0	"	
3	6'6	"	
4	11'6	"	
5	16'6	"	
6	21'6	"	

CORE DATA

Sample No.	Elevation Top	Elevation Bot.	Core Recovered	Boring Feet Per Hour

Type of Core Drill _____

Core Diameter _____

831

W. M. WALSH COMPANY, INC.
Cresskill, New Jersey

TEST BORING DATA

T HOLE NO 6 Sheet 1 of 2

Franklin Plastic Co. Location Kearny, N.J.

ngs made by: W. Casey Archt. Engr. N.H.Bettigole Date Started 9/28 Completed 9/29/76

of Ground Water 3'0 below grade Length of Casing Driven 60'0

Ground Line Elevation

Blows Per Foot of Casing Penetration	Materials Encountered	Sample Number	Blows on Spoon 0/6	6/12	12/18	
8, 9, 4, 22, 9, 3, 3, 5, 3	Misc. Fill	1	8	15	15	
		2	6	9	33	
		3	2	5	6	
9'0						
3, 4, 6, 7, 7, 8	Gray Clayey Silt	4	2	2	2	
15'0						
15, 20, 15	F/M gray Sand, trc. silt & gravel	5	5	5	7	
18'0						
33, 37, 33, 51, 46, 44, 40, 25, 48, 38, 47, 60	Med. brn. Sand, Gravel, some Silt	6	14	20	23	
		7	20	28	17	
30'0						
35, 41, 37	Fine brn. Sand little Silt	8	57	48	80	
33'						
33, 31, 30, 27, 25, 26, 26	Fine Brn. Sandy Silt	9	8	7	5	
40'0						
37, 27, 18, 17, 15, 16, 20, 21, 23, 24	Brn. Silt (To 52')	10	3	3	3	
		11	5	3	2	

Inside Dia. of Casing 2½"
" " " Spoon 1⅜"
Weight of Hammer on Casing 300 lbs.
" " " " Spoon 140 lbs.
Drop of Hammer on Casing 24"
" " " " Spoon 30"

DRY SAMPLE DATA

Sample No.	Elevation bottom of Spoon	Total Penetration	Length of Sample
1	1'6"	18"	
2	3'0	"	
3	6'6	"	
4	11'6	"	
5	16'6	"	
6	21'6	"	
7	26'6	"	
8	31'6	"	
9	36'6	"	
10	41'6	"	
11	46'6	"	

CORE DATA

Sample No.	Elevation Top	Elevation Bot.	Core Recovered	Boring Feet Per Hour

Type of Core Drill _____

Core Diameter _____

832

W. M. WALSH COMPANY, INC.
Cresskill, New Jersey

TEST BORING DATA

ST HOLE NO. 6 Sheet 2 of 2

roj.

Location

rings made by:

Archt. Engr.

Date Started

Completed

l. of Ground Water

Length of Casing Driven

Ground Line Elevation

Materials Encountered

52'0

Brown Silt,
Trc. of Clay

61'6"

Bottom of boring

Blows Per Foot of Casing Penetration

Sample Number	Blows on Spoon 0/6	6/12	12/18	
12	6	10	14	
13	11	15	18	
14	9	12	13	

Inside Dia. of Casing	2½"
" " " Spoon	1⅜"
Weight of Hammer on Casing	300 lbs.
" " " " Spoon	140 lbs.
Drop of Hammer on Casing	24"
" " " " Spoon	30"

DRY SAMPLE DATA

Sample No.	Elevation bottom of Spoon	Total Penetration	Length of Sample
12	51'6"	18"	
13	56'6	"	
14	61'6	"	

CORE DATA

Sample No.	Elevation Top	Elevation Bot.	Core Recovered	Boring Feet Per Hour

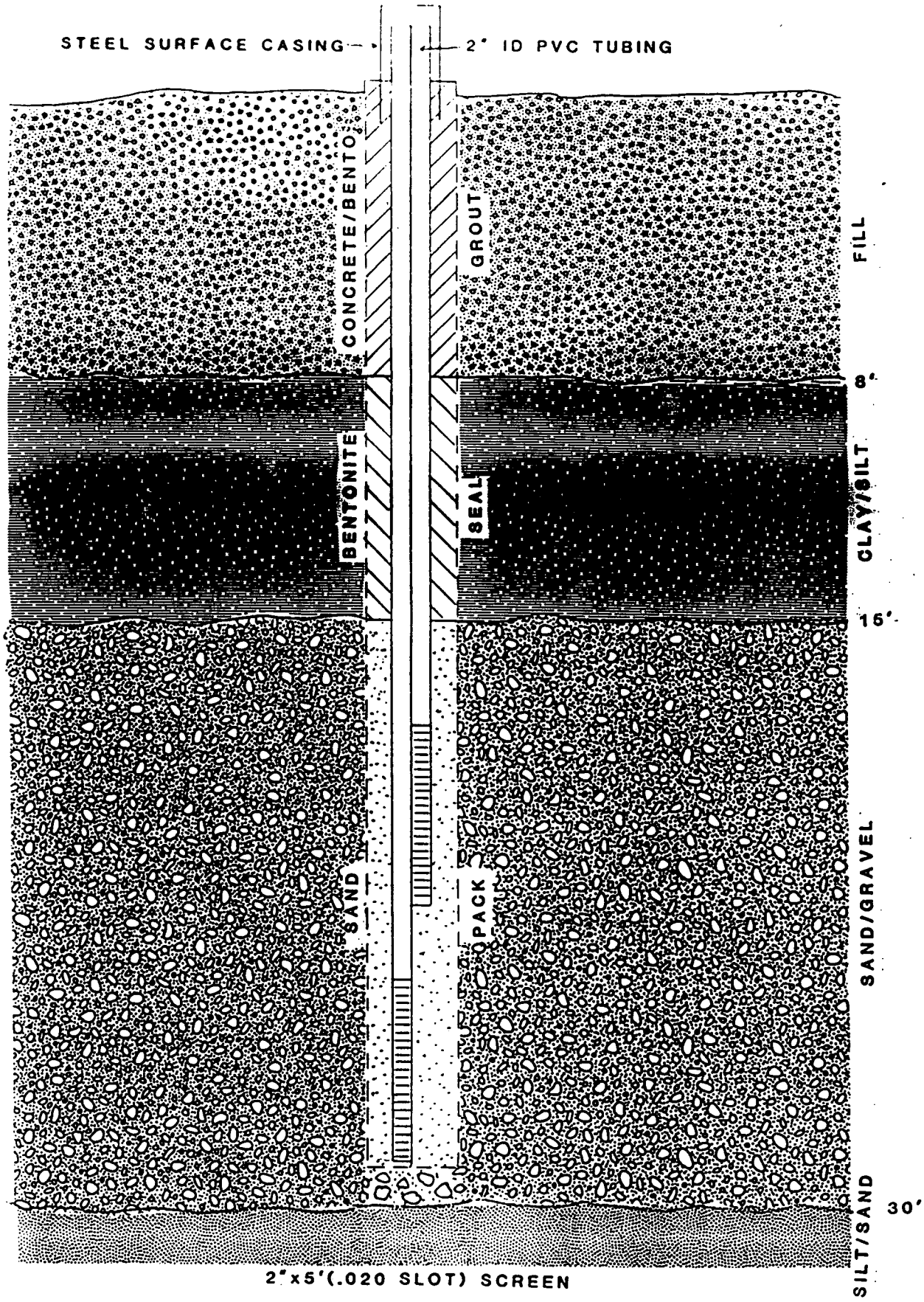
Type of Core Drill

Core Diameter

833

FIGURE 2

WELL CLUSTER CONSTRUCTION



REFERENCE NO. 35

LEVEL: [redacted] REG [redacted] 1 [redacted] U.S[redacted] SU[redacted]D PR[redacted]
SELECTION:
SEQUENCE: REGI..., STATE, SITE NAME
EVENTS: ALL

** C E R C L I S **

LIST-8: SITE/EVENT LISTING

RUN DATE: 08/09/90
RUN TIME: 11:48:57

VERSION: 1

EPA ID NO.	SITE NAME STREET CITY COUNTY CODE AND NAME	STATE ZIP CONG DIST.	NFA. FLAG	OPRBLE UNIT	EVENT TYPE	ACTUAL START DATE	ACTUAL COMPL DATE	CURRENT EVENT LEAD
NJD986570992	FRANKLIN BURN SITE			00	RV1	09/20/89	05/04/90	EPA (FUND)
	MARSHALL MILL ROAD							
	FRANKLIN TWP	NJ 08322						
	015 GLOUCESTER							
NJD986571016	FRANKLIN BURN SITE #2			00	RV1	09/20/89	05/04/90	EPA (FUND)
	LINCOLN AVE & STANTON AVE							
	FRANKLIN TWP	NJ 08322						
	015 GLOUCESTER							
NJD011121589	FRANKLIN PLASTIC			00	DS1		01/01/80	EPA (FUND)
	113 PASSAIC AVE				PA1		06/01/80	EPA (FUND)
	KEARNY	NJ 07032						
	017 HUDSON							
NJD980505374	FRANKLIN TWP LF			00	DS1		11/01/79	EPA (FUND)
	LAKE RD				PA1		04/01/80	EPA (FUND)
	FRANKLINVILLE	NJ 08322			SI1	04/01/90	04/01/90	EPA (FUND)
	015 GLOUCESTER							
NJD980505622	FRANKLIN TWP LF		NFA	00	DS1		03/01/80	EPA (FUND)
	PENNSYLVANIA AVE				PA1	09/01/84	09/01/84	STATE(FUND)
	FRANKLIN TOWNSHIP	NJ 08322						
	015 GLOUCESTER							
NJD980505168	FREEHOLD TWP SANITARY LF		NFA	00	DS1		09/01/80	EPA (FUND)
	HENDRICKSON RD				PA1	07/01/84	09/01/84	STATE(FUND)
	FREEHOLD TWP	NJ 07728						
	025 MONMOUTH							
NJD980505184	FREQUENCY ENG			00	DS1		07/01/79	EPA (FUND)
	LAKEWOOD RD				PA1		10/01/80	STATE(FUND)
	FARMINGDALE	NJ 07727			PA2		07/06/89	STATE(FUND)
	025 MONMOUTH				SI1	06/30/89	09/29/89	STATE(FUND)
NJD041828906	FRIED INDUSTRIES			00	IR1	02/03/86	02/10/86	COAST GUARD
	11 FRESH POND ROAD				RV2	10/04/89		EPA (FUND)
	EAST BRUNSWICK TOWNSHIP	NJ 08816			PA1		10/01/84	EPA (FUND)
	023 MIDDLESEX				NP1		10/01/84	EPA (FUND)

REGION: 02

EPA ID	SITE/ALIAS NAME STREET CITY COUNTY NAME	STATE COUNTY	ZIP CODE	ALIAS SEQ. #	NAME SOURCE	FED FAC
NJD981877772	FOUNDATIONS & STRUCTURES SLF FIDLER HILL RD WOODBINE BORO CAPE MAY	NJ 009	08270		EPA	N
	WOODBINE LF(NJD980640809) FIDLER HILL RD WOODBINE	NJ	08270	01		
NJD986570992	FRANKLIN BURN SITE MARSHALL MILL ROAD FRANKLIN TWP GLOUCESTER	NJ 015	08322			D
	FRANKLIN BURN SITE GLOUCESTER	NJ		01		
NJD986571016	FRANKLIN BURN SITE #2 LINCOLN AVE & STANTON AVE FRANKLIN TWP GLOUCESTER	NJ 015	08322			D
	FRANKLIN BURN SITE #2 GLOUCESTER	NJ		01		
NJD011121589	FRANKLIN PLASTIC 113 PASSAIC AVE KEARNY HUDSON	NJ 017	07032		EPA	N
NJD980505374	FRANKLIN TWP LF LAKE RD FRANKLINVILLE GLOUCESTER	NJ 015	08322		EPA	N
NJD980505622	FRANKLIN TWP LF PENNSYLVANIA AVE FRANKLIN TOWNSHIP GLOUCESTER	NJ 015	08322		EPA	N

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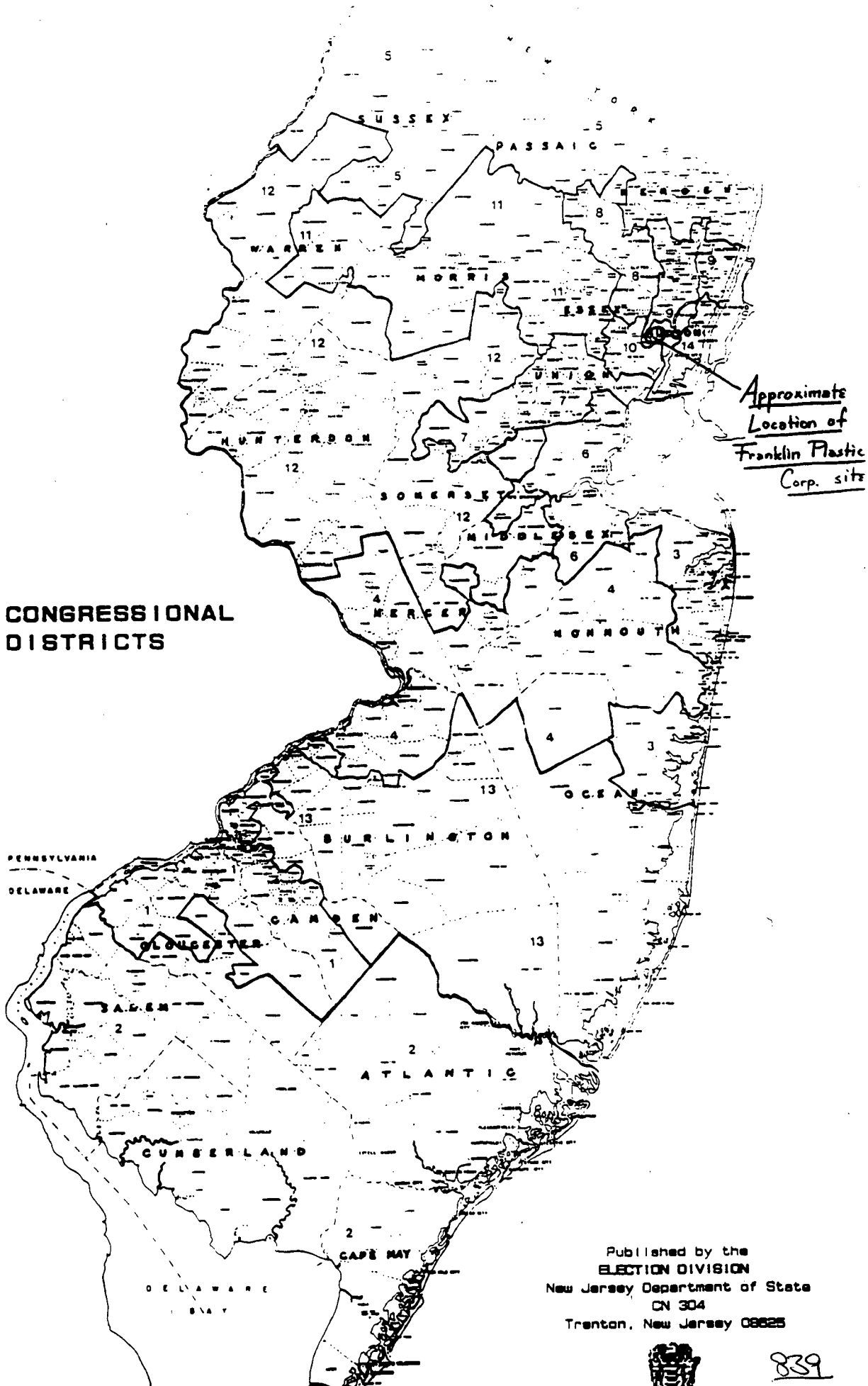
REFERENCE NO. 36


CONGRESSIONAL DISTRICTS
SUSSEX
PASSAIC
BERGEN
WARREN
MORRIS
ESSEX
UNION
HUNTERDON
SOMERSET
MIDDLESEX
MERCER
MONMOUTH
OCEAN
BURLINGTON
CAMDEN
GLOUCESTER
SALEM
ATLANTIC
CUMBERLAND
CAPE MAY
PENNSYLVANIA
DELAWARE
DELAWARE BAY
Approximate Location of Franklin Plastic Corp. site
Published by the
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New Jersey Department of State
CN 304
Trenton, New Jersey 08625

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CONGRESSIONAL DISTRICTS

DISTRICT ONE: **Part of Burlington County** (Maple Shade Twp., Palmyra Borough, Riverton Borough), **Part of Camden County** (Audubon Park Borough, Barrington Borough, Bellmawr Borough, Berlin Borough, Berlin Twp., Brooklawn Borough, Camden City, Chesilhurst Borough, Clementon Borough, Collingswood Borough, Gibbsboro Borough, Gloucester City, Gloucester Twp., Haddon Twp., Hi-Nella Borough, Laurel Springs Borough, Lawnside Borough, Lindenwold Borough, Magnolia Borough, Mount Ephraim Borough, Oaklyn Borough, Pennsauken Twp., Pine Hill Borough, Pine Valley Borough, Runnemede Borough, Somerdale Borough, Stratford Borough, Tavistock Borough, Winslow Twp. and Woodlynne Borough), and **Part of Gloucester County** (Clayton Borough, Deptford Twp., East Greenwich Twp., Greenwich Twp., Harrison Twp., Logan Twp., Monroe Twp., National Park Borough, Paulsboro Borough, Swedesboro Borough, Washington Twp., Wenonah Borough, West Deptford Twp., Westville Borough, Woodbury City, Woodbury Hts. Borough and Woolwich Twp.).

DISTRICT TWO: **Atlantic County, Cape May County, Cumberland County, Salem County** and **Part of Gloucester County** (Elk Twp., Franklin Twp., Glassboro Borough, Mantua Twp., Newfield Borough, Pitman Borough and South Harrison Twp.).

DISTRICT THREE: **Part Of Monmouth County** (Allenhurst Borough, Asbury Park City, Atlantic Highlands, Borough, Avon-by-the-Sea Borough, Belmar Borough, Bradley Beach Borough, Deal Borough, Eatontown Borough, Fair Haven Borough, Hazlet Twp., Highlands Borough, Interlaken Borough, Keansburg Borough, Keyport Borough, Little Silver Borough, Loch Arbour Village, Long Branch City, Manasquan Borough, Middletown Twp., Monmouth Beach Boro, Neptune City Borough, Neptune Twp., Oceanport Borough, Ocean Twp., Red Bank Borough, Rumson Borough, Sea Bright Borough, Sea Girt Borough, Shrewsbury Borough, Shrewsbury Twp., Spring Lake Borough, Spring Lake Heights Borough, South Belmar Borough, Tinton Falls Borough, Union Beach Borough and West Long Branch Borough) and **Part of Ocean County** (Bay Head Borough, Brick Twp., Dover Twp., Island Heights Borough, Lakewood Twp., Lavallette Borough, Mantoloking Borough, Point Pleasant Beach Borough, Point Pleasant Borough, Seaside Heights Borough and South Toms River Borough).

DISTRICT FOUR: **Part of Burlington County** (Bordentown City, Bordentown Twp., Burlington City, Burlington Twp., Chesterfield Twp., Eastampton Twp., Fieldsboro Borough, Florence Twp., Mansfield Twp., Springfield Twp. and Westampton Twp.) **Part of Mercer County** (East Windsor Twp., Ewing Twp., Hamilton Twp., Hightstown Borough, Hopewell Borough, Hopewell Twp., Lawrence Twp., Pennington Borough, Trenton City and Washington Twp.), **Part of Middlesex County** (Jamesburg Borough, Monroe Twp. and Plainsboro Twp.), **Part of Monmouth County** (Allentown Borough, Brielle Borough, Colts Neck Twp., Englishtown Borough, Farmingdale Borough, Freehold Borough, Freehold Twp., Holmdel Twp., Howell Twp., Manalapan Twp., Marlboro Twp., Millstone Twp., Roosevelt Borough, Upper Freehold Twp. and Wall Twp.), and **Part of Ocean County** (Jackson Twp.).

DISTRICT FIVE: **Part of Bergen County** (Allendale Borough, Alpine Borough, Bergenfield Borough, Closter Borough, Cresskill Borough, Demarest Borough, Dumont Borough, Emerson Borough, Glen Rock Borough, Harrington Park Borough, Haworth Borough, Hillsdale Borough, Ho-Ho-Kus Borough, Mahwah Twp., Midland Park Borough, Montvale Borough, Northvale Borough, Norwood Borough, Oakland Borough, Old Tappan Borough, Oradell Borough, Paramus Borough, Park Ridge Borough, Ramsey Borough, Ridgewood Village, River Vale Twp., Rochelle Park Twp., Rockleigh Borough, Saddle River Borough, Tenafly Borough, Upper Saddle River Borough, Waldwick Borough, Washington Twp., Westwood Borough, Woodcliff Lake Borough and Wyckoff Twp.), **Part of Passaic County** (Bloomingdale Borough, Haledon Borough, Hawthorne Borough, North Haledon Borough, Ringwood Borough, Wanaque Borough and West Milford Twp.), and **Part of Sussex County** (Andover Borough, Andover Twp., Branchville Borough, Frankford Twp., Franklin Borough, Fredon Twp., Hamburg Borough, Hardyston Twp., Hopatcong Borough, Lafayette Twp., Montague Twp., Newton Town, Ogdensburg Borough, Sandyston Twp., Sparta Twp., Stanhope Borough, Sussex Borough, Vernon Twp., Walpack Twp. and Wantage Twp.).

DISTRICT SIX: **Part of Middlesex County** (Carteret Borough, Edison Twp., Highland Park Borough, Metuchen Borough, New Brunswick City, North Brunswick Twp., Old Bridge Twp., Perth Amboy City, Sayreville Borough, South Amboy City, South River Borough and Woodbridge Twp.), **Part of Monmouth County** (Aberdeen Twp. and Matawan Borough), and **Part of Union County** (Linden City, Rahway City and Roselle Borough).

DISTRICT SEVEN: **Part of Essex County** (Millburn Twp.), **Part of Middlesex County** (Dunellen Borough and Middlesex Borough), **Part of Somerset County** (Bound Brook Borough, Bridgewater Twp., Green Brook Twp., Manville Borough, North Plainfield Borough, Warren Twp. and Watchung Borough) and **Part of Union County** (Berkeley Heights Twp., Clark Twp., Cranford Twp., Elizabeth City, Fanwood Borough, Garwood Borough, Kenilworth Borough, Mountainside Borough, New Providence Borough, Plainfield City, Roselle Park Borough, Scotch Plains Twp., Springfield Twp., Summit City, Union Twp., Westfield Town and Winfield Twp.).

DISTRICT EIGHT: **Part of Bergen County** (Franklin Lakes Borough), **Part of Essex County** (Part of Belleville Town, Bloomfield Town, Glen Ridge Borough, Montclair Town and Nutley Town), **Part of Morris County** (Riverdale Borough) and **Part of Passaic County** (Clifton City, Little Falls Twp., Passaic City, Paterson City, Pompton Lakes Borough, Prospect Park Borough, Totowa Borough, Wayne Twp. and West Paterson Borough).

DISTRICT NINE: **Part of Bergen County** (Bogota Borough, Carlstadt Borough, Cliffside Park Borough, East Rutherford Borough, Edgewater Borough, Elmwood Park Borough, Englewood City, Englewood Cliffs Borough, Fair Lawn Borough, Fairview Borough, Fort Lee Borough, Garfield City, Hackensack City, Hasbrouck Heights Borough, Leonia Borough, Little Ferry Borough, Lodi Borough, Lyndhurst Twp., Maywood Borough, Moonachie Borough, New Milford Borough, North Arlington Borough, Palisades Park Borough, Ridgefield Borough, Ridgefield Park Village, River Edge Borough, Rutherford Borough, Saddle Brook Twp., South Hackensack Twp., Teaneck Twp., Teterboro Borough, Wallington Borough and Wood-Ridge Borough) and **Part of Hudson County** (East Newark Borough, Part of Kearny Town, and Secaucus Town).

DISTRICT TEN: **Part of Essex County** (Part of Belleville Town, East Orange City, Irvington Town, Newark City and Orange City) and **Part of Union County** (Millside Township).

DISTRICT ELEVEN: **Part of Essex County** (Caldwell Borough, Cedar Grove Twp., Essex Fells Borough, Fairfield Borough, Livingston Twp., Maplewood Twp., North Caldwell Borough, Roseland Borough, South Orange Village, Verona Borough, West Caldwell Borough and West Orange Town), **Part of Morris County** (Boonton Town, Boonton Twp., Butler Borough, Chatham Borough, Chester Borough, Chester Twp., Denville Twp., Dover Town, East Hanover Twp., Florham Park Borough, Hanover Twp., Jefferson Twp., Kinnelon Borough, Lincoln Park Borough, Madison Borough, Mendham Borough, Mendham Twp., Mine Hill Twp., Montville Twp., Mountain Lakes Borough, Mount Arlington Borough, Mount Olive Twp., Netcong Borough, Parsippany-Troy Hills Twp., Pequannock Twp., Randolph Twp., Rockaway Borough, Rockaway Twp., Roxbury Twp., Victory Gardens Borough and Wharton Borough), **Part of Sussex County** (Byram Twp. and Green Twp.) and **Part of Warren County** (Allamuchy Twp., Frelinghysen Twp., Independence Twp. and Liberty Twp.).

DISTRICT TWELVE: **Hunterdon County, Part of Mercer County** (Princeton Borough, Princeton Twp. and West Windsor Twp.) **Part of Middlesex County** (Cranbury Twp., East Brunswick Twp., Helmetta Borough, Milltown Borough, Piscataway Twp., South Brunswick Twp., South Plainfield Borough and Spotswood Borough), **Part of Morris County** (Chatham Twp., Harding Twp., Morris Plains Borough, Morristown Town, Morris Twp., Passaic Twp. and Washington Twp.), **Part of Somerset County** (Bedminster Twp., Bernards Twp., Bernardsville Borough, Branchburg Twp., Far Hills Borough, Franklin Twp., Hillsborough Twp., Millstone Borough, Montgomery Twp., Peapack-Gladstone Borough, Raritan Borough, Rocky Hill Borough, Somerville Borough and South Bound Brook Borough), **Part of Sussex County** (Hampton Twp. and Stillwater Twp.) and **Part of Warren County** (Alpha Borough, Belvidere Town, Blairstown Twp., Franklin Twp., Greenwich Twp., Hackettstown Town, Hardwick Twp., Harmony Twp., Hope Twp., Knowlton Twp., Lopatcong Twp., Mansfield Twp., Oxford Twp., Pahaquarry Twp., Phillipsburg Town, Pohatcong Twp., Washington Borough, Washington Twp. and White Twp.).

DISTRICT THIRTEEN: **Part of Burlington County** (Bass River Twp., Beverly City, Cinnaminson Twp., Delanco Twp., Delran Twp., Edgewater Park Twp., Evesham Twp., Hainsport Twp., Lumberton Twp., Medford Lakes Borough, Medford Twp., Moorestown Twp., Mount Holly Twp., Mount Laurel Twp., New Hanover Twp., North Hanover Twp., Pemberton Borough, Pemberton Twp., Riverside Twp., Shamong Twp., Southampton Twp., Tabernacle Twp., Washington Twp., Willingboro Twp., Woodland Twp. and Wrightstown Borough), **Part of Camden County** (Audubon Borough, Cherry Hill Twp., Haddonfield Borough, Haddon Heights Borough, Merchantville Borough, Voorhees Twp. and Waterford Twp.) and **Part of Ocean County** (Barnegat Light Borough, Barnegat Twp., Beach Haven Borough, Beachwood Borough, Berkeley Twp., Eagleswood Twp., Harvey Cedars Borough, Lacey Twp., Lakehurst Borough, Little Egg Harbor Twp., Long Beach Twp., Manchester Twp., Ocean Gate Borough, Ocean Township, Pine Beach Borough, Plumstead Twp., Seaside Park Borough, Ship Bottom Borough, Stafford Twp., Surf City Borough and Tuckerton Borough).

DISTRICT FOURTEEN: **Part of Hudson County** (Bayonne City, Guttenberg Town, Harrison Town, Hoboken City, Jersey City, Part of Kearny Town, North Bergen Twp., Union City, Weehawken Twp. and West New York Town).

Published by: **ELECTION DIVISION, NEW JERSEY DEPARTMENT OF STATE**
CN 304 Trenton, New Jersey 08625

840

REFERENCE NO. 3

ARCS II CONTRACT 68-W9-0051
MALCOLM PIRNIE, INC.
RECORD OF TELEPHONE CONVERSATION/AGREEMENT

File No: 8003-447

Date: August 4, 1995 Time: 2:30 AM [ ] PM [x]

Outgoing Call

To: Walter Olivant (609) 292-4860
Telephone No.

Affiliation: New Jersey Department of Environmental Protection

Malcolm Pirnie Staff: Bernard Pierre (609) 860-0100
Telephone No.

Summary of Conversation:

I contacted the New Jersey Department of Environmental Protection to obtain information on the New Jersey Pollutant Discharge Elimination System (NJPDES) Permit No. NJ0002194 for the Franklin Plastics Corp. I was first informed that the permit is still in effect, and expires March 31 1997. Mr. Olivant informed me that the initial Permit (1985) would be kept on file in the central file room. He further explained that the discharge permits in general do not contain information as to the maximum discharge in gallons per day (gpd) and number of outfalls. He encouraged me to visit the central file room to look at the old and present permits, and if I have any questions at that point to contact him. As far as permit violation he suggested I contact the site manager for the Franklin Plastic site.

REFERENCE NO. 4

ARCS II CONTRACT 68-W9-0051
MALCOLM PIRNIE, INC.
RECORD OF TELEPHONE CONVERSATION/AGREEMENT

File No: 8003-447

Date: August 14, 1995 Time: 2:10 AM [ ] PM [x]

Outgoing Call

To: Mr. Mario Zucchi (201) 998-8002 Telephone No.

Affiliation: Franklin Plastics Corp.

Malcolm Pirnie Staff: Bernard Pierre (609) 860-0100 Telephone No.

Summary of Conversation:

The site is located in an industrial area, it is completely fenced on three sides and the Passaic River is to the fourth side. The sump pit is emptied and cleaned annually. There are 31 hourly workers on site. Franklin Plastics has a New Jersey Pollutant Discharge Elimination System (NJPDES) permit which allows Franklin Plastics to discharge noncontact cooling water into the Passaic River.

REFERENCE NO. 5

RECON SYSTEMS INC.
ROUTE 202N, P.O. BOX 460, THREE BRIDGES, N.J. 08887-0460
201-782-5900 FAX 201-782-0072
NEW ENGLAND 508-752-4217 PENNSYLVANIA 215-433-5511 CONNECTICUT 203-293-1212

RESULTS OF SAMPLING AND ANALYSIS PLAN IMPLEMENTATION AND PROPOSED CLEANUP PLAN

at

FRANKLIN PLASTICS CORPORATION
Kearny, New Jersey

ECRA Case No. 86026

Prepared for

The Bureau of Environmental Evaluation and
Cleanup Responsibility Assessment
NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
Trenton, New Jersey

Prepared by

RECON SYSTEMS, INC.
Route 202 North, P. O. Box 460
Three Bridges, New Jersey

RECON Project No. 1699

August 22, 1990

1699.CUP 8.22.90

RECON SYSTEMS, INC.

Route 202 North, P.O. Box 460
Three Bridges, N.J. 08887-0460
201-782-5900

New England 508-752-4217 Pennsylvania 215-433-5511
Connecticut 203-293-1212 New Hampshire 603-431-7500
FAX 201-782-0072

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ENGINEERING, CONSULTING, LABORATORY,
PILOT PLANT, PLANT TEST SERVICES

POLLUTION CONTROL, WASTE DISPOSAL,
RESOURCE RECOVERY, CHEMICAL PROCESS SYSTEMS

2

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APPENDICES

Appendix I NJ DEP Letter dated April 4, 1990

Appendix II Forms A and B, Monitoring Well Record Forms, Lithologic/Well Construction Logs, Well Permits, Purge Forms, Well Abandonment Forms.

Appendix III Boring Lithologic Logs

Appendix IV Health and Safety Plan

Appendix V Soil Analytical Reports and Quality Assurance/Quality Control Documentation.

Appendix VI Groundwater Analytical Reports and Quality Assurance/Quality Control Documentation.

1.0 INTRODUCTION

In a letter from the NJ DEP dated April 4, 1990, a Sampling Plan was approved for Franklin Plastics Corporation, Kearny, NJ. The approved Sampling Plan constituted the work proposed in RECON's letter to the NJ DEP dated October 23, 1989 in addition to the Department's review comments as contained in their April 4, 1990 letter.

In a meeting between the NJ DEP, Franklin Plastics, and RECON SYSTEMS held on May 24, 1990, details concerning the Sampling Plan implementation were discussed. During this meeting, it was emphasized that the need for soil remediation was contingent upon the groundwater quality encountered in the aquifer located below the organic silt aquitard occurring onsite.

This document reports the results of the recent soil sampling and analysis activities and monitoring well installation and sampling activities which took place during June-July, 1990. This report also summarizes all analytical results to date but includes only the recent analytical laboratory support data in the appendices.

A Proposed Cleanup Plan is presented in Sections 5.0-13.0 of this report.

2.0 SUMMARY OF PREVIOUS ACTIVITIES

A Sampling and Analysis Plan (SAP) was first submitted to the NJ DEP for Franklin Plastics on March 18, 1986. Amendments to the SAP were submitted to the NJ DEP on February 12, 1987. The SAP and Amendments were approved by the NJ DEP in a letter dated March 25, 1987. The Plan was implemented by RECON SYSTEMS during the Summer of 1987.

The results of implementing the SAP were reported to the DEP in the report SAMPLING AND ANALYSIS PLAN RESULTS dated October 1, 1987. Soil areas containing petroleum hydrocarbons (PHC), base neutral compounds (B/N), and cadmium and lead exceeding the suggested DEP action levels were identified onsite. Seven (7) overburden monitoring wells were installed and groundwater sampled. Groundwater results indicated that the water table aquifer had not been significantly impacted by the target compounds contained in the soils.

3.0 CONTINUED SOIL INVESTIGATION

Franklin Plastics Corporation retained RECON to implement the second soil and groundwater Sampling and Analysis Plan (SAP) as part of ECRA Case No. 86026. This SAP adheres to the standard NJ DEP ECRA SAP guidelines and specifically addresses items outlined in the DEP letter dated April 4, 1990. This section of the report documents the field procedures of SAP implementation and presents the soil analytical results.

3.1 Soil Sampling and Analytical Results

Soil samples were collected on June 12 and June 13, 1990. All sample locations are indicated on Figure 1, Soil Sampling Locations, PHC Results, and Areas of Environmental Concern. Four (4) samples were collected at the front of the building along Passaic Avenue, five (5) samples were collected around the 50,000 gallon above ground fuel oil tank, and four (4) samples were collected along the bank of the Passaic River. In addition, a background sampling location was selected at the northern edge of the property to serve as a potential baseline for background conditions. Table 1, Summary of Soil Sampling and Analytical Results for PHC, BN, and VOC, and Table 2, Summary of Soil Sampling and Analytical Results for Priority Pollutant Metals, presents the analytical results of all soil sampling involved in this recent investigation. Figure 2 and Figure 3 present the analytical results for BN and metals respectively on a boring location map. All soil maps and tables are comprehensive.

