Frank ... Please to show municipality in correspondence → DMC.

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES
POST OFFICE BOX ~~2809~~ CN-029
TRENTON, NEW JERSEY 08625

39823

MEMORANDUM

March 15, 1979

RECEIVED
MAR 23 1979
State of New Jersey
Dept. Environmental Protection
Division Water Resources

TO: Director Tylutki

FROM: Acting Director Hofman

SUBJECT: CHESTER HILLS LANDFILL INVESTIGATION

As you can see from the attached memorandum, this is a situation which will ultimately develop into a serious groundwater pollution problem.

Your immediate action is requested to stop the continuation of the modus operandi in this landfill operation.

D. C. H.

cc: Assistant Director

100159

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES
Bureau of Water Quality Planning and Management

MEMORANDUM

TO: Beatrice Tylutki, Director (Solid Waste Administration)

FROM: Frank Markewicz, Supervising Geologist (Bureau of Water Quality Planning and Management) through H. Kasabach, D. Clark and D. Hofman

RE: CHESTER HILLS LANDFILL INVESTIGATION: MARCH 6, 1979

DATE: March 13, 1979

At the request of Solid Waste Administration, I investigated the Chester Hills Landfill on March 6, 1979 with the following people from Solid Waste:

Mr. John Castner
Mr. Paul Dahlgren
Mr. Pat Ferrara

The purpose of the visit is in accordance with the review process of landfill plans for boring locations, monitor wells, geologic formation(s), water, topography, etc. We were escorted to the landfill site by Mr. Ralph Vilante(?), supervisor in charge of operations. He did not accompany us on our tour of the landfill.

It was a rainy day; the soil and cover material were well saturated, therefore at many places, we sank 4 to 6 inches into the cover material which consisted of soil, sand-sized particles, clayey material, weathered and fresh rock fragments from less than one inch in diameter to pieces up to 2 feet in diameter. All of the cover material consists of overburden, sub-soil, weathered and fresh bedrock which is removed by dragline from above bedrock and stock-piled for cover material. Many large stock piles, consisting of material removed from over bedrock, are present on the site.

The dragline bucket was in operation during our visit. In addition to this bucket, a large quarry-type, rock-breaking ball was noted alongside of the dragline machine. It is apparently used to break bedrock in place, as noted by the fresh rock fragments in the cover material and the excavation in which the dragline was operating.

During our visit, all overburden over bedrock was removed -- exposing a trench and open area approximately 400 feet long, 20 feet wide, and up to 20 feet deep in places. Fractured bedrock, consisting of various granites and gneisses, is exposed all along the excavation -- apparently all material capable of being draglined or ball-broken is removed and the trench is then back-filled with garbage. When the trench is completely filled, another is started alongside of it.

Also, during our vist all landfill runoff, leachate, and other liquids were entering the fractures in the bedrock surface and migrating down to the water table.

The removal of soil, overburden, and bedrock -- followed by back-filling with garbage is a flagrant violation; because landfill contaminants freely enter the ground water. In time, the regional ground water will be polluted and subjected

to continuous pollution beyond any possible or potential clean-up unless all garbage is removed from the bedrock and/or fractured rock.

This practice by the operator should "cease and desist" immediately, because of its impact on the ground waters of the area.

I suggest a meeting be held in the very near future to discuss this operation. There is no point in the Division of Water Resources continuing to review the landfill if the present "overburden removal operation" is permitted to continue.

FJM:wmc

cc: Mr. R. Buchanan
Mr. W. Burshtin
Mr. J. Castner
Mr. P; Dahlgren
Mr. W. Hui

MEMORANDUM

DATE April 18, 1973

TO: Director Cookingham

FROM: A. Bruce Pyle

SUBJECT: Filiberto Landfill - letter of Mr. James Kunkel
April 10, 1973

I don't think there is any doubt that the Filiberto Landfill is polluting Trout Brook. The lab was assigned to investigate the problem some time ago and have not been able to get to it yet. I have asked them to give the matter high priority and to take advantage of the assistance offered by Frank Markewicz regarding the movement of landfill "juices" to the stream. Unless I am terribly mistaken and there is another source of the pollution, it seems that all we have to do is to document the origin of the pollutant, the means by which it moves to the stream and its effect on aquatic life to demonstrate the situation and establish the basis for a prosecution under 23:5-28.

If, as I suspect, the landfill is the source of the pollution, then the big problem lies in getting it corrected. This will likely require either removal of the landfill or sealing its drainage from the stream, collecting it, and providing a high degree of treatment. As you know, we do not have the authority to force corrective action. I truly hope that the agencies that have such authority will force positive corrective action when they are presented with the facts as I anticipate they will be.

