JOHN JIMENEZ
2/6/80

162324

SUBJECT: Browning-Ferris Industries -
Transfer Station
714 Division Street
Elizabeth, N.J. 07202

Registered with NJDEP as facility number 2004A this transfer station handles municipal, as well as, chemical hazardous waste. The municipal wastes are disposed of at local landfills and the allegedly hazardous wastes are shipped to Baltimore, Maryland.

The facility has been fined by DEP for allowing flying debris and cited for allowing chemical sludge to be stored too close to municipal wastes. DEP

claims that the sludges were mixing in with the municipal waste and being deposited on municipal waste. DEP also claims that sludges were being washed into a storm sewer during heavy rains. DEP requested that the sludge pile be moved away from the municipal waste pile and the sewer and Browning Ferris agreed to comply. Otherwise, DEP gives them a rating of good for housekeeping.

For further information contact,

Mr. George Smajda, DEP, at (609) 292-9877

Browning-Ferris Industries

South Brunswick, NJ

EPA Contacts: Bruce Adler 2ENF-GE

Wayne Pierre 2WA-SW

SYNOPSIS

This 68 acre ~~site~~ landfill suspected of accepting pesticides and other chemical wastes in both dry and liquid form, was closed in mid 1978 due to an administrative closure order issued by NJDEP. ~~Based~~ ~~on the~~ The landfill sits within the water table which appears to move in a southerly direction. ~~and analysis of on-site monitoring wells indicate the presence of landfill leachate.~~ A small stream which runs through the site feeds into the Heathcote Brook which in turn is a tributary to the Millstone River from which the City of New Brunswick (approx 5 mi distant) occasionally draws drinking water. Analysis of the on-site stream ~~to sampling~~ samples + and monitoring wells revealed the presence of both organic and metals contamination (e.g. benzene, chloroform, ~~&~~ mercury, etc). In the fall of 1980 representatives of Browning Ferris Industries and their consultant Wehran ~~Industries~~ Engineering met with staff of EPA Region II. BFI expressed an interest in working cooperatively with EPA and NJDEP ~~to~~ for site clean-up. BFI has already instituted a ~~temporary~~ surface leachate diversion system to include damming the on-site stream. The collected leachate is presently recycled back into the landfill. A second meeting is scheduled for November 5, 1980 at which time a preliminary site ~~remedial~~ investigation program is to be presented by BFI

Owners, Operators And Other Parties

Owners of Realty And Facility

I. Owners Of Realty + Facility

- Browning-Ferris Industries
  PO Box 437
  Cranbury, NJ 08512

- Previous: George Spilatore
  RDF # 1
  Monmouth Junction, NJ

II. Operators

- Richard Riley (609-443-4818)

III Haulers

- BFI

- haulers utilized when Spilatore was owner unknown

IV Generators

- Unknown

Facility Type

I Types OF Operation

The landfill occupies an area of 68 acres and consists of 2 monds separated by a natural stream which is a Tributary of Heathcote Brook. The highest elevation of the site is 240 ft at the eastern mond (~~opposite the~~ oldest area on site) and drops to an elevation of approximately 210 ft in the ~~area of the mond~~ south. This southern area ~~contains~~ receives the stream mentioned above and is marshy (approx 6 acres) in nature. According to representatives of BFI, Spilatore operated the site for 30 yrs prior to ~~the~~ BFI's ownership in mid-1970's. Based on a boring log taken in the northern section of the fill at the toe of the eastern mond, the landfill may extend to a depth of 10 or more feet below the water table. The underlying earthen materials are composed of clayey sand and are capable of yielding quantities of water sufficient for private well usage which exists within 1/4 mile of site.

II Manner OF Disposal

Trench + area filling with soil cover

III. Contamination

Samples ~~conducted~~ collected on June 11-12, 1980 by US EPA Region II ~~revealled the~~ when analyzed for priority pollutants revealled the presence of contamination of the underlying ground water and the surface water (see Tables I, II + III). These results confirm earlier tests by NJDEP ~~in~~ in 1975 + 1976. Water elevation testing was also done and showed the following:

Well No	1976 Testing	EPA Testing
1A (SE)	77.82	78.04
2 (W)	93.99	96.96
3 (NW)	97.68	98.49
4 (NNE)	83.22	82.52
5 (NNE)	84.65	84.91
6 (NNE)	80.63	82.89
7 (NNE)	81.42	82.50

As can be seen from these results (see map Appendix H.) ground water generally ~~flows~~ movement ~~from North to south~~ is southeasterly. However, ~~but~~ water elevations in wells #4 + 7 should be repeated, due to the existence of a public supply well north of the site. It should be noted however that well #7 is screened in the landfill which may account for the high water elevation. Also, as no monitoring wells exist at the Eastern portion of the site, ~~ground water movement is~~ a definitive picture of groundwater movement must await additional borings. (Expected to undertaken by BFI)