3.2 Passaic River Bank Sampling

Soil samples were collected from the 0-6" soil interval at four (4) locations along the bank of the Passaic River. Three samples were located on Franklin Plastics' property and one sample (PR-1) was

located on the Vornado property immediately north of the Franklin Plastics site. Originally five (5) samples had been requested by the NJ DEP. One (1) sample (PR-5) originally located south of the site could not be collected because of a bulkhead. Mr. Andrew Dillman, ECRA Case Manager, granted verbal permission to drop this sample requirement.

The soil samples were collected at low tide at locations from which seeps were developed through the bank immediately below the high tide line. These seeps are most likely due to water draining from the bank back into the river after the water is absorbed by the bank at high tide. The seeps do not necessarily represent the water table intersecting the bank because the seeps are not continuous along the bank. It must also be noted that considerable trash, plastics, and oil stained flotsam from the river were accumulated along the bank.

Samples along the Passaic River contained concentrations of PHCs, BNs, and various metals above the suggested NJ DEP action levels. All four Passaic River bank samples contained PHCs having concentrations greater than 500 ppmw. Base neutrals were below the detection levels in PR-1 (Two Guys), but were significant in PR-2 and PR-3. PR-4 values for BN were insignificant. Concentrations of antimony, cadmium, and lead exceeded suggested guidelines.

Tables 6 and 7, Results of Total Organic Carbon Analysis and Results of Grain Size Analysis, indicates that all the Passaic River samples contain 53-75% dry weight basis grain size of greater than 4000 micron size, which is equivalent to a coarse sand/very fine gravel. Sample PR-3W contains total organic carbon concentrations of 4.6 milligrams/liter.

Five (5) soil samples had originally been requested from along the river by the DEP. Because of a bulkhead located on the south side of the property, the fifth sampled was not required by Mr. Andy Dillman, ECRA Case Manager.

3.3 Passaic Avenue Sampling

Four (4) samples (B-19, 20 ,21, 22) were collected from between the building and the fence bordering Passaic Avenue as shown on Figure 1. All samples along Passaic Avenue showed significant PHC concentrations to a depth of approximately two feet below grade.

3.4 50,000 Gallon Above Ground Fuel Oil Tank Sampling

Five soil samples (AGT 1-5) were collected from the area within the retaining wall around the oil tank as indicated in Figure 1. Sample AGT-1 contained 281 ppmw PHCs. The other four samples around the tank did not detect PHCs.

3.5 Background Sampling

One soil boring was performed on the north property line and sampled at three depths in an attempt to establish background levels. Samples from 0-6′ and 6-12′ contained greater than 100 ppmw PHCs and 10 ppmw BNs. None of the metals had concentrations above suggested NJ DEP guidelines. The sample from 42-48′ exceeded suggested guidelines for lead only.

4.0 CONTINUED GROUNDWATER INVESTIGATION

In a document submitted to the NJ DEP dated April 4, 1988, additional monitoring wells were proposed along the Passaic River and one well cluster was proposed to investigate hydrogeologic conditions in the saturated zone below the organic silt aquitard. In the DEP's response letter dated April 4, 1990, three (3) deep wells were requested clustered with existing wells. The installation of those requested wells and the groundwater quality results are discussed in the following sections.

4.1 Monitoring Well Installation

On June 12, 1990, two (2) shallow unconsolidated monitoring wells (MW-2R, MW-4R) were installed onsite. These wells replaced MW-2 and MW-4 which had been damaged. The shallow wells were designed to monitor water table conditions. These wells were drilled to a total depth of 7.5 feet utilizing a Simco 2800 Hollow Stem Auger drill rig. These replacement wells were constructed by a New Jersey Licensed well driller according to the NJ DEP Specification for Monitoring Well Construction in Unconsolidated Formations. Previous wells MW-2 and MW-4 were abandoned according to DEP specifications by the same driller, who is certified to abandon wells (see Appendix II for Well Abandonment Forms).

Figure 5, Groundwater Map - Shallow and Deep Aquifer, 7-2-90, shows the locations of all monitoring wells at the Franklin Plastics site. Please refer to Table 5, Summary of Monitoring Well Data, for specifications pertaining to all monitoring wells onsite. Well Construction/Lithologic Logs, Monitoring Well Record forms and As Built Certification Forms A are included in Appendix II.

On June 13, 1990, three (3) double-cased unconsolidated monitoring wells (DW-3, DW-4, DW-5) were installed onsite to monitor groundwater quality in the aquifer located below the 5-10′ thick organic clayey silt layer encountered at 6-7′ below grade onsite. These wells were installed to a total depth of 21 feet using a B-53 Mobile Drill rig utilizing both the wet rotary and hollow stem auger methods of well installation. All three well locations were first investigated by driving split spoons into the clayey silt bed verifying the thickness of the aquitard. Each well was then installed with 10′ of 10" ID steel casing which was grouted into place using the tremie pressure grout method. The casing was installed in a 14" borehole using the wet rotary method. Care was taken not to penetrate the aquitard while installing the casing.

After the grout was allowed to cure overnight, a 4 1/4" ID hollow stem auger (8" OD) was used to drill through the casing and through the remainder of the aquitard into the saturated sand and gravel zone below. Prior to augering, split spoon samples were taken to determine the depth to the clayey silt/sand contact. The wells were then completed at a depth of 21′ having 5′ of 2" ID PVC screen (.020 slot) located in the sand aquifer. That portion of the open borehole in the aquitard but below the steel casing was sealed with bentonite. Well construction was implemented according to the DEP approved specifications submitted to the DEP in the document dated April 4, 1990.

All wells installed were developed by overpumping until the discharge water was clear of sediments.

4.2 Groundwater Sampling and Analytical Results

A comprehensive round of groundwater samples was collected from the ten (10) onsite wells on July 2, 1990. All samples were analyzed for PHCs via US EPA Method 418.1, volatile organic compounds (VOCs) via US EPA Method 624 +15, base neutrals (BNs) via US EPA Method 625 +15, pH, total dissolved solids, and priority pollutant metals. Table 3, Summary of Groundwater Analytical Results for PHC, BN, VOC, and pH, includes all the results except the metals. Table 4, Summary of Groundwater Priority Pollutant Analytical Results, includes the results of all metals analyses.
Groundwater samples were collected according to methods presented in the NJ DEP Field Procedures Manual for Water Data Acquisition.

Results of the sampling indicate that seven of the ten wells contain petroleum hydrocarbons in concentrations above the suggested action level of 1 ppmw in groundwater. Wells MW-1 and MW-4R contained the highest concentrations at 8.8 ppmw and 10.8 ppmw, respectively. The remainder of the wells ranged from 0.5 (MDL) to 2.2 ppmw. Figure 4, Shallow Groundwater PHC Isopleth, shows the relative concentrations of PHC in groundwater.

Total VOCs above the suggested action level of 0.050 ppm were detected in wells MW-3, MW-7, and DW-5. The highest concentration was 0.143 ppmw VOC in MW-3. Base neutrals were detected in wells MW-7 and MW-4R above action levels. The highest concentration was 0.435 ppmw BN (phthalates) in MW-4R.

In general, the groundwater quality detected in the three double cased wells was much better than that detected in the clustered shallower wells. These results indicate that the clayey silt interval at 6-7' below grade is acting as an aquitard and is preventing significant downward movement of suspected contaminants.

4.3 Survey

A licensed survey was performed on the new monitoring wells by Nicholas Lebo on July 19,1990. A survey was performed on the previous wells by Lebo on June 7, 1987. Well Location Certification Forms B are included in Appendix II. The reference point for each well was taken from the top of the PVC or teflon casing. Water levels were taken from the top of casing and subtracted from the surveyed elevations of each respective well to determine groundwater elevations. Reference point elevations and water level elevations for two rounds of water level measurements are also presented in Table 5, Summary of Monitoring Well Data. Groundwater flow is discussed in a later section.

4.4 Hydrogeology

Please refer to the document submitted to the DEP on April 4, 1988, which presents geotechnical and geophysical information pertaining to the site for a detailed hydrogeologic summary.

In general, the following stratigraphic sequence was encountered during monitoring well installation:

RECENT	0-6.5′	FILL, with shale clasts, ash, cinders, coal (boiler cleanout), sand, and gravel depending on location on site.
RECENT	6.5-11′	SILT, light-dark grey, very clayey, organic rich with peat zones,tight. Aquitard.
PLEISTOCENE	11-21′	Coarse SAND, with gravel, some silt. Lower aquifer zone.

Groundwater occurs under water table conditions in the saturated zone contained in the fill overlying the clayey silt aquitard. Groundwater encountered in the sand underlying the aquitard is confined. Static water levels in wells completed below the aquitard are generally 2-3′ below the static water level measured in the shallower wells, indicating a downward flow potential if the permeability existed.

Static water levels measured in the deep wells are above or within the depth interval of the aquitard. This indicates that groundwater encountered below the aquitard is confined. If it was unconfined, the static water level would be at the aquitard/aquifer contact.

Figures 5 and 6 are groundwater maps showing flow as determined by two sets of static water level measurements taken approximately one month apart (7-2-90 and 8-9-90). Water levels were taken at 10:00 am on 7-2-90 and 3:00 pm on 8-9-90. Low tide occurred at the Battery in New York Harbor at 11:06 am on 7-2-90 and at 5:11 pm on 8-9-90. The tides were approaching ebb when the water levels were measured in both cases.

Groundwater flow in both aquifers is from east to west or towards the Passaic River. Local variations are due to buried utilities.

5.0 PROPOSED CLEANUP PLAN - INTRODUCTION

In the NJ DEP SAP Approval letter dated April 4, 1990, it was requested that the results report for implementing the SAP be accompanied by either a proposed Negative Declaration, a proposed Cleanup Plan, or a Revised Sampling Plan. This document is the Proposed Cleanup Plan and Revised Sampling Plan with respect to AEC #4.

6.0 CLEANUP PLAN - SUMMARY OF ENVIRONMENTAL CONCERNS

In the SAMPLING AND ANALYSIS PLAN RESULTS report submitted to the NJ DEP on October 1, 1987, twelve (12) areas of environmental concern (AEC) were discussed. These AEC's were as follows:

1. A 50,000 gallon above ground fuel storage tank.
2. Two (2) each 275 gallon above ground fuel tanks.
3. A 6,000 gallon underground gasoline tank.
4. Two cement sumps and a dry well.
5. A tank farm for plasticizer oil storage.
6. An expansion chamber and visibly contaminated soils in its vicinity.
7. A plastic resin and plasticizer loading/unloading area.
8. The area adjacent to a dust collector discharge.
9. Soils receiving boiler blowdown.
10. An area receiving discharge from an employee sink.
11. The transformer substation.
12. The fill in the undeveloped area toward the river.

In view of the results of two SAP implementations, it is proposed that AECs 1, 2, 3, 9, and 11 can be considered to be remediated and therefore no longer be considered as part of this investigation. Insignificant target compound concentrations were detected in these four (4) previous AECs. Section 3.4 of this report presents information pertaining to AEC #1. Data for AECs #2, #3, #9, and #11 are contained in the Sampling and Analysis Plan Results report submitted to the DEP on October 1, 1987.

It is proposed that previous AECs 4, 5, 6, 7, and 10 be combined into a new AEC #1. It is also proposed that previous AEC #8 be renumbered as AEC #2 and that previous AEC #12 be renumbered as AEC #4. The following list of proposed AEC's will be addressed in this CUP:

AEC No. 1 A combination of previous AEC's 4, 5, 6, 7, and 10 located on the south side of the facility and adjacent to Passaic Avenue. The target compounds in this area are PHC, BN, and cadmium (Cd) occurring in soils.

AEC No. 2 The area adjacent to the dust collector discharge and former trailer storage area (previous AEC #8). Target compounds include BN and Cd in soils.

AEC No. 3 Free product exists in MW-1. Viscous black oil was reported floating on the water table monitored by MW-1.

AEC No. 4 The fill in the undeveloped area toward the river. Target compounds in this area are PHC, BN, Cd, and Pb occurring in soils (previously AEC #12).

AEC's are shown on Figure 1, Soil Sampling Locations, Petroleum Hydrocarbon Results, and Areas of Environmental Concern.

7.0 CLEANUP PLAN - PROPOSED REMEDIAL ACTIONS

The following remedial actions or additional sampling is proposed for the AEC's:

AEC No. 1 - Encapsulation

Approximately 23,500 square feet of exposed soil and lawn will be paved with asphalt. Paving will consists of approximately two (2") inches of trap rock base, six (6") inches of quarry product (QP, mixed gravel and clayey sand), and four (4") inches of asphalt. Encapsulation will prevent the recharge of groundwater to the water table through the soils thereby preventing the mobilization of target compounds out of the soil into the groundwater system.

Encapsulation is considered a suggested form of alternate technology for soil remediation. Encapsulation or capping is more practical than the classical excavate/backfill approach in this case. Capping limits the access to the soil for human contact or consumption and reduces the generation of airborne particulates. Capping restricts the volume of surface water allowed to infiltrate/percolate through the soil column which may mobilize

target compounds to impact the groundwater system. Encapsulation prevents the access of air or water to the soil which may generate particulates or leachate thereby isolating the target compounds onsite. In this regard, see the report prepared by Mr. James G. Alatsas, P.E., P.P., dated July 11, 1988 previously submitted to the NJ DEP.

AEC No. 2 - Encapsulation

Approximately 55,000 square feet of exposed soil and lawn will be paved with asphalt as described for AEC #1. The two areas will be contiguous as shown on Figure 7, Areas of Encapsulation and Additional Soil Sampling.

AEC No. 3 - Free Product Recovery

Viscous, black oil is floating on the water table in MW-1. It is proposed that the product be recovered using an ejector pump discharging to a drum. An ejector pump uses air pressure to push the fluid from the intake into the drum. No agitation is necessary which would emulsify the fluids (oil/water). The ejector pump system will be designed to recovery the product only while pumping low-yield groundwater to create a cone of depression to capture the product. A more detailed recovery system design will be reported as an addendum to this CUP at a later date.

The oil can be easily bailed from the well resulting in only a thin film of product left on the water table. Because of the viscosity of the oil, recharge to the well through the screen (.020" slot size) is very slow.

AEC No. 4 - Proposed Additional Soil Sampling

Recent soil sampling results from along the bank of the Passaic River as reported in Section 3.2 of this report, indicates the need for additional soil sampling in this area. It is proposed that five (5) borings be performed and located as shown on Figure 7, Areas for Encapsulation and Additional Soil Sampling.

One sample (PR-5) will, with permission of Vornado, be taken to verify previous sample PR-1. PR-6 and PR-7 will be collected to delineate the PHC and BN values detected in PR-2 and PR-3. Proposed samples PR-5, -6, and -7 will be collected from the 0-6" soil interval and analyzed for PHC and BN.

Two borings (PR-8 and PR-9) will be performed approximately thirty (30') feet east of previous borings PR-2 and PR-3. Samples will be collected from the six (6") inch soil interval in the capillary fringe directly above the water table. Both samples will be analyzed for PHC and BN. The purpose of this sampling is to investigate the potential for the target compounds to move through the fill and seep into the Passaic River.

All soil sampling will proceed according to the methods presented in the NJ DEP Field Sampling Procedures Manual.

8.0 PROPOSED CLEANUP LEVELS

Since encapsulation will isolate the soils and prevent the mobilization of target compounds from the site, no cleanup levels for soil are proposed.

The average concentration for PHC in groundwater is 2 ppm. This concentration is not considered significant enough to warrant remediation. Free product (oil) recovery is proposed for the site in respect to AEC #3. No remediation for dissolved PHC in groundwater is proposed. Encapsulation will greatly reduce the amount of recharge and mobilization of PHC from the fill to the water table aquifer. Groundwater quality will continue to be monitored to document the effect of encapsulation.

9.0 PROPOSED WORK PLAN

Remedial activities will proceed after the NJ DEP approves the Proposed Cleanup Plan.

9.1 Encapsulation

Approximately 78,500 square feet of asphalt will be involved in encapsulation. The paving will be to the specifications necessary to support heavy truck traffic. Encapsulation will consist of, from top to bottom, four (4") inches of asphalt, four (4") inches of QP (quarry product) as a stabalizer, and four (4") inches of crushed trap rock. The areas involved will be graded flat prior to encapsulating.

Work will proceed beginning in the strip of lawn between the plant and the fence (property line) bordering Passaic Avenue on the southeast side of the plant. Work will progress around the south side of the building between the transformer area and the building and into the tank farm and truck loading areas. Encapsulation will also take place inside the above ground tank farm. The paving will be carefully sealed to tanks and other vertical surfaces. Please refer to Figure 7 for areas.

Once AEC #1 has been encapsulated and grading has been completed, paving will proceed in AEC #2. No soil will be removed during the grading process.

All work will be performed in Level D personal protective status. Please refer to the site Health and Safety Plan (HASP) for more information.

9.2 Oil Recovery

MW-1 will be equipped with an Ejector Systems, Inc. (ESI) product recovery system. This system is designed for small diameter, low yield wells. ESI ejectors operate using air pressure to displace the fluids to the surface. The ejectors consist of a dual-pump configuration with both a drawdown pump and a Product Only Ejector. The drawdown pump will discharge approximately one-half gallon of water per minute to establish a cone of depression in the water table to capture product flow. The recharge rate for MW-1 is approximately 1 gpm. The Product Only Ejector is designed with a ballasted float allowing for lighter-than-water hydrocarbon recovery while leaving the groundwater in the well. The ejector acts as an oil/water separator in the well.

Recovered oil will be discharged to a fifty-five gallon drum located adjacent to MW-1. The recovered groundwater will be pumped through an oil/water separator to the river (permit required), or possibly into a tanker for licensed disposal. A more detailed recovery design will be submitted as an addendum to this Proposed CUP at a later date.

10.0 POST REMEDIATION SAMPLING AND MONITORING PLAN

No further soil investigation is proposed following encapsulation.

It is proposed that the groundwater quality be monitored for PHC and BN for a period of one year under the NJ Pollutant Discharge Elimination System (NJPDES). If the groundwater quality does not change or improves within the first two quarterly sampling periods, then Franklin Plastics will petition the NJ DEP to discontinue the NJPDES-DGW permit. If groundwater quality is found to degrade during this period, then the permit conditions will have to be reevaluated.

11.0 TIMETABLE

TASKS	Project Schedule in Months							
	1st	2nd	3rd	4th	5th	6th	7th	8th
1. Approval of Cleanup Plan by NJDEP	I---I							
2. Grading		I--------I						
3. Authorization of Paving Contractor		I------I						
4. Encapsulation Activities			I----------I					
5. Recovery System Installation and Start up				I-----I				
6. Product Recovery					I----------I			
7. Groundwater and Product Disposal							I-I	
8. NJPDES Permit Application and Approval		I----------I						
9. Provide Final Documentation to NJDEP							I-------I	
10. Site Inspection by NJDEP								I

12.0 PROGRESS REPORTS

Progress reports will be submitted to the NJDEP on a monthly basis outlining the progress made in meeting the milestones presented in the proposed Time Table.

13.0 ESTIMATED COSTS FOR CLEANUP

Major cost element estimates for proposed cleanup activities:

	$
Encapsulation: Paving of 78,500 square feet of area to truck specifications, grading.	180,000.
Oil Recovery System Design and Implementation	30,000.
Waste water and Oil Disposal	20,000.
Additional Soil Investigation	7,000.
Application for NJPDES Permits (Groundwater and Surface Water)	3,000.
RECON Project Management and Final Cleanup Documentation	6,000.
Total	250,000.

DRAFT PRELIMINARY ESTIMATES

SUBJECT TO CHANGE AS DETAILED DESIGN

AND IMPLEMENTATION PROCEED

TABLES

TABLE 1

SUMMARY OF SOIL ANALYSES RESULTS FOR PETROLEUM HYDROCARBONS, BASE NEUTRALS AND VOLATILE ORGANIC COMPOUNDS

FRANKLIN PLASTICS CORPORATION

All results in ppm

Boring No.	RECON Sample No.	Date Sampled	Depth	Petroleum Hydrocarbons	Base Neutrals	Volatile Organic Compounds
B-1	6881	2/6/87	12-18"	80	ND	0.042
B-2	6882	2/6/87	12-18"	2,710*	109	0.059
B-3	6883	2/6/87	12-18"	1,600*	1,430	ND
B-4						
B-5/1	7824	5/27/87	6-12"	122	25.1	0.665
B-5/2	7825	5/27/87	34-40"	38	1.39	0.142
B-6/1	7878	6/1/87	6-12"	305	119	ND
B-6/2	7879	6/1/87	40-46"	286	22.0	ND
B-7/1	7793	5/26/87	6-12"	188	2,300	ND
B-7/2	7794	5/26/87	36-42"	79	420	0.13
B-8/1	7785	5/26/87	6-12"	20,100	7,000	0.52
B-8/2	7786	5/26/87	14-20"	2,910	3,870	ND
B-9/1	7787	5/26/87	6-12"	105	34.8	0.74
B-9/2	7788	5/26/87	40-46"	222	5.0	0.363
B-10/1	7796	5/26/87	6-12"	7,830	1,678	ND
B-10/2	7797	5/26/87	30-36"	1,120	26,000	4.85
B-11/1	7798	5/26/87	6-12"	322	39	0.059
B-11/2	7799	5/26/87	33-39"	BMDL	3	0.241
B-12/1	7789	5/26/87	6-12"	124	210	ND
B-12/2	7790	5/26/87	26-32"	68	19	ND
B-13/1	7791	5/26/87	6-12"	5,350	11	ND
B-13/2	7792	5/26/87	20-26"	3,320	28	0.73
B-14	8215	7/3/87	Sump Sludge	NA	2,751	0.160
B-7A	7795	5/26/87	36-42"	NA	54	
B-10A/1			12-18"		11.4	
B-10A/2			30-36"		1.19	
B-10B/1			12-18"		279	
B-10B/2			30-36"		41.6	
B-10B/3			36-42"		13	
B-10C/1			12-18"		1.28	
B-10C/2			30-36"		8.5	
B-10C/3			36-42"		21.05	
B-10D/1			12-18"		56	
B-10D/2			30-36"		2,449	
B-10D/3			36-42"		381	
B-10E/1			12-18"		6.64	
B-10E/2			30-36"		65.58	
B-10F/1			12-18"		19.84	
B-10F/2			30-36"		87.8	
B-10G/1			12-18"		1,558	
B-10G/2			30-36"			
B-15	8285	7/9/87	6-12"	192	NA	NA
B-16	8286	7/9/87	6-12"	298	NA	NA
B-17	8287	7/9/87	6-12"	1,080	NA	NA
B-18/1	7800	5/26/87	6-12"	6,030	NA	NA
B-18/2	7801	5/26/87	30-36"	3,590	NA	NA
B-19/22	7882	6/2/87	Composite	6,620	126	0.089

1699.1 8.10.90

TABLE 1 (cont'd)

Boring No.	RECON Sample No.	Date Sampled	Depth	Petroleum Hydrocarbons	Base Neutrals	Volatile Organic Compounds
B-23/1	7802	5/26/87	6-12"	321	NA	NA
B-23/2	7803	5/26/87	68-74"	123	NA	NA
B-24/1	7804	5/26/87	6-12"	10,400	NA	NA
B-24/2	7805	5/26/87	24-30"	451	NA	
B-25	7818	5/27/87	35-41"		NA	
B-26	7819	5/27/87	35-41"		NA	
B-27	7820	5/27/87	37-43"		NA	
B-28	7821	5/27/87	37-43"		NA	
B-29	7822	5/27/87	39-45"		NA	
B-30	7823	5/27/87	39-45"		NA	
B-31/2	7884	6/2/87	6-12"	1,330	241	0.535
B-31/3	7885	6/2/87	42-47"	96	533	0.513
B-32/2	7887	6/2/87	6-12"	299	42	0.699
B-32/3	7888	6/2/87	40-44"	182	18	0.590
B-33/2	7890	6/2/87	6-12"	153	144	ND
B-33/3	7891	6/2/87	45-50"	6,420*	110	ND
B-34	7849	5/29/87	0-6"	19,300*	405	---
B-31/1	7883	6/2/87	0-6"	ND	ND	ND
B-32/1	7886	6/2/87	0-6"	ND	ND	ND
B-33/1	7889	6/2/87	0-6"	ND	ND	ND
MW-1/1	7852	5/29/87	6-12"	761	BMDL	0.277
MW-1/2	7853	5/29/87	42-48"	4,800*	BMDL	0.300
MW-2/1	7840	5/28/87	6-12"	222	369	ND
MW-2/2	7841	5/28/87	42-48"	72	5	0.38
MW-3/1	7850	5/29/87	6-12"	2,070	370	0.056
MW-3/2	7851	5/29/87	30-36"	735	14	0.590
MW-4/1	7874	6/1/87	6-12"	20,100	963	0.872
MW-4/2	7875	6/1/87	42-48"	11,600	11	ND
MW-5/1	7876	6/1/87	6-12"	6,040	9,800	0.890
MW-5/2	7877	6/1/87	42-48"	143	201	0.483
MW-6/1	7880	6/1/87	6-12"	217	14	ND
MW-6/2	7881	6/1/87	76-84"	301	1.5	0.306
MW-7/1	7842	5/28/87	6-12"	18,100	BMDL	LT
MW-7/2	7843	5/28/87	44-50"	55	BMDL	ND
PR-1	21125	6/12/90	0-6"	574	ND	---
PR-2	21126	6/12/90	0-6"	4,730	3,700*	---
PR-3	21139	6/13/90	0-6"	1,690	4,518	---
PR-4	21140	6/13/90	0-6"	919	34	---
AGT-1	21131	6/12/90	24-30"	281	NA	---
AGT-2	21132	6/12/90	18-24"	ND	NA	---
AGT-3	21133	6/12/90	18-24"	ND	NA	---
AGT-4	21134	6/12/90	18-24"	ND	ND	---
AGT-5	21135	6/12/90	18-24"	ND	NA	---
B-19	21127	6/12/90	12-16"	2,490	NA	---
B-20	21128	6/12/90	22-26"	4,260	NA	---
B-21	21129	6/12/90	14-20"	3,120	NA	---
B-22	21130	6/12/90	12-18"	244	NA	---
BGD	21141	6/13/90	0-6"	190	19	---
BGD	21142	6/13/90	6-12"	426	29	---
BGD	21143	6/13/90	42-48"	93	ND	---

TABLE 2

SUMMARY OF SOIL SAMPLING AND ANALYTICAL RESULTS
FOR PRIORITY POLLUTANT METALS

FRANKLIN PLASTICS CORPORATION

All results in ppm.

Boring No.	RECON Sample No.	Sample Depth	Date	Analytical Parameter												
				Sb	As	Be	Cd	Cr	Cu	Pb	Hg	Ni	Se	Ag	Th	Zn
B-1	6881	12-18"		<0.1	1.95	0.76	1.9	21.6	345	68	0.14	17.9	0.33	<1	0.60	60
B-2	6882	12-18"		0.27	5.0	0.54	1.7	16.5	5.75	185	0.44	17.3	0.77	<1	0.56	77.4
B-3	6883	12-18"		0.65	1.5	0.53	3.27	20.4	43.6	83.4	<0.1	16.9	0.50	1.26	<0.1	191
B-5/1	7824	6-12"	5/27/87	ND	16	ND	38.4	19.6	164	312	0.7	22.4	0.7	ND	27	589
B-5/2	7825	34-40"	5/27/87	ND	20	1.2	1.1	7.5	64.6	739	0.4	22.1	<0.2	ND	24	193
B-6/1	7878	6-12"	6/1/87	<20	2.0	<1.0	450	22	69.6	160	0.4	20	<0.2	ND	ND	ND
B-6/2	7879	40-46"	6/1/87	29	0.8	1.3	1.0	14	31.5	48	<0.1	20	ND	ND	ND	62.7
B-7/1	7793	6-12"	5/26/87	<40	<0.4	ND	1.0	<6.0	40.2	67	<0.1	8.7	<0.2	ND	ND	49.3
B-7/2	7794	36-42"	5/26/87	<40	1,300	ND	287	41.5	232	1,040	1.7	11.1	0.2	7.3	ND	3,020
B-8/1	7785	6-12"	5/26/87	<40	0.8	ND	185	53.8	123	1,740	0.1	43.5	<0.2	3.9	17	293
B-8/2	7786	14-20"	5/26/87	<40	0.7	ND	59.8	31.1	89.7	523	0.4	26.5	<0.2	3.2	11	487
B-9/1	7787	6-12"	5/26/87	<40	2.0	ND	<1.0	23.2	12.9	31	ND	<6.0	ND	ND	ND	36.8
B-9/2	7788	40-46"	5/26/87	<40	<0.4	ND	1.2	<6.0	31.8	126	0.1	17.5	<0.2	<3	ND	46.9
B-10/1	7796	6-12"	5/26/87	<40	1.4	ND	10.5	12.6	291	283	0.8	19.5	<0.2	3.2	11	290
B-10/2	7797	30-36"	5/26/87	<40	0.52	ND	1.0	ND	29.9	2,150	4.8	<6.0	0.2	ND	ND	20.0
B-11/1	7798	6-12"	5/26/87	<40	0.69	ND	8.5	12.4	60.2	288	0.3	15.0	<0.2	3.1	<10	?
B-11/2	7799	33-39"	5/26/87	<40	1.8	ND	1.4	22.9	21.7	72	0.2	26.1	ND	3.9	ND	9[illegible]
B-12/1	7789	6-12"	5/26/87	<40	1.8	ND	5.2	20.6	53.0	159	0.4	19.8	<0.2	3.2	11	397
B-12/2	7790	26-32"	5/26/87	48	1.2	ND	563	10.3	32.1	82	<0.1	7.0	<0.2	3.2	ND	594
B-13/1	7791	6-12"	5/26/87	<40	ND	ND	1.8	7.7	340	94	ND	22.0	<0.2	ND	ND	131
B-13/2	7792	20-26"	5/26/87	<40	0.7	ND	1.1	<6.0	24.1	76	0.4	17.7	<0.2	ND	ND	127
B-18/1	7780	6-12"	5/26/87	NOT ANALYZED												
B-18/2	7801	30-36"	5/26/87	NOT ANALYZED												
B-15	8285	6-12"	7/9/87	NOT ANALYZED												
B-16	8286	6-12"	7/9/87	NOT ANALYZED												

1699.1 8.14.90

Table 2 (cont'd)

Boring No.	RECON Sample No.	Sample Depth	Date	Analytical Parameter												
				Sb	As	Be	Cd	Cr	Cu	Pb	Hg	Ni	Se	Ag	Th	Zn
B-17	8287	6-12"	7/9/87	NOT ANALYZED												
B-23/1	7802	6-12"	5/26/87	NOT ANALYZED												
B-23/2	7803	68-74"	5/26/87	NOT ANALYZED												
B-19-22	7882															
B-24/1	7804	6-12"	5/26/87	NOT ANALYZED												
B-24/2	7805	24-30"	5/26/87	NOT ANALYZED												
B-31/1	7883	0-6"	6/2/87	38	0.5	<1.0	130	65	88	360	0.6	87	<0.2	ND	ND	234
B-31/2	7884	6-12"	6/2/87	29	0.8	<1.0	250	67	84.9	265	0.3	66	<0.2	ND	ND	131
B-31/3	7885	42-47"	6/2/87	25	2.4	<1.0	18	15	81.0	225	0.6	18	0.2	ND	ND	740
B-32/1	7886	0-6"	6/2/87	33	ND	<1.0	9	32	106	229	1.4	55	<0.2	<3	ND	<170
B-32/2	7887	6-12"	6/2/87	34	2.0	<1.0	2	16	25.0	123	0.3	19	<0.2	ND	ND	341
B-32/3	7888	40-44"	6/2/87	34	1.1	1.7	7	26	45.6	221	0.5	26	<0.2	ND	ND	258
B-33/1	7889	0-6"	6/2/87	42	8.3	1.7	9	33	46.1	161	0.2	69	<0.2	ND	ND	214
B-33/2	7890	6-12"	6/2/87	21	1.5	1.6	510	32	20.5	44	<0.1	44	ND	ND	ND	126
B-33/3	7891	45-50"	6/2/87	3,350	ND	<1.0	510	145	2,070	802	0.2	31	<0.2	ND	ND	1,180
B-34	7849	0-6"	5/29/87	NOT ANALYZED												
MW-1/1	7852	6-12"	5/27/87	ND	2.8	ND	1.4	20.9	37.6	229	0.4	13.9	<0.2	ND	ND	122
MW-1/2	7853	42-48"	5/27/87	40	15	<1.0	22.7	7.5	212	179	0.7	18.5	0.3	ND	ND	482
MW-2/1	7840	6-12"	5/27/87	ND	7.9	<2	<2	24.2	11.9	69	<0.2	15.3	0.2	3.0	34	65.9
MW-2/2	7841	42-48"	5/27/87	31	15	1.2	<1.0	15.4	11.7	69	<0.2	15.3	0.2	3.0	34	48.2
MW-3/1	7850	6-12"	5/27/87	61	6.5	ND	69.5	39.4	96.9	527	0.5	400	<0.2	ND	ND	333
MW-3/2	7851	30-36"	5/27/87	38	11	<1.0	8.4	7.1	20.9	68	<0.2	14.3	<0.2	ND	ND	32.5
MW-4/1	7874	6-12"	6/1/87	38	<0.4	<1.0	44	26	174	218	0.3	26	<0.2	ND	ND	278
MW-4/2	7875	42-48"	6/1/87	29	ND	ND	10	21	136	219	0.1	25	<0.2	ND	ND	270
MW-5/1	7876	6-12"	5/27/87	20	2.5	4.0	85	14	23.2	40	0.1	14	<0.2	ND	ND	6[illegible]3
MW-5/2	7877	42-48"	6/1/87	25	<0.4	<1.0	4	18	717	436	0.7	16	<0.2	ND	ND	[illegible]
MW-6/1	7880	6-12"	6/1/87	25	1.7	1.3	480	31	75.8	302	0.6	27	<0.2	ND	ND	454
MW-6/2	7881	76-84"	6/1/87	42	2.1	1.3	1	18	136	1,150	0.2	22	0.36	ND	ND	133
MW-7/1	7842	6-12"	5/27/87	ND	3.2	ND	1.8	19	124	239	0.4	12.5	<0.2	<3	ND	474
MW-7/2	7843	44-40"	5/27/87	ND	9.9	<2	43.7	31.0	210	146	0.5	16.2	0.2	ND	ND	1,570
PR-1	21125	0-6"	6/12/90	<1.7	NA	NA	0.58	26.7	49.2	250	NA	NA	NA	NA	NA	223
PR-2	21126	0-6"	6/12/90	16,200	NA	NA	4.75	97.3	80.6	7.1	NA	NA	NA	NA	NA	201
PR-3	21139	0-6"	6/13/90	2.9	NA	NA	8.49	54.7	53.0	382	NA	NA	NA	NA	NA	133

Table 2 (cont'd)

Boring No.	RECON Sample No.	Sample Depth	Date	Analytical Parameter												
				Sb	As	Be	Cd	Cr	Cu	Pb	Hg	Ni	Se	Ag	Th	Zn
PR-4	21140	0-6"	6/13/90	<1.9	NA	NA	1.68	44.8	85.6	143	NA	NA	NA	NA	NA	240
BGD	21141	0-6"	6/13/90	1.8	NA	NA	0.47	16.4	40.7	82.2	NA	NA	NA	NA	NA	171
BGD	21142	6-12"	6/13/90	ND	NA	NA	2.2	18.3	33.7	82.9	NA	NA	NA	NA	NA	129
BGD	21143	42-48"	6/13/90	ND	NA	NA	0.54	16.0	101	120	NA	NA	NA	NA	NA	310

ECRA ACTION LEVELS

Sb	=	Antimony	2
As	=	Arsenic	20
Be	=	Beryllium	1
Cd	=	Cadmium	3
Cr	=	Chromium	100
Cu	=	Copper	170
Pb	=	Lead	100
Hg	=	Mercury	1
Ni	=	Nickel	100
Se	=	Selenium	4
Ag	=	Silver	5
Th	=	Thallium	5
Zn	=	Zinc	350

TABLE 3

SUMMARY OF GROUNDWATER SAMPLE RESULTS

FRANKLIN PLASTICS CORPORATION

All water results in mg/l (parts per million by weight).