There are many polluting landfills about the state and this is the result of locating them in close proximity to ground and/or surface waters; their liquors require extensive filtration and decomposition of components before they can safely enter surface or ground waters and their locations do not provide for this.

Quite frankly, I would like to see a crack-down on landfills, since they represent such long lasting threats to water quality.

A. Bruce Pyle
Ass't Chief, Bureau of Fisheries Mgt.

JM

100162

State of New
Department of Environmental Protection

MEMORANDUM

TO: William L.C. Hui

DATE: March 9, 1979

FROM: John Castner

RE: Inspection of Chester Hills SLF, Chester Township, Morris County, Facility #1407

On March 6, 1979, I visited the above referenced landfill along with Paul Dahlgren and Pat Ferraro of this Administration and Frank Markewicz of the Division of Water Resources.

Heavy rain limited our inspection, however we did observe the area currently under excavation for future refuse placement. A dragline was actively removing all soil down to the surface of bedrock. A wrecking ball was also observed in the area of excavation. This is possibly used to break up the surface of the bedrock so that it may be excavated. There was water in the excavation trench. Some of this was due to surface runoff entering the excavation, however, Frank Markewicz suggested that the bottom of the excavation may be below the groundwater table. Stockpiled soil from the excavation consisted primarily of sand and gravel with some large rock fragments.

In several areas we detected strong leachate odors where leachate was outcropping from the already filled areas and mixing with surface water runoff. One of these areas was at the existing leachate collection sump. The sump was overflowing and running into an adjacent marsh area at the head of Trout Brook.

Frank Markewicz pointed out that a previously existing leachate collection pond at the western toe of solid waste had been filled with refuse in recent operations. In this area, I would recommend that a dike be constructed to support the solid waste which has been placed approximately fifty (50) feet high with steep slopes.

No perimeter drainage ditch, as indicated on the plan, was located at the site. Surface water runoff runs overland to natural drainage courses.

J.A.C.

John Castner

cc: B. Tylutki
H. Jatczak
W. Burshtin
A. Kaczoroski
P. Dahlgren
F. Markewicz ✓
Eng. file
Central file

100163

INVESTIGATION OF TROUT BROOK HEADWATERS ALONG THE WEST PERIMETER OF THE FILIBERTO SANITARY LANDFILL

The Filiberto landfill operation is located north of Parker Road adjacent to the eastern boundary of Washington Township and the western boundary of Chester Township (see map). Headwaters of Trout Brook and a tributary originate within and adjacent to the landfill operation. Trout Brook goes directly into Black River which flows through Hacklebarney State Park. This drainage system constitutes part of the Upper Raritan Watershed.

The landfill consists of two basic landfill sites:

1) an old landfill site located near the headwaters of Reinhart Brook.

2) more recent and currently operated landfill located a few hundred feet east of the headwaters of Trout Brook.

Materials in the old landfill site, which was in operation many years ago, are in an advanced state of oxidation and probable chemical decomposition. The leachate from this landfill, which straddles the headwaters of Reinhart Brook, seeps into the brook and imparts a reddish color to the water. Downstream at Parker Road, rocks in and around the stream bed are covered with a reddish coating or veneer that is derived from substances precipitated from the brook water. A small domestic pond on the south side of Parker Road is tainted a dull red. During several inspections a strong odor has been noted coming from the brook at the Parker Road crossing.

It is not known whether new landfill refuse or sewage is being added to the old site or not. Although not inspected by the writer, a leachate collecting pond or holding basin is reported in the vicinity of the old landfill.

The presently operated landfill which is located just east of the headwaters of Trout Brook is approximately 40-45' higher in elevation than the brook. Trout Brook originates a few hundred feet upstream from a round holding (?) pond located in the woods. Upstream from the holding pond, the brook has a clear fresh

appearance. Downstream from the holding pond, the brook is polluted from numerous seepages emanating from a large rectangular shaped leachate collecting (?) basin and from the round holding pond (see attached map). There are a number of small, clear water tributaries flowing from the west into Trout Brook. These help dilute the polluted headwaters. A swamp located in the drainage basin is polluted over a large area with greenish-blue-black slime mats that are underlain by black, highly odoriferous septic type sludge? In this black sludge area of the brook there are both long thread-like white sludge(?) worms and sporadic masses of rat-tailed maggots visible in and adjacent to the stream bed. Farther downstream the water becomes reddish due to the formation of a flocculent hydrous iron compound that settles on the stream bottom. Farther downstream the entire bed is covered with a sphaerotilus mat which in turn is covered with the flocculent hydrous iron.