TABLE I

~~Contamination~~

~~Chemicals of concern found on site~~

Monitoring Wells

µg/l

Proposed µg/l H_2O Qual Health Criteria	Chemical	1	2	3	4	5	6	7
30	Nitrobenzene	<10	—	—	—	—	—	107
$10^{-5} \equiv 15$	Benzene	23	42	—	—	—	87	186
20	Chlorobenzene	<10	17	—	—	13	103	—
7	1,2 dichloroethane	—	—	—	—	—	—	64
2	Methylene chloride	30	22	107	90	165	147	2215
17.4	Toluene	<10	1208	—	—	—	257	115
$10^{-5} \equiv 517$	Vinyl chloride	244	—	<10	—	—	37	19
$10^{-5} \equiv 2.1$	Chloroform	105	—	—	—	—	—	—
3400	Phenol	<10	—	—	—	<10	154	393
50	lead	30*	260	30*	30*	50*	210	400
0.2	Mercury	5	—	—	—	—	—	—
5000	ZINC	540	620	770	100	63	1600	2500

TABLE II

Leachate Samples

µg/l

Proposed Freshwater H_2O Qual Criteria	Chemical	leachate to Pool A	Dun. stream at Rt 1	leachate Pool A	leachate Pool B	Stream near well 1A
600 / 3400	Phenol	—	—	1134	159	141
2100 / 4900	Isophorone	—	—	4572	2121	—
700 / 7000	Benzene	57	—	53	<10	—
4000 / 9000	Methylene chloride	<10	<10	475	124	40
2300 / 5200	Toluene	325	<10	310	193	275
0.064 / 3.2	Mercury	—	1.2	—	—	—
based on hardness	lead	150	10*	720	200	100
based on hardness	ZINC	620	99	5000	870	680

* estimated value

TABLE III

leachate samples

(Sed. mg/Kg)

~~Freshwater H_2O Qual Criteria~~	Chemical	downstream at Rt 1	leachate Pool A	leachate Pool B	Stream near well 1A
~~based on hardness~~	lead	160	12	70	10
~~0.057 / 0.130~~	Arsenic	6.1	6	5.1	.74
~~based on hardness~~	Copper	230	8.8	39	18

IV Amount of Waste
- Unknown

V Maps
- See Appendix H

VI Photos
- See File

Suspected Hazardous Substances

I Substances of Concern
- See tables I - III

II Location of Substances
- See Tables I - III

Exposure Route(s)

I Geography
- Site is adjacent to private homes and across from a recreational area. North east of the site is a housing development (along New Road). South of the site there are at least 6 private well users within 1 mile ~~of the~~ south of the site. The addresses are:

440 Richard Rd
436 Richard Rd
442 Richard Rd
BLOCK 96 / Lot 52 D (Green View Rd)
BLOCK 96 / Lot 95 (Green View Rd)

Block 96 Lot 94 (Green View Rd)

II Population At Risk

- Until the private wells located south of the site are sampled for priority pollutants and compared to the monitoring well results it cannot be determined if ~~the~~ landfill leachate is intersecting any private wells. The only sampling completed on these wells were for total coliform, pH, specific conductance, TOC + TDS which were performed for the South Brunswick Health Dept. Also, the surficial geology in the area is heterogeneous ~~in the~~ ~~[illegible]~~ (0 - 20 ft), consisting of ~~what~~ ~~[illegible]~~ clay lenses in clayey sands. (boring logs on wells # 1A - 7). This further complicates any conclusive determination of groundwater movement.

III Security of the Site

- Site is fenced and there is an employee on duty at the site to monitor the leachate recycling program instituted by BFI

IV Surface Runoff

- landfill leachate seeps predominantly into the on-site stream which is presently recycled into the western mound of the site

Remedies

I. Remedial Effort To Date

- BFI has instituted a leachate collection and recyling program and is negotiating with EPA + NJ DEP in instituting a site investigation + clean-up program

II Needed Short Term

- Continue leachate collection + recyling program
- Investigate local geology and ground-water flow

III Needed Intermediate Remedies

- Cap landfill and institute a contaminated ground-water interception system if applicable

IV Needed Long Term

- Ground water barrier (e.g. grout curtain) constructed around site to a depth adequate to prevent contaminant escape

V Persons To Testify

- None at present

Hazard Identification

I Health Information

- The results of the analysis of the 7 on-site monitoring wells show the following chemicals to exceed the Proposed Water Quality Criteria (44 FR 15926, 44 FR 56628 + 44 FR 43660)

  Chloroform, Well # 1 (10.5 ug/l). Concentrations of chloroforms found to result in additional lifetime cancer risks ranging from none to one in 100,000 is 2.1 ug/l

  Benzene, Wells # 1 (23 ug/l), # 2 (42 ug/l) # 6 (81 ug/l) + # 7 (186 ug/l). Concentrations found to result in an additional lifetime cancer risk ranging from none to one in 100,000 is 15 ug/l