Well No.	RECON Sample No.	Date	Petroleum Hydrocarbons	pH (SU)	Total Dissolved Solids	Total Volatile Organics	Total Phthalates	Total Polycyclic Aromatic Hydrocarbons	Total Base Neutrals
MW-1	21575	7/2/90	8.6	6.45	275	ND	ND	LT	LT
MW-3	21577	7/2/90	2.0	6.92	194	0.143	LT	ND	LT
MW-5	21579	7/2/90	1.9	6.54	368	0.006	LT	ND	LT
MW-6	21580	7/2/90	0.5	6.60	223	LT	ND	ND	ND
MW-7	21581	7/2/90	0.7	6.46	472	0.021	0.053	ND	0.053
MW-2R	21576	7/2/90	1.9	6.59	440	ND	ND	ND	ND
MW-4R	21578	7/2/90	10.8	6.21	393	LT	0.435	ND	0.435
DW-3	21582	7/2/90	1.9	6.79	2,681	LT	ND	ND	ND
DW-4	21583	7/2/90	2.2	6.65	3,121	ND	ND	ND	ND
DW-5	21584	7/2/90	0.9	6.41	2,674	0.045	0.017	ND	0.017
Field Blank	21585	7/2/90	0.5	NA	NA				

ND = None Detected

LT = Detected amount, if any, is less than minimum detection limit.

Petroleum Hydrocarbons analyzed via US EPA Method 418.1.

Reported concentrations do not include estimated or tentatively identified compounds.

1575.TAB 8.11.90

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TABLE 4

SUMMARY OF GROUNDWATER SAMPLING AND ANALYSIS RESULTS

for

PRIORITY POLLUTANT METALS

FRANKLIN PLASTICS CORPORATION

All water results in mg/l (parts per million by weight).

Sample Identification RECON Sample No.	MW-1 21575	MW-2R 21576	MW-3 21577	MW-4R 21578	MW-5 21579	MW-6 21580	MW-7 21581	DW-3 21582	DW-4 21583	DW-5 21584	Minimum Detection Limit
PARAMETER											
Antimony	ND	ND	ND	ND	ND	ND	ND	LT	LT	LT	0.05
Arsenic	0.03	LT	LT	0.01	0.01	0.01	LT	0.04	LT	ND	0.01
Beryllium	ND	ND	LT	ND	ND	LT	0.005	0.008	LT	LT	0.003
Cadmium	LT	LT	LT	LT	LT	0.005	0.008	LT	LT	LT	0.003
Chromium	LT	ND	ND	LT	ND	ND	ND	ND	ND	ND	0.02
Copper	LT	ND	ND	LT	ND	ND	0.18	LT	LT	LT	0.01
Lead	ND	ND	ND	ND	ND	ND	0.08	LT	LT	LT	0.03
Mercury	ND	ND	ND	0.003	ND	ND	LT	ND	ND	ND	0.001
Nickel	LT	ND	ND	ND	ND	ND	ND	LT	<0.06	LT	0.06
Selenium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.008
Silver	ND	ND	ND	ND	ND	LT	ND	LT	LT	LT	0.008
Thallium	ND	LT	LT	LT	LT	LT	ND	0.06	0.07	0.06	0.04
Zinc	0.025	0.019	0.005	0.019	0.039	0.071	0.103	0.008	0.013	0.013	0.003

ND = None Detected

LT = Detected amount if any, was less than minimum detection limit.

1575.TAB

W
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TABLE 6

RESULTS OF TOTAL ORGANIC CARBON

FRANKLIN PLASTICS CORPORATION

Sample No.	RECON Sample No.	Results	Limit
PR-3W	21173	4.6	2.0

TOC analyzed via US EPA Method 415.2

1699 8.10.90

TABLE 5

SUMMARY OF MONITORING WELL DATA

FRANKLIN PLASTICS CORPORATION

Well No.	MW-1	MW-3	MW-5	MW-6	MW-7	MW-2R	MW-4R	DW-3	DW-4	DW-5
Permit No.	26-10790-2	26-10792-9	26-10794-5	26-10795-3	26-10796-1	26-20675-7	26-20755-9	26-20725-7	26-20726-5	26-20727-3
Date Installed	5/29/87	5/29/87	6/1/87	6/1/87	5/28/87	6/13/90	6/13/90	6/14/90	6/14/90	6/14/90
Cased Interval	0-3′	0-1.5′	0-2.5′	0-5′	0-2.5′	+2.5′	0-2.5′	0-16′	0-16′	0-
Screened Interval	3-8′	1.5-6.5′	2.5′-6′	5-10′	2.5-9′	2.5-7.5′	2.5-7.5′	16-21′	16-21′	16-21′
Surveyed Elevation (MSL)*	7.74′	8.68′	7.26′	12.77′	10.90′	10.07′	6.98′	6.13′	7.11′	7.56′
Water Level** Elevation (MSL) 7/2/90	3.6′	4.38′	3.41′	3.77′	2.30′	4.07′	3.63′	1.13′	1.05′	0.16′
Static Water Level Elevation (MSL) 8.9.90	3.6′	4.43′	4.29′	4.12′	4.75′	4.22′	4.44′	1.82′	1.64′	1.69′
Diameter	4"	4"	4"	4"	4"	4"	4"	2"	2"	2"
Slot Size	0.020"	0.020"	0.020"	0.020"	0.020"	0.020"	0.020"	0.020"	0.020"	0.020"
Total Depth**	8.0′	6.5′	6.0′	10.0′	9.0′	7.5′	7.5′	21.0′	21.0′	21.0′
Construction Material	Teflon	Teflon	Teflon	Teflon	Teflon	PVC	PVC	PVC	PVC	PV
Well Design	Flush Mount	Stick Up	Flush Mount	Stick Up	Stick Up	Stick Up	Flush Mount	Flush Mount	Flush Mount	Flush Mount

* Reference Point is Top of Inner Casing.

** Below Reference Point (August 9, 1990)

*** Mean Sea Level

1575.TAB 8.11.90

TABLE 6

RESULTS OF TOTAL ORGANIC CARBON

FRANKLIN PLASTICS CORPORATION

Sample No.	RECON Sample No.	Results	Limit
PR-3W	21173	4.6	2.0

TOC analyzed via US EPA Method 415.2

1699 8.10.90

TABLE 7

RESULTS OF GRAIN SIZE ANALYSES

FRANKLIN PLASTICS CORPORATION

Sample Identification	PR-1	PR-2	PR-3	PR-4
RECON Sample No.	21125	21126	21139	21140
Depth	0-6"	0-6"	0-6"	0-6"
Mircon Size	Weight Percent (Dry Basis)			
>4,000	63.6	53.6	55.7	74.8
2,000 - 4,000	12.5	13.6	19.3	7.9
1,000 - 2,000	4.3	5.6	4.6	3.7
250 - 1,000	10.9	14.4	11.1	10.6
125 - 250	3.3	4.8	4.5	1.5
88 - 125	1.2	2.0	1.5	0.4
63 - 88	0.5	0.7	0.3	0.1
44 - 88	1.7	2.9	1.5	0.4
<44	1.9	1.9	1.3	0.5
Analytical Loss	0.1	0.5	0.2	0.1

< = Less than value shown.

> = Greater than value shown.

NOTE: Sediment lithology would be very coarse sand/fine gravel (Wentworth).

1699 8.11.90

REFERENCE NO. 6

Recon Systems Inc.
5 Johnson Drive, PO Box 130
Raritan, NJ 08869-0130
908 526-1000/FAX 908 526-7886

REPORT
RECON Project No. 1954
April 2, 1992

VOLUME II OF II

REPORT ON COMPARISON OF
REMEDIAL ALTERNATIVES FOR
PHTHALATE CONTAMINATION

for

FRANKLIN PLASTICS CORPORATION
113 Passaic Avenue
Kearny, NJ 07032

Attn: Joseph Ronzo

Project Identification:

ECRA Case No. 86026

Prepared by

Site Investigation/Remediation Division

Babu S. Sanji (Extension 430)
Civil Engineer

J. Douglas Reid-Green, CPG (Extension 442)
Manager, Site Investigation/
Remediation Technology

1954.RA 3.23.92

Recon Systems Inc.
Raritan, NJ 08869-0130

Attachment 10

SECTION 1 - INTRODUCTION

1.01 Background

On June 6, 1990, BASF announced the closure of its 27-acre chemical manufacturing facility in Kearny, New Jersey (see Figure 1-1). BASF notified both the NJDEPE and the USEPA of their intent to close the plant prior to September 30, 1990. Upon notification to the NJDEPE, BASF triggered an ECRA program for the Kearny facility (ECRA Case #90537).

BASF has subcontracted services for the completion of a Quantitative Risk Assessment and Soil Treatability Study for the Kearny facility. These studies were not completed by the time of this submission. BASF has proposed the submission of these documents together, under separate cover, to the NJDEPE. BASF will include within this submission proposed ACLs for both soil and ground water. These ACLs will be risk based and will incorporate the highly industrialized nature of this region. Pending approval of the ACLs BASF will determine the future sampling requirements for the facility. This sampling will either be in an effort to further delineate or to confirm cleanup.

In conjunction with BASF personnel, O'Brien & Gere developed a Site Evaluation Submission (SES) for the Kearny facility. The SES included a site specific sampling plan which was submitted to the NJDEPE on August 3, 1990. Following receipt of the SES, the NJDEPE conducted an ECRA site inspection on September 17, 1990. On December 5, 1990, the NJDEPE issued a conditional

approval letter for the SES/Sampling Plan. In response to the NJDEPE letter, an Addendum to the Sampling Plan was developed. This addendum addressed the areas of environmental concern which were to be included as part of the facility Decommissioning Program and were excluded from the original Sampling Plan. The NJDEPE, however, required these areas be addressed in a formal Addendum to supplement the required submission of the proposed Decommissioning Plan. The Sampling Plan Addendum and the Decommissioning Plan were submitted to the NJDEPE on January 7, 1991. The NJDEPE approved both documents in a conditional approval letter dated February 19, 1991. On May 28, 1991, BASF submitted a formal extension request to the NJDEPE requesting a six-month schedule extension. The NJDEPE approved the extension request in a response letter dated June 5, 1991.

1.02 Environmental Setting

The BASF facility is located at 50 Central Avenue, Kearny, New Jersey. Operations at the Kearny facility included the manufacture of Phthalate Acid Anhydride (PAA), Bis-2(ethylhexyl)phthalate (DOP), dyes, and other plasticizers. As part of the production process, a variety of raw materials and end products have been used and stored by BASF at the Kearny facility. Chemicals used on-site include a variety of organic materials that are either manufactured or used by maintenance and laboratory facilities. Organo-metallic and elemental metallic products were not used or manufactured at the site. Potentially hazardous substances present at the site, but not part of the production process, include

polychlorinated biphenyls as a component of transformers, asbestos insulation, gasoline and fuel oils.

The site encompasses 27 acres in a heavily developed section of Hudson County. The neighboring properties are "heavy industrial" type concerns. In addition to the Passaic and Hackensack rivers bordering the site, to the north is a small storage facility adjacent to the former Western Electric facility which is now a large warehouse operation. To the east lies the municipal primary sewage pretreatment facility. Behind the pretreatment facility is Columbia Terminal which stores chemicals for a number of companies, including BASF, and receives material by truck, rail, and barge. In addition to these industrial facilities, the Hudson County Correctional Facility, New Jersey Turnpike, Newark International Airport, as well as several small commercial operations are located within one mile of the site.

Regional geology for the Kearny, New Jersey area suggests that the BASF facility is situated within the Triassic Lowlands of the Piedmont Physiographic Province of the Appalachian Highlands. This area of the Piedmont Province consists of sediments deposited during the Triassic Period of the Mesozoic Era. These sedimentary formations dip 10 to 15 degrees northwesterly, with occasional trends toward gentle folds, in a mostly faulted area. The general trend of the folds and strike of the strata is northeast to southwest. A regional geologic cross-section is provided as Figure 1-2.

The strata beneath the site is part of the Newark Group and is divided into three formations of distinctive lithology: the lowermost unit, the Stockton Formation; a middle unit, the Lockatong Formation; and the uppermost unit, the Brunswick Formation. The Stockton Formation is composed of a light colored arkosic sandstone and some thin beds of red sandstone and shell. The Lockatong Formation is composed of cyclic units of chemical and detrital mudstones. The Brunswick Formation is composed of reddish-brown mudstone, siltstone, sandstone, and conglomerates. The Brunswick Formation in this area is composed of coarser grained material (conglomerates and sandstones), whereas the southwestern section of this formation consists of finer grained materials.

The overburden overlying the Newark Group are Pleistocene Age ground moraine glacial deposits consisting of heterogeneous, poorly sorted clay, sand, gravel and boulders. These glacial fills are overlain with holocene deposits of fluviolacustrine nature (alternating fine sands and marsh deposits consisting of gray organic clayey silts). It is speculated that a considerable amount of fill material was used in the regional development of riverfront property in this area. A site-specific geologic cross-section is provided as Figure 1-3.

Hydrogeologic data indicates shallow ground water is flowing towards the Passaic River. The depth to ground water ranges from five to seven feet below ground surface. The gradient ranges from approximately 0.004 to 0.04 ft/ft. The Passaic River is located along the western border of the BASF facility. Because the facility is in direct contact with the Passaic River, ground water is potentially

influenced by tidal fluctuation of this river. Ground water contours have been developed for July, August, and October 1991 and are presented as Figures 1-3, 1-4, and 1-5, respectively. In situ hydraulic conductivity tests conducted reveal an average valve of 4.57 feet per day. This data is presented in detail in Section 4.

The test boring logs for the monitoring wells installed at the BASF facility as well as test pit logs indicate that the unconsolidated sediments immediately beneath the site consist of fill material. The fill consists primarily of fine sands and clay, gravel, brick and concrete rubble, and miscellaneous debris. The fill grades to a silty clay and peat layer. No borings were extended beyond 17 feet. Ground water monitoring well installation logs and test pit construction logs are provided as Attachments 2 and 3, respectively.

Surface water and ground water in the area of the site has been classified according to the New Jersey Surface Water Quality Standards (N.J.A.C. 7:9-4 et seq.). The Passaic River, from its confluence with the Hackensack river to its mouth, is classified as SE3. The Hackensack River at Kearny Point is also classified as SE3. Ground water was classified for the Kearny area. Based on the NJDEPE classification program and the ground water monitoring results of the seventeen wells located at the site, the ground water is considered to be a GW-3 class. Further descriptions of surface and ground water classifications are provided within Section 1.03 - Qualitative Exposure Assessment.

Site soil and ground water were also evaluated through laboratory analyses. Sampling was conducted in accordance with the approved Phase I Sampling Plan and Addendum. The sampling program incorporated a 100-foot sitewide grid sampling program, the area of environmental concern sampling and the additional sampling required by the NJDEPE's December 5, 1990 and February 19, 1991 conditional approval letters. The NJDEPE required the installation of six monitoring wells, bringing the total number of monitoring wells installed on-site to eighteen. Ground water sampling, in accordance with the ECRA requirements for the six new wells was conducted in conjunction with the NJPDES/DGW sampling program. The results of these sampling activities are incorporated within this ECRA Phase I Sampling Plan Results Report.

The Decommissioning Plan for the Kearny facility was submitted to the NJDEPE on January 7, 1991. The Plan was developed to aid BASF with the preparation of specifications for the decommissioning and dismantling objectives. The plan was also developed in such a way as to focus on protecting equipment and structures for salvage.

1.03 Qualitative Exposure Assessment

This section is a summary of the exposure assessment prepared for the Kearny facility. The exposure assessment evaluates the potential for human exposures to chemicals remaining in soil and ground water prior to and following remedial activities. The objective of this exposure assessment is to identify and evaluate

all potential exposure pathways and in doing so identify remedial activities which will address human exposure concerns.

The exposure assessment completed for the Kearny facility is consistent with the current guidelines for identifying and evaluating exposure pathways. The EPA Risk Assessment Guidance for Superfund, Volume I - Human Health Evaluation Manual (Part A) (EPA/540/1-89/002) was used in the development of the exposure scenarios for the site. Additional supporting information was provided by the Exposure Factors Handbook (EPA 600/8-89/043).

The BASF facility is located at 50 Central Avenue, Kearny, New Jersey. The site is an industrial facility which produced dyes, plasticizers, and polystyrene products. Up to its shut down in September 1990, the facility produced plasticizers and Phthalate Acid Anhydride products. As part of the production process, a variety of raw materials and end products have been used and stored by BASF. Chemicals thought to be used on-site include solvents, as well as a variety of additional organic material that are either manufactured or used by maintenance and laboratory facilities. Organo-metallic and elemental metallic products were not used or manufactured at the site. Potentially hazardous substances present at the site, but not part of the production process, include polychlorinated biphenyls as a component of transformers, asbestos insulation, gasoline and fuel oils.

The site encompasses 27 acres in a heavily developed section of Hudson County. The neighboring properties are nearly all "heavy industrial" type concerns. Bordering the site, in addition to the Passaic and Hackensack rivers, to the north is a small storage facility followed by a former Western Electric facility which is now a large warehouse operation. To the east lies the municipal primary sewage pretreatment facility. Behind the pretreatment facility is Columbia Terminal which stores chemicals for a number of companies, including BASF, and receives material by truck, rail, and barge. In addition to these industrial facilities, a correctional institute, New Jersey Turnpike, Newark International Airport, and small commercial operation are located within one mile of the site.

The BASF facility lies within the Triassic lowlands of the Piedmont Physiographic Province. The bedrock beneath the site is the red shale of the Brunswick Formation. Overlying Bedrock in this area is pleistocene age ground moraine glacial deposits consisting of heterogeneous clay, sand, gravel, and boulders. These sediments are overlain by more recent marsh deposits consisting of gray organic clay silt. It is speculated that a considerable amount of fill material was used in the development of the river front property in this area.

Hydrogeologic data suggests shallow ground water is flowing towards the Passaic River. The depth to ground water ranges from three to five feet below grade. The Passaic River is located along the extreme western border of the BASF facility. As the facility is in immediate contact with the Passaic River, ground water is most likely influenced by tidal fluctuation of this river.

Surface water and ground water in the area of the site has been classified as to its appropriate use. According to the New Jersey Surface Water Quality Standards (N.J.A.C. 7:9-4 et seq.) the Passaic River from its confluence with second river to its mouth is classified as SE3. The Hackensack River at Kearny point is also classified as SE3. This designation indicates that the Passaic and Hackensack Rivers are saline waters of estuaries. This designation also means that the waters are acceptable for use as second contact recreation (restricted to boating and fishing), maintenance and migration of non-trout fish populations, migration of diadromous fish, and maintenance of wildlife. The designation indicates that these waters are not suitable as a potable water, an industrial or irrigation supply, trout maintenance and cultivation, or shellfish harvesting.

Ground water was also classified for the Kearny Area. Based on the NJDEPE classification system and ground water monitoring results of seventeen wells located at the site, the ground water is considered to be a GW-3 class. A GW-3 designation indicates that the ground water has a total dissolved solids (TDS) concentration between 500 mg/l and 10,000 mg/l. The ground water beneath the Kearny site has a TDS concentration ranging from 110 mg/l to 2010 mg/l; consequently, the GW-3 classification is appropriate. This classification indicates that ground water is not suitable for consumption or other human uses. No private ground water wells may use this aquifer as a potable source or contact industrial/commercial supply. For the township of Kearny, all potable water is supplied by the municipal water system.

A review of material spill reports and monthly environmental reports for the Kearny facility has identified reported spills and/or discharges of hazardous substances. The discharge of material to site ground water and soil has been substantiated by a comprehensive site wide and area of environmental concern (AEC) sampling program. This program identified petroleum hydrocarbons in soil ranging to 22,700 mg/kg at a Batch Ester Plant. Semi-volatile compounds were detected in soil samples at concentrations in the milligrams per kilogram (mg/kg) to grams per kilogram range, with the greatest concentration present in a soil sample collected obtained from the PAA/CEP Tank Farm Area. In a few samples, members of the carcinogenic polynuclear aromatic hydrocarbon family were present in low mg/kg concentrations. Benzo[a]pyrene, the most toxic member of the PAH group was not found above 2.62 mg/kg in any samples. Polychlorinated biphenyls were detected in one soil sample obtained from an area associated with electrical substation transformers. A complete list of the soil analytical results is presented on Tables 1 through 5.

Samples were collected from 18 on-site wells. The results of these samples indicate high levels of sodium and other dissolved solids. Part per billion concentrations of semi-volatile compounds were present in MW-7, MW-8, MW-14, and MW-15. LNAPL was identified within monitoring wells MW-12, MW-13 and MW-16.

Based on the results of the monitoring program at the BASF facility and the documented history of spills at the site, the completion of an exposure

assessment which evaluates the potential for site compounds to impact area receptors is appropriate. The exposure assessment was evaluated with respect to potential health concerns related to production materials present at the site prior to remedial activities.

For a chemical to represent a potential hazard, the following elements must be present:

- a chemical source;
- a mechanism which releases chemicals into environmental matrices;
- a transport route which carries the chemicals to a human receptor;
- a receptor population that contacts the chemical; and,
- an absorption mechanism whereby the chemical can exert a potentially deleterious effect on the receptor.

These five components are necessary to provide an exposure. If one or more of the components are absent or inactive, then an exposure scenario cannot be developed.

The chemical source and a release have been documented for the site. Additionally, potential receptor populations have been identified as workers at adjacent facilities and inmates of a nearby corrections institute. Based on the presence of a potential receptor population and a source of contamination, the following exposure scenarios were evaluated:

- Ingestion of ground water;
- Dermal contact with ground water;
- Ingestion of surface water;
- Dermal contact with surface water;
- Incidental ingestion of sediment;
- Direct contact with sediment;
- Inhalation of air-borne vapors;
- Inhalation of air-borne particulates;
- Incidental ingestion of soil or dust;
- Dermal contact with soil or dusts; and,
- Ingestion of fish, meat, or produce raised in an impacted area.

Of these scenarios, four are feasible given the industrial nature of the site and its location. The possible exposure pathways consist of: inhalation of volatilized chemicals, inhalation of dust containing residues, dermal absorption of residues in soil, and ingestion of residues in soil. Each of these pathways is discussed as follows:

Inhalation of Volatilized Residues: Although reports generated by BASF and O'Brien & Gere have indicated the use of volatile organic compounds at the site, monitoring during the ECRA investigation did not indicate that an inhalation hazard exists for volatile organic compounds. A HNU photoionization detector was used throughout the ECRA investigation. This instrument is sensitive to volatile organics compounds above a

concentration of 3.25 mg/m^3 (relative to benzene). Readings above this level occurred at the borehole for monitoring well MW-16; however, readings obtained from other areas of the site did not exceed the background level. At no time did readings in the breathing zone rise above the background level. Consequently, current site conditions do not indicate that an inhalation hazard is present.

Inhalation of Dust Bearing Residues: Although the presence of cement and asphalt over most of the site preclude the release of particulate matter, the possibility exists that fugitive dust and particulate chemicals (such as phthalate acid anhydride) could be released into the atmosphere. These particulates may be inhaled by on-site workers, or carried to remote locations.

Direct Contact with Residues: Direct contact with contaminants is assumed to be limited to site workers. The BASF facility is secured and a 24 hour guard service is located at the site; consequently, potential contact with site residues is limited to individuals admitted access to the site. Many compounds present at the site, including petroleum hydrocarbons, exhibit a lipid solubility sufficient to allow transport through skin. Direct contact is anticipated to be a minor exposure pathway.

Ingestion of Residues: Incidental ingestion of contaminants is considered a potential exposure pathway for the BASF facility. This pathway is

consider feasible for site employees who routinely contact site structures. Following contact with contaminated media, small quantities of contaminants may be accidentally ingested during hand to mouth activities.

Significant exposures resulting from compounds in surface water and ground water is not anticipated for the facility. The surface water is not suitable for human consumption or for agricultural purposes. Additionally, its use as a secondary recreational source indicates that exposure via wading or swimming is also unlikely. The classification of ground water as GW-3 indicates that this aquifer is not suitable for consumption or other human uses. As such, it is not anticipated the receptors would be exposed to ground water without prior treatment. Currently, municipal potable water is supplied to all potential receptors by the municipality.

Based on the results of the exposure assessment, remedial activities at the site should focus on potential surface contamination. It is anticipated that cessation of production, removal of site structures, and decontamination will significantly reduce or eliminate potential human exposures to site compounds.

1.04 Objectives and Format

The objectives of this data presentation report are to provide an overall summary of the Sampling Plan execution, present and discuss the results of the sampling program, and provide conclusions and direction for possible future site activities. Phase II sampling activities which are anticipated include post-decommissioning

consider feasible for site employees who routinely contact site structures. Following contact with contaminated media, small quantities of contaminants may be accidentally ingested during hand to mouth activities.

Significant exposures resulting from compounds in surface water and ground water is not anticipated for the facility. The surface water is not suitable for human consumption or for agricultural purposes. Additionally, its use as a secondary recreational source indicates that exposure via wading or swimming is also unlikely. The classification of ground water as GW-3 indicates that this aquifer is not suitable for consumption or other human uses. As such, it is not anticipated the receptors would be exposed to ground water without prior treatment. Currently, municipal potable water is supplied to all potential receptors by the municipality.

Based on the results of the exposure assessment, remedial activities at the site should focus on potential surface contamination. It is anticipated that cessation of production, removal of site structures, and decontamination will significantly reduce or eliminate potential human exposures to site compounds.

1.04 Objectives and Format

The objectives of this data presentation report are to provide an overall summary of the Sampling Plan execution, present and discuss the results of the sampling program, and provide conclusions and direction for possible future site activities. Phase II sampling activities which are anticipated include post-decommissioning

sampling and additional delineation sampling. Post-decommissioning sampling will be conducted in accordance with the NJDEPE's December 5, 1990 and February 19, 1991 conditional approval letters. Areas impacted by decommissioning activities will be visually inspected with sampling to be conducted where necessary. It is not the intention of this report to identify site cleanup activities, therefore, the information discussed herein is provided in order to establish the next phase of sampling activities.

This report is divided into ten sections: Section 1 - Introduction provides the site background, environmental setting, qualitative exposure assessment, and report objectives and format. Section 2 - Technical Overview provides a summary of sampling activities which were conducted on-site. Particular emphasis is placed on compliance with sampling methodologies and laboratory analytical criteria. Section 3 - Soil Sample Findings presents and discusses the analytical results for the on-site areas of environmental concern and grid sampling program. Additionally, modifications from the approved Phase I Sampling Plan and Addendum are identified. Section 4 - Ground Water Investigation presents and discusses the analytical results for the on-site monitoring wells and the results of fingerprint analyses conducted on LNAPL present on-site. Section 5 - Phase I LNAPL Delineation discusses the test pit program implemented at the Kearny facility. Section 6 - Underground Storage Tank Closure discusses the removal of the two on-site USTs under NJDEPE ECRA and BUST regulations. Section 7 - Conclusions: Phase I Sampling Plan identifies the conclusions on which future site activities will be based. Section

8 - Proposed Phase II Sampling Plan identifies the additional sampling which is required to further characterize site conditions. Section 9 - Proposed Phase II LNAPL Delineation identifies the additional test pit locations proposed to further delineate the LNAPL plume. Section 10 - Proposed Schedule and Deliverables discusses the schedule and deliverables for the proposed program.

REFERENCE NO. 7

TITLE:

FOUR-MILE VICINITY MAP

SITE NAME:

FRANKLIN PLASTICS CORP.
KEARNY, HUDSON COUNTY, NEW YORK

DATE: 2/22/95 | SCALE: 1" = 2000'

REPORT NUMBER: 8003-382

USGS TOPO NAME:

ORANGE, NEW JERSEY

REFERENCE NO. 8

MALCOLM PIRNIE, INC.	PROJECT NOTE

TO:	Project File	**DATE:**	August 24, 1995
FROM:	Bernard Pierre	**PROJECT #:**	8003-447
SUBJECT:	Drinking Water Sources	**SITE NAME:**	Franklin Plastic

The following towns are located within 4 miles of the Franklin Plastic Site: Kearny, North Arlington, Harrison, Newark, Belleville, Jersey City, East Orange, Bloomfield. They are listed below along with their sources of drinking water.

1) Kearny - Kearny obtains their drinking water from the Wanaque Reservoir.

2) North Arlington, and Harrison - They both obtain their drinking water from the Passaic Valley Water Commission who obtains the water from reservoirs located outside the surface water pathway.

3) Newark - Newark obtains their drinking water from reservoirs located outside of the surface water pathway.

4) Belleville and Bloomfield - They obtain their drinking water from Newark.

5) Jersey City - They obtain their drinking water from reservoirs located outside the surface water pathway.

6) East Orange - East Orange obtains their drinking water from wells which are located outside the four mile radius of the site.

7) Orange - Orange obtains their drinking water from wells and reservoirs which are located outside the four mile radius of the site.

Summary

There are no drinking water wells located within a four mile radius of the site, and no surface water intakes located along the 15-mile surface water pathway of the site.

ARCS II CONTRACT 68-W9-0051
MALCOLM PIRNIE, INC.
RECORD OF TELEPHONE CONVERSATION/AGREEMENT

File No. 8003-055 Bayonne Barrel & Drum Co.

Date: 7/16/92 Time: 10:00 [X] AM [ ] PM

[ ] Incoming Call From: _____ Telephone No.

Affiliation: _____

[X] Outgoing Call To: Sharon Steraple (201) 991-2700 Telephone No.

Affiliation: Kearny Water Dept.

Malcolm Pirnie Staff: Gary Bielen (609) 860-0100
(Receiving or Calling) Name Telephone No.

Summary of [X] Conversation [ ] Agreement:

The Town of Kearny receives its water from the Wanague Reservoir.

Kearny currently has 38,000 people receiving their drinking water from this source.

f:\rectele.jan(1)

ARCS II CONTRACT 68-W9-0051
MALCOLM PIRNIE, INC.
RECORD OF TELEPHONE CONVERSATION/AGREEMENT

File No. S002-092 Scientific Glass

Date: 2/24/92 Time: 1:34 [ ] AM [X] PM

[ ] Incoming Call From: _____ Telephone No.

Affiliation: _____

[X] Outgoing Call To: Bob Noe (201)-955-5665 Telephone No.

Affiliation: North Arlington water dept

Malcolm Pirnie Staff: Lisa Szegedi (609)-866-0100
(Receiving or Calling) Name Telephone No.

Summary of [ ] Conversation [ ] Agreement:

North Arlingtons buys water from Passaic Valley Water Co - Reservoir Water - no municipality owned wells
phone # for Passaic Valley Water Co (201)-340-4300

f:\rectelejan(1)

ARCS II CONTRACT 68-W9-0051
MALCOLM PIRNIE, INC.
RECORD OF TELEPHONE CONVERSATION/AGREEMENT

File No. 8002-002 Scientific Glass

Date: 2/24/92 Time: 1:52 [ ] AM [X] PM

[ ] Incoming Call From: _____ Telephone No.

Affiliation: _____

[X] Outgoing Call To: Tom Cifelli, supt (201)-268-2431 Telephone No.

Affiliation: Harrison water dept

Malcolm Pirnie Staff: Lisa Szegedi (609)-800-0100
(Receiving or Calling) Name Telephone No.

Summary of [ ] Conversation [ ] Agreement:

Harrison receives from Passaic Valley Water Commission - Upper Passaic River and Wanque Reservoir
NO municipally owned wells

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ARCS II CONTRACT 68-W9-0051
MALCOLM PIRNIE, INC.
RECORD OF TELEPHONE CONVERSATION/AGREEMENT

File No: 8003-447

Date: August 24, 1995 Time: 11:45 AM [x] PM [ ]

Outgoing Call

To: Ms. Wolmack (201) 733-6370
Telephone No.

Affiliation: City of Newark Water Department

Malcolm Pirnie Staff: Bernard Pierre (609) 860-0100
Telephone No.

Summary of Conversation:

Ms. Wolmack stated that the City of Newark obtains its drinking water from reservoirs (located outside of the surface water pathway).

ARCS II CONTRACT 68-W9-0051
MALCOLM PIRNIE, INC.
RECORD OF TELEPHONE CONVERSATION/AGREEMENT

File No: 8003-447

Date: August 24, 1995 Time: 12:00 AM [ ] PM [x]

Outgoing Call

To: Vince Voltaggio (201) 450-3442
Telephone No.

Affiliation: Belleville Department of Public Works

Malcolm Pirnie Staff: Bernard Pierre (609) 860-0100
Telephone No.

Summary of Conversation:

Mr. Voltaggio stated that the Town of Belleville obtains its drinking water from the City of Newark.

ARCS II CONTRACT 68-W9-0051
MALCOLM PIRNIE, INC.
RECORD OF TELEPHONE CONVERSATION/AGREEMENT

File No. 8002-092 Scientific Glass

Date: 2/24/92 Time: 10:30 [X] AM [ ] PM

[ ] Incoming Call From: _____ Telephone No.

Affiliation: _____

[X] Outgoing Call To: Dolores Lippert (201)-680-4051 Telephone No.

SS 2/24/92

Affiliation: ~~Ma~~ Bloomfield Water Dept

Malcolm Pirnie Staff: Lisa Szegedi (609)-860-0100
(Receiving or Calling) Name Telephone No.

Summary of [X] Conversation [ ] Agreement:

Bloomfield buys its water from Newark, and Newark gets its water from the Pequannock Reservoir
All residents of Bloomfield receive their drinking water from the above supply
There is one municipally owned well located in Memorial Park, however it was closed ~~sev~~ SS 2/24/92 several years ago and hasn't been used since

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ARCS II CONTRACT 68-W9-0051
MALCOLM PIRNIE, INC.
RECORD OF TELEPHONE CONVERSATION/AGREEMENT

File No. 8003-304

Date: 2/18/94 Time: 2:30 AM [] PM [x]

Outgoing Call

To: Larry Prins 201-547-4456 Telephone No.

Affiliation: Jersey City Water Department

Malcolm Pirnie Staff: Gary Bielen (609) 860-0100 Telephone No.