Trout Brook, upstream from Parker Road, is zoned due to the different leachate products that are precipitated out as the water moves downstream from the landfill site and absorbs atmospheric oxygen, is agitated at riffle points, mixes with fresh water, or the composition changes as different products are dropped out.

From Park Road to a point several hundred feet upstream from the Tingue Pond, a few minnows have been able to survive at several places where a fresh water tributary (see map) enters Trout Brook. Several hundred feet beyond this no fresh water biota were noted.

GEOLOGY OF THE FILIBERTO LANDFILL

The landfill is underlain by various types of granites and gneisses which according to the mineralogic content have different characteristics relative to the landform it makes, type and thickness of overburden, ground water potential, and ability of the overburden derived from the parent formation to absorb, filter,

or permit the passage of landfill leachate. Because of the rock type variability, the depth to bedrock in the vicinity of the landfill will vary from place to place. At the high ground in the woods east of the rectangular leachate pond, rock is within 2 and one half to 5 feet from the surface. Downslope from this high point, the rock drops off beneath a thicker clayey overburden zone and there most probably is a rock rubble or fractured rock zone that may be up to fifteen feet thick (see attached generalized profile section). Borings would be necessary to determine the exact nature and thickness of overburden. The gneiss on the hill is of the variety, which when decomposed, is generally tight and tends to restrict fluid passage. In contrast, the rock rubble and fractured rock zone beneath this layer becomes a permeable conduit permitting fluid passage or hydraulic continuity with the underlying bedrock and ground water. Downslope from the higher elevation there may be very little or only a feather edge of the tight material, thereby allowing seepage directly into the rock rubble zone. Farther downslope this tight zone thickens, impedes leachate transmission; consequently the leachate flows on top of the clay layer just beneath top soil until saturation is reached and finally issues out of the ground as seepage. The entire leachate transmission, in-ground absorption, and leachate seepage is aggravated or lessened relative to rainfall as it influences the water table. During periods of much rain, surface seepage becomes aggravated; during low rain periods surface seepage lessens and the entire leachate problem will appear to have abated, however, during this time the leachate is slowly finding its way to the water table.

LEACHATE TYPES AND SEEPAGE

At the time of the inspection (5-29-73) of Trout Brook and environs, there appeared to be two types of leachate present at the landfill.

1) fluid waste with a sewage odor, contained within, flowing from an overflow pipe, and as ground seepage from the circular pond mentioned above. Local puddles adjacent to the round pond contained rat-tailed maggots. Size of the pond is approximately 35 ft. in dia. x±4.5 ft. deep.

2) leachate, reddish in color, very pungent to acidic smelling, contained within and seeping from a rectangular (±30x60x4) collecting pond. This fluid may be leachate pumped from the landfill or may be, because of the acidic smell, some form of chemical or industrial waste.

Both of the above (see attached map) enter the headwaters of Trout Brook and combine to form the pollution products that have resulted in fish kills and the formation of pollution type biota, flocculent hydrous iron, and a luxuriant sphaerotilus growth.

The circular pond has an overflow pipe and a concrete pipe ±2.5 ft. in diameter on the uphill side approximately 6 ft. from the pond. Liquid waste (type unknown) from this concrete pipe (which may be perforated in the bottom) seeps through the ground and enters the circular pond. The pond liquid filters through the bottom and as the level builds up, it flows out the internal built-in overflow pipe and enters the brook. A number of seepages on the downstream side from the pond were noted.

The large rectangular pond that is shown on the engineering plans is located downhill from the landfill and may be utilized as a leachate collecting and treatment facility. Several perforated orangeburg or plastic pipes sticking out of the ground between the landfill and the pond were noted during an early inspection. Leachate may be pumped from these pipes and into the pond for either natural seepage filtration, treatment, or recycling. Fluid in the pond is dull to medium red in color and has an acidic, pungent odor. In the woods there are numerous seepages from this pond and the trees and vegetation is dying off. This seepage flows into Trout Brook and unites with the fluid waste coming from the circular pond.

CONCLUSIONS AND RECOMMENDATIONS

The topography, headwaters of Trout Brook, type of materials overlying the bedrock, and the present state of saturation preclude the introduction of any septic waste or additional loading of landfill into the present operating site. Current seepage from two ponds and pollution of two streams strongly suggests that the present area is saturated. The ground water condition is unknown, although probably contaminated within several hundred feet of the landfill.