  Mercury, Well # 1 (5 ug/l). The ambient water criterion is 0.2 ug/l

  Chlorobenzene, Well # 6 (102 ug/l). The ambient water criterion is 20 ug/l

II Environmental Information

- The results of the analysis of leachate samples showed the ~~following~~ a number of chemicals to be entering the on-site stream. However, pending evaluation by an aquatic toxicologist it appears that none of the concentrations exceed the proposed water quality criteria (44 FR 15926, 44 FR 56628 + 44 FR 43660) for

maximum concentration downstream of the site in the water collumn. Mercury (1.2 ug/l) does however exceed the recommended 24 hr average Arsenic has been found in the sediment (6.1 ug/kg) downstream of the site and in leachate emanating from the landfill

Remedies

I. Remedial Effort To Date

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II. Needed Short Term

- Continue leachate collection + recyling program
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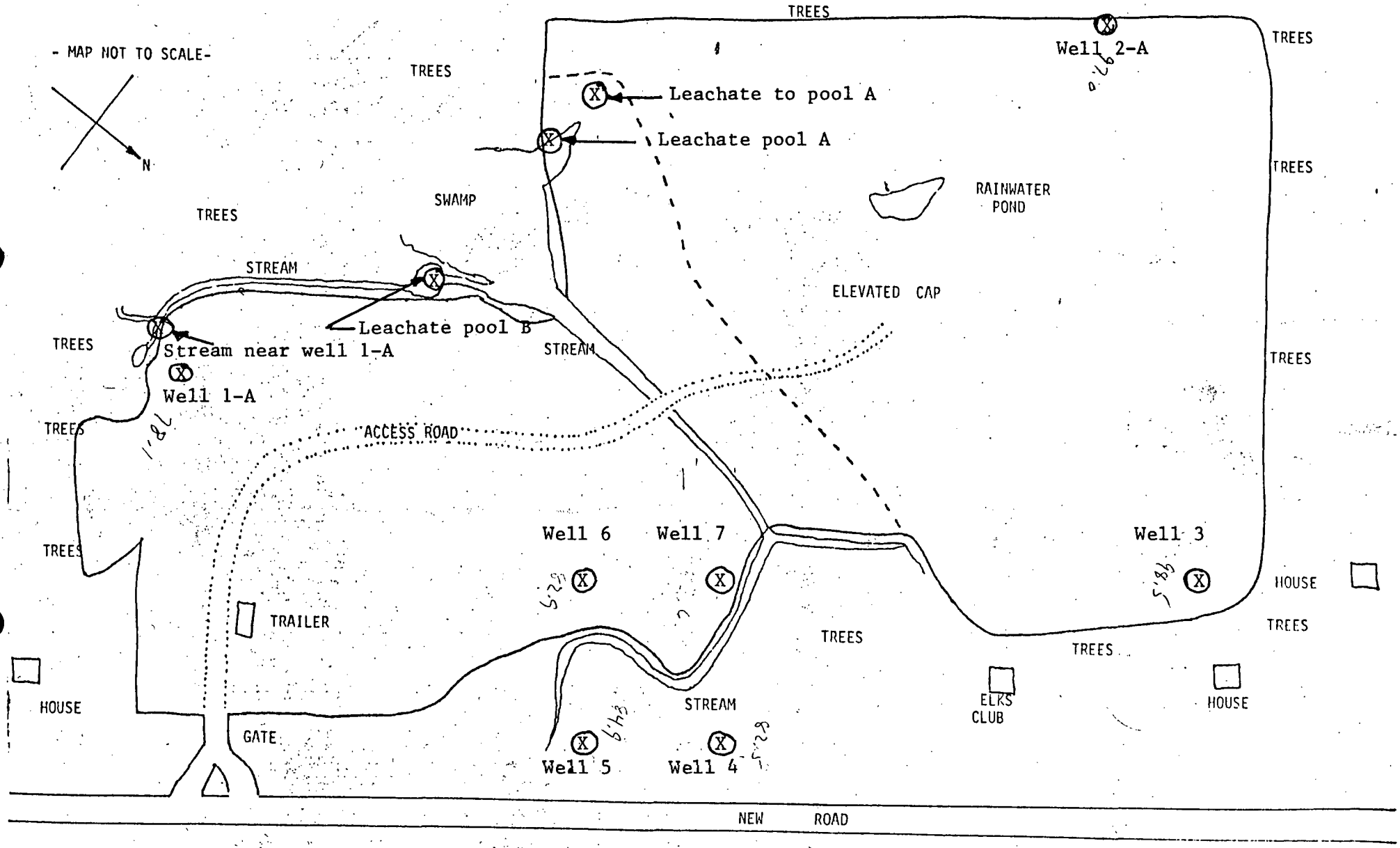
- Cap contaminated landfill and institute a ground-water interception system if applicable

IV. Needed Long Term

- Ground water barrier (e.g. grout curtain) constructed around site to a depth adequate to prevent contaminant escape

V. Persons To Testify

- None at present

APPENDIX H

Princeton Disposal, South Brunswick, NJ
Approximate Sampling Locations