Summary of Conversation:

Jersey City receives their drinking water from the Boonton Reservoir in upstate New Jersey and the reservoir serves 50,000 customers in Jersey City, Hoboken, and North Arlington.

ARCS II CONTRACT 68-W9-0051
MALCOLM PIRNIE, INC.
RECORD OF TELEPHONE CONVERSATION/AGREEMENT

File No. 8002-092 Scientific Glass

Date: 2/24/92 Time: 1:54 [ ] AM [X] PM

[ ] Incoming Call From: _____ Telephone No.

Affiliation: _____

[X] Outgoing Call To: Tony Scillia (201)-266-8869 Telephone No.

Affiliation: East Orange water dept

Malcolm Pirnie Staff: Lisa Szegedi (609)-890-0100
(Receiving or Calling) Name Telephone No.

Summary of [X] Conversation [ ] Agreement:

East Orange has artesian wells - the wells are located in Livingston, Millburn and Florham Park. There are no municipal wells located in East Orange which are used for potable water

f:\rectele.jan(1)

ARCS II CONTRACT 68-W9-0051
MALCOLM PIRNIE, INC.
RECORD OF TELEPHONE CONVERSATION/AGREEMENT

File No. 8002-084

Date: 2/28/92 Time: 11:03 [X] AM [ ] PM

[ ] Incoming Call From: _____ Telephone No.

Affiliation: _____

[X] Outgoing Call To: Arlene Kemp (201)-266-4031 Telephone No.

Affiliation: Orange municipal engineer

Malcolm Pirnie Staff: Lisa Szegedi (609)-860-0100
(Receiving or Calling) Name Telephone No.

Summary of [X] Conversation [ ] Agreement:

Orange receives their municipal drinking water from wells and reservoirs The well water and reservoir water is blended in the same distribution system and then sent out Only Guest Place well is not blended with the rest - it is sent out separately The total population served is ~ 32000 people She doesn't have separate numbers for Guest Place well and then the blended system

There are 6 wells - 4 are in operation All except one is located in West Orange The other well is located in Orange. The wells are all drilled to ~~[illegible]~~ 2/28/92 an ~ depth of 500ft She doesn't know what aquifer they tap

f:\rectele.jan(1)

ARCS II CONTRACT 68-W9-0051
MALCOLM PIRNIE, INC.
RECORD OF TELEPHONE CONVERSATION/AGREEMENT

File No. 8003-193

Date: October 18, 1994 Time: 9:00 AM [X] PM []

Call

To: Marrinus deNoyer (201) 340-4311 Telephone No.

Affiliation: Passaic Valley Water Commission (PVWC)

Malcolm Pirnie Staff: Gary Bielen (609) 860-0100 Telephone No.

Summary of Conversation:

Mr. deNoyer stated that PVWC provides water to approximately 700,000 people in 24 municipalities in 5 counties. PVWC provides 100% and partial service to the following communities:

Towns (100%)	Towns (partial)
Bloomingdale	Garfield
Little Falls	Lodi
West Paterson	Fair Lawn
Elmwood Park	Wallington
Harrison	Hackensack Water Company (periodically)
Nutley	Haledon
Totowa	Fairfield
Verona	Cedar Grove

ARCS II CONTRACT 68-W9-0051
MALCOLM PIRNIE, INC.
RECORD OF TELEPHONE CONVERSATION/AGREEMENT
(Continued)

Towns (100%)	Towns (partial)
North Arlington	Lincoln Park
North Caldwell	Ringwood
Kearny (only an industrial park)	West Milford
	Morris County section

ARCS II CONTRACT 68-W9-0051
MALCOLM PIRNIE, INC.
RECORD OF TELEPHONE CONVERSATION/AGREEMENT

File No. 8003-297

Date: March 2, 1994 Time: 3:32 AM ☐ PM ■

Outgoing Call

To: Philip Roosa (201) 890-2485
Telephone No.

Affiliation: Passaic Valley Water Commission, Director

Malcolm Pirnie Staff: Rickey T. Kampfer (609) 860-0100
Telephone No.

Summary of Conversation:

Mr. Rosa related that the Passaic Valley Water Commission (PVWC) obtains it water from three surface water intakes located:

a. On the Pompton River (Wayne Twp., Jackson St.)
b. Two Bridges
c. Passiac River (Near Dam).

These intakes supply approximately a) 25 % b) 25 %. and c) 50 % of the total water used which supplies 2 million persons.

REFERENCE NO. 9

ARCS II CONTRACT 68-W9-0051
MALCOLM PIRNIE, INC.
RECORD OF TELEPHONE CONVERSATION/AGREEMENT

File No. 8003-313

Date: December 16, 1994

Time: 1:27 AM [] PM [X]

Call

To: James Gaffney

(609) 633 - 1179
Telephone No.

Affiliation: NJDEP - Bureau of Water Supply Planning

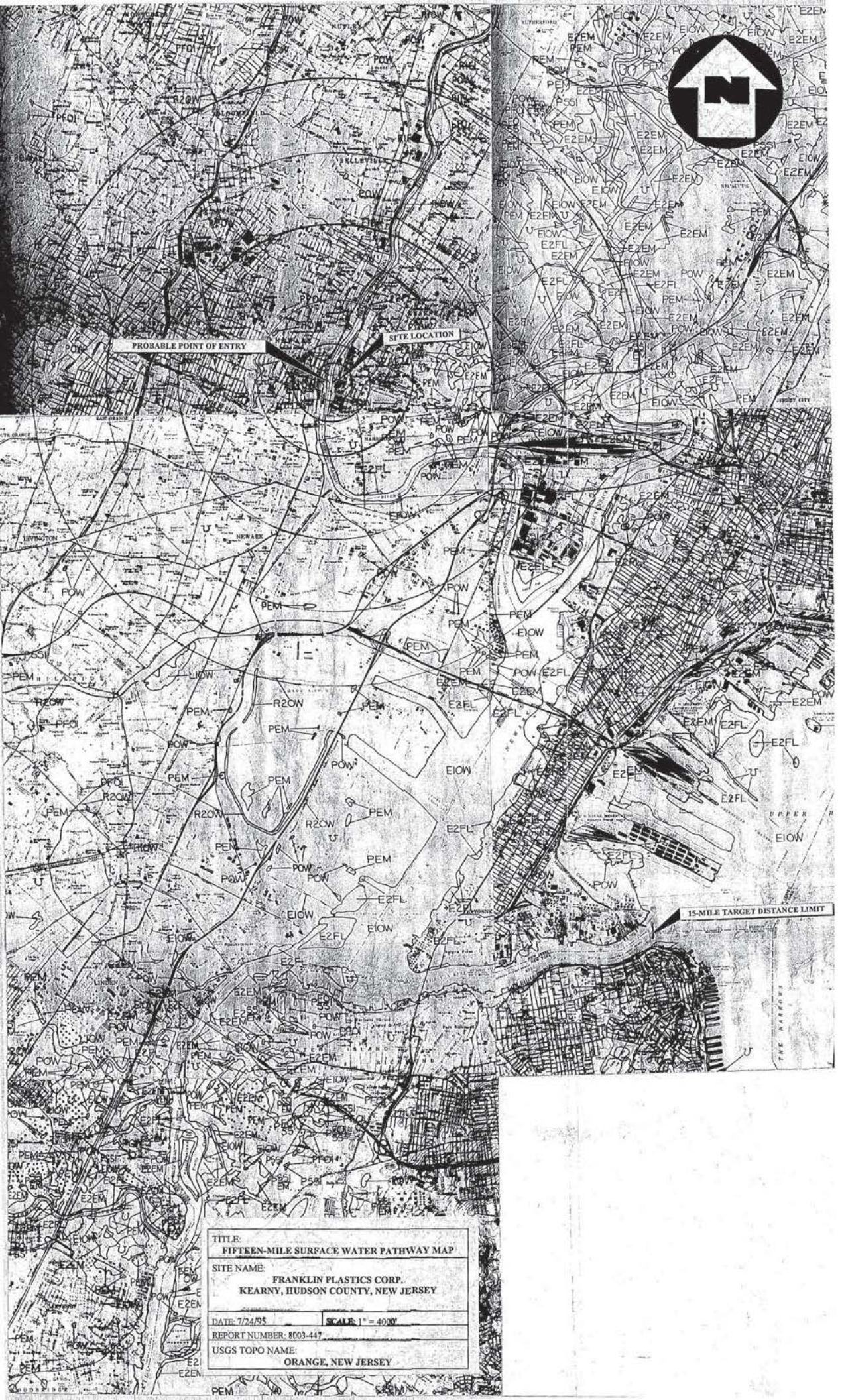
Malcolm Pirnie Staff: Gary Bielen GB

(609) 860-0100
Telephone No.

Summary of Conversation:

Wellhead Protection Areas are not yet delineated in the state of New Jersey.

REFERENCE NO. 10



TITLE:
FIFTEEN-MILE SURFACE WATER PATHWAY MAP

SITE NAME:
FRANKLIN PLASTICS CORP.
KEARNY, HUDSON COUNTY, NEW JERSEY

DATE: 7/24/95 SCALE: 1" = 4000'

REPORT NUMBER: 8003-447

USGS TOPO NAME:
ORANGE, NEW JERSEY

REFERENCE NO. 11

Surface Water Quality Standards

N.J.A.C. 7:9B

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND ENERGY

Office of Land and Water Planning
April 1994

A reclassification for more restrictive uses may be made when:

1. It is demonstrated to the satisfaction of the Department that the waters should be set aside to represent the natural aquatic environment and its associated biota; or

2. It is demonstrated to the satisfaction of the Department that a more restrictive use is necessary to protect a unique ecological system or threatened/endangered species.

(g) In those cases in which a thermal discharge is involved, the procedures for reclassifying segments for more restrictive uses shall be consistent with section 316 of the Federal Clean Water Act.

7:9B-1.12 Designated uses of FW1, PL, FW2, SE1, SE2, SE3, and SC waters

(a) In all FW1 waters the designated uses are:

1. Set aside for posterity to represent the natural aquatic environment and its associated biota;

2. Primary and secondary contact recreation;

3. Maintenance, migration and propagation of the natural and established aquatic biota; and

4. Any other reasonable uses.

(b) In all PL waters the designated uses are:

1. Cranberry bog water supply and other agricultural uses;

2. Maintenance, migration and propagation of the natural and established biota indigenous to this unique ecological system;

3. Public potable water supply after such treatment as required by law or regulations;

4. Primary and secondary contact recreation; and

5. Any other reasonable uses.

(c) In all FW2 waters the designated uses are:

1. Maintenance, migration and propagation of the natural and established biota;

2. Primary and secondary contact recreation;

3. Industrial and agricultural water supply;

4. Public potable water supply after such treatment as required by law or regulation; and

5. Any other reasonable uses.

(d) In all SE1 waters the designated uses are:

1. Shellfish harvesting in accordance with N.J.A.C. 7:12;

2. Maintenance, migration and propagation of the natural and established biota;

3. Primary and secondary contact recreation; and

4. Any other reasonable uses.

(e) In all SE2 waters the designated uses are:

1. Maintenance, migration and propagation of the natural and established biota;

2. Migration of diadromous fish;

3. Maintenance of wildlife;

4. Secondary contact recreation; and

5. Any other reasonable uses.

(f) In all SE3 waters the designated uses are:

1. Secondary contact recreation;

2. Maintenance and migration of fish populations;

3. Migration of diadromous fish;

4. Maintenance of wildlife; and

5. Any other reasonable uses.

g) In all SC waters the designated uses are:

1. Shellfish harvesting in accordance with N.J.A.C. 7:12;

2. Primary and secondary contact recreation;

3. Maintenance, migration and propagation of the natural and established biota; and

4. Any other reasonable uses.

7:9B-1.13 Designated uses of mainstem Delaware River and Delaware Bay as set forth in the "Delaware River Basin Commission, dministrative Manual - Part III Water Quality Regulations," rticle 3, dated May 22, 1991 including all amendments and future supplements thereto.

(a) The designated uses for the mainstem Delaware River and Delaware Bay are those contained in "Delaware River Basin Commission, Water Quality Regulations, Administrative Manual - Part III," Article 3, dated May 22, 1991, including all amendments and future supplements thereto.

(b) The designated uses for other waters under the jurisdiction of the DRBC are as set forth at N.J.A.C. 7:9B-1.15(d).

7:9B-1.14 Surface water quality criteria

(a) Surface water quality criteria for FW1 waters shall be maintained as to quality in their natural state.

(b) Surface water quality criteria for PL waters are as follows:

1. These waters shall be maintained as to quality in their existing state or that quality necessary to attain or protect the designated uses, whichever is more stringent.

   i. For Nitrate-Nitrogen a level of 2 mg/l shall be maintained in the surface waters unless it is shown that a lower level must be maintained to protect the existing surface water quality.

   ii. A pH level between 3.5 and 5.5 shall be maintained unless it is demonstrated that a pH level outside of that range is necessary to protect the existing/ designated uses.

(e) The surface water classifications in Table 3 are for waters of the Passaic, Hackensack and New York Harbor Complex Basin:

TABLE 3

Waterbody	Classification
APSHAWA BROOK (Macopin) - Entire length	FW2-TP(C1)
ARTHUR KILL	
(Perth Amboy) - The Kill and its saline New Jersey tributaries between the Outerbridge Crossing and a line connecting Ferry Pt., Perth Amboy to Wards Pt., Staten Island, New York	SE2
(Elizabeth) - From an east-west line connecting Elizabethport with Bergen Pt., Bayonne to the Outerbridge Crossing	SE3
(Woodbridge) - All freshwater tributaries	FW2-NT
BEAR SWAMP BROOK (Mahwah) - Entire length	FW2-TP(C1)
BEAR SWAMP LAKE (Ringwood State Park)	FW2-NT(C1)
BEAVER BROOK	
(Meriden) - From Splitrock Reservoir Dam downstream to Meriden Road Bridge	FW2-TP(C1)
(Denville) - Meriden Road Bridge to Rockaway River	FW2-NT
TRIBUTARIES	
(Meriden) - Two tributaries located approximately three quarters of a mile southwest of Meriden	FW2-TP(C1)
BEECH BROOK	
(West Milford) - From State line downstream to Monksville Reservoir	FW2-TM
BELCHER CREEK (W. Milford) - Entire length	FW2-NT
BERRYS CREEK (Secaucus) - Entire length	FW2-NT/SE2
BLACK BROOK	
(Meyersville) - Entire length, except segment described below	FW2-NT
(Great Swamp) - Segment and tributaries within the Great Swamp National Wildlife Refuge	FW2-NT(C1)
BLUE MINE BROOK	
(Wanaque) - Entire length, except segment described below	FW2-TM
(Norvin Green State Forest) - That portion of the stream and any tributaries within the Norvin Green State Forest	FW2-TM(C1)
BRUSHWOOD POND (Ringwood State Park)	FW2-TM(C1)

HAVEMEYER BROOK (Mahwah) - Entire length	FW2-TP(C1)
HEWITT BROOK (W. Milford) - Entire length	FW2-TP(C1)
HIBERNIA BROOK	
(Marcella) - Source to first Green Pond Road bridge downstream of Lake Emma	FW2-TP(C1)
(Hibernia) - First Green Pond Road bridge to confluence with Beaver Brook	FW2-TM
TRIBUTARY	
(Lake Ames) - Source to, but not including, Lake Ames	FW2-TP(C1)
HIGH MOUNTAIN BROOK (Ringwood) - Source to, but not including, Skyline Lake	FW2-TP(C1)
HOHOKUS BROOK (Hohokus) - Entire length	FW2-NT/SE2
HUDSON RIVER	
(Rockleigh) - River and saline portions of New Jersey tributaries from the New Jersey-New York boundary line in the north to its confluence with the Harlem River, New York	SE1
(Englewood Cliffs) - River and saline portions of New Jersey tributaries from the confluence with the Harlem River, New York to a north-south line connecting Constable Hook (Bayonne) to St. George (Staten Island, New York)	SE2
TRIBUTARIES	
(Rockleigh) - Freshwater portions of tributaries to the Hudson River in New Jersey	FW2-NT
INDIAN GROVE BROOK (Bernardsville) - Entire length	FW2-TP(C1)
JACKSON BROOK	
(Mine Hill) - Source to the boundary of Hurd Park, Dover	FW2-TP(C1)
(Dover) - Hurd Park to Rockaway River	FW2-NT
JENNINGS CREEK (W. Milford) - State line to Wanaque River	FW2-TP(C1)
JERSEY CITY RESERVOIR (Boonton)	FW2-TM
KANOUSE BROOK (Newfoundland) - Entire length	FW2-TP(C1)
KIKEOUT BROOK (Butler) - Entire length	FW2-NT
KILL VAN KULL (Bayonne) - Westerly from a north-south line connecting Constable Hook (Bayonne) to St. George (Staten Island, New York)	SE3
LAKE RICKONDA OUTLET STREAM (Monks) - That segment of the outlet stream from Lake Rickonda within Ringwood State Park	FW2-TM(C1)
LAKE STOCKHOLM BROOK	
(Stockholm) - Entire length, except tributaries described separately below	FW2-TP(C1)
(Stockholm) - Portion of westerly tributary, from its	FW1(tp)

origins to about 1000 feet south of the Route 23 bridge, located entirely within the boundaries of the Newark watershed	
(Stockholm) - Brook between Hamburg Turnpike and Vernon-Stockholm Rd. to its confluence with Lake Stockholm Brook, north of Rt. 23	FW1(tp)
LITTLE POND BROOK (Oakland) - Entire length	FW2-TP(C1)
LOANTAKA BROOK	
(Green Village) - Entire length, except segment described below	FW2-NT
(Great Swamp) - Brook and all tributaries within the boundaries of Great Swamp National Wildlife Refuge	FW2-NT(C1)
LUD-DAY BROOK (Camp Garfield) - Source downstream to its confluence with the southwestern outlet stream from Clinton Resevoir just upstream of the confluence of the outlet stream and a tributary from Camp Garfield	FW1
MACOPIN RIVER	
(Newfoundland) - Source to Echo Lake dam	FW2-NT
(Newfoundland) - Echo Lake dam to Pequannock River	FW2-TM
MEADOW BROOK (Wanaque) - Skyline Lake to Wanaque River	FW2-NT
MILL BROOK	
(Randolph) - Source to Rt. 10 bridge	FW2-TP(C1)
(Randolph) - Rt. 10 bridge to Rockaway River	FW2-NT
MONKSVILLE RESERVOIR (Long Pond Iron Works State Park)	FW2-TM(C1)
MORSES CREEK (Linden) - Entire length	FW2-NT/SE3
MOSSMANS BROOK (West Milford) - Source to confluence with Clinton Reservoir	FW2-TP(C1)
MT. TABOR BROOK (Morris Plains) - Entire length	FW2-NT
NEWARK BAY (Newark) - North of an east-west line connecting Elizabethport with Bergen Pt., Bayonne up to the mouths of the Passaic and Hackensack Rivers	SE3
NOSENZO POND (Upper Macopin)	FW2-NT(C1)
OAK RIDGE RESERVOIR (Oak Ridge)	FW2-TM
OAK RIDGE RESERVOIR (Oak Ridge) - Northwestern tributary to Reservoir	FW1(tm)
OHIO BROOK (Morris Township) - Source downstream to Morristown town line	FW2-TM
OVERPECK CREEK (Palisades Park) - Entire length	FW2-NT/SE2
PACACK BROOK	
(Canistear) - Brook and tributaries upstream of	FW1

Canistear Reservoir located entirely within the boundaries of the Newark Watershed	
(Stockholm) - Outlet of Canistear Reservoir to Pequannock River	FW2-NT
PASSAIC RIVER	
(Mendham) - Source to Interstate 287 bridge, except tributaries described separately below	FW2-TP(C1)
(Paterson) - Interstate 287 bridge to Dundee Lake dam	FW2-NT
(Little Falls) - Dundee Lake dam to confluence with Second River	FW2-NT/SE2
(Newark) - Confluence with Second River to mouth	SE3
TRIBUTARIES	
(Great Piece Meadows State Park) - Tributaries within Great Piece Meadows State Park	FW2-NT(C1)
PECKMAN RIVER (Verona) - Entire length	FW2-NT
PEQUANNOCK RIVER	
MAIN STEM	
(Vernon) - Source to confluence with Pacack Brook	FW1(tp)
(Hardyston) - Pacack Brook to, but not including, Macopin Reservoir or the tributaries described separately below	FW2-TM
(Kinnelon) - Macopin Reservoir outlet to Hamburg Turnpike bridge in Pompton Lakes Borough	FW2-TP(C1)
(Riverdale) - Hamburg Turnpike bridge in Pompton Lakes Borough to confluence with Wanaque River	FW2-TM
(Pompton Plains) - Confluence with Wanaque River downstream to confluence with Pompton River	FW2-NT
TRIBUTARIES	
(Copperas Mtn.) - Entire length	FW2-TP(C1)
(Smoke Rise) - Entire length	FW2-TP(C1)
(Green Pond Junction) - Tributary at Green Pond Junction from its origin downstream to Route 23	FW1(tm)
(Jefferson) - Tributary joining the main stem about 3500± feet southeast of the Sussex-Passaic County line, near Jefferson from its origin to about 2000 feet upstream of the pond	FW1(tm)
(Lake Kampfe) - Source to, but not including, Lake Kampfe	FW2-TM
(Lake Kampfe) - Lake Kampfe to Pequannock River, except tributary described separately below	FW2-NT
(Lake Kampfe) - Tributary within the boundaries of Norvin Green State Forest, originating west of Torne Mtn.	FW2-NT(C1)
PILES CREEK (Grasselli) - Entire length	SE3

REFERENCE NO. 12

MALCOLM PIRNIE, INC.	PROJECT NOTE

TO:	Project File	**DATE:**	August 15, 1995
FROM:	Bernard Pierre	**PROJECT #:**	8003-447
SUBJECT:	Fishery Information	**SITE NAME:**	Franklin Plastic Site

The Newark Bay Complex consists of the following waterbodies: Newark Bay, Passaic River (up to Dundee Dam), Hackensack River (up to Oradell Dam), Arthur Kill and Kill Van Kull. The sale or consumption of all fish, shellfish, or crustaceans from the Tidal Passaic River is prohibited: also sale or consumption of striped bass and blue crabs and sale of American eels from the entire complex is prohibited. Limited consumption of bluefish, white catfish, and white perch is advised by the New Jersey Department of Environmental Protection (NJDEP).

New Jersey
Fish & Wildlife DIGEST

1892-1992
100 Years of Conservation

FREE

A Summary of Rules and Management Information

New Jersey Department of Environmental Protection & Energy ■ Division of Fish, Game & Wildlife

Vol. 5 No. 4, April 1992

DIVISION CELEBRATES CENTENNIAL

Weakfish, Fluke & Other Rule Changes

by Thomas McCloy, Chief
Bureau of Marine Fisheries

During 1991, there have been a number of regulatory changes concerning marine species sought by New Jersey anglers, and 1992 promises to be an active year for implementation of various management measures. Those species highlighted here include weakfish, summer flounder (fluke) and striped bass.

Marine fisheries management can be a complex issue, because of the migratory nature of most species. As a result, regional and coastwide councils

weakfish harvested by otter trawls over time to be uniform for all fisheries in New Jersey. In addition, the commercial harvest of weakfish is prohibited during the periods from June 7 through June 30 and October 20 through December 31 with the exception of the otter trawl fishery during the latter closure period. It is also illegal to possess any weakfish [illegible] weakfish parts less than [illegible] inch minimum size. If weakfish [illegible] filleted at sea, the resultant fillets [illegible]

One Hundred Years of Conservation

by Bob McDowell, Director
Division of Fish, Game and Wildlife

This year marks the 100th anniversary of the Division of Fish, Game and Wildlife. As early as 1892, professionals in the field of wildlife management were working toward securing the future of fish and wildlife in our state.

Though concerns of citizens back then may have been a little different than today's issues, the underlying commitment to conservation—viewing our fish and wildlife as a valuable com[illegible] resource that, could, if [illegible] properly, survive and flourish [illegible]ions to come while adding of each and every one of us to travel it together; to obey and enforce the management measures in effect.

Here within the division, our focus is forever on the future and like those wise early conservationists, we too, are taking advantage of and acting upon foresight and knowledge.

To commemorate those first steps toward conservation, we have planned a list of activities to help celebrate our 100th anniversary. I want to invite each and every one of you to take part in and enjoy this celebration.

Watch for an historical documentary [illegible]

ENVIRONMENTAL PROTECTION

HOW TO REDUCE CONSUMER EXPOSURE TO FISH CONTAMINATED WITH TOXIC CHEMICALS (PCB's, DIOXINS, CHLORDANE, ETC.)

STATEWIDE ADVISORY and/or PROHIBITION:

Striped Bass—all sales prohibited.

American Eels—advised limited consumption (especially the Northeast region).

Bluefish—advised limited consumption of large bluefish (over six pounds or 24 inches).

A. NEWARK BAY COMPLEX

Prohibited—sale or consumption of all fish, shellfish, or crustaceans from the Tidal Passaic River; sale or consumption of striped bass and blue crabs and sale of American eels from the entire complex. Advised—limited consumption of bluefish, white catfish, white perch.

Newark Bay Complex includes Newark Bay, Passaic River (up to Dundee Dam), Hackensack River (up to Oradell Dam), Arthur Kill and Kill van Kull and tidal portions of all tributaries.*

B. HUDSON RIVER (NJ waters)

Advised—very limited consumption of striped bass and limited consumption of white perch, white catfish and bluefish. Prohibited—sale of American eels.

Hudson River includes the River up to the NJ-NY border, approximately four miles above Alpine, N.J., and Upper New York Bay.*

C. LOWER NEW YORK BAY

Lower New York Bay is not in New Jersey State waters. While New Jersey's guidelines may be helpful, fishermen in NY waters, including Lower New York Bay and the NY part of the Upper New York Bay and Hudson River should also consult New York State's advisories, which are similar to New Jersey's.* For information on NY's advisories contact NY DEC, Bldg. 40, SUNY, Stony Brook, NY 11794: 516-751-7900.

D. RARITAN BAY COMPLEX

Advised—limited consumption of bluefish, striped bass, white catfish and white perch.

Raritan Bay Complex includes the NJ portion of Sandy Hook and Raritan Bays and the tidal portion of the Raritan River upstream to the Rt. 1 bridge and New Brunswick and the tidal portions of all tributaries.*

E. NORTHERN COASTAL WATERS

Advised—limited consumption of striped bass.

Northern Coastal Waters includes all coastal waters from Raritan Bay south to Barnegat Inlet.

F. CAMDEN AREA

Prohibited—sale and consumption of all fish, crustaceans and shellfish.

Camden Area includes Strawbridge Lake, Pennsauken Creek (N and S Branches), Cooper River and its drainage, Cooper River Lake, Stewart Lake, and Newton Lake.*

G. SOUTHERN DELAWARE RIVER

Advised—against consumption of channel catfish.

Prohibited—sale of channel catfish.

Southern Delaware River refers to that area of the River between Interstate 276 bridge, Burlington Township, Burlington County, and Birch Creek, Logan Township, Gloucester County, approximately at the PA-DE border across the River (approx. 2 miles below the Commodore Barry Bridge).*

*Detailed delineations of areas are for purposes of these guidelines only (under N.J.A.C. 7:25-18A, etc.).

DEFINITIONS

Limited Consumption=mean person should consume not mor one meal per week of such fis persons of *high risk* such as pr women, nursing mothers, wom child bearing age and young ch should not eat *any such fish* from the designated regions.

Very Limited Consumption same as above except to further consumption to no more than or per month.

PREPARATION SUGGESTION REDUCE EXPOSURE TO CONTAMINANTS

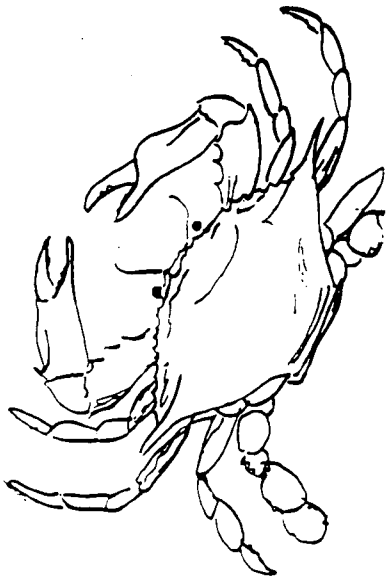
1) Remove belly flaps, backstr lateral-line tissue prior to cool

2) Broil on elevated rack: water; can fish without skins.

3) Never use the liquid whi tains oils and fats as a food i

4) Avoid coatings which hold or fats.

This article draws from pr published information developed Division of Science and Research. detailed data on history, health eff write to Paul Hauge, NJ DEPE, Div & Research, CN409, Trenton, NJ



REFERENCE NO. 13

MALCOLM PIRNIE, INC.			PROJECT NOTE
TO:	Project File	**DATE:**	August 14, 1995
FROM:	Bernard Pierre	**PROJECT #:**	8003-447
SUBJECT:	Sensitive Environment	**SITE NAME:**	Franklin Plastic

Sensitive environments for the Franklin Plastic site were determined from the 4-mile vicinity map, 15-mile surface water pathway map, and a letter from the New Jersey Department of Environmental Protection, Division of Parks and Forestry, Office of Natural Lands Management Natural Heritage Program. According to this information, there are two Federally-listed endangered species located within four miles of the site. There is one Federally endangered species located along the 15-mile surface water pathway. There are seven New Jersey State listed endangered species and one New Jersey State-listed threatened species located within four miles of the site. There is one New Jersey State-listed endangered species located along the 15-mile surface water pathway.

The Federally-listed endangered species located within 4-miles of the site:
Species 1; Vertebrate, Scientific Name: Falco Peregrinus, Common Name: Peregrine Falcon
Species 2; Invertebrates, Scientific Name: Nicrophorus Americanus, Common Name: American Burying Beetle

The New Jersey State-listed endangered species located within 4-miles of the site:
Species 1; Vertebrate, Scientific Name: Falco Peregrinus, Common Name: Peregrine Falcon
Species 2; Invertebrates, Scientific Name: Nicrophorus Americanus, Common Name: American Burying Beetle
Species 3; Vertebrates, Scientific Name: Cistothorus Platensis, Common Name: Sedge Wren
Species 4; Vertebrates, Scientific Name: Podilymbus Podiceps, Common Name: Pied-Billed Grebe
Species 5; Vascular Plants, Scientific Name: Lemna Perpusilla, Common Name: Minute Duckweed
Species 6; Vascular Plants, Scientific Name: Phlox Pilosa, Common Name: Downy Phlox
Species 7; Vascular Plants, Scientific Name: Prenanthes Racemes, Common Name: Smooth Rattlesnake Root

The New Jersey State-listed threatened species located within 4-miles of the site:
Species 1; Vertebrates, Scientific Name: Passerculus Sandwichensis, Common Name: Savannah Sparrow

The Federally-listed endangered species located along the 15-mile surface water pathway:
Species 1; Vertebrate, Scientific Name: Falco Peregrinus, Common Name: Peregrine Falcon

The New Jersey State-listed endangered species located along the 15-mile surface water pathway:
Species 1; Vertebrate, Scientific Name: Falco Peregrinus, Common Name: Peregrine Falcon

The records, which are not publicly releasable, can be found in the Friedrichsohn's Cooperage site working file which is located at the US Environmental Protection Agency, Edison, New Jersey.

REFERENCE NO. 14

MALCOLM PIRNIE, INC.			PROJECT NOTE
TO:	Project File	**DATE:**	August 22, 1995
FROM:	Bernard Pierre	**PROJECT #:**	8003-447
SUBJECT:	Wetlands Acreage & Frontage	**SITE NAME:**	Franklin Plastic Site

The following table summarizes the wetlands acreage for the Franklin Plastic site.

Distance From Site	Wetlands Acreage
0 - ¼ mile	0
¼ - ½ mile	0
½ - 1 mile	0
1 - 2 mile	16
2 - 3 mile	45
3 - 4 mile	163
Total	224

Acreage was obtained using the U. S. Geological Survey Topographic Maps. Map quads used include:

Orange, NJ
Jersey City, NJ-NY
Elizabeth, NJ-NY
Weehawken, NJ-NY
Arthur Kill, NJ

The surface water pathway for the site is the Passaic River, Newark Bay, Arthur Kill, Kill Van Kull.

Wetland Frontage along the surface water pathway for the Franklin Plastic site.

Waterbody	Wetlands Frontage in miles
Passaic River	1.06
Newark Bay	4.05
Kill Van Kull	0.19
Arthur Kill	1.14

REFERENCE NO. 15

MALCOLM PIRNIE, INC.		PROJECT NOTE	
TO:	Project File	**DATE:**	July 28, 1995
FROM:	Bernard Pierre	**PROJECT #:**	8003-447
SUBJECT:	Population	**SITE NAME:**	Franklin Plastics

The following table summarizes the population for each ring of the Franklin Plastics site.