It is recommended that a new landfill with impervious bottom, side blankets, observation wells and leachate collecting system be designed to replace the current operation. In addition, a methane gas diffusion system be incorporated in the new system. During construction and operation of the newly designed landfill collection and treatment of subsurface and near surface, present landfill leachate should be in progress.

NOTE: Memorandum dated Oct. 12, 1971 from Mr. Mikulka to Mr. Hoffman re: Filiberto Sanitation. Mr. Mikulka at this date questioned the leachate problem and requested "more precise information."

Frank J. Markewicz
Engineering Geologist

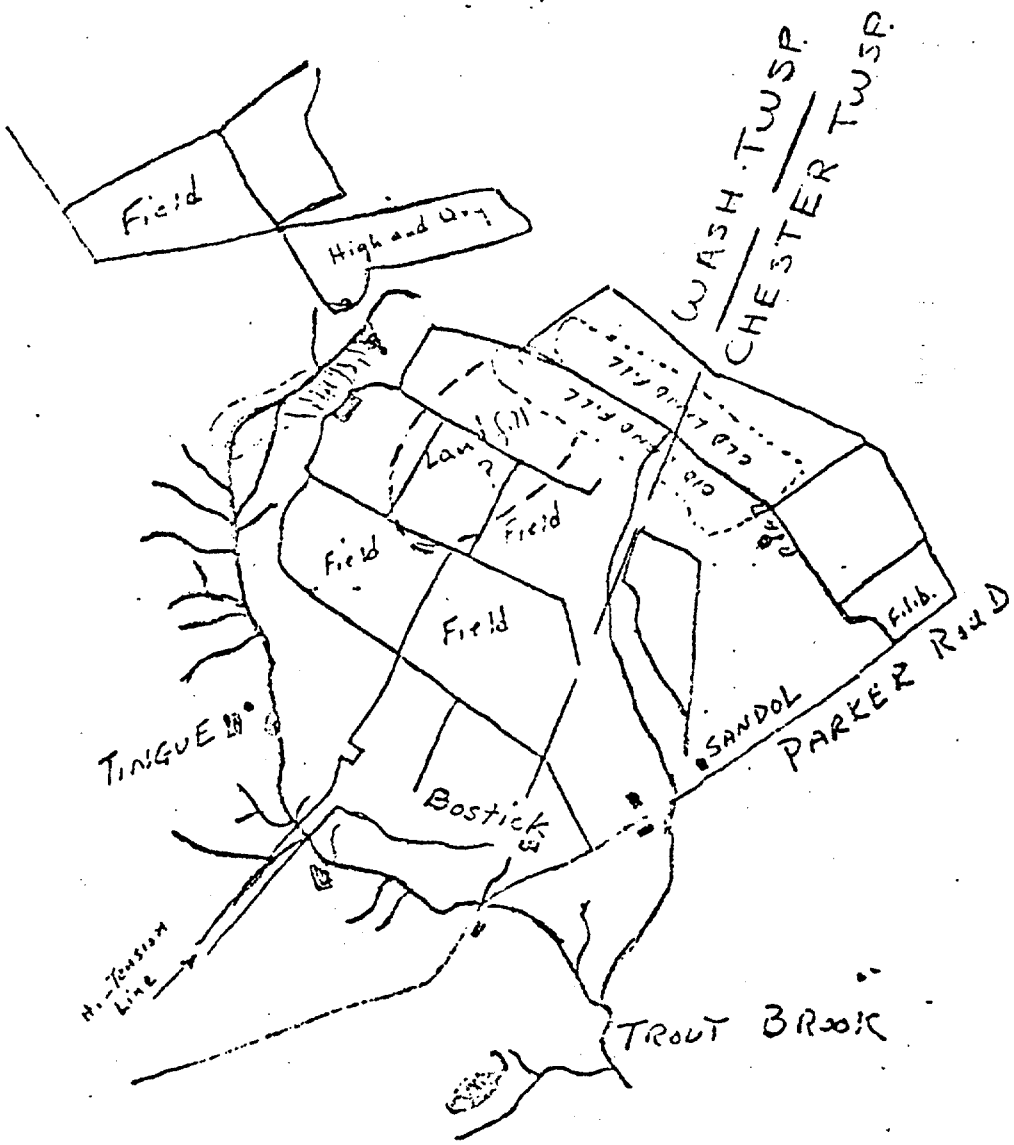
100168

FILIBERTO LANDFILL AREA AND ENVIRONS

N

FRESH WATER Pond
Polluted Ponds or Leachate Ponds

FRESH WATER Stream
LANDFILL and or septic seepage from ponds or in swamp.
Polluted stream
House
well