Distance From Site	Population
0 - ¼ mile	1336
¼ - ½ mile	11139
½ - 1 mile	45096
1 - 2 mile	129906
2 - 3 mile	159147
3 - 4 mile	176980
0 - 4 mile	523604

The population was obtained using the following U.S. Geological Survey Topographic Maps:

Jersey City, NJ-NY
Orange, NJ
Elizabeth, NJ-NY
Weehawken, NJ-NY

FROST ASSOCIATES

P.O.Box 495, Essex, Connecticut 06426
(203) 767-7644 FAX (203) 767-1971

July 28, 1995

To: Malcolm Pirnie Inc
104 Interchange Plaza
Cranbury, New Jersey 08512-8543

Attn: Lilli Gonzalez

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

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

Sub: Franklin Plastics
Kearny, NJ

CERCLIS:

Job: 8003-447-701

Site Longitude: 74-09-53 74.164719
Site Latitude : 40-45-16 40.754440

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

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

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

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

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

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

A method to solve for the area of a polygon is to take one-half the sum of the pro-

ducts obtained by multiplying each X-coordinate by the difference between the adjacent Y-coordinates. For a polygon with coordinates at adjacent angles A, B, C, D, and E. The formula can be expressed:

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

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

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

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

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

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

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

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

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

Franklin Plastics
Kearny, NJ

No.	City	Block Group ID	Blk Grp People	House Holds	Public Water	Drilled Wells	Dug Wells	Other
1	Lyndhurst	34003 0311 9	56	21	22	0	0	0
2	Lyndhurst	34003 0313 1	628	260	243	0	0	0
3	Lyndhurst	34003 0313 2	784	339	333	0	0	0
4	Lyndhurst	34003 0313 3	851	396	398	0	0	0
5	Lyndhurst	34003 0313 4	806	328	329	0	0	0
6	Lyndhurst	34003 0313 5	801	327	342	0	0	0
7	Lyndhurst	34003 0314 2	655	279	297	0	0	0
8	Lyndhurst	34003 0314 3	583	235	240	0	0	0
9	Lyndhurst	34003 0314 4	888	366	357	0	0	0
10	Lyndhurst	34003 0314 5	893	375	372	0	0	0
11	North Arlington	34003 0381 1	751	323	289	0	0	0
12	North Arlington	34003 0381 2	855	404	414	0	0	0
13	North Arlington	34003 0381 3	584	300	309	0	0	0
14	North Arlington	34003 0381 4	707	301	312	0	0	0
15	North Arlington	34003 0381 5	996	446	461	0	0	0
16	North Arlington	34003 0381 6	392	256	260	0	0	0
17	North Arlington	34003 0381 7	608	285	270	0	0	0
18	North Arlington	34003 0381 9	0	0	0	0	0	0
19	North Arlington	34003 0382 1	742	326	328	0	0	0
20	North Arlington	34003 0382 2	764	386	372	0	0	0
21	North Arlington	34003 0382 3	603	390	396	0	0	0
22	North Arlington	34003 0382 4	373	235	223	0	0	0
23	North Arlington	34003 0382 5	931	549	567	0	0	0
24	North Arlington	34003 0383 1	743	297	294	0	0	0
25	North Arlington	34003 0383 2	656	266	250	0	0	0
26	North Arlington	34003 0383 3	1037	439	438	0	0	0
27	North Arlington	34003 0383 5	969	394	392	0	0	0
28	North Arlington	34003 0383 6	1194	464	474	0	0	6
29	North Arlington	34003 0383 7	885	345	351	0	0	0
30	Newark	34013 0001 1	1602	516	530	0	0	8
31	Newark	34013 0001 2	1648	981	944	7	0	0
32	Newark	34013 0001 3	1044	354	362	0	0	0
33	Newark	34013 0002 1	1148	821	790	0	0	0
34	Newark	34013 0002 2	1552	504	573	0	0	0
35	Newark	34013 0003 1	3553	1620	1582	0	0	0
36	Newark	34013 0004 1	1911	776	764	0	0	0
37	Newark	34013 0005 1	644	227	254	0	0	0
38	Newark	34013 0005 2	858	307	319	0	0	0
39	Newark	34013 0006 1	477	219	208	0	0	0
40	Newark	34013 0006 2	1477	592	575	0	0	0
41	Newark	34013 0006 3	1421	457	458	0	0	0
42	Newark	34013 0007 1	1806	533	506	0	0	0
43	Newark	34013 0007 2	2787	990	1089	0	0	0
44	Newark	34013 0007 3	761	259	243	0	0	8
45	Newark	34013 0008 1	1812	646	697	0	0	0
46	Newark	34013 0008 2	2373	621	506	0	0	0
47	East Orange	34013 0009 1	2175	770	820	0	0	0
48	East Orange	34013 0009 2	1282	358	349	0	0	0
49	East Orange	34013 0009 3	940	275	264	0	0	0
50	East Orange	34013 0009 4	468	232	258	0	0	0
51	East Orange	34013 0009 5	418	186	176	0	0	0
52	Newark	34013 0010 1	1284	262	265	0	0	0
53	Newark	34013 0010 2	862	240	218	0	0	0
54	Newark	34013 0011 1	113	44	37	0	0	0
55	Newark	34013 0011 2	612	194	174	0	0	0

56	Newark	34013	0013	1	998	337	347	0	0	0
57	Newark	34013	0013	2	729	308	298	0	0	0
58	Newark	34013	0014	1	1783	616	598	0	0	0
59	Newark	34013	0014	2	1681	580	598	0	0	0
60	Newark	34013	0015	1	346	115	114	0	0	0
61	Newark	34013	0015	2	1439	514	543	0	0	0
62	Newark	34013	0016	1	572	210	166	0	0	0
63	Newark	34013	0016	2	679	248	267	0	0	0
64	Newark	34013	0016	3	810	198	246	0	0	0
65	Newark	34013	0016	4	2	5	0	0	0	0
66	Newark	34013	0017	1	788	346	345	0	0	0
67	Newark	34013	0017	2	1692	692	646	0	0	0
68	Newark	34013	0018	1	1202	432	414	0	0	22
69	Newark	34013	0018	2	1359	553	522	0	0	0
70	Newark	34013	0019	1	644	201	190	0	0	5
71	Newark	34013	0019	2	527	173	177	0	0	0
72	Newark	34013	0019	3	1421	537	566	0	0	0
73	Newark	34013	0020	1	946	315	325	0	0	0
74	Newark	34013	0020	2	2425	1073	1088	0	0	0
75	Newark	34013	0020	3	1182	434	409	0	0	0
76	Newark	34013	0021	1	1453	450	517	0	0	0
77	Newark	34013	0021	2	1142	347	328	0	0	0
78	Newark	34013	0021	3	292	94	67	0	0	0
79	Newark	34013	0021	4	935	277	256	0	0	0
80	Newark	34013	0022	1	833	341	334	0	0	0
81	Newark	34013	0022	2	542	180	174	0	0	0
82	Newark	34013	0022	5	1762	659	672	0	0	0
83	Newark	34013	0023	1	1521	488	512	0	0	0
84	Newark	34013	0023	2	924	312	298	0	0	0
85	Newark	34013	0023	3	1586	552	531	0	0	0
86	Newark	34013	0023	4	981	371	382	0	0	0
87	Newark	34013	0024	1	3298	1068	1070	0	0	0
88	Newark	34013	0024	2	944	312	310	0	0	0
89	Newark	34013	0025	1	1118	358	358	0	0	0
90	Newark	34013	0025	2	2114	626	633	0	0	0
91	Newark	34013	0025	3	1965	619	573	0	0	0
92	Newark	34013	0026	1	872	286	297	8	0	0
93	Newark	34013	0026	2	1237	419	439	0	0	0
94	Newark	34013	0027	1	788	334	333	0	0	0
95	Newark	34013	0028	1	733	281	272	0	0	8
96	Newark	34013	0028	2	427	134	134	0	0	0
97	Newark	34013	0029	1	588	99	98	0	0	0
98	Newark	34013	0029	2	657	201	191	0	0	0
99	Newark	34013	0030	1	1703	735	733	0	0	0
100	Newark	34013	0030	2	171	64	65	0	0	0
101	Newark	34013	0031	1	958	935	945	0	0	0
102	Newark	34013	0031	2	1191	639	641	0	0	0
103	Newark	34013	0032	1	617	254	256	0	0	0
104	Newark	34013	0034	1	686	210	191	0	0	0
105	Newark	34013	0034	2	500	147	160	0	0	0
106	Newark	34013	0035	1	2493	747	740	0	0	0
107	Newark	34013	0035	2	979	262	275	0	0	0
108	Newark	34013	0037	1	1362	443	490	0	0	0
109	Newark	34013	0037	2	1190	382	364	0	0	0
110	Newark	34013	0038	1	563	224	233	0	0	0
111	Newark	34013	0038	3	1189	430	392	0	0	0
112	Newark	34013	0039	1	505	120	99	0	0	0
113	Newark	34013	0039	2	2449	1093	1141	0	0	0
114	Newark	34013	0040	1	724	261	261	0	0	0
115	Newark	34013	0040	2	486	142	115	0	0	0
116	Newark	34013	0041	1	1259	453	462	0	0	0

117	Newark	34013	0041	2	1237	388	377	0	0	0
118	Newark	34013	0041	3	1461	436	438	0	0	0
119	Newark	34013	0042	1	2421	789	803	0	0	0
120	Newark	34013	0042	2	1704	538	524	0	0	0
121	Newark	34013	0043	1	902	320	311	0	0	0
122	Newark	34013	0043	2	389	129	115	0	0	0
123	Newark	34013	0043	3	1171	335	305	0	0	0
124	Newark	34013	0043	4	35	8	0	0	0	0
125	Newark	34013	0044	1	1145	396	403	0	0	0
126	Newark	34013	0044	2	1107	380	434	0	0	0
127	Newark	34013	0045	1	1381	483	461	0	0	0
128	Newark	34013	0046	1	1682	611	649	0	0	0
129	Newark	34013	0046	2	896	386	372	0	0	0
130	Newark	34013	0047	1	1494	488	504	0	0	0
131	Newark	34013	0047	5	1137	388	375	0	0	0
132	Newark	34013	0049	1	982	388	380	0	0	0
133	Newark	34013	0049	2	1150	458	478	0	0	0
134	Newark	34013	0049	3	2245	794	782	0	0	0
135	Newark	34013	0050	1	1033	453	517	0	0	0
136	Newark	34013	0050	2	196	81	96	0	0	0
137	Newark	34013	0051	1	598	210	205	0	0	0
138	Newark	34013	0051	2	1366	454	404	0	0	0
139	Newark	34013	0051	3	630	227	203	0	0	0
140	Newark	34013	0052	1	675	214	196	0	0	0
141	Newark	34013	0052	2	778	242	244	0	0	0
142	Newark	34013	0053	1	1071	323	310	0	0	0
143	Newark	34013	0053	2	1361	429	434	0	0	0
144	Newark	34013	0053	3	334	104	88	0	0	0
145	Newark	34013	0054	1	2110	713	750	12	0	0
146	Newark	34013	0054	2	1861	647	638	0	0	0
147	Newark	34013	0055	1	697	220	197	0	0	0
148	Newark	34013	0056	1	275	101	104	0	0	0
149	Newark	34013	0056	2	568	222	211	0	0	0
150	Newark	34013	0056	3	0	0	0	0	0	0
151	Newark	34013	0057	1	415	144	161	0	0	0
152	Newark	34013	0057	2	265	100	97	0	0	0
153	Newark	34013	0057	3	568	214	225	0	0	0
154	Newark	34013	0057	4	174	55	63	0	0	0
155	Newark	34013	0057	5	432	149	154	0	0	0
156	Newark	34013	0057	6	139	50	39	0	0	0
157	Newark	34013	0058	1	1093	416	418	0	0	0
158	Newark	34013	0058	2	922	337	334	0	0	0
159	Newark	34013	0059	1	284	102	96	0	0	0
160	Newark	34013	0059	2	562	219	219	0	0	0
161	Newark	34013	0059	3	821	350	348	0	0	0
162	Newark	34013	0060	1	1207	549	562	0	0	0
163	Newark	34013	0062	1	2887	1384	1360	0	0	0
164	Newark	34013	0063	1	3014	1545	1615	0	0	0
165	Newark	34013	0063	2	309	132	125	0	0	0
166	Newark	34013	0064	1	162	106	98	0	0	0
167	Newark	34013	0064	2	124	69	73	0	0	0
168	Newark	34013	0064	3	306	137	116	0	0	0
169	Newark	34013	0065	1	45	81	67	0	0	0
170	Newark	34013	0066	1	3224	1493	1490	0	0	0
171	Newark	34013	0067	1	1171	691	812	0	0	0
172	Newark	34013	0067	2	1703	641	579	0	0	0
173	Newark	34013	0067	3	696	241	224	0	0	0
174	Newark	34013	0068	1	1448	512	486	0	0	0
175	Newark	34013	0068	2	398	141	93	0	0	0
176	Newark	34013	0068	3	70	22	19	0	0	0
177	Newark	34013	0068	4	995	333	371	0	0	0

178	Newark	34013	0069	1	1766	676	681	0	0	0
179	Newark	34013	0069	2	1298	500	503	0	0	0
180	Newark	34013	0070	1	2322	889	897	0	0	0
181	Newark	34013	0070	2	995	384	384	0	0	0
182	Newark	34013	0071	1	1326	535	533	0	0	0
183	Newark	34013	0071	2	241	87	77	0	0	0
184	Newark	34013	0071	3	1062	437	433	0	0	0
185	Newark	34013	0072	1	3241	1158	1149	0	0	0
186	Newark	34013	0073	1	654	221	234	0	0	0
187	Newark	34013	0073	2	1511	538	508	0	0	0
188	Newark	34013	0073	3	1299	529	555	0	0	0
189	Newark	34013	0074	1	26	4	0	0	0	0
190	Newark	34013	0074	2	1600	614	627	0	0	7
191	Newark	34013	0076	1	289	115	109	0	0	0
192	Newark	34013	0076	2	847	324	339	0	0	0
193	Newark	34013	0076	3	1497	563	597	0	0	0
194	Newark	34013	0077	1	1399	556	578	0	0	0
195	Newark	34013	0077	2	1086	459	468	0	0	0
196	Newark	34013	0078	1	1370	544	494	0	0	0
197	Newark	34013	0078	2	1329	497	516	0	0	0
198	Newark	34013	0079	1	1585	571	560	0	0	0
199	Newark	34013	0079	2	343	125	144	0	0	0
200	Newark	34013	0079	3	713	249	244	0	0	0
201	Newark	34013	0079	4	1446	603	600	0	0	0
202	Newark	34013	0080	1	247	2	1	0	0	0
203	Newark	34013	0080	2	199	129	123	0	0	0
204	Newark	34013	0080	3	927	386	329	0	0	0
205	Newark	34013	0080	4	376	142	108	0	0	0
206	Newark	34013	0081	1	18	1	0	0	0	0
207	Newark	34013	0081	2	1457	1139	1238	0	0	0
208	Newark	34013	0081	3	1796	765	780	0	0	0
209	Newark	34013	0081	4	54	62	68	0	0	0
210	Newark	34013	0082	1	611	215	213	0	0	0
211	Newark	34013	0082	3	764	387	368	0	0	0
212	Newark	34013	0083	1	19	6	5	0	0	0
213	Newark	34013	0083	2	323	17	0	0	0	0
214	Newark	34013	0083	3	422	166	150	0	0	0
215	Newark	34013	0084	1	950	547	582	0	0	0
216	Newark	34013	0084	2	0	0	0	0	0	0
217	Newark	34013	0084	3	154	59	52	0	0	0
218	Newark	34013	0085	1	312	61	67	0	0	0
219	Newark	34013	0085	2	540	85	101	0	0	0
220	Newark	34013	0085	3	523	162	150	0	0	0
221	Newark	34013	0085	4	61	44	38	0	0	0
222	Newark	34013	0085	5	1198	129	131	0	0	0
223	Newark	34013	0086	1	1726	1208	1214	0	0	0
224	Newark	34013	0086	2	1186	397	384	0	0	7
225	Newark	34013	0087	1	61	37	27	0	0	10
226	Newark	34013	0087	2	628	222	235	0	0	0
227	Newark	34013	0087	3	1284	370	378	0	0	0
228	Newark	34013	0087	4	1506	502	510	0	0	0
229	Newark	34013	0088	1	913	297	298	0	0	0
230	Newark	34013	0088	2	611	170	183	0	0	0
231	Newark	34013	0089	1	2373	731	688	0	0	0
232	Newark	34013	0090	1	1713	824	816	0	0	7
233	Newark	34013	0091	1	3196	983	928	35	0	5
234	Newark	34013	0092	1	252	70	81	0	0	0
235	Newark	34013	0092	2	577	188	176	0	0	0
236	Newark	34013	0092	3	2051	544	561	0	0	0
237	Newark	34013	0093	1	2608	805	878	0	0	0
238	Newark	34013	0093	2	2303	752	671	0	8	0

239	Newark	34013	0094	1	402	118	123	0	0	0
240	Newark	34013	0094	2	1997	1101	1056	0	0	0
241	Newark	34013	0094	3	2769	985	1036	0	0	0
242	Newark	34013	0094	4	667	204	193	0	0	0
243	Newark	34013	0095	1	1063	333	317	0	0	0
244	Newark	34013	0095	2	3847	1615	1607	0	0	0
245	Newark	34013	0095	3	838	268	281	0	0	0
246	Newark	34013	0095	4	414	125	136	0	0	0
247	Newark	34013	0096	1	1286	368	396	0	0	0
248	Newark	34013	0096	2	963	290	279	0	0	0
249	Newark	34013	0096	3	547	189	211	0	0	0
250	Newark	34013	0096	4	1063	330	291	0	0	0
251	Newark	34013	0097	1	701	234	237	0	0	0
252	Newark	34013	0097	2	2722	855	819	16	0	0
253	Newark	34013	0097	3	1523	487	535	0	0	0
254	Newark	34013	0098	1	88	42	30	0	0	0
255	Newark	34013	0098	2	0	0	0	0	0	0
256	Newark	34013	0098	9	1747	1	0	0	0	0
257	East Orange	34013	0099	1	931	332	307	14	0	0
258	East Orange	34013	0099	2	686	261	230	0	0	0
259	East Orange	34013	0099	3	898	537	579	0	0	0
260	East Orange	34013	0100	1	385	109	99	0	0	0
261	East Orange	34013	0100	2	1468	581	595	0	0	0
262	East Orange	34013	0100	3	1452	519	523	0	0	0
263	East Orange	34013	0101	1	1008	361	340	0	0	0
264	East Orange	34013	0101	2	645	224	222	0	0	0
265	East Orange	34013	0101	3	1336	388	405	0	13	0
266	East Orange	34013	0102	1	1261	638	647	0	0	0
267	East Orange	34013	0102	2	934	312	280	15	0	0
268	East Orange	34013	0102	3	1278	440	474	0	0	12
269	East Orange	34013	0102	4	1155	326	316	0	0	0
270	East Orange	34013	0102	5	656	182	157	0	0	0
271	East Orange	34013	0103	1	344	129	87	0	0	0
272	East Orange	34013	0103	2	2101	631	620	0	0	0
273	East Orange	34013	0103	3	1450	491	494	0	0	0
274	East Orange	34013	0103	4	987	477	527	0	0	0
275	East Orange	34013	0104	1	1280	524	506	0	0	0
276	East Orange	34013	0104	2	3700	1990	2008	0	0	0
277	East Orange	34013	0105	1	1455	557	549	0	0	0
278	East Orange	34013	0105	2	1820	785	684	0	0	0
279	East Orange	34013	0105	3	1459	644	679	0	0	0
280	East Orange	34013	0106	1	1894	694	719	0	0	0
281	East Orange	34013	0106	2	579	311	363	0	0	0
282	East Orange	34013	0106	3	3041	1335	1332	0	0	0
283	East Orange	34013	0107	1	1958	613	606	0	0	0
284	East Orange	34013	0107	2	877	248	253	0	0	0
285	East Orange	34013	0107	3	1353	449	451	0	0	0
286	East Orange	34013	0108	1	1529	552	574	0	0	0
287	East Orange	34013	0108	2	1802	553	505	0	0	0
288	East Orange	34013	0109	1	1	3	2	0	0	0
289	East Orange	34013	0109	2	1206	423	410	0	0	0
290	East Orange	34013	0109	3	931	337	352	0	0	0
291	East Orange	34013	0109	4	664	268	293	0	0	0
292	East Orange	34013	0110	1	852	357	318	0	0	0
293	East Orange	34013	0110	2	201	66	53	0	0	0
294	East Orange	34013	0111	1	180	73	73	0	0	0
295	East Orange	34013	0111	2	3949	2077	2129	0	0	0
296	East Orange	34013	0112	1	672	393	377	0	0	0
297	East Orange	34013	0112	2	1774	590	608	0	0	0
298	East Orange	34013	0112	3	982	341	340	0	0	0
299	East Orange	34013	0113	1	352	147	151	0	0	0

300	East Orange	34013	0113	2	996	271	272	0	0	0
301	East Orange	34013	0113	3	2091	776	770	0	0	0
302	East Orange	34013	0113	4	271	119	119	0	0	0
303	East Orange	34013	0114	1	2866	1529	1565	0	0	0
304	East Orange	34013	0114	2	1469	464	428	0	0	0
305	East Orange	34013	0115	1	1103	362	342	0	0	0
306	East Orange	34013	0115	2	995	339	319	0	0	0
307	East Orange	34013	0115	3	547	221	175	0	0	9
308	East Orange	34013	0116	1	3184	1129	1194	0	0	12
309	East Orange	34013	0117	1	1059	500	486	0	0	0
310	East Orange	34013	0117	2	690	297	269	0	0	0
311	East Orange	34013	0117	3	683	259	257	0	0	0
312	East Orange	34013	0117	4	1152	451	448	0	0	0
313	East Orange	34013	0118	1	363	122	141	0	0	0
314	East Orange	34013	0118	2	883	300	284	0	0	5
315	East Orange	34013	0118	3	1753	596	611	0	0	0
316	Irvington	34013	0119	1	1324	581	639	0	0	0
317	Irvington	34013	0119	2	635	317	309	0	0	0
318	Irvington	34013	0123	1	1259	509	463	0	0	0
319	Irvington	34013	0123	2	1618	666	745	0	0	0
320	Irvington	34013	0123	3	1071	429	434	0	0	0
321	Irvington	34013	0123	4	871	301	263	0	0	0
322	Irvington	34013	0124	1	1900	1001	1043	0	0	0
323	Irvington	34013	0125	1	657	270	286	0	0	0
324	Irvington	34013	0125	2	975	356	370	0	0	0
325	Irvington	34013	0125	3	891	350	355	0	0	0
326	Irvington	34013	0125	4	1751	748	713	0	0	0
327	Irvington	34013	0126	1	405	143	113	0	0	0
328	Irvington	34013	0126	2	1412	562	572	0	0	0
329	Irvington	34013	0126	3	936	393	384	0	0	0
330	Irvington	34013	0126	4	922	318	332	0	0	0
331	Irvington	34013	0129	1	1846	615	617	0	0	0
332	Irvington	34013	0129	2	1128	365	351	0	0	0
333	Irvington	34013	0129	3	846	314	326	0	0	0
334	Irvington	34013	0130	1	2512	1782	1791	0	0	0
335	Irvington	34013	0131	1	1424	468	457	0	0	14
336	Irvington	34013	0131	2	1082	340	311	0	0	0
337	Irvington	34013	0131	3	386	133	150	0	0	0
338	Irvington	34013	0132	1	1127	320	316	0	0	0
339	Irvington	34013	0132	2	1713	730	752	0	0	0
340	Irvington	34013	0132	3	1944	644	626	0	0	0
341	Irvington	34013	0133	1	1025	327	335	0	0	0
342	Irvington	34013	0133	2	1502	420	415	0	0	0
343	Irvington	34013	0133	3	1626	537	555	0	0	0
344	Irvington	34013	0133	4	565	221	218	0	0	0
345	Irvington	34013	0133	5	501	255	237	0	0	0
346	Nutley	34013	0137	1	933	404	420	0	0	0
347	Nutley	34013	0137	2	1370	698	702	0	0	0
348	Nutley	34013	0137	3	843	354	323	0	0	0
349	Nutley	34013	0137	4	725	366	352	0	0	0
350	Nutley	34013	0137	5	692	287	308	0	0	0
351	Nutley	34013	0139	1	1185	461	463	0	0	5
352	Nutley	34013	0139	2	1187	516	515	0	0	0
353	Nutley	34013	0139	3	1099	405	393	0	0	0
354	Bellville	34013	0140	1	1040	351	341	0	0	0
355	Bellville	34013	0140	2	1192	596	614	0	0	0
356	Bellville	34013	0140	3	1029	397	383	0	0	0
357	Bellville	34013	0140	4	649	234	239	0	0	0
358	Bellville	34013	0141	1	1327	528	533	0	0	0
359	Bellville	34013	0141	2	950	396	400	0	0	0
360	Bellville	34013	0141	3	275	97	102	0	0	0

361	Bellville	34013	0141	4	1007	379	365	0	0	0
362	Bellville	34013	0142	1	662	256	251	0	0	0
363	Bellville	34013	0142	2	747	264	250	0	0	0
364	Bellville	34013	0142	3	955	333	315	0	0	0
365	Bellville	34013	0142	4	1374	532	569	0	0	0
366	Bellville	34013	0143	1	1628	618	624	0	0	0
367	Bellville	34013	0143	2	1145	432	426	0	0	0
368	Bellville	34013	0143	3	643	238	237	0	0	0
369	Bellville	34013	0143	4	850	359	359	0	0	0
370	Bellville	34013	0143	5	761	267	268	0	0	0
371	Bellville	34013	0144	1	1756	888	888	0	0	0
372	Bellville	34013	0144	2	570	241	217	0	0	0
373	Bellville	34013	0144	3	614	241	219	0	0	0
374	Bellville	34013	0144	4	583	206	252	0	0	0
375	Bellville	34013	0145	1	1454	583	522	0	0	0
376	Bellville	34013	0145	2	713	275	279	0	0	0
377	Bellville	34013	0145	3	917	397	435	0	0	0
378	Bellville	34013	0145	4	699	308	327	0	0	0
379	Bellville	34013	0146	1	599	210	201	0	0	0
380	Bellville	34013	0146	2	845	310	311	0	0	0
381	Bellville	34013	0146	3	964	364	374	0	0	0
382	Bellville	34013	0146	4	1946	822	820	0	0	0
383	Bellville	34013	0147	1	1921	881	884	0	0	0
384	Bellville	34013	0147	2	1093	583	653	0	0	0
385	Bellville	34013	0147	3	1736	771	710	0	0	0
386	Bellville	34013	0147	4	697	301	291	0	0	0
387	Bellville	34013	0147	5	842	383	381	0	0	0
388	Bloomfield	34013	0151	5	1672	698	691	0	0	0
389	Bloomfield	34013	0152	1	800	341	342	0	0	0
390	Bloomfield	34013	0152	2	774	314	299	0	0	0
391	Bloomfield	34013	0152	3	862	416	448	0	0	0
392	Bloomfield	34013	0152	4	1360	726	708	0	0	0
393	Bloomfield	34013	0153	1	1893	1043	1195	0	0	0
394	Bloomfield	34013	0153	2	484	160	136	0	0	0
395	Bloomfield	34013	0153	3	434	185	181	0	0	0
396	Bloomfield	34013	0154	1	965	408	334	0	0	0
397	Bloomfield	34013	0154	2	1402	686	661	0	0	0
398	Bloomfield	34013	0154	3	1221	706	673	0	0	0
399	Bloomfield	34013	0154	4	492	127	138	0	0	0
400	Bloomfield	34013	0154	5	408	282	279	0	0	0
401	Bloomfield	34013	0155	1	809	338	342	0	0	0
402	Bloomfield	34013	0155	2	922	405	411	0	0	0
403	Bloomfield	34013	0155	3	1019	413	410	0	0	0
404	Bloomfield	34013	0155	4	973	353	337	0	0	9
405	Bloomfield	34013	0156	1	1049	602	590	0	0	0
406	Bloomfield	34013	0156	2	400	147	129	0	0	0
407	Bloomfield	34013	0156	3	1057	464	453	0	0	0
408	Bloomfield	34013	0156	4	1659	753	791	0	0	0
409	Bloomfield	34013	0157	1	1426	539	572	0	0	0
410	Bloomfield	34013	0157	2	558	256	232	0	0	0
411	Bloomfield	34013	0158	1	843	330	318	0	0	0
412	Bloomfield	34013	0158	2	376	154	131	0	0	0
413	Bloomfield	34013	0158	3	537	180	168	0	0	0
414	Bloomfield	34013	0158	4	1994	995	1042	0	0	0
415	Bloomfield	34013	0159	1	739	335	311	0	0	0
416	Bloomfield	34013	0159	2	1249	508	507	0	0	0
417	Bloomfield	34013	0159	3	1639	626	645	0	0	0
418	Bloomfield	34013	0159	4	1062	399	405	0	0	0
419	Glen Ridge	34013	0160	4	763	263	244	0	0	0
420	Glen Ridge	34013	0160	5	761	287	301	0	0	0
421	Glen Ridge	34013	0160	6	903	374	414	0	0	0

422	Glen Ridge	34013	0160	7	1194	379	376	0	0	0
423	Glen Ridge	34013	0160	8	1502	522	540	0	0	0
424	Montclair	34013	0171	2	822	314	299	0	0	0
425	Montclair	34013	0172	1	1032	360	368	0	0	0
426	Montclair	34013	0172	2	430	167	139	0	0	0
427	Montclair	34013	0172	3	862	381	379	0	0	0
428	East Orange	34013	0176	1	510	222	243	0	0	0
429	East Orange	34013	0177	1	1045	408	426	0	0	6
430	East Orange	34013	0177	3	1092	387	381	0	0	0
431	East Orange	34013	0177	4	183	80	63	0	0	0
432	Orange	34013	0181	1	1030	456	525	0	0	0
433	Orange	34013	0181	2	909	293	230	0	0	20
434	Orange	34013	0182	1	749	235	198	0	0	0
435	Orange	34013	0182	2	1769	815	792	0	0	0
436	Orange	34013	0182	3	992	382	374	0	0	0
437	Orange	34013	0182	4	982	442	484	0	0	0
438	Orange	34013	0183	1	626	223	240	0	0	0
439	Orange	34013	0183	2	1398	436	464	0	0	0
440	Orange	34013	0183	3	2097	1072	1027	0	0	0
441	Orange	34013	0184	1	827	278	271	0	0	0
442	Orange	34013	0184	2	375	142	128	0	0	0
443	Orange	34013	0184	3	27	7	5	0	0	0
444	Orange	34013	0184	4	1421	521	557	0	0	0
445	Orange	34013	0185	1	20	9	9	0	0	0
446	Orange	34013	0185	2	913	327	324	0	0	0
447	Orange	34013	0185	3	447	160	150	0	0	0
448	Orange	34013	0186	1	1127	420	409	0	0	0
449	Orange	34013	0186	2	978	361	339	0	0	0
450	Orange	34013	0186	3	285	115	97	0	0	0
451	Orange	34013	0187	1	676	569	609	0	0	0
452	Orange	34013	0187	2	780	341	316	0	0	0
453	Orange	34013	0187	3	1724	790	845	0	0	0
454	Orange	34013	0187	4	1768	731	712	0	0	0
455	Orange	34013	0188	1	812	334	314	0	0	0
456	Orange	34013	0188	2	1085	313	265	6	0	0
457	Orange	34013	0188	3	1561	562	560	0	0	0
458	South Orange	34013	0191	1	886	270	266	0	0	0
459	South Orange	34013	0191	2	814	278	275	0	0	0
460	South Orange	34013	0191	3	680	206	202	0	0	0
461	South Orange	34013	0191	4	732	216	223	0	0	0
462	Newark	34013	0383	7	0	0	0	0	0	0
463	Newark	34013	0048011		1778	779	812	0	0	13
464	Newark	34013	0048012		517	174	175	0	0	0
465	Newark	34013	0048021		0	1	0	0	0	0
466	Newark	34013	0048025		0	0	0	0	0	0
467	Newark	34013	0074991		0	0	0	0	0	0
468	Newark	34013	0075011		737	275	276	0	0	0
469	Newark	34013	0075012		157	68	68	0	0	0
470	Newark	34013	0075013		973	287	289	0	0	0
471	Newark	34013	0075014		1423	513	505	0	0	0
472	Newark	34013	0075015		578	219	181	0	0	0
473	Newark	34013	0075021		0	0	0	0	0	0
474	Newark	34013	0075022		813	257	259	0	0	0
475	Newark	34013	0075023		2059	711	723	0	0	0
476	Newark	34013	0075024		332	119	89	0	0	0
477	Nutley	34013	0136982		1013	454	446	0	0	0
478	Nutley	34013	0136983		1161	609	644	0	0	0
479	Nutley	34013	0136984		1226	495	504	0	0	0
480	Jersey City	34017	0027	2	3543	1026	1062	0	0	0
481	Jersey City	34017	0040	4	927	412	442	0	0	0
482	Jersey City	34017	0048	1	2284	899	939	0	0	0

483	Jersey City	34017	0054	1	3651	1525	1599	0	0	0
484	Kearny	34017	0096	1	0	0	0	0	0	0
485	Kearny	34017	0123	1	990	459	456	0	0	0
486	Kearny	34017	0123	2	953	472	466	0	0	0
487	Kearny	34017	0124	1	727	311	312	0	0	0
488	Kearny	34017	0124	2	610	226	217	0	0	0
489	Kearny	34017	0124	3	900	324	332	0	0	0
490	Kearny	34017	0124	4	736	251	260	0	0	0
491	Kearny	34017	0125	1	618	249	253	0	0	0
492	Kearny	34017	0125	2	892	378	401	0	0	0
493	Kearny	34017	0125	3	1108	457	442	0	0	0
494	Kearny	34017	0125	4	702	279	267	0	0	0
495	Kearny	34017	0126	1	924	361	378	0	0	0
496	Kearny	34017	0126	2	936	349	329	0	0	0
497	Kearny	34017	0126	3	1301	560	563	0	0	0
498	Kearny	34017	0127	1	853	346	319	0	0	0
499	Kearny	34017	0127	2	1445	534	536	0	0	0
500	Kearny	34017	0127	3	752	268	265	0	0	0
501	Kearny	34017	0127	4	1048	410	431	0	0	0
502	Kearny	34017	0127	5	271	1	0	0	0	0
503	Kearny	34017	0127	9	109	95	103	0	0	0
504	Kearny	34017	0128	2	1820	710	736	0	0	0
505	Kearny	34017	0128	3	1819	708	682	0	0	0
506	Kearny	34017	0129	1	1551	566	567	0	0	0
507	Kearny	34017	0129	2	1955	687	686	0	0	0
508	Kearny	34017	0130	1	1389	472	477	0	0	0
509	Kearny	34017	0130	2	882	326	324	0	0	0
510	Kearny	34017	0130	3	947	341	341	0	0	6
511	Kearny	34017	0131	1	1144	446	475	0	0	0
512	Kearny	34017	0131	2	849	297	259	0	0	0
513	Kearny	34017	0132	1	1456	593	580	0	0	0
514	Kearny	34017	0132	2	1058	422	440	0	0	0
515	Kearny	34017	0132	3	1274	454	449	0	0	0
516	Kearny	34017	0133	1	1014	397	380	0	0	0
517	Kearny	34017	0133	2	924	341	382	0	0	0
518	Kearny	34017	0133	3	917	345	321	0	0	0
519	East Newark	34017	0134	1	1059	352	348	0	0	0
520	East Newark	34017	0134	2	1040	378	392	0	0	0
521	Harrison	34017	0135	1	3663	1513	1552	0	0	0
522	Harrison	34017	0135	2	707	242	226	0	0	0
523	Harrison	34017	0136	1	2008	770	743	0	0	0
524	Harrison	34017	0137	1	1414	584	547	0	0	0
525	Harrison	34017	0137	2	802	352	381	0	0	0
526	Harrison	34017	0138	1	1555	572	579	0	0	0
527	Harrison	34017	0138	2	259	92	87	0	0	0
528	Harrison	34017	0139	1	1526	461	443	0	0	0
529	Harrison	34017	0139	2	1549	559	577	0	0	0
530	Secaucus	34017	0197	3	1084	405	430	0	0	0
	Totals:				565113	219272	219276	113	21	204

Franklin Plastics
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City	Census Tract ID	Tract People	House Count	Public Water	Drilled Wells	Dug Wells	Other Sources
Bellville	34013 0142 4	1374	532	569	0	0	0
Bellville	34013 0143 1	1628	618	624	0	0	0
Bellville	34013 0143 2	1145	432	426	0	0	0
Bellville	34013 0143 3	643	238	237	0	0	0
Bellville	34013 0143 4	850	359	359	0	0	0
Bellville	34013 0143 5	761	267	268	0	0	0
Bellville	34013 0144 1	1756	888	888	0	0	0
Bellville	34013 0144 2	570	241	217	0	0	0
Bellville	34013 0144 3	614	241	219	0	0	0
Bellville	34013 0144 4	583	206	252	0	0	0
Bellville	34013 0145 1	1454	583	522	0	0	0
Bellville	34013 0145 2	713	275	279	0	0	0
Bellville	34013 0145 3	917	397	435	0	0	0
Bellville	34013 0145 4	699	308	327	0	0	0
Bellville	34013 0146 1	599	210	201	0	0	0
Bellville	34013 0146 2	845	310	311	0	0	0
Bellville	34013 0146 3	964	364	374	0	0	0
Bellville	34013 0146 4	1946	822	820	0	0	0
Bellville	34013 0147 1	1921	881	884	0	0	0
Bellville	34013 0147 2	1093	583	653	0	0	0
Bellville	34013 0147 3	1736	771	710	0	0	0
Bellville	34013 0147 4	697	301	291	0	0	0
Bellville	34013 0140 1	1040	351	341	0	0	0
Bellville	34013 0140 2	1192	596	614	0	0	0
Bellville	34013 0140 3	1029	397	383	0	0	0
Bellville	34013 0140 4	649	234	239	0	0	0
Bellville	34013 0141 1	1327	528	533	0	0	0
Bellville	34013 0141 2	950	396	400	0	0	0
Bellville	34013 0141 3	275	97	102	0	0	0
Bellville	34013 0141 4	1007	379	365	0	0	0
Bellville	34013 0142 1	662	256	251	0	0	0
Bellville	34013 0142 2	747	264	250	0	0	0
Bellville	34013 0142 3	955	333	315	0	0	0
Bellville	34013 0147 5	842	383	381	0	0	0
	Sub Totals:	34183	14041	14040	0	0	0
Bloomfield	34013 0154 4	492	127	138	0	0	0
Bloomfield	34013 0154 3	1221	706	673	0	0	0
Bloomfield	34013 0155 1	809	338	342	0	0	0
Bloomfield	34013 0155 2	922	405	411	0	0	0
Bloomfield	34013 0155 3	1019	413	410	0	0	0
Bloomfield	34013 0154 5	408	282	279	0	0	0
Bloomfield	34013 0156 1	1049	602	590	0	0	0
Bloomfield	34013 0156 2	400	147	129	0	0	0
Bloomfield	34013 0156 3	1057	464	453	0	0	0
Bloomfield	34013 0156 4	1659	753	791	0	0	0
Bloomfield	34013 0157 1	1426	539	572	0	0	0
Bloomfield	34013 0157 2	558	256	232	0	0	0
Bloomfield	34013 0158 1	843	330	318	0	0	0
Bloomfield	34013 0158 2	376	154	131	0	0	0
Bloomfield	34013 0158 3	537	180	168	0	0	0
Bloomfield	34013 0158 4	1994	995	1042	0	0	0
Bloomfield	34013 0159 1	739	335	311	0	0	0
Bloomfield	34013 0159 2	1249	508	507	0	0	0
Bloomfield	34013 0159 3	1639	626	645	0	0	0

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Bloomfield	34013	0159	4	1062	399	405	0	0	0
Bloomfield	34013	0153	2	484	160	136	0	0	0
Bloomfield	34013	0155	4	973	353	337	0	0	9
Bloomfield	34013	0151	5	1672	698	691	0	0	0
Bloomfield	34013	0152	1	800	341	342	0	0	0
Bloomfield	34013	0152	2	774	314	299	0	0	0
Bloomfield	34013	0152	3	862	416	448	0	0	0
Bloomfield	34013	0152	4	1360	726	708	0	0	0
Bloomfield	34013	0153	1	1893	1043	1195	0	0	0
Bloomfield	34013	0154	1	965	408	334	0	0	0
Bloomfield	34013	0153	3	434	185	181	0	0	0
Bloomfield	34013	0154	2	1402	686	661	0	0	0
	Sub Totals:			31078	13889	13879	0	0	9
East Newark	34017	0134	1	1059	352	348	0	0	0
East Newark	34017	0134	2	1040	378	392	0	0	0
	Sub Totals:			2099	730	740	0	0	0
East Orange	34013	0108	2	1802	553	505	0	0	0
East Orange	34013	0102	1	1261	638	647	0	0	0
East Orange	34013	0102	2	934	312	280	15	0	0
East Orange	34013	0102	5	656	182	157	0	0	0
East Orange	34013	0103	1	344	129	87	0	0	0
East Orange	34013	0102	3	1278	440	474	0	0	12
East Orange	34013	0102	4	1155	326	316	0	0	0
East Orange	34013	0103	4	987	477	527	0	0	0
East Orange	34013	0104	1	1280	524	506	0	0	0
East Orange	34013	0104	2	3700	1990	2008	0	0	0
East Orange	34013	0105	1	1455	557	549	0	0	0
East Orange	34013	0105	2	1820	785	684	0	0	0
East Orange	34013	0105	3	1459	644	679	0	0	0
East Orange	34013	0106	1	1894	694	719	0	0	0
East Orange	34013	0106	2	579	311	363	0	0	0
East Orange	34013	0106	3	3041	1335	1332	0	0	0
East Orange	34013	0107	1	1958	613	606	0	0	0
East Orange	34013	0107	2	877	248	253	0	0	0
East Orange	34013	0107	3	1353	449	451	0	0	0
East Orange	34013	0108	1	1529	552	574	0	0	0
East Orange	34013	0114	1	2866	1529	1565	0	0	0
East Orange	34013	0103	2	2101	631	620	0	0	0
East Orange	34013	0103	3	1450	491	494	0	0	0
East Orange	34013	0109	3	931	337	352	0	0	0
East Orange	34013	0109	4	664	268	293	0	0	0
East Orange	34013	0110	1	852	357	318	0	0	0
East Orange	34013	0110	2	201	66	53	0	0	0
East Orange	34013	0111	1	180	73	73	0	0	0
East Orange	34013	0111	2	3949	2077	2129	0	0	0
East Orange	34013	0112	1	672	393	377	0	0	0
East Orange	34013	0112	2	1774	590	608	0	0	0
East Orange	34013	0112	3	982	341	340	0	0	0
East Orange	34013	0113	1	352	147	151	0	0	0
East Orange	34013	0113	2	996	271	272	0	0	0
East Orange	34013	0113	3	2091	776	770	0	0	0
East Orange	34013	0113	4	271	119	119	0	0	0
East Orange	34013	0117	3	683	259	257	0	0	0
East Orange	34013	0114	2	1469	464	428	0	0	0
East Orange	34013	0115	1	1103	362	342	0	0	0
East Orange	34013	0115	2	995	339	319	0	0	0
East Orange	34013	0115	3	547	221	175	0	0	9

East Orange	34013	0116	1	3184	1129	1194	0	0	12
East Orange	34013	0117	1	1059	500	486	0	0	0
East Orange	34013	0117	2	690	297	269	0	0	0
East Orange	34013	0100	1	385	109	99	0	0	0
East Orange	34013	0009	1	2175	770	820	0	0	0
East Orange	34013	0009	2	1282	358	349	0	0	0
East Orange	34013	0009	3	940	275	264	0	0	0
East Orange	34013	0009	4	468	232	258	0	0	0
East Orange	34013	0009	5	418	186	176	0	0	0
East Orange	34013	0118	3	1753	596	611	0	0	0
East Orange	34013	0099	3	898	537	579	0	0	0
East Orange	34013	0101	2	645	224	222	0	0	0
East Orange	34013	0100	2	1468	581	595	0	0	0
East Orange	34013	0109	1	1	3	2	0	0	0
East Orange	34013	0109	2	1206	423	410	0	0	0
East Orange	34013	0118	1	363	122	141	0	0	0
East Orange	34013	0099	1	931	332	307	14	0	0
East Orange	34013	0099	2	686	261	230	0	0	0
East Orange	34013	0101	1	1008	361	340	0	0	0
East Orange	34013	0177	1	1045	408	426	0	0	6
East Orange	34013	0101	3	1336	388	405	0	13	0
East Orange	34013	0100	3	1452	519	523	0	0	0
East Orange	34013	0117	4	1152	451	448	0	0	0
East Orange	34013	0177	4	183	80	63	0	0	0
East Orange	34013	0118	2	883	300	284	0	0	5
East Orange	34013	0176	1	510	222	243	0	0	0
East Orange	34013	0177	3	1092	387	381	0	0	0
Sub Totals:				81704	31921	31897	29	13	44
Glen Ridge	34013	0160	4	763	263	244	0	0	0
Glen Ridge	34013	0160	7	1194	379	376	0	0	0
Glen Ridge	34013	0160	8	1502	522	540	0	0	0
Glen Ridge	34013	0160	5	761	287	301	0	0	0
Glen Ridge	34013	0160	6	903	374	414	0	0	0
Sub Totals:				5123	1825	1875	0	0	0
Harrison	34017	0137	1	1414	584	547	0	0	0
Harrison	34017	0137	2	802	352	381	0	0	0
Harrison	34017	0139	2	1549	559	577	0	0	0
Harrison	34017	0136	1	2008	770	743	0	0	0
Harrison	34017	0135	1	3663	1513	1552	0	0	0
Harrison	34017	0139	1	1526	461	443	0	0	0
Harrison	34017	0135	2	707	242	226	0	0	0
Harrison	34017	0138	1	1555	572	579	0	0	0
Harrison	34017	0138	2	259	92	87	0	0	0
Sub Totals:				13483	5145	5135	0	0	0
Irvington	34013	0131	3	386	133	150	0	0	0
Irvington	34013	0123	1	1259	509	463	0	0	0
Irvington	34013	0123	2	1618	666	745	0	0	0
Irvington	34013	0123	3	1071	429	434	0	0	0
Irvington	34013	0133	5	501	255	237	0	0	0
Irvington	34013	0130	1	2512	1782	1791	0	0	0
Irvington	34013	0131	1	1424	468	457	0	0	14
Irvington	34013	0131	2	1082	340	311	0	0	0
Irvington	34013	0133	1	1025	327	335	0	0	0
Irvington	34013	0133	2	1502	420	415	0	0	0
Irvington	34013	0129	2	1128	365	351	0	0	0

Irvington	34013	0133	4	565	221	218	0	0	0
Irvington	34013	0126	1	405	143	113	0	0	0
Irvington	34013	0132	1	1127	320	316	0	0	0
Irvington	34013	0133	3	1626	537	555	0	0	0
Irvington	34013	0125	4	1751	748	713	0	0	0
Irvington	34013	0119	2	635	317	309	0	0	0
Irvington	34013	0119	1	1324	581	639	0	0	0
Irvington	34013	0125	3	891	350	355	0	0	0
Irvington	34013	0132	3	1944	644	626	0	0	0
Irvington	34013	0125	1	657	270	286	0	0	0
Irvington	34013	0126	2	1412	562	572	0	0	0
Irvington	34013	0132	2	1713	730	752	0	0	0
Irvington	34013	0124	1	1900	1001	1043	0	0	0
Irvington	34013	0129	3	846	314	326	0	0	0
Irvington	34013	0125	2	975	356	370	0	0	0
Irvington	34013	0123	4	871	301	263	0	0	0
Irvington	34013	0126	3	936	393	384	0	0	0
Irvington	34013	0126	4	922	318	332	0	0	0
Irvington	34013	0129	1	1846	615	617	0	0	0
	Sub Totals:			35854	14415	14478	0	0	14
Jersey City	34017	0054	1	3651	1525	1599	0	0	0
Jersey City	34017	0040	4	927	412	442	0	0	0
Jersey City	34017	0027	2	3543	1026	1062	0	0	0
Jersey City	34017	0048	1	2284	899	939	0	0	0
	Sub Totals:			10405	3862	4042	0	0	0
Kearny	34017	0096	1	0	0	0	0	0	0
Kearny	34017	0127	3	752	268	265	0	0	0
Kearny	34017	0123	1	990	459	456	0	0	0
Kearny	34017	0127	5	271	1	0	0	0	0
Kearny	34017	0127	9	109	95	103	0	0	0
Kearny	34017	0133	1	1014	397	380	0	0	0
Kearny	34017	0127	4	1048	410	431	0	0	0
Kearny	34017	0133	3	917	345	321	0	0	0
Kearny	34017	0129	2	1955	687	686	0	0	0
Kearny	34017	0130	1	1389	472	477	0	0	0
Kearny	34017	0133	2	924	341	382	0	0	0
Kearny	34017	0130	3	947	341	341	0	0	6
Kearny	34017	0131	1	1144	446	475	0	0	0
Kearny	34017	0128	2	1820	710	736	0	0	0
Kearny	34017	0130	2	882	326	324	0	0	0
Kearny	34017	0129	1	1551	566	567	0	0	0
Kearny	34017	0127	2	1445	534	536	0	0	0
Kearny	34017	0132	3	1274	454	449	0	0	0
Kearny	34017	0125	1	618	249	253	0	0	0
Kearny	34017	0125	2	892	378	401	0	0	0
Kearny	34017	0125	3	1108	457	442	0	0	0
Kearny	34017	0123	2	953	472	466	0	0	0
Kearny	34017	0128	3	1819	708	682	0	0	0
Kearny	34017	0124	2	610	226	217	0	0	0
Kearny	34017	0124	3	900	324	332	0	0	0
Kearny	34017	0124	4	736	251	260	0	0	0
Kearny	34017	0124	1	727	311	312	0	0	0
Kearny	34017	0127	1	853	346	319	0	0	0
Kearny	34017	0132	2	1058	422	440	0	0	0
Kearny	34017	0131	2	849	297	259	0	0	0
Kearny	34017	0125	4	702	279	267	0	0	0
Kearny	34017	0132	1	1456	593	580	0	0	0

Kearny	34017	0126	2	936	349	329	0	0	0
Kearny	34017	0126	3	1301	560	563	0	0	0
Kearny	34017	0126	1	924	361	378	0	0	0
	Sub Totals:			34874	13435	13429	0	0	6
Lyndhurst	34003	0313	2	784	339	333	0	0	0
Lyndhurst	34003	0313	4	806	328	329	0	0	0
Lyndhurst	34003	0313	5	801	327	342	0	0	0
Lyndhurst	34003	0314	2	655	279	297	0	0	0
Lyndhurst	34003	0313	3	851	396	398	0	0	0
Lyndhurst	34003	0314	4	888	366	357	0	0	0
Lyndhurst	34003	0314	5	893	375	372	0	0	0
Lyndhurst	34003	0311	9	56	21	22	0	0	0
Lyndhurst	34003	0314	3	583	235	240	0	0	0
Lyndhurst	34003	0313	1	628	260	243	0	0	0
	Sub Totals:			6945	2926	2933	0	0	0
Montclair	34013	0171	2	822	314	299	0	0	0
Montclair	34013	0172	2	430	167	139	0	0	0
Montclair	34013	0172	1	1032	360	368	0	0	0
Montclair	34013	0172	3	862	381	379	0	0	0
	Sub Totals:			3146	1222	1185	0	0	0
Newark	34013	0023	4	981	371	382	0	0	0
Newark	34013	0064	3	306	137	116	0	0	0
Newark	34013	0024	1	3298	1068	1070	0	0	0
Newark	34013	0024	2	944	312	310	0	0	0
Newark	34013	0067	1	1171	691	812	0	0	0
Newark	34013	0067	2	1703	641	579	0	0	0
Newark	34013	0065	1	45	81	67	0	0	0
Newark	34013	0066	1	3224	1493	1490	0	0	0
Newark	34013	0068	2	398	141	93	0	0	0
Newark	34013	0082	1	611	215	213	0	0	0
Newark	34013	0082	3	764	387	368	0	0	0
Newark	34013	0083	1	19	6	5	0	0	0
Newark	34013	0022	2	542	180	174	0	0	0
Newark	34013	0022	5	1762	659	672	0	0	0
Newark	34013	0067	3	696	241	224	0	0	0
Newark	34013	0068	1	1448	512	486	0	0	0
Newark	34013	0064	2	124	69	73	0	0	0
Newark	34013	0023	3	1586	552	531	0	0	0
Newark	34013	0072	1	3241	1158	1149	0	0	0
Newark	34013	0073	1	654	221	234	0	0	0
Newark	34013	0073	2	1511	538	508	0	0	0
Newark	34013	0073	3	1299	529	555	0	0	0
Newark	34013	0074	1	26	4	0	0	0	0
Newark	34013	0074	2	1600	614	627	0	0	7
Newark	34013	0076	1	289	115	109	0	0	0
Newark	34013	0068	3	70	22	19	0	0	0
Newark	34013	0068	4	995	333	371	0	0	0
Newark	34013	0069	1	1766	676	681	0	0	0
Newark	34013	0069	2	1298	500	503	0	0	0
Newark	34013	0083	2	323	17	0	0	0	0
Newark	34013	0083	3	422	166	150	0	0	0
Newark	34013	0023	1	1521	488	512	0	0	0
Newark	34013	0023	2	924	312	298	0	0	0
Newark	34013	0079	3	713	249	244	0	0	0
Newark	34013	0079	4	1446	603	600	0	0	0

Newark	34013	0080	1	247	2	1	0	0	0
Newark	34013	0080	2	199	129	123	0	0	0
Newark	34013	0080	3	927	386	329	0	0	0
Newark	34013	0080	4	376	142	108	0	0	0
Newark	34013	0081	1	18	1	0	0	0	0
Newark	34013	0081	2	1457	1139	1238	0	0	0
Newark	34013	0081	3	1796	765	780	0	0	0
Newark	34013	0081	4	54	62	68	0	0	0
Newark	34013	0053	2	1361	429	434	0	0	0
Newark	34013	0053	3	334	104	88	0	0	0
Newark	34013	0054	1	2110	713	750	12	0	0
Newark	34013	0054	2	1861	647	638	0	0	0
Newark	34013	0055	1	697	220	197	0	0	0
Newark	34013	0056	1	275	101	104	0	0	0
Newark	34013	0056	2	568	222	211	0	0	0
Newark	34013	0056	3	0	0	0	0	0	0
Newark	34013	0057	1	415	144	161	0	0	0
Newark	34013	0057	2	265	100	97	0	0	0
Newark	34013	0057	3	568	214	225	0	0	0
Newark	34013	0057	4	174	55	63	0	0	0
Newark	34013	0057	5	432	149	154	0	0	0
Newark	34013	0057	6	139	50	39	0	0	0
Newark	34013	0058	1	1093	416	418	0	0	0
Newark	34013	0058	2	922	337	334	0	0	0
Newark	34013	0059	1	284	102	96	0	0	0
Newark	34013	0059	2	562	219	219	0	0	0
Newark	34013	0059	3	821	350	348	0	0	0
Newark	34013	0001	1	1602	516	530	0	0	8
Newark	34013	0001	2	1648	981	944	7	0	0
Newark	34013	0001	3	1044	354	362	0	0	0
Newark	34013	0002	1	1148	821	790	0	0	0
Newark	34013	0002	2	1552	504	573	0	0	0
Newark	34013	0003	1	3553	1620	1582	0	0	0
Newark	34013	0004	1	1911	776	764	0	0	0
Newark	34013	0005	1	644	227	254	0	0	0
Newark	34013	0005	2	858	307	319	0	0	0
Newark	34013	0006	1	477	219	208	0	0	0
Newark	34013	0006	2	1477	592	575	0	0	0
Newark	34013	0006	3	1421	457	458	0	0	0
Newark	34013	0007	1	1806	533	506	0	0	0
Newark	34013	0007	2	2787	990	1089	0	0	0
Newark	34013	0007	3	761	259	243	0	0	8
Newark	34013	0008	1	1812	646	697	0	0	0
Newark	34013	0008	2	2373	621	506	0	0	0
Newark	34013	0070	1	2322	889	897	0	0	0
Newark	34013	0070	2	995	384	384	0	0	0
Newark	34013	0071	1	1326	535	533	0	0	0
Newark	34013	0071	2	241	87	77	0	0	0
Newark	34013	0071	3	1062	437	433	0	0	0
Newark	34013	0010	1	1284	262	265	0	0	0
Newark	34013	0010	2	862	240	218	0	0	0
Newark	34013	0011	1	113	44	37	0	0	0
Newark	34013	0011	2	612	194	174	0	0	0
Newark	34013	0013	1	998	337	347	0	0	0
Newark	34013	0013	2	729	308	298	0	0	0
Newark	34013	0014	1	1783	616	598	0	0	0
Newark	34013	0076	2	847	324	339	0	0	0
Newark	34013	0076	3	1497	563	597	0	0	0
Newark	34013	0077	1	1399	556	578	0	0	0
Newark	34013	0077	2	1086	459	468	0	0	0
Newark	34013	0078	1	1370	544	494	0	0	0

Newark	34013	0078	2	1329	497	516	0	0	0
Newark	34013	0079	1	1585	571	560	0	0	0
Newark	34013	0079	2	343	125	144	0	0	0
Newark	34013	0017	2	1692	692	646	0	0	0
Newark	34013	0018	1	1202	432	414	0	0	22
Newark	34013	0018	2	1359	553	522	0	0	0
Newark	34013	0019	1	644	201	190	0	0	5
Newark	34013	0019	2	527	173	177	0	0	0
Newark	34013	0019	3	1421	537	566	0	0	0
Newark	34013	0020	1	946	315	325	0	0	0
Newark	34013	0020	2	2425	1073	1088	0	0	0
Newark	34013	0020	3	1182	434	409	0	0	0
Newark	34013	0021	1	1453	450	517	0	0	0
Newark	34013	0021	2	1142	347	328	0	0	0
Newark	34013	0021	3	292	94	67	0	0	0
Newark	34013	0021	4	935	277	256	0	0	0
Newark	34013	0022	1	833	341	334	0	0	0
Newark	34013	0040	1	724	261	261	0	0	0
Newark	34013	0040	2	486	142	115	0	0	0
Newark	34013	0084	1	950	547	582	0	0	0
Newark	34013	0084	2	0	0	0	0	0	0
Newark	34013	0084	3	154	59	52	0	0	0
Newark	34013	0085	1	312	61	67	0	0	0
Newark	34013	0085	2	540	85	101	0	0	0
Newark	34013	0085	3	523	162	150	0	0	0
Newark	34013	0025	1	1118	358	358	0	0	0
Newark	34013	0025	2	2114	626	633	0	0	0
Newark	34013	0025	3	1965	619	573	0	0	0
Newark	34013	0026	1	872	286	297	8	0	0
Newark	34013	0026	2	1237	419	439	0	0	0
Newark	34013	0027	1	788	334	333	0	0	0
Newark	34013	0028	1	733	281	272	0	0	8
Newark	34013	0028	2	427	134	134	0	0	0
Newark	34013	0029	1	588	99	98	0	0	0
Newark	34013	0029	2	657	201	191	0	0	0
Newark	34013	0030	1	1703	735	733	0	0	0
Newark	34013	0030	2	171	64	65	0	0	0
Newark	34013	0031	1	958	935	945	0	0	0
Newark	34013	0031	2	1191	639	641	0	0	0
Newark	34013	0032	1	617	254	256	0	0	0
Newark	34013	0034	1	686	210	191	0	0	0
Newark	34013	0034	2	500	147	160	0	0	0
Newark	34013	0035	1	2493	747	740	0	0	0
Newark	34013	0035	2	979	262	275	0	0	0
Newark	34013	0037	1	1362	443	490	0	0	0
Newark	34013	0037	2	1190	382	364	0	0	0
Newark	34013	0038	1	563	224	233	0	0	0
Newark	34013	0038	3	1189	430	392	0	0	0
Newark	34013	0039	1	505	120	99	0	0	0
Newark	34013	0039	2	2449	1093	1141	0	0	0
Newark	34013	0095	4	414	125	136	0	0	0
Newark	34013	0096	1	1286	368	396	0	0	0
Newark	34013	0041	1	1259	453	462	0	0	0
Newark	34013	0041	2	1237	388	377	0	0	0
Newark	34013	0041	3	1461	436	438	0	0	0
Newark	34013	0042	1	2421	789	803	0	0	0
Newark	34013	0042	2	1704	538	524	0	0	0
Newark	34013	0043	1	902	320	311	0	0	0
Newark	34013	0043	2	389	129	115	0	0	0
Newark	34013	0043	3	1171	335	305	0	0	0
Newark	34013	0043	4	35	8	0	0	0	0

Newark	34013	0014	2	1681	580	598	0	0	0
Newark	34013	0015	1	346	115	114	0	0	0
Newark	34013	0015	2	1439	514	543	0	0	0
Newark	34013	0016	1	572	210	166	0	0	0
Newark	34013	0016	2	679	248	267	0	0	0
Newark	34013	0016	3	810	198	246	0	0	0
Newark	34013	0016	4	2	5	0	0	0	0
Newark	34013	0017	1	788	346	345	0	0	0
Newark	34013	0049	2	1150	458	478	0	0	0
Newark	34013	0049	3	2245	794	782	0	0	0
Newark	34013	0050	1	1033	453	517	0	0	0
Newark	34013	0050	2	196	81	96	0	0	0
Newark	34013	0051	1	598	210	205	0	0	0
Newark	34013	0051	2	1366	454	404	0	0	0
Newark	34013	0051	3	630	227	203	0	0	0
Newark	34013	0052	1	675	214	196	0	0	0
Newark	34013	0052	2	778	242	244	0	0	0
Newark	34013	0053	1	1071	323	310	0	0	0
Newark	34013	0075022		813	257	259	0	0	0
Newark	34013	0075023		2059	711	723	0	0	0
Newark	34013	0075024		332	119	89	0	0	0
Newark	34013	0095	3	838	268	281	0	0	0
Newark	34013	0062	1	2887	1384	1360	0	0	0
Newark	34013	0063	1	3014	1545	1615	0	0	0
Newark	34013	0096	2	963	290	279	0	0	0
Newark	34013	0096	3	547	189	211	0	0	0
Newark	34013	0096	4	1063	330	291	0	0	0
Newark	34013	0097	1	701	234	237	0	0	0
Newark	34013	0097	2	2722	855	819	16	0	0
Newark	34013	0097	3	1523	487	535	0	0	0
Newark	34013	0085	4	61	44	38	0	0	0
Newark	34013	0085	5	1198	129	131	0	0	0
Newark	34013	0086	1	1726	1208	1214	0	0	0
Newark	34013	0086	2	1186	397	384	0	0	7
Newark	34013	0087	1	61	37	27	0	0	10
Newark	34013	0087	2	628	222	235	0	0	0
Newark	34013	0087	3	1284	370	378	0	0	0
Newark	34013	0060	1	1207	549	562	0	0	0
Newark	34013	0046	2	896	386	372	0	0	0
Newark	34013	0047	1	1494	488	504	0	0	0
Newark	34013	0063	2	309	132	125	0	0	0
Newark	34013	0064	1	162	106	98	0	0	0
Newark	34013	0091	1	3196	983	928	35	0	5
Newark	34013	0092	1	252	70	81	0	0	0
Newark	34013	0092	2	577	188	176	0	0	0
Newark	34013	0092	3	2051	544	561	0	0	0
Newark	34013	0093	1	2608	805	878	0	0	0
Newark	34013	0093	2	2303	752	671	0	8	0
Newark	34013	0094	1	402	118	123	0	0	0
Newark	34013	0094	2	1997	1101	1056	0	0	0
Newark	34013	0094	3	2769	985	1036	0	0	0
Newark	34013	0094	4	667	204	193	0	0	0
Newark	34013	0095	1	1063	333	317	0	0	0
Newark	34013	0095	2	3847	1615	1607	0	0	0
Newark	34013	0075011		737	275	276	0	0	0
Newark	34013	0087	4	1506	502	510	0	0	0
Newark	34013	0383	7	0	0	0	0	0	0
Newark	34013	0048011		1778	779	812	0	0	13
Newark	34013	0048012		517	174	175	0	0	0
Newark	34013	0048021		0	1	0	0	0	0
Newark	34013	0048025		0	0	0	0	0	0

Newark	34013	0074991	0	0	0	0	0	0
Newark	34013	0044 1	1145	396	403	0	0	0
Newark	34013	0098 1	88	42	30	0	0	0
Newark	34013	0098 2	0	0	0	0	0	0
Newark	34013	0098 9	1747	1	0	0	0	0
Newark	34013	0089 1	2373	731	688	0	0	0
Newark	34013	0044 2	1107	380	434	0	0	0
Newark	34013	0045 1	1381	483	461	0	0	0
Newark	34013	0046 1	1682	611	649	0	0	0
Newark	34013	0075015	578	219	181	0	0	0
Newark	34013	0075012	157	68	68	0	0	0
Newark	34013	0088 1	913	297	298	0	0	0
Newark	34013	0088 2	611	170	183	0	0	0
Newark	34013	0047 5	1137	388	375	0	0	0
Newark	34013	0090 1	1713	824	816	0	0	7
Newark	34013	0075013	973	287	289	0	0	0
Newark	34013	0075014	1423	513	505	0	0	0
Newark	34013	0075021	0	0	0	0	0	0
Newark	34013	0049 1	982	388	380	0	0	0
	Sub Totals:		251421	92697	92533	78	8	100
North Arlington	34003	0381 5	996	446	461	0	0	0
North Arlington	34003	0382 2	764	386	372	0	0	0
North Arlington	34003	0381 4	707	301	312	0	0	0
North Arlington	34003	0382 3	603	390	396	0	0	0
North Arlington	34003	0381 1	751	323	289	0	0	0
North Arlington	34003	0381 2	855	404	414	0	0	0
North Arlington	34003	0382 4	373	235	223	0	0	0
North Arlington	34003	0381 6	392	256	260	0	0	0
North Arlington	34003	0382 5	931	549	567	0	0	0
North Arlington	34003	0381 7	608	285	270	0	0	0
North Arlington	34003	0381 3	584	300	309	0	0	0
North Arlington	34003	0383 3	1037	439	438	0	0	0
North Arlington	34003	0383 5	969	394	392	0	0	0
North Arlington	34003	0383 6	1194	464	474	0	0	6
North Arlington	34003	0383 7	885	345	351	0	0	0
North Arlington	34003	0382 1	742	326	328	0	0	0
North Arlington	34003	0383 2	656	266	250	0	0	0
North Arlington	34003	0383 1	743	297	294	0	0	0
North Arlington	34003	0381 9	0	0	0	0	0	0
	Sub Totals:		13790	6406	6400	0	0	6
Nutley	34013	0137 1	933	404	420	0	0	0
Nutley	34013	0137 2	1370	698	702	0	0	0
Nutley	34013	0139 1	1185	461	463	0	0	5
Nutley	34013	0137 5	692	287	308	0	0	0
Nutley	34013	0139 3	1099	405	393	0	0	0
Nutley	34013	0136983	1161	609	644	0	0	0
Nutley	34013	0136984	1226	495	504	0	0	0
Nutley	34013	0139 2	1187	516	515	0	0	0
Nutley	34013	0136982	1013	454	446	0	0	0
Nutley	34013	0137 3	843	354	323	0	0	0
Nutley	34013	0137 4	725	366	352	0	0	0
	Sub Totals:		11434	5049	5070	0	0	5
Orange	34013	0181 1	1030	456	525	0	0	0
Orange	34013	0181 2	909	293	230	0	0	20
Orange	34013	0182 3	992	382	374	0	0	0

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Orange	34013 0182	4	982	442	484	0	0	0
Orange	34013 0182	1	749	235	198	0	0	0
Orange	34013 0182	2	1769	815	792	0	0	0
Orange	34013 0183	3	2097	1072	1027	0	0	0
Orange	34013 0184	1	827	278	271	0	0	0
Orange	34013 0184	2	375	142	128	0	0	0
Orange	34013 0184	3	27	7	5	0	0	0
Orange	34013 0184	4	1421	521	557	0	0	0
Orange	34013 0185	1	20	9	9	0	0	0
Orange	34013 0183	1	626	223	240	0	0	0
Orange	34013 0183	2	1398	436	464	0	0	0
Orange	34013 0186	1	1127	420	409	0	0	0
Orange	34013 0186	2	978	361	339	0	0	0
Orange	34013 0186	3	285	115	97	0	0	0
Orange	34013 0187	1	676	569	609	0	0	0
Orange	34013 0187	2	780	341	316	0	0	0
Orange	34013 0187	3	1724	790	845	0	0	0
Orange	34013 0187	4	1768	731	712	0	0	0
Orange	34013 0188	1	812	334	314	0	0	0
Orange	34013 0188	2	1085	313	265	6	0	0
Orange	34013 0188	3	1561	562	560	0	0	0
Orange	34013 0185	2	913	327	324	0	0	0
Orange	34013 0185	3	447	160	150	0	0	0
	Sub Totals:		25378	10334	10244	6	0	20
Secaucus	34017 0197	3	1084	405	430	0	0	0
	Sub Totals:		1084	405	430	0	0	0
South Orange	34013 0191	4	732	216	223	0	0	0
South Orange	34013 0191	1	886	270	266	0	0	0
South Orange	34013 0191	2	814	278	275	0	0	0
South Orange	34013 0191	3	680	206	202	0	0	0
	Sub Totals:		3112	970	966	0	0	0

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For Radius of 4 Mi., Circle Area = 50.265482

No.	City	Block Group ID	Total Area	Partial Area	% Within Radius
1	Lyndhurst	34003 3119	2.867354	1.282689	44.73
2	Lyndhurst	34003 3131	0.082485	0.006725	8.15
3	Lyndhurst	34003 3132	0.052104	0.052104	100.00
4	Lyndhurst	34003 3133	0.132051	0.126002	95.42
5	Lyndhurst	34003 3134	0.056727	0.043151	76.07
6	Lyndhurst	34003 3135	0.066038	0.000048	0.07
7	Lyndhurst	34003 3142	0.069518	0.061639	88.67
8	Lyndhurst	34003 3143	0.062971	0.058500	92.90
9	Lyndhurst	34003 3144	0.069341	0.069341	100.00
10	Lyndhurst	34003 3145	0.068440	0.054719	79.95
11	North Arlington	34003 3811	0.087470	0.087470	100.00
12	North Arlington	34003 3812	0.085560	0.085560	100.00
13	North Arlington	34003 3813	0.051452	0.051452	100.00
14	North Arlington	34003 3814	0.041067	0.041067	100.00
15	North Arlington	34003 3815	0.407189	0.407189	100.00
16	North Arlington	34003 3816	0.024113	0.024113	100.00
17	North Arlington	34003 3817	0.312721	0.312721	100.00
18	North Arlington	34003 3819	0.653107	0.653107	100.00
19	North Arlington	34003 3821	0.050564	0.050564	100.00
20	North Arlington	34003 3822	0.053634	0.053634	100.00
21	North Arlington	34003 3823	0.044036	0.044036	100.00
22	North Arlington	34003 3824	0.023172	0.023172	100.00
23	North Arlington	34003 3825	0.052184	0.052184	100.00
24	North Arlington	34003 3831	0.088764	0.088764	100.00
25	North Arlington	34003 3832	0.054740	0.054740	100.00
26	North Arlington	34003 3833	0.062591	0.062591	100.00
27	North Arlington	34003 3835	0.065818	0.065818	100.00
28	North Arlington	34003 3836	0.082577	0.082577	100.00
29	North Arlington	34003 3837	0.216366	0.216366	100.00
30	Newark	34013 11	0.069984	0.069984	100.00
31	Newark	34013 12	0.114105	0.114105	100.00
32	Newark	34013 13	0.175792	0.175792	100.00
33	Newark	34013 21	0.243711	0.243711	100.00
34	Newark	34013 22	0.050620	0.050620	100.00
35	Newark	34013 31	0.125804	0.125804	100.00
36	Newark	34013 41	0.067203	0.067203	100.00
37	Newark	34013 51	0.029744	0.029744	100.00
38	Newark	34013 52	0.047661	0.047661	100.00
39	Newark	34013 61	0.023563	0.023563	100.00
40	Newark	34013 62	0.047989	0.047989	100.00
41	Newark	34013 63	0.055510	0.055510	100.00
42	Newark	34013 71	0.056780	0.056780	100.00
43	Newark	34013 72	0.076698	0.076698	100.00
44	Newark	34013 73	0.040879	0.040879	100.00
45	Newark	34013 81	0.076302	0.076302	100.00
46	Newark	34013 82	0.073832	0.073832	100.00
47	East Orange	34013 91	0.033563	0.033563	100.00
48	East Orange	34013 92	0.045894	0.045894	100.00
49	East Orange	34013 93	0.036229	0.036229	100.00
50	East Orange	34013 94	0.038950	0.038950	100.00
51	East Orange	34013 95	0.028739	0.028739	100.00
52	Newark	34013 101	0.039613	0.039613	100.00
53	Newark	34013 102	0.058073	0.058073	100.00