100169

APPROX. SCALE 1:12,000

Memorandum OCT. 16, 1980

To: The Washington Township Board of Health

From: Richard Maloof

Subject: Combe-Fill Sanitary Landfill, Parker Rd., Washington Township

As a result of the excursion by the "Hazardous Waste Investigative Committee" on October 16, 1980 to the area of the local landfill, the following report and opinions are offered:

1. Contaminant - A supernatant in various hues and with differing refractive properties was clearly evident in the pond and on the rocks of Arthur Tingue's property (Parker Rd., Washington Township). Essentially the same supernatant material was found in and around the stream found on the property of Winston Bostik, also of Parker Road. Presumably this stream flows into said pond, however, this point was not investigated by this committee. This seemingly unnatural contaminant is the focus of this report.

2. Source - While the source of this material cannot be positively established from the limited hike taken by this committee, it more than likely emanates from the landfill project or at least seems to come from that proximity.

   The main reason why positive proof of origin could not be established by the group is due to the fact that said supernatant comes from underground sources. However, it must be noted that of the three (3) separate areas of origin seen on Bostik's property (#1 a slowly flowing stream, #2 a small pool of stagnant water, #3 a dried up stream bed), they all seem to be situated in low land (topographically) relative to the landfill operation. In addition sources number 1 and 3 tend to come from the direction of the landfill before disappearing underground. Number 2 is a small isolated pool of water possibly resulting from an underground spring, but contains the same type of contaminant as numbers 1 and 3.

3. Samples and Testing - Samples taken aseptically from areas #1 and #2 as described above produced the following crude information:

   A. Physical and Chemical Tests - The supernatant contaminant is lighter than water since it floats on the surface. The material is mostly soluble in water and absolute alcohol. A limited solubility is found in Benzene and Xylene.

      This material might be a concentrated water-soluble mixture of pigments from the partial decomposition of garbage or other organic sources. However the concentration found is too great to be a natural occurrence. Further information on this material would require the use of sophisticated chemical analysis equipment and may not be of significant value at this time.

The water insoluble portion of the sample (a small percentage of the total) appears to be a lipid (oil) of some type. Exact identification with analytical instruments may be of little value at this point without precisely locating the source.

B. Biological Tests - Samples numbered 1 and 2 were aseptically and separately plated onto EMB Agar (Eosin-Methylene, Blue agar - a selective,differential agar for coliform organisms). On both plates the resulting growth was "too numerous to count". The total count of sample number one was estimated at 2,500 per ml, number 2 sample at 15,000 per ml. A coliform population was present among the total count, but was impossible to estimate due to the high numbers.

In this case, the value of a coliform count may be somewhat dubious due to the following conditions:

1. The samples were from surface ground water. Soil can be a source of coliform and many other microbes.

2. The area of sampling is a young to mature deciduous temperate forest. A significant animal population normally accompanies said biome. These animals are a natural source of the coliform organisms.

3. Due to the limited rainfall, any microbe population could concentrate and render on a plate count totally inaccurate results.

4. Miscellaneous - It should be noted that there is a heavy flocculent precipitate found at the bottom of the stream (especially at source #1), on rocks within said stream and to a lesser degree at the pond. Perhaps this material and its composition may offer a method of tracing the contamination to its source. If one or two excessively high levels of a heavy metal or some other indication could be found in the precipitate it might offer a key to help with the problem. This indication may then be traceable along the course of the stream and possibly even under ground to its source. Necessarily controls would have to be established to insured accuracy and assistance with the analyses would have to be sought.

5. Recommendations - I feel that involvement of some group (State Department of Health or the Environmental Protection Agency) or individuals having access to sophisticated analytical equipment is important to the continuation of this study. An analysis of the precipitate may prove to be of more value than the supernatant, however a key indication should be sought as a reference point. This indication may be able to act as a tracer to the source of the pollution and show the involvement (if any) of the landfill.

If a problem with the landfill can be shown to exist without a reasonable doubt, then a confrontation with the operator may be in order before other approaches are attempted.

Respectfully submitted,

Richard Maloof

Richard Maloof

100171

RM:sl

Summary and Conclusion:

As I see the situation, several problems must be resolved before proof of negligence can be held against the Combe-Fill Landfill:

1. A clear-cut relationship must be established between the contaminant and the landfill. In other words, it must be shown that the source of contamination is the landfill. A tracer substance such as a dye, indicator chemical or radioactive isotope may be suitable for this purpose.

2. It must be shown that a hazardous material is being discharged from the landfill which exceeds allowable limitations and that the material poses a health and safety problem to the area and community.