54	Newark	34013 111	0.029807	0.029807	100.00
55	Newark	34013 112	0.058167	0.058167	100.00
56	Newark	34013 131	0.035958	0.035958	100.00
57	Newark	34013 132	0.043421	0.043421	100.00
58	Newark	34013 141	0.060350	0.060350	100.00
59	Newark	34013 142	0.064947	0.064947	100.00
60	Newark	34013 151	0.030090	0.030090	100.00
61	Newark	34013 152	0.060283	0.060283	100.00
62	Newark	34013 161	0.038002	0.038002	100.00
63	Newark	34013 162	0.022390	0.022390	100.00
64	Newark	34013 163	0.028192	0.028192	100.00
65	Newark	34013 164	0.012901	0.012901	100.00
66	Newark	34013 171	0.051967	0.051967	100.00
67	Newark	34013 172	0.056576	0.056576	100.00
68	Newark	34013 181	0.215164	0.215164	100.00
69	Newark	34013 182	0.051730	0.051730	100.00
70	Newark	34013 191	0.109173	0.109173	100.00
71	Newark	34013 192	0.084840	0.084840	100.00
72	Newark	34013 193	0.066404	0.066404	100.00
73	Newark	34013 201	0.029366	0.029366	100.00
74	Newark	34013 202	0.080459	0.080459	100.00
75	Newark	34013 203	0.039204	0.039204	100.00
76	Newark	34013 211	0.055040	0.055040	100.00
77	Newark	34013 212	0.049214	0.049214	100.00
78	Newark	34013 213	0.016693	0.014209	85.12
79	Newark	34013 214	0.040435	0.040435	100.00
80	Newark	34013 221	0.044294	0.029183	65.89
81	Newark	34013 222	0.032985	0.000035	0.11
82	Newark	34013 225	0.072142	0.001665	2.31
83	Newark	34013 231	0.057650	0.057650	100.00
84	Newark	34013 232	0.028975	0.028975	100.00
85	Newark	34013 233	0.056718	0.056718	100.00
86	Newark	34013 234	0.053148	0.049192	92.56
87	Newark	34013 241	0.105768	0.105768	100.00
88	Newark	34013 242	0.041438	0.041438	100.00
89	Newark	34013 251	0.027173	0.027173	100.00
90	Newark	34013 252	0.054231	0.054231	100.00
91	Newark	34013 253	0.065284	0.065284	100.00
92	Newark	34013 261	0.039649	0.039649	100.00
93	Newark	34013 262	0.036427	0.036427	100.00
94	Newark	34013 271	0.054323	0.054323	100.00
95	Newark	34013 281	0.044116	0.044116	100.00
96	Newark	34013 282	0.032569	0.032569	100.00
97	Newark	34013 291	0.028805	0.028805	100.00
98	Newark	34013 292	0.033281	0.033281	100.00
99	Newark	34013 301	0.038138	0.038138	100.00
100	Newark	34013 302	0.039636	0.039636	100.00
101	Newark	34013 311	0.051172	0.051172	100.00
102	Newark	34013 312	0.050677	0.050677	100.00
103	Newark	34013 321	0.056401	0.056401	100.00
104	Newark	34013 341	0.040367	0.040367	100.00
105	Newark	34013 342	0.084890	0.084890	100.00
106	Newark	34013 351	0.059751	0.059751	100.00
107	Newark	34013 352	0.032584	0.032584	100.00
108	Newark	34013 371	0.080910	0.080910	100.00
109	Newark	34013 372	0.047391	0.047391	100.00
110	Newark	34013 381	0.041434	0.041434	100.00
111	Newark	34013 383	0.120874	0.120874	100.00
112	Newark	34013 391	0.036182	0.036182	100.00
113	Newark	34013 392	0.078832	0.078832	100.00
114	Newark	34013 401	0.041140	0.041140	100.00

115	Newark	34013	402	0.034460	0.034460	100.00
116	Newark	34013	411	0.042353	0.042353	100.00
117	Newark	34013	412	0.043079	0.043079	100.00
118	Newark	34013	413	0.042992	0.042992	100.00
119	Newark	34013	421	0.065870	0.065870	100.00
120	Newark	34013	422	0.043247	0.043247	100.00
121	Newark	34013	431	0.032794	0.032794	100.00
122	Newark	34013	432	0.017766	0.017766	100.00
123	Newark	34013	433	0.070317	0.060476	86.00
124	Newark	34013	434	0.015111	0.009061	59.96
125	Newark	34013	441	0.029527	0.029527	100.00
126	Newark	34013	442	0.053134	0.047653	89.68
127	Newark	34013	451	0.081766	0.000003	0.00
128	Newark	34013	461	0.038906	0.038906	100.00
129	Newark	34013	462	0.037242	0.024728	66.40
130	Newark	34013	471	0.050357	0.012683	25.19
131	Newark	34013	475	0.042850	0.006770	15.80
132	Newark	34013	491	0.033242	0.033242	100.00
133	Newark	34013	492	0.041594	0.041594	100.00
134	Newark	34013	493	0.072220	0.072220	100.00
135	Newark	34013	501	0.104735	0.104735	100.00
136	Newark	34013	502	0.029037	0.029037	100.00
137	Newark	34013	511	0.043044	0.043044	100.00
138	Newark	34013	512	0.038606	0.038606	100.00
139	Newark	34013	513	0.039055	0.039055	100.00
140	Newark	34013	521	0.051454	0.051454	100.00
141	Newark	34013	522	0.052261	0.052261	100.00
142	Newark	34013	531	0.056892	0.056892	100.00
143	Newark	34013	532	0.046882	0.046882	100.00
144	Newark	34013	533	0.014154	0.014154	100.00
145	Newark	34013	541	0.062946	0.062946	100.00
146	Newark	34013	542	0.074219	0.074219	100.00
147	Newark	34013	551	0.064942	0.064942	100.00
148	Newark	34013	561	0.021569	0.021569	100.00
149	Newark	34013	562	0.034628	0.034628	100.00
150	Newark	34013	563	0.023901	0.023901	100.00
151	Newark	34013	571	0.041748	0.041748	100.00
152	Newark	34013	572	0.032222	0.032222	100.00
153	Newark	34013	573	0.038869	0.038869	100.00
154	Newark	34013	574	0.035559	0.035559	100.00
155	Newark	34013	575	0.117320	0.117320	100.00
156	Newark	34013	576	0.051556	0.051556	100.00
157	Newark	34013	581	0.040697	0.040697	100.00
158	Newark	34013	582	0.084008	0.084008	100.00
159	Newark	34013	591	0.021974	0.021974	100.00
160	Newark	34013	592	0.036257	0.036257	100.00
161	Newark	34013	593	0.054968	0.054968	100.00
162	Newark	34013	601	0.067826	0.067826	100.00
163	Newark	34013	621	0.085764	0.085764	100.00
164	Newark	34013	631	0.045948	0.045948	100.00
165	Newark	34013	632	0.016442	0.016442	100.00
166	Newark	34013	641	0.036152	0.036152	100.00
167	Newark	34013	642	0.034640	0.034640	100.00
168	Newark	34013	643	0.043737	0.043737	100.00
169	Newark	34013	651	0.052515	0.052515	100.00
170	Newark	34013	661	0.058043	0.058043	100.00
171	Newark	34013	671	0.046152	0.046152	100.00
172	Newark	34013	672	0.043781	0.043781	100.00
173	Newark	34013	673	0.029170	0.029170	100.00
174	Newark	34013	681	0.064638	0.064638	100.00
175	Newark	34013	682	0.256110	0.256110	100.00

176	Newark	34013 683	0.037059	0.037059	100.00
177	Newark	34013 684	0.093904	0.093904	100.00
178	Newark	34013 691	0.063826	0.063826	100.00
179	Newark	34013 692	0.075645	0.075645	100.00
180	Newark	34013 701	0.073228	0.073228	100.00
181	Newark	34013 702	0.075765	0.075765	100.00
182	Newark	34013 711	0.063222	0.063222	100.00
183	Newark	34013 712	0.045268	0.045268	100.00
184	Newark	34013 713	0.034167	0.034167	100.00
185	Newark	34013 721	0.080210	0.080210	100.00
186	Newark	34013 731	0.060222	0.060222	100.00
187	Newark	34013 732	0.041673	0.041673	100.00
188	Newark	34013 733	0.036721	0.036721	100.00
189	Newark	34013 741	1.554327	1.496452	96.28
190	Newark	34013 742	0.196019	0.196019	100.00
191	Newark	34013 761	0.038774	0.038774	100.00
192	Newark	34013 762	0.034461	0.034461	100.00
193	Newark	34013 763	0.032004	0.032004	100.00
194	Newark	34013 771	0.032318	0.032318	100.00
195	Newark	34013 772	0.044647	0.044647	100.00
196	Newark	34013 781	0.034160	0.034160	100.00
197	Newark	34013 782	0.038856	0.038856	100.00
198	Newark	34013 791	0.084543	0.084543	100.00
199	Newark	34013 792	0.024457	0.024457	100.00
200	Newark	34013 793	0.031822	0.031822	100.00
201	Newark	34013 794	0.046126	0.046126	100.00
202	Newark	34013 801	0.125901	0.125901	100.00
203	Newark	34013 802	0.092973	0.092973	100.00
204	Newark	34013 803	0.071723	0.071723	100.00
205	Newark	34013 804	0.060211	0.060211	100.00
206	Newark	34013 811	0.053992	0.053992	100.00
207	Newark	34013 812	0.092234	0.092234	100.00
208	Newark	34013 813	0.095486	0.095486	100.00
209	Newark	34013 814	0.063059	0.063059	100.00
210	Newark	34013 821	0.134277	0.134277	100.00
211	Newark	34013 823	0.021535	0.021535	100.00
212	Newark	34013 831	0.044790	0.044790	100.00
213	Newark	34013 832	0.038997	0.038997	100.00
214	Newark	34013 833	0.039254	0.039254	100.00
215	Newark	34013 841	0.029045	0.029045	100.00
216	Newark	34013 842	0.005716	0.005716	100.00
217	Newark	34013 843	0.043383	0.043383	100.00
218	Newark	34013 851	0.093012	0.093012	100.00
219	Newark	34013 852	0.088944	0.088944	100.00
220	Newark	34013 853	0.048827	0.048827	100.00
221	Newark	34013 854	0.048448	0.048448	100.00
222	Newark	34013 855	0.079551	0.079551	100.00
223	Newark	34013 861	0.088549	0.088549	100.00
224	Newark	34013 862	0.046642	0.046642	100.00
225	Newark	34013 871	0.075255	0.075255	100.00
226	Newark	34013 872	0.050264	0.050264	100.00
227	Newark	34013 873	0.045798	0.045798	100.00
228	Newark	34013 874	0.039783	0.039783	100.00
229	Newark	34013 881	0.036492	0.036492	100.00
230	Newark	34013 882	0.022666	0.022666	100.00
231	Newark	34013 891	0.045641	0.045641	100.00
232	Newark	34013 901	0.179355	0.179355	100.00
233	Newark	34013 911	0.183144	0.183144	100.00
234	Newark	34013 921	0.065781	0.065781	100.00
235	Newark	34013 922	0.033936	0.033936	100.00
236	Newark	34013 923	0.062173	0.062173	100.00

237	Newark	34013 931	0.079770	0.079770	100.00
238	Newark	34013 932	0.152426	0.152426	100.00
239	Newark	34013 941	0.041260	0.041260	100.00
240	Newark	34013 942	0.068859	0.068859	100.00
241	Newark	34013 943	0.056441	0.056441	100.00
242	Newark	34013 944	0.068055	0.068055	100.00
243	Newark	34013 951	0.045199	0.045199	100.00
244	Newark	34013 952	0.093955	0.093955	100.00
245	Newark	34013 953	0.047610	0.047610	100.00
246	Newark	34013 954	0.043442	0.043442	100.00
247	Newark	34013 961	0.219463	0.219463	100.00
248	Newark	34013 962	0.066535	0.066535	100.00
249	Newark	34013 963	0.088662	0.088662	100.00
250	Newark	34013 964	0.076774	0.076774	100.00
251	Newark	34013 971	0.036178	0.036178	100.00
252	Newark	34013 972	0.069875	0.069875	100.00
253	Newark	34013 973	0.043965	0.043965	100.00
254	Newark	34013 981	0.833739	0.345763	41.47
255	Newark	34013 982	2.570223	0.426628	16.60
256	Newark	34013 989	4.345191	3.962897	91.20
257	East Orange	34013 991	0.054577	0.054577	100.00
258	East Orange	34013 992	0.037511	0.037511	100.00
259	East Orange	34013 993	0.086140	0.086140	100.00
260	East Orange	34013 1001	0.043144	0.043144	100.00
261	East Orange	34013 1002	0.133220	0.133220	100.00
262	East Orange	34013 1003	0.120628	0.120628	100.00
263	East Orange	34013 1011	0.069706	0.069706	100.00
264	East Orange	34013 1012	0.091495	0.091495	100.00
265	East Orange	34013 1013	0.131856	0.131856	100.00
266	East Orange	34013 1021	0.086822	0.086822	100.00
267	East Orange	34013 1022	0.055226	0.055226	100.00
268	East Orange	34013 1023	0.065904	0.065904	100.00
269	East Orange	34013 1024	0.081219	0.081219	100.00
270	East Orange	34013 1025	0.074295	0.074295	100.00
271	East Orange	34013 1031	0.047914	0.047914	100.00
272	East Orange	34013 1032	0.060461	0.060461	100.00
273	East Orange	34013 1033	0.064018	0.064018	100.00
274	East Orange	34013 1034	0.038709	0.038709	100.00
275	East Orange	34013 1041	0.065833	0.065833	100.00
276	East Orange	34013 1042	0.161229	0.161229	100.00
277	East Orange	34013 1051	0.046579	0.046579	100.00
278	East Orange	34013 1052	0.086416	0.086416	100.00
279	East Orange	34013 1053	0.043317	0.043317	100.00
280	East Orange	34013 1061	0.054615	0.054615	100.00
281	East Orange	34013 1062	0.038590	0.038590	100.00
282	East Orange	34013 1063	0.087245	0.087245	100.00
283	East Orange	34013 1071	0.074506	0.074506	100.00
284	East Orange	34013 1072	0.044730	0.044730	100.00
285	East Orange	34013 1073	0.061633	0.061633	100.00
286	East Orange	34013 1081	0.048479	0.048479	100.00
287	East Orange	34013 1082	0.042866	0.042866	100.00
288	East Orange	34013 1091	0.022666	0.022666	100.00
289	East Orange	34013 1092	0.047220	0.047220	100.00
290	East Orange	34013 1093	0.048399	0.048399	100.00
291	East Orange	34013 1094	0.040668	0.040668	100.00
292	East Orange	34013 1101	0.140264	0.140264	100.00
293	East Orange	34013 1102	0.064148	0.064148	100.00
294	East Orange	34013 1111	0.025414	0.025414	100.00
295	East Orange	34013 1112	0.072411	0.072411	100.00
296	East Orange	34013 1121	0.038464	0.038464	100.00
297	East Orange	34013 1122	0.085586	0.085586	100.00

298	East Orange	34013 1123	0.051187	0.051187	100.00
299	East Orange	34013 1131	0.049096	0.049096	100.00
300	East Orange	34013 1132	0.039953	0.039953	100.00
301	East Orange	34013 1133	0.068538	0.068538	100.00
302	East Orange	34013 1134	0.038196	0.038196	100.00
303	East Orange	34013 1141	0.108080	0.108080	100.00
304	East Orange	34013 1142	0.114712	0.114712	100.00
305	East Orange	34013 1151	0.054722	0.054722	100.00
306	East Orange	34013 1152	0.045540	0.045540	100.00
307	East Orange	34013 1153	0.026127	0.026127	100.00
308	East Orange	34013 1161	0.111591	0.111591	100.00
309	East Orange	34013 1171	0.060265	0.060265	100.00
310	East Orange	34013 1172	0.042991	0.042991	100.00
311	East Orange	34013 1173	0.047076	0.047076	100.00
312	East Orange	34013 1174	0.070109	0.070109	100.00
313	East Orange	34013 1181	0.018485	0.018485	100.00
314	East Orange	34013 1182	0.033669	0.033669	100.00
315	East Orange	34013 1183	0.065037	0.065037	100.00
316	Irvington	34013 1191	0.070499	0.070499	100.00
317	Irvington	34013 1192	0.058400	0.044906	76.89
318	Irvington	34013 1231	0.042529	0.042529	100.00
319	Irvington	34013 1232	0.086907	0.075558	86.94
320	Irvington	34013 1233	0.042257	0.019167	45.36
321	Irvington	34013 1234	0.062298	0.002186	3.51
322	Irvington	34013 1241	0.090643	0.001588	1.75
323	Irvington	34013 1251	0.021473	0.021473	100.00
324	Irvington	34013 1252	0.029683	0.029683	100.00
325	Irvington	34013 1253	0.034926	0.034926	100.00
326	Irvington	34013 1254	0.073362	0.073362	100.00
327	Irvington	34013 1261	0.025355	0.025355	100.00
328	Irvington	34013 1262	0.053691	0.053691	100.00
329	Irvington	34013 1263	0.041116	0.041116	100.00
330	Irvington	34013 1264	0.039855	0.039855	100.00
331	Irvington	34013 1291	0.058749	0.058749	100.00
332	Irvington	34013 1292	0.076943	0.038867	50.51
333	Irvington	34013 1293	0.048527	0.014155	29.17
334	Irvington	34013 1301	0.036568	0.036568	100.00
335	Irvington	34013 1311	0.055323	0.055323	100.00
336	Irvington	34013 1312	0.074427	0.074427	100.00
337	Irvington	34013 1313	0.152023	0.118839	78.17
338	Irvington	34013 1321	0.033587	0.033587	100.00
339	Irvington	34013 1322	0.040932	0.040932	100.00
340	Irvington	34013 1323	0.044625	0.044625	100.00
341	Irvington	34013 1331	0.035532	0.035532	100.00
342	Irvington	34013 1332	0.032904	0.032904	100.00
343	Irvington	34013 1333	0.041861	0.041861	100.00
344	Irvington	34013 1334	0.027030	0.027030	100.00
345	Irvington	34013 1335	0.016095	0.016095	100.00
346	Nutley	34013 1371	0.088941	0.017744	19.95
347	Nutley	34013 1372	0.103336	0.103336	100.00
348	Nutley	34013 1373	0.056888	0.056888	100.00
349	Nutley	34013 1374	0.156788	0.044105	28.13
350	Nutley	34013 1375	0.055897	0.046570	83.31
351	Nutley	34013 1391	0.107147	0.009191	8.58
352	Nutley	34013 1392	0.140168	0.128657	91.79
353	Nutley	34013 1393	0.159296	0.050381	31.63
354	Bellville	34013 1401	0.098686	0.098686	100.00
355	Bellville	34013 1402	0.109596	0.109596	100.00
356	Bellville	34013 1403	0.193581	0.193581	100.00
357	Bellville	34013 1404	0.063926	0.063926	100.00
358	Bellville	34013 1411	0.115089	0.115089	100.00

359	Bellville	34013 1412	0.067392	0.067392	100.00
360	Bellville	34013 1413	0.018619	0.018619	100.00
361	Bellville	34013 1414	0.196966	0.196966	100.00
362	Bellville	34013 1421	0.047830	0.047830	100.00
363	Bellville	34013 1422	0.110857	0.110857	100.00
364	Bellville	34013 1423	0.076909	0.076909	100.00
365	Bellville	34013 1424	0.106899	0.106899	100.00
366	Bellville	34013 1431	0.116725	0.116725	100.00
367	Bellville	34013 1432	0.057118	0.057118	100.00
368	Bellville	34013 1433	0.039514	0.039514	100.00
369	Bellville	34013 1434	0.050920	0.050920	100.00
370	Bellville	34013 1435	0.045788	0.045788	100.00
371	Bellville	34013 1441	0.322094	0.322094	100.00
372	Bellville	34013 1442	0.106268	0.106268	100.00
373	Bellville	34013 1443	0.078940	0.078940	100.00
374	Bellville	34013 1444	0.121848	0.121848	100.00
375	Bellville	34013 1451	0.077790	0.077790	100.00
376	Bellville	34013 1452	0.031905	0.031905	100.00
377	Bellville	34013 1453	0.056461	0.056461	100.00
378	Bellville	34013 1454	0.188203	0.188203	100.00
379	Bellville	34013 1461	0.052917	0.052917	100.00
380	Bellville	34013 1462	0.068454	0.068454	100.00
381	Bellville	34013 1463	0.046804	0.046804	100.00
382	Bellville	34013 1464	0.115744	0.115744	100.00
383	Bellville	34013 1471	0.215205	0.215205	100.00
384	Bellville	34013 1472	0.051074	0.051074	100.00
385	Bellville	34013 1473	0.085751	0.085751	100.00
386	Bellville	34013 1474	0.041209	0.041209	100.00
387	Bellville	34013 1475	0.097697	0.097697	100.00
388	Bloomfield	34013 1515	0.127710	0.000912	0.71
389	Bloomfield	34013 1521	0.062298	0.059544	95.58
390	Bloomfield	34013 1522	0.043669	0.043669	100.00
391	Bloomfield	34013 1523	0.135932	0.135932	100.00
392	Bloomfield	34013 1524	0.084545	0.052653	62.28
393	Bloomfield	34013 1531	0.353332	0.353332	100.00
394	Bloomfield	34013 1532	0.038674	0.038674	100.00
395	Bloomfield	34013 1533	0.043922	0.043922	100.00
396	Bloomfield	34013 1541	0.119496	0.075878	63.50
397	Bloomfield	34013 1542	0.146131	0.146131	100.00
398	Bloomfield	34013 1543	0.090767	0.090767	100.00
399	Bloomfield	34013 1544	0.075826	0.075826	100.00
400	Bloomfield	34013 1545	0.043306	0.043306	100.00
401	Bloomfield	34013 1551	0.055619	0.055619	100.00
402	Bloomfield	34013 1552	0.079065	0.079065	100.00
403	Bloomfield	34013 1553	0.103296	0.103296	100.00
404	Bloomfield	34013 1554	0.084722	0.084722	100.00
405	Bloomfield	34013 1561	0.155346	0.155346	100.00
406	Bloomfield	34013 1562	0.059120	0.059120	100.00
407	Bloomfield	34013 1563	0.056365	0.056365	100.00
408	Bloomfield	34013 1564	0.114293	0.114293	100.00
409	Bloomfield	34013 1571	0.107997	0.107997	100.00
410	Bloomfield	34013 1572	0.108436	0.108436	100.00
411	Bloomfield	34013 1581	0.053630	0.053630	100.00
412	Bloomfield	34013 1582	0.063494	0.063494	100.00
413	Bloomfield	34013 1583	0.034283	0.034283	100.00
414	Bloomfield	34013 1584	0.126754	0.126754	100.00
415	Bloomfield	34013 1591	0.076442	0.076442	100.00
416	Bloomfield	34013 1592	0.057810	0.057810	100.00
417	Bloomfield	34013 1593	0.068877	0.068877	100.00
418	Bloomfield	34013 1594	0.134003	0.134003	100.00
419	Glen Ridge	34013 1604	0.152356	0.037356	24.52

420	Glen Ridge	34013	1605	0.138852	0.117676	84.75
421	Glen Ridge	34013	1606	0.181048	0.159815	88.27
422	Glen Ridge	34013	1607	0.206583	0.206583	100.00
423	Glen Ridge	34013	1608	0.193506	0.193506	100.00
424	Montclair	34013	1712	0.065990	0.003512	5.32
425	Montclair	34013	1721	0.112533	0.059880	53.21
426	Montclair	34013	1722	0.063936	0.063936	100.00
427	Montclair	34013	1723	0.156209	0.065416	41.88
428	East Orange	34013	1761	0.028452	0.000242	0.85
429	East Orange	34013	1771	0.102217	0.091480	89.50
430	East Orange	34013	1773	0.095437	0.038280	40.11
431	East Orange	34013	1774	0.037071	0.006164	16.63
432	Orange	34013	1811	0.121700	0.121700	100.00
433	Orange	34013	1812	0.074060	0.074060	100.00
434	Orange	34013	1821	0.020988	0.020988	100.00
435	Orange	34013	1822	0.059646	0.059646	100.00
436	Orange	34013	1823	0.037528	0.037528	100.00
437	Orange	34013	1824	0.066096	0.058092	87.89
438	Orange	34013	1831	0.040095	0.040095	100.00
439	Orange	34013	1832	0.072158	0.072158	100.00
440	Orange	34013	1833	0.108739	0.088454	81.35
441	Orange	34013	1841	0.046210	0.046210	100.00
442	Orange	34013	1842	0.033728	0.033728	100.00
443	Orange	34013	1843	0.042378	0.042378	100.00
444	Orange	34013	1844	0.052270	0.052270	100.00
445	Orange	34013	1851	0.036214	0.036214	100.00
446	Orange	34013	1852	0.060273	0.060273	100.00
447	Orange	34013	1853	0.055136	0.055136	100.00
448	Orange	34013	1861	0.122806	0.085871	69.92
449	Orange	34013	1862	0.051037	0.043215	84.67
450	Orange	34013	1863	0.052081	0.000550	1.06
451	Orange	34013	1871	0.063713	0.063713	100.00
452	Orange	34013	1872	0.077201	0.077201	100.00
453	Orange	34013	1873	0.102970	0.102970	100.00
454	Orange	34013	1874	0.079919	0.042624	53.33
455	Orange	34013	1881	0.122337	0.092823	75.87
456	Orange	34013	1882	0.115842	0.066000	56.97
457	Orange	34013	1883	0.151541	0.020496	13.53
458	South Orange	34013	1911	0.112517	0.103851	92.30
459	South Orange	34013	1912	0.095335	0.010643	11.16
460	South Orange	34013	1913	0.151654	0.000075	0.05
461	South Orange	34013	1914	0.229261	0.024551	10.71
462	Newark	34013	3837	0.000880	0.000880	100.00
463	Newark	34013	48011	0.050724	0.050724	100.00
464	Newark	34013	48012	0.038177	0.038177	100.00
465	Newark	34013	48021	0.087476	0.087476	100.00
466	Newark	34013	48025	0.594071	0.161472	27.18
468	Newark	34013	75011	0.599131	0.599131	100.00
469	Newark	34013	75012	0.108445	0.108445	100.00
470	Newark	34013	75013	0.048645	0.048645	100.00
471	Newark	34013	75014	0.043269	0.043269	100.00
472	Newark	34013	75015	0.034677	0.034677	100.00
473	Newark	34013	75021	0.468610	0.468610	100.00
474	Newark	34013	75022	0.067162	0.067162	100.00
475	Newark	34013	75023	0.048517	0.048517	100.00
476	Newark	34013	75024	0.123491	0.123491	100.00
477	Nutley	34013	136982	0.130034	0.000056	0.04
478	Nutley	34013	136983	0.187086	0.170472	91.12
479	Nutley	34013	136984	0.102864	0.066334	64.49
480	Jersey City	34017	272	0.234930	0.027503	11.71
481	Jersey City	34017	404	0.357794	0.089719	25.08

482	Jersey City	34017 481	0.308453	0.044394	14.39
483	Jersey City	34017 541	1.128899	0.087361	7.74
484	Kearny	34017 961	0.015159	0.015159	100.00
485	Kearny	34017 1231	0.047335	0.047335	100.00
486	Kearny	34017 1232	0.048095	0.048095	100.00
487	Kearny	34017 1241	0.051891	0.051891	100.00
488	Kearny	34017 1242	0.060226	0.060226	100.00
489	Kearny	34017 1243	0.078282	0.078282	100.00
490	Kearny	34017 1244	0.093526	0.093526	100.00
491	Kearny	34017 1251	0.050313	0.050313	100.00
492	Kearny	34017 1252	0.086344	0.086344	100.00
493	Kearny	34017 1253	0.066337	0.066337	100.00
494	Kearny	34017 1254	0.146897	0.146897	100.00
495	Kearny	34017 1261	0.041078	0.041078	100.00
496	Kearny	34017 1262	0.060499	0.060499	100.00
497	Kearny	34017 1263	0.062491	0.062491	100.00
498	Kearny	34017 1271	0.043975	0.043975	100.00
499	Kearny	34017 1272	0.070012	0.070012	100.00
500	Kearny	34017 1273	0.038978	0.038978	100.00
501	Kearny	34017 1274	0.143194	0.143194	100.00
502	Kearny	34017 1275	0.673342	0.643855	95.62
503	Kearny	34017 1279	6.986498	6.647246	95.14
504	Kearny	34017 1282	0.230434	0.230434	100.00
505	Kearny	34017 1283	0.219158	0.219158	100.00
506	Kearny	34017 1291	0.069131	0.069131	100.00
507	Kearny	34017 1292	0.062044	0.062044	100.00
508	Kearny	34017 1301	0.045848	0.045848	100.00
509	Kearny	34017 1302	0.023233	0.023233	100.00
510	Kearny	34017 1303	0.032719	0.032719	100.00
511	Kearny	34017 1311	0.034474	0.034474	100.00
512	Kearny	34017 1312	0.060883	0.060883	100.00
513	Kearny	34017 1321	0.050691	0.050691	100.00
514	Kearny	34017 1322	0.032456	0.032456	100.00
515	Kearny	34017 1323	0.029849	0.029849	100.00
516	Kearny	34017 1331	0.062023	0.062023	100.00
517	Kearny	34017 1332	0.044875	0.044875	100.00
518	Secaucus	34017 1973	2.764618	0.349266	12.63
519	East Newark	34017 1341	0.068352	0.068352	100.00
520	East Newark	34017 1342	0.047313	0.047313	100.00
521	Harrison	34017 1351	0.190864	0.190864	100.00
522	Harrison	34017 1352	0.021242	0.021242	100.00
523	Harrison	34017 1361	0.048183	0.048183	100.00
524	Harrison	34017 1371	0.041457	0.041457	100.00
525	Harrison	34017 1372	0.041832	0.041832	100.00
526	Harrison	34017 1381	0.140302	0.140302	100.00
527	Harrison	34017 1382	0.183127	0.183127	100.00
528	Harrison	34017 1391	0.506704	0.506704	100.00
529	Harrison	34017 1392	0.078199	0.078199	100.00
530	Kearny	34017 1333	0.179865	0.179865	100.00
	Totals:		63.685982	51.115189	

For Radius of 3 Mi., Circle Area = 28.274334

No.	City	Block Group ID	Total Area	Partial Area	% Within Radius
14	North Arlington	34003 3814	0.041067	0.023286	56.70
15	North Arlington	34003 3815	0.407189	0.224005	55.01

17	North Arlington	34003	3817	0.312721	0.236405	75.60
18	North Arlington	34003	3819	0.653107	0.251153	38.46
19	North Arlington	34003	3821	0.050564	0.050564	100.00
20	North Arlington	34003	3822	0.053634	0.053634	100.00
21	North Arlington	34003	3823	0.044036	0.044036	100.00
22	North Arlington	34003	3824	0.023172	0.023172	100.00
23	North Arlington	34003	3825	0.052184	0.052184	100.00
26	North Arlington	34003	3833	0.062591	0.010506	16.79
27	North Arlington	34003	3835	0.065818	0.065818	100.00
28	North Arlington	34003	3836	0.082577	0.082577	100.00
29	North Arlington	34003	3837	0.216366	0.109716	50.71
30	Newark	34013	11	0.069984	0.069984	100.00
31	Newark	34013	12	0.114105	0.114105	100.00
32	Newark	34013	13	0.175792	0.175792	100.00
33	Newark	34013	21	0.243711	0.243711	100.00
34	Newark	34013	22	0.050620	0.050620	100.00
35	Newark	34013	31	0.125804	0.125804	100.00
36	Newark	34013	41	0.067203	0.067203	100.00
37	Newark	34013	51	0.029744	0.029744	100.00
38	Newark	34013	52	0.047661	0.047661	100.00
39	Newark	34013	61	0.023563	0.023563	100.00
40	Newark	34013	62	0.047989	0.047989	100.00
41	Newark	34013	63	0.055510	0.055510	100.00
42	Newark	34013	71	0.056780	0.056780	100.00
43	Newark	34013	72	0.076698	0.076698	100.00
44	Newark	34013	73	0.040879	0.040879	100.00
45	Newark	34013	81	0.076302	0.076302	100.00
46	Newark	34013	82	0.073832	0.073832	100.00
47	East Orange	34013	91	0.033563	0.033563	100.00
48	East Orange	34013	92	0.045894	0.045894	100.00
49	East Orange	34013	93	0.036229	0.036229	100.00
50	East Orange	34013	94	0.038950	0.038950	100.00
51	East Orange	34013	95	0.028739	0.028739	100.00
52	Newark	34013	101	0.039613	0.039613	100.00
53	Newark	34013	102	0.058073	0.058073	100.00
54	Newark	34013	111	0.029807	0.029807	100.00
55	Newark	34013	112	0.058167	0.058167	100.00
56	Newark	34013	131	0.035958	0.035958	100.00
57	Newark	34013	132	0.043421	0.043421	100.00
58	Newark	34013	141	0.060350	0.060350	100.00
59	Newark	34013	142	0.064947	0.064947	100.00
60	Newark	34013	151	0.030090	0.030090	100.00
61	Newark	34013	152	0.060283	0.060283	100.00
62	Newark	34013	161	0.038002	0.038002	100.00
63	Newark	34013	162	0.022390	0.022390	100.00
64	Newark	34013	163	0.028192	0.028192	100.00
65	Newark	34013	164	0.012901	0.012901	100.00
66	Newark	34013	171	0.051967	0.051967	100.00
67	Newark	34013	172	0.056576	0.056576	100.00
68	Newark	34013	181	0.215164	0.215164	100.00
69	Newark	34013	182	0.051730	0.051730	100.00
70	Newark	34013	191	0.109173	0.109173	100.00
71	Newark	34013	192	0.084840	0.084731	99.87
72	Newark	34013	193	0.066404	0.066404	100.00
89	Newark	34013	251	0.027173	0.027173	100.00
90	Newark	34013	252	0.054231	0.032288	59.54
91	Newark	34013	253	0.065284	0.003784	5.80
92	Newark	34013	261	0.039649	0.039649	100.00
93	Newark	34013	262	0.036427	0.036427	100.00
94	Newark	34013	271	0.054323	0.054323	100.00
95	Newark	34013	281	0.044116	0.044116	100.00

96	Newark	34013 282	0.032569	0.032569	100.00
97	Newark	34013 291	0.028805	0.028805	100.00
98	Newark	34013 292	0.033281	0.033281	100.00
99	Newark	34013 301	0.038138	0.038138	100.00
100	Newark	34013 302	0.039636	0.039636	100.00
101	Newark	34013 311	0.051172	0.051172	100.00
102	Newark	34013 312	0.050677	0.050677	100.00
103	Newark	34013 321	0.056401	0.056401	100.00
104	Newark	34013 341	0.040367	0.040367	100.00
105	Newark	34013 342	0.084890	0.084890	100.00
106	Newark	34013 351	0.059751	0.059751	100.00
107	Newark	34013 352	0.032584	0.021083	64.70
108	Newark	34013 371	0.080910	0.080910	100.00
109	Newark	34013 372	0.047391	0.026871	56.70
110	Newark	34013 381	0.041434	0.041434	100.00
111	Newark	34013 383	0.120874	0.120874	100.00
112	Newark	34013 391	0.036182	0.036182	100.00
113	Newark	34013 392	0.078832	0.078832	100.00
114	Newark	34013 401	0.041140	0.041140	100.00
115	Newark	34013 402	0.034460	0.034460	100.00
116	Newark	34013 411	0.042353	0.040237	95.00
117	Newark	34013 412	0.043079	0.027310	63.40
118	Newark	34013 413	0.042992	0.010774	25.06
119	Newark	34013 421	0.065870	0.000378	0.57
145	Newark	34013 541	0.062946	0.037722	59.93
146	Newark	34013 542	0.074219	0.001371	1.85
147	Newark	34013 551	0.064942	0.017878	27.53
148	Newark	34013 561	0.021569	0.021556	99.94
149	Newark	34013 562	0.034628	0.013807	39.87
151	Newark	34013 571	0.041748	0.041748	100.00
152	Newark	34013 572	0.032222	0.032222	100.00
153	Newark	34013 573	0.038869	0.038869	100.00
154	Newark	34013 574	0.035559	0.035559	100.00
155	Newark	34013 575	0.117320	0.093134	79.38
156	Newark	34013 576	0.051556	0.014763	28.64
157	Newark	34013 581	0.040697	0.040697	100.00
158	Newark	34013 582	0.084008	0.033676	40.09
159	Newark	34013 591	0.021974	0.021974	100.00
160	Newark	34013 592	0.036257	0.036257	100.00
161	Newark	34013 593	0.054968	0.054968	100.00
162	Newark	34013 601	0.067826	0.067826	100.00
163	Newark	34013 621	0.085764	0.085764	100.00
164	Newark	34013 631	0.045948	0.045948	100.00
165	Newark	34013 632	0.016442	0.016442	100.00
166	Newark	34013 641	0.036152	0.036152	100.00
167	Newark	34013 642	0.034640	0.034640	100.00
168	Newark	34013 643	0.043737	0.043737	100.00
169	Newark	34013 651	0.052515	0.052515	100.00
170	Newark	34013 661	0.058043	0.058043	100.00
171	Newark	34013 671	0.046152	0.046152	100.00
172	Newark	34013 672	0.043781	0.043781	100.00
173	Newark	34013 673	0.029170	0.029170	100.00
174	Newark	34013 681	0.064638	0.064638	100.00
175	Newark	34013 682	0.256110	0.253254	98.88
176	Newark	34013 683	0.037059	0.037059	100.00
177	Newark	34013 684	0.093904	0.093904	100.00
178	Newark	34013 691	0.063826	0.063826	100.00
179	Newark	34013 692	0.075645	0.075645	100.00
180	Newark	34013 701	0.073228	0.073228	100.00
181	Newark	34013 702	0.075765	0.075765	100.00
182	Newark	34013 711	0.063222	0.063222	100.00

183	Newark	34013 712	0.045268	0.045268	100.00
184	Newark	34013 713	0.034167	0.034167	100.00
185	Newark	34013 721	0.080210	0.080210	100.00
186	Newark	34013 731	0.060222	0.060222	100.00
187	Newark	34013 732	0.041673	0.041673	100.00
188	Newark	34013 733	0.036721	0.036721	100.00
189	Newark	34013 741	1.554327	0.710544	45.71
190	Newark	34013 742	0.196019	0.196019	100.00
191	Newark	34013 761	0.038774	0.038774	100.00
192	Newark	34013 762	0.034461	0.034461	100.00
193	Newark	34013 763	0.032004	0.032004	100.00
194	Newark	34013 771	0.032318	0.032318	100.00
195	Newark	34013 772	0.044647	0.044647	100.00
196	Newark	34013 781	0.034160	0.034160	100.00
197	Newark	34013 782	0.038856	0.038856	100.00
198	Newark	34013 791	0.084543	0.084543	100.00
199	Newark	34013 792	0.024457	0.024457	100.00
200	Newark	34013 793	0.031822	0.031822	100.00
201	Newark	34013 794	0.046126	0.046126	100.00
202	Newark	34013 801	0.125901	0.125901	100.00
203	Newark	34013 802	0.092973	0.092973	100.00
204	Newark	34013 803	0.071723	0.071723	100.00
205	Newark	34013 804	0.060211	0.060211	100.00
206	Newark	34013 811	0.053992	0.053992	100.00
207	Newark	34013 812	0.092234	0.092234	100.00
208	Newark	34013 813	0.095486	0.095486	100.00
209	Newark	34013 814	0.063059	0.063059	100.00
210	Newark	34013 821	0.134277	0.134277	100.00
211	Newark	34013 823	0.021535	0.021535	100.00
212	Newark	34013 831	0.044790	0.044790	100.00
213	Newark	34013 832	0.038997	0.038997	100.00
214	Newark	34013 833	0.039254	0.039254	100.00
215	Newark	34013 841	0.029045	0.029045	100.00
216	Newark	34013 842	0.005716	0.005716	100.00
217	Newark	34013 843	0.043383	0.043383	100.00
218	Newark	34013 851	0.093012	0.093012	100.00
219	Newark	34013 852	0.088944	0.088944	100.00
220	Newark	34013 853	0.048827	0.048827	100.00
221	Newark	34013 854	0.048448	0.048448	100.00
222	Newark	34013 855	0.079551	0.079551	100.00
223	Newark	34013 861	0.088549	0.088549	100.00
224	Newark	34013 862	0.046642	0.046642	100.00
225	Newark	34013 871	0.075255	0.075255	100.00
226	Newark	34013 872	0.050264	0.050264	100.00
227	Newark	34013 873	0.045798	0.045798	100.00
228	Newark	34013 874	0.039783	0.039783	100.00
229	Newark	34013 881	0.036492	0.036492	100.00
230	Newark	34013 882	0.022666	0.022666	100.00
231	Newark	34013 891	0.045641	0.045641	100.00
232	Newark	34013 901	0.179355	0.179355	100.00
233	Newark	34013 911	0.183144	0.183144	100.00
234	Newark	34013 921	0.065781	0.065781	100.00
235	Newark	34013 922	0.033936	0.033936	100.00
236	Newark	34013 923	0.062173	0.062173	100.00
237	Newark	34013 931	0.079770	0.079770	100.00
238	Newark	34013 932	0.152426	0.152426	100.00
239	Newark	34013 941	0.041260	0.041260	100.00
240	Newark	34013 942	0.068859	0.068859	100.00
241	Newark	34013 943	0.056441	0.056441	100.00
242	Newark	34013 944	0.068055	0.068055	100.00
243	Newark	34013 951	0.045199	0.045199	100.00

328	Irvington	34013	1262	0.053691	0.001132	2.11
338	Irvington	34013	1321	0.033587	0.010102	30.08
340	Irvington	34013	1323	0.044625	0.000319	0.71
341	Irvington	34013	1331	0.035532	0.035532	100.00
342	Irvington	34013	1332	0.032904	0.032904	100.00
343	Irvington	34013	1333	0.041861	0.034053	81.35
344	Irvington	34013	1334	0.027030	0.027030	100.00
345	Irvington	34013	1335	0.016095	0.016095	100.00
356	Bellville	34013	1403	0.193581	0.084908	43.86
357	Bellville	34013	1404	0.063926	0.063926	100.00
360	Bellville	34013	1413	0.018619	0.018619	100.00
361	Bellville	34013	1414	0.196966	0.146702	74.48
364	Bellville	34013	1423	0.076909	0.000037	0.05
365	Bellville	34013	1424	0.106899	0.065919	61.66
369	Bellville	34013	1434	0.050920	0.033749	66.28
370	Bellville	34013	1435	0.045788	0.045788	100.00
371	Bellville	34013	1441	0.322094	0.070949	22.03
372	Bellville	34013	1442	0.106268	0.106268	100.00
373	Bellville	34013	1443	0.078940	0.078940	100.00
374	Bellville	34013	1444	0.121848	0.121848	100.00
375	Bellville	34013	1451	0.077790	0.077790	100.00
376	Bellville	34013	1452	0.031905	0.031905	100.00
377	Bellville	34013	1453	0.056461	0.056461	100.00
378	Bellville	34013	1454	0.188203	0.188203	100.00
379	Bellville	34013	1461	0.052917	0.052917	100.00
380	Bellville	34013	1462	0.068454	0.068454	100.00
381	Bellville	34013	1463	0.046804	0.046804	100.00
382	Bellville	34013	1464	0.115744	0.115744	100.00
383	Bellville	34013	1471	0.215205	0.215205	100.00
384	Bellville	34013	1472	0.051074	0.051074	100.00
385	Bellville	34013	1473	0.085751	0.085751	100.00
386	Bellville	34013	1474	0.041209	0.041209	100.00
387	Bellville	34013	1475	0.097697	0.097697	100.00
393	Bloomfield	34013	1531	0.353332	0.001317	0.37
394	Bloomfield	34013	1532	0.038674	0.019781	51.15
395	Bloomfield	34013	1533	0.043922	0.000266	0.61
400	Bloomfield	34013	1545	0.043306	0.014805	34.19
401	Bloomfield	34013	1551	0.055619	0.050981	91.66
402	Bloomfield	34013	1552	0.079065	0.079065	100.00
403	Bloomfield	34013	1553	0.103296	0.103296	100.00
404	Bloomfield	34013	1554	0.084722	0.034019	40.15
405	Bloomfield	34013	1561	0.155346	0.113870	73.30
406	Bloomfield	34013	1562	0.059120	0.019543	33.06
409	Bloomfield	34013	1571	0.107997	0.107997	100.00
410	Bloomfield	34013	1572	0.108436	0.108436	100.00
411	Bloomfield	34013	1581	0.053630	0.053630	100.00
412	Bloomfield	34013	1582	0.063494	0.063494	100.00
413	Bloomfield	34013	1583	0.034283	0.034283	100.00
414	Bloomfield	34013	1584	0.126754	0.126754	100.00
415	Bloomfield	34013	1591	0.076442	0.076442	100.00
416	Bloomfield	34013	1592	0.057810	0.057810	100.00
417	Bloomfield	34013	1593	0.068877	0.068877	100.00
418	Bloomfield	34013	1594	0.134003	0.134003	100.00
468	Newark	34013	75011	0.599131	0.599131	100.00
469	Newark	34013	75012	0.108445	0.108445	100.00
470	Newark	34013	75013	0.048645	0.048645	100.00
471	Newark	34013	75014	0.043269	0.043269	100.00
472	Newark	34013	75015	0.034677	0.034677	100.00
473	Newark	34013	75021	0.468610	0.455177	97.13
474	Newark	34013	75022	0.067162	0.067162	100.00
475	Newark	34013	75023	0.048517	0.048517	100.00

476	Newark	34013 75024	0.123491	0.123491	100.00
484	Kearny	34017 961	0.015159	0.015159	100.00
485	Kearny	34017 1231	0.047335	0.047335	100.00
486	Kearny	34017 1232	0.048095	0.048095	100.00
487	Kearny	34017 1241	0.051891	0.051891	100.00
488	Kearny	34017 1242	0.060226	0.060226	100.00
489	Kearny	34017 1243	0.078282	0.078282	100.00
490	Kearny	34017 1244	0.093526	0.093526	100.00
491	Kearny	34017 1251	0.050313	0.050313	100.00
492	Kearny	34017 1252	0.086344	0.086344	100.00
493	Kearny	34017 1253	0.066337	0.066337	100.00
494	Kearny	34017 1254	0.146897	0.146897	100.00
495	Kearny	34017 1261	0.041078	0.041078	100.00
496	Kearny	34017 1262	0.060499	0.060499	100.00
497	Kearny	34017 1263	0.062491	0.062491	100.00
498	Kearny	34017 1271	0.043975	0.043975	100.00
499	Kearny	34017 1272	0.070012	0.070012	100.00
500	Kearny	34017 1273	0.038978	0.038978	100.00
501	Kearny	34017 1274	0.143194	0.143194	100.00
502	Kearny	34017 1275	0.673342	0.013398	1.99
503	Kearny	34017 1279	6.986498	3.745422	53.61
504	Kearny	34017 1282	0.230434	0.230434	100.00
505	Kearny	34017 1283	0.219158	0.219158	100.00
506	Kearny	34017 1291	0.069131	0.069131	100.00
507	Kearny	34017 1292	0.062044	0.062044	100.00
508	Kearny	34017 1301	0.045848	0.045848	100.00
509	Kearny	34017 1302	0.023233	0.023233	100.00
510	Kearny	34017 1303	0.032719	0.032719	100.00
511	Kearny	34017 1311	0.034474	0.034474	100.00
512	Kearny	34017 1312	0.060883	0.060883	100.00
513	Kearny	34017 1321	0.050691	0.050691	100.00
514	Kearny	34017 1322	0.032456	0.032456	100.00
515	Kearny	34017 1323	0.029849	0.029849	100.00
516	Kearny	34017 1331	0.062023	0.062023	100.00
517	Kearny	34017 1332	0.044875	0.044875	100.00
519	East Newark	34017 1341	0.068352	0.068352	100.00
520	East Newark	34017 1342	0.047313	0.047313	100.00
521	Harrison	34017 1351	0.190864	0.190864	100.00
522	Harrison	34017 1352	0.021242	0.021242	100.00
523	Harrison	34017 1361	0.048183	0.048183	100.00
524	Harrison	34017 1371	0.041457	0.041457	100.00
525	Harrison	34017 1372	0.041832	0.041832	100.00
526	Harrison	34017 1381	0.140302	0.140302	100.00
527	Harrison	34017 1382	0.183127	0.183127	100.00
528	Harrison	34017 1391	0.506704	0.506704	100.00
529	Harrison	34017 1392	0.078199	0.078199	100.00
530	Kearny	34017 1333	0.179865	0.179865	100.00
	Totals:		39.784813	28.303469	

For Radius of 2 Mi., Circle Area = 12.566371

No.	City	Block Group ID	Total Area	Partial Area	% Within Radius
30	Newark	34013 11	0.069984	0.060891	87.01
31	Newark	34013 12	0.114105	0.111515	97.73
32	Newark	34013 13	0.175792	0.050281	28.60
33	Newark	34013 21	0.243711	0.243711	100.00

34	Newark	34013 22	0.050620	0.050620	100.00
35	Newark	34013 31	0.125804	0.105603	83.94
36	Newark	34013 41	0.067203	0.067203	100.00
37	Newark	34013 51	0.029744	0.029744	100.00
38	Newark	34013 52	0.047661	0.047661	100.00
39	Newark	34013 61	0.023563	0.023563	100.00
40	Newark	34013 62	0.047989	0.047989	100.00
41	Newark	34013 63	0.055510	0.055510	100.00
42	Newark	34013 71	0.056780	0.056780	100.00
43	Newark	34013 72	0.076698	0.076698	100.00
44	Newark	34013 73	0.040879	0.040879	100.00
45	Newark	34013 81	0.076302	0.076302	100.00
46	Newark	34013 82	0.073832	0.073832	100.00
47	East Orange	34013 91	0.033563	0.033563	100.00
48	East Orange	34013 92	0.045894	0.045894	100.00
49	East Orange	34013 93	0.036229	0.036229	100.00
50	East Orange	34013 94	0.038950	0.038950	100.00
51	East Orange	34013 95	0.028739	0.028739	100.00
52	Newark	34013 101	0.039613	0.039613	100.00
53	Newark	34013 102	0.058073	0.058073	100.00
54	Newark	34013 111	0.029807	0.029807	100.00
55	Newark	34013 112	0.058167	0.058167	100.00
56	Newark	34013 131	0.035958	0.035958	100.00
57	Newark	34013 132	0.043421	0.043421	100.00
58	Newark	34013 141	0.060350	0.055260	91.57
59	Newark	34013 142	0.064947	0.032864	50.60
60	Newark	34013 151	0.030090	0.030090	100.00
61	Newark	34013 152	0.060283	0.060283	100.00
62	Newark	34013 161	0.038002	0.038002	100.00
63	Newark	34013 162	0.022390	0.022390	100.00
64	Newark	34013 163	0.028192	0.028192	100.00
65	Newark	34013 164	0.012901	0.012901	100.00
66	Newark	34013 171	0.051967	0.051967	100.00
67	Newark	34013 172	0.056576	0.056576	100.00
68	Newark	34013 181	0.215164	0.044386	20.63
97	Newark	34013 291	0.028805	0.022861	79.37
98	Newark	34013 292	0.033281	0.011146	33.49
99	Newark	34013 301	0.038138	0.038138	100.00
100	Newark	34013 302	0.039636	0.013373	33.74
101	Newark	34013 311	0.051172	0.006334	12.38
102	Newark	34013 312	0.050677	0.007839	15.47
151	Newark	34013 571	0.041748	0.004085	9.78
163	Newark	34013 621	0.085764	0.021838	25.46
164	Newark	34013 631	0.045948	0.045948	100.00
165	Newark	34013 632	0.016442	0.016424	99.89
166	Newark	34013 641	0.036152	0.036152	100.00
167	Newark	34013 642	0.034640	0.034640	100.00
168	Newark	34013 643	0.043737	0.043737	100.00
169	Newark	34013 651	0.052515	0.052515	100.00
171	Newark	34013 671	0.046152	0.008753	18.97
178	Newark	34013 691	0.063826	0.024426	38.27
179	Newark	34013 692	0.075645	0.000003	0.00
180	Newark	34013 701	0.073228	0.034441	47.03
185	Newark	34013 721	0.080210	0.010870	13.55
186	Newark	34013 731	0.060222	0.047913	79.56
188	Newark	34013 733	0.036721	0.020920	56.97
190	Newark	34013 742	0.196019	0.001066	0.54
191	Newark	34013 761	0.038774	0.038774	100.00
192	Newark	34013 762	0.034461	0.034461	100.00
193	Newark	34013 763	0.032004	0.032004	100.00
194	Newark	34013 771	0.032318	0.032318	100.00

195	Newark	34013	772	0.044647	0.044647	100.00
196	Newark	34013	781	0.034160	0.034160	100.00
197	Newark	34013	782	0.038856	0.037306	96.01
198	Newark	34013	791	0.084543	0.084543	100.00
199	Newark	34013	792	0.024457	0.024457	100.00
200	Newark	34013	793	0.031822	0.031822	100.00
201	Newark	34013	794	0.046126	0.046126	100.00
202	Newark	34013	801	0.125901	0.125901	100.00
203	Newark	34013	802	0.092973	0.092973	100.00
204	Newark	34013	803	0.071723	0.071723	100.00
205	Newark	34013	804	0.060211	0.060211	100.00
206	Newark	34013	811	0.053992	0.053992	100.00
207	Newark	34013	812	0.092234	0.092234	100.00
208	Newark	34013	813	0.095486	0.095154	99.65
209	Newark	34013	814	0.063059	0.063059	100.00
210	Newark	34013	821	0.134277	0.134277	100.00
211	Newark	34013	823	0.021535	0.021535	100.00
212	Newark	34013	831	0.044790	0.044790	100.00
213	Newark	34013	832	0.038997	0.038997	100.00
214	Newark	34013	833	0.039254	0.039254	100.00
215	Newark	34013	841	0.029045	0.029045	100.00
216	Newark	34013	842	0.005716	0.005716	100.00
217	Newark	34013	843	0.043383	0.043383	100.00
218	Newark	34013	851	0.093012	0.093012	100.00
219	Newark	34013	852	0.088944	0.088944	100.00
220	Newark	34013	853	0.048827	0.048827	100.00
221	Newark	34013	854	0.048448	0.048448	100.00
222	Newark	34013	855	0.079551	0.079551	100.00
223	Newark	34013	861	0.088549	0.088549	100.00
224	Newark	34013	862	0.046642	0.046642	100.00
225	Newark	34013	871	0.075255	0.075255	100.00
226	Newark	34013	872	0.050264	0.050264	100.00
227	Newark	34013	873	0.045798	0.045798	100.00
228	Newark	34013	874	0.039783	0.039783	100.00
229	Newark	34013	881	0.036492	0.036492	100.00
230	Newark	34013	882	0.022666	0.022666	100.00
231	Newark	34013	891	0.045641	0.045641	100.00
232	Newark	34013	901	0.179355	0.179355	100.00
233	Newark	34013	911	0.183144	0.183144	100.00
234	Newark	34013	921	0.065781	0.065781	100.00
235	Newark	34013	922	0.033936	0.033936	100.00
236	Newark	34013	923	0.062173	0.062173	100.00
237	Newark	34013	931	0.079770	0.079770	100.00
238	Newark	34013	932	0.152426	0.152426	100.00
239	Newark	34013	941	0.041260	0.041260	100.00
240	Newark	34013	942	0.068859	0.068859	100.00
241	Newark	34013	943	0.056441	0.056441	100.00
242	Newark	34013	944	0.068055	0.068055	100.00
243	Newark	34013	951	0.045199	0.045199	100.00
244	Newark	34013	952	0.093955	0.093955	100.00
245	Newark	34013	953	0.047610	0.047610	100.00
246	Newark	34013	954	0.043442	0.043442	100.00
247	Newark	34013	961	0.219463	0.219463	100.00
248	Newark	34013	962	0.066535	0.066535	100.00
249	Newark	34013	963	0.088662	0.088662	100.00
250	Newark	34013	964	0.076774	0.076774	100.00
251	Newark	34013	971	0.036178	0.035668	98.59
252	Newark	34013	972	0.069875	0.069875	100.00
253	Newark	34013	973	0.043965	0.043965	100.00
267	East Orange	34013	1022	0.055226	0.051536	93.32
268	East Orange	34013	1023	0.065904	0.057642	87.46

269	East Orange	34013	1024	0.081219	0.012696	15.63
271	East Orange	34013	1031	0.047914	0.047914	100.00
272	East Orange	34013	1032	0.060461	0.046882	77.54
273	East Orange	34013	1033	0.064018	0.026982	42.15
283	East Orange	34013	1071	0.074506	0.042507	57.05
284	East Orange	34013	1072	0.044730	0.013299	29.73
286	East Orange	34013	1081	0.048479	0.048479	100.00
287	East Orange	34013	1082	0.042866	0.042866	100.00
288	East Orange	34013	1091	0.022666	0.022666	100.00
289	East Orange	34013	1092	0.047220	0.043624	92.39
290	East Orange	34013	1093	0.048399	0.001399	2.89
291	East Orange	34013	1094	0.040668	0.020530	50.48
374	Bellville	34013	1444	0.121848	0.040372	33.13
377	Bellville	34013	1453	0.056461	0.021331	37.78
378	Bellville	34013	1454	0.188203	0.001718	0.91
385	Bellville	34013	1473	0.085751	0.013187	15.38
386	Bellville	34013	1474	0.041209	0.041209	100.00
387	Bellville	34013	1475	0.097697	0.070619	72.28
415	Bloomfield	34013	1591	0.076442	0.032568	42.61
416	Bloomfield	34013	1592	0.057810	0.057810	100.00
417	Bloomfield	34013	1593	0.068877	0.047512	68.98
468	Newark	34013	75011	0.599131	0.240144	40.08
469	Newark	34013	75012	0.108445	0.088870	81.95
470	Newark	34013	75013	0.048645	0.048645	100.00
471	Newark	34013	75014	0.043269	0.043269	100.00
472	Newark	34013	75015	0.034677	0.034677	100.00
474	Newark	34013	75022	0.067162	0.017570	26.16
475	Newark	34013	75023	0.048517	0.001345	2.77
476	Newark	34013	75024	0.123491	0.013189	10.68
484	Kearny	34017	961	0.015159	0.015159	100.00
486	Kearny	34017	1232	0.048095	0.017415	36.21
488	Kearny	34017	1242	0.060226	0.010763	17.87
489	Kearny	34017	1243	0.078282	0.057892	73.95
490	Kearny	34017	1244	0.093526	0.006570	7.02
491	Kearny	34017	1251	0.050313	0.050313	100.00
492	Kearny	34017	1252	0.086344	0.086344	100.00
493	Kearny	34017	1253	0.066337	0.066337	100.00
494	Kearny	34017	1254	0.146897	0.146897	100.00
495	Kearny	34017	1261	0.041078	0.041078	100.00
496	Kearny	34017	1262	0.060499	0.060499	100.00
497	Kearny	34017	1263	0.062491	0.062491	100.00
498	Kearny	34017	1271	0.043975	0.026385	60.00
499	Kearny	34017	1272	0.070012	0.070012	100.00
500	Kearny	34017	1273	0.038978	0.038978	100.00
501	Kearny	34017	1274	0.143194	0.143194	100.00
503	Kearny	34017	1279	6.986498	1.139166	16.31
504	Kearny	34017	1282	0.230434	0.230434	100.00
505	Kearny	34017	1283	0.219158	0.219158	100.00
506	Kearny	34017	1291	0.069131	0.069131	100.00
507	Kearny	34017	1292	0.062044	0.062044	100.00
508	Kearny	34017	1301	0.045848	0.045848	100.00
509	Kearny	34017	1302	0.023233	0.023233	100.00
510	Kearny	34017	1303	0.032719	0.032719	100.00
511	Kearny	34017	1311	0.034474	0.034474	100.00
512	Kearny	34017	1312	0.060883	0.060883	100.00
513	Kearny	34017	1321	0.050691	0.050691	100.00
514	Kearny	34017	1322	0.032456	0.032456	100.00
515	Kearny	34017	1323	0.029849	0.029849	100.00
516	Kearny	34017	1331	0.062023	0.062023	100.00
517	Kearny	34017	1332	0.044875	0.044875	100.00
519	East Newark	34017	1341	0.068352	0.068352	100.00

520	East Newark	34017 1342	0.047313	0.047313	100.00
521	Harrison	34017 1351	0.190864	0.190864	100.00
522	Harrison	34017 1352	0.021242	0.021242	100.00
523	Harrison	34017 1361	0.048183	0.048183	100.00
524	Harrison	34017 1371	0.041457	0.041457	100.00
525	Harrison	34017 1372	0.041832	0.041832	100.00
526	Harrison	34017 1381	0.140302	0.140302	100.00
527	Harrison	34017 1382	0.183127	0.183127	100.00
528	Harrison	34017 1391	0.506704	0.506704	100.00
529	Harrison	34017 1392	0.078199	0.078199	100.00
530	Kearny	34017 1333	0.179865	0.179865	100.00
	Totals:		21.032675	12.566416	

For Radius of 1 Mi., Circle Area = 3.141593

No.	City	Block Group ID	Total Area	Partial Area	% Within Radius
33	Newark	34013 21	0.243711	0.011867	4.87
52	Newark	34013 101	0.039613	0.002258	5.70
202	Newark	34013 801	0.125901	0.002010	1.60
212	Newark	34013 831	0.044790	0.000994	2.22
215	Newark	34013 841	0.029045	0.029045	100.00
216	Newark	34013 842	0.005716	0.004290	75.04
217	Newark	34013 843	0.043383	0.018489	42.62
218	Newark	34013 851	0.093012	0.093012	100.00
219	Newark	34013 852	0.088944	0.076626	86.15
220	Newark	34013 853	0.048827	0.016627	34.05
221	Newark	34013 854	0.048448	0.048448	100.00
222	Newark	34013 855	0.079551	0.054852	68.95
223	Newark	34013 861	0.088549	0.088233	99.64
224	Newark	34013 862	0.046642	0.044907	96.28
225	Newark	34013 871	0.075255	0.075255	100.00
226	Newark	34013 872	0.050264	0.050264	100.00
227	Newark	34013 873	0.045798	0.045798	100.00
228	Newark	34013 874	0.039783	0.039783	100.00
229	Newark	34013 881	0.036492	0.036492	100.00
230	Newark	34013 882	0.022666	0.022666	100.00
231	Newark	34013 891	0.045641	0.045641	100.00
232	Newark	34013 901	0.179355	0.139104	77.56
233	Newark	34013 911	0.183144	0.141517	77.27
234	Newark	34013 921	0.065781	0.065781	100.00
235	Newark	34013 922	0.033936	0.033936	100.00
236	Newark	34013 923	0.062173	0.062173	100.00
237	Newark	34013 931	0.079770	0.040632	50.94
238	Newark	34013 932	0.152426	0.152426	100.00
239	Newark	34013 941	0.041260	0.001435	3.48
240	Newark	34013 942	0.068859	0.063300	91.93
241	Newark	34013 943	0.056441	0.056441	100.00
242	Newark	34013 944	0.068055	0.023883	35.09
244	Newark	34013 952	0.093955	0.022021	23.44
247	Newark	34013 961	0.219463	0.026604	12.12
248	Newark	34013 962	0.066535	0.050070	75.25
504	Kearny	34017 1282	0.230434	0.047770	20.73
505	Kearny	34017 1283	0.219158	0.040721	18.58
506	Kearny	34017 1291	0.069131	0.031379	45.39
507	Kearny	34017 1292	0.062044	0.062044	100.00
508	Kearny	34017 1301	0.045848	0.028335	61.80

509	Kearny	34017 1302	0.023233	0.023233	100.00
510	Kearny	34017 1303	0.032719	0.032719	100.00
511	Kearny	34017 1311	0.034474	0.022442	65.10
512	Kearny	34017 1312	0.060883	0.042778	70.26
513	Kearny	34017 1321	0.050691	0.050691	100.00
514	Kearny	34017 1322	0.032456	0.032456	100.00
515	Kearny	34017 1323	0.029849	0.029849	100.00
516	Kearny	34017 1331	0.062023	0.062023	100.00
517	Kearny	34017 1332	0.044875	0.044875	100.00
519	East Newark	34017 1341	0.068352	0.068352	100.00
520	East Newark	34017 1342	0.047313	0.047313	100.00
521	Harrison	34017 1351	0.190864	0.180044	94.33
522	Harrison	34017 1352	0.021242	0.021242	100.00
523	Harrison	34017 1361	0.048183	0.048183	100.00
524	Harrison	34017 1371	0.041457	0.041457	100.00
525	Harrison	34017 1372	0.041832	0.041832	100.00
526	Harrison	34017 1381	0.140302	0.122794	87.52
527	Harrison	34017 1382	0.183127	0.052651	28.75
528	Harrison	34017 1391	0.506704	0.032651	6.44
529	Harrison	34017 1392	0.078199	0.067265	86.02
530	Kearny	34017 1333	0.179865	0.179865	100.00
	Totals:		5.258439	3.141840	

For Radius of .5 Mi., Circle Area = 0.785398

No.	City	Block Group ID	Total Area	Partial Area	% Within Radius
218	Newark	34013 851	0.093012	0.041072	44.16
223	Newark	34013 861	0.088549	0.010580	11.95
225	Newark	34013 871	0.075255	0.075255	100.00
226	Newark	34013 872	0.050264	0.050264	100.00
227	Newark	34013 873	0.045798	0.045567	99.50
228	Newark	34013 874	0.039783	0.003838	9.65
229	Newark	34013 881	0.036492	0.034326	94.06
230	Newark	34013 882	0.022666	0.003139	13.85
231	Newark	34013 891	0.045641	0.003225	7.07
234	Newark	34013 921	0.065781	0.061514	93.51
235	Newark	34013 922	0.033936	0.033936	100.00
236	Newark	34013 923	0.062173	0.027384	44.04
238	Newark	34013 932	0.152426	0.001650	1.08
510	Kearny	34017 1303	0.032719	0.023237	71.02
514	Kearny	34017 1322	0.032456	0.016998	52.37
515	Kearny	34017 1323	0.029849	0.029849	100.00
517	Kearny	34017 1332	0.044875	0.029979	66.81
519	East Newark	34017 1341	0.068352	0.068352	100.00
520	East Newark	34017 1342	0.047313	0.038500	81.37
521	Harrison	34017 1351	0.190864	0.016145	8.46
523	Harrison	34017 1361	0.048183	0.003042	6.31
524	Harrison	34017 1371	0.041457	0.029366	70.84
525	Harrison	34017 1372	0.041832	0.000081	0.19
530	Kearny	34017 1333	0.179865	0.138099	76.78
	Totals:		1.569538	0.785398	

For Radius of .25 Mi., Circle Area = 0.196350

Franklin Plastics
Kearny, NJ

No.	City	Block Group ID	Total Area	Partial Area	% Within Radius
218	Newark	34013 851	0.093012	0.000063	0.07
225	Newark	34013 871	0.075255	0.075172	99.89
226	Newark	34013 872	0.050264	0.004170	8.30
234	Newark	34013 921	0.065781	0.014959	22.74
235	Newark	34013 922	0.033936	0.006165	18.17
515	Kearny	34017 1323	0.029849	0.004732	15.85
517	Kearny	34017 1332	0.044875	0.000180	0.40
519	East Newark	34017 1341	0.068352	0.036457	53.34
520	East Newark	34017 1342	0.047313	0.000725	1.53
530	Kearny	34017 1333	0.179865	0.053726	29.87
	Totals:		0.688502	0.196350	

Franklin Plastics
Kearny, NJ

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

                    Population: 523604.09
                    Households: 203242.16
                 Drilled Wells:    110.42
                     Dug Wells:     21.00
           Other Water Sources:    198.80

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

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

                    Population: 176980.31
                    Households:  69186.09
                 Drilled Wells:     22.23
                     Dug Wells:      0.00
           Other Water Sources:     73.77

 ** Population On Private Wells:     56.86

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

                    Population: 159146.59
                    Households:  63648.88
                 Drilled Wells:     16.35
                     Dug Wells:     13.00
           Other Water Sources:     60.00

 ** Population On Private Wells:     73.39

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

                    Population: 129905.88
                    Households:  49090.61
                 Drilled Wells:     44.79
                     Dug Wells:      0.00
           Other Water Sources:     33.00

 ** Population On Private Wells:    118.54

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

                    Population:  45096.34
                    Households:  16953.53
                 Drilled Wells:     27.04
                     Dug Wells:      7.91
           Other Water Sources:     17.77

 ** Population On Private Wells:     92.99
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Franklin Plastics
Kearny, NJ

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

Population:	11139.23
Households:	3887.63
Drilled Wells:	0.00
Dug Wells:	0.09
Other Water Sources:	4.27

** Population On Private Wells: 0.25

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

Population:	1335.74
Households:	475.42
Drilled Wells:	0.00
Dug Wells:	0.00
Other Water Sources:	9.99

** Population On Private Wells: 0.00

** Total Population On Private Wells: 342.02

ATTACHMENT 2