

6. The pollution of the waters of Illinois by leachate from the landfill site in violation of Section 12(a) of the Act.

Public hearings were held on October 16, 1971 and on December 4, 1971. On July 15, 1972, the parties stipulated to certain facts and stated their intention to propose a settlement and plan of abatement, pursuant to PCB Procedural Rule 333. The Hearing Officer afforded opportunity for public comment on the settlement as tentatively proposed on July 15, 1972. The parties reached final agreement on a settlement on September 12, 1972, which proposal contained the additional provision of a system for the monitoring of drainage from the landfill site. Under the proposal which we approve, the site will be completely filled and stabilized within approximately one year, will no longer be used for landfill operation and will revert to the Forest Preserve District upon completion of the filling operation.

We approve the settlement and plan of abatement as proposed. A discussion of the pollution caused by Respondent's landfill, the violations alleged and the reasons for the Board's approval of the settlement agreement are set forth below.

With respect to the alleged violations, the stipulation appears to provide that the Board should determine whether, on the basis of the evidence introduced at the hearing on October 16, 1971, Respondent has violated Section 9(a) of the Act. While the parties have agreed that the water pollution allegations will be withdrawn, the stipulation recites the air pollution charges and Respondent's denial of them and stress merely that the parties are agreed that no further evidence on the issue of odors will be presented. On the basis of ample testimony that this site emits foul and nauseating odors which disturb persons travelling on the highways adjacent to the site (R. 51, 59, 62, 64, 69, 73, 76, 84, 91, 93, 198-99, 204-05) and disturbs persons who live in the vicinity of the landfill (R. 89, 168-69), we find a violation of Section 9(a) of the Act. Respondent admits violation of Section 21(b) of the Act and of Rules 3.04, 4.03(a), 5.07 and 5.07(a) of the Refuse Rules (Stipulation), pertaining to open dumping and the failure to provide adequate cover and the failure to provide the required fencing. Respondent denies the allegations of water pollution, and the Agency has withdrawn these allegations in consideration of Respondent's Agreement to re-design the landfill in a manner so as to prevent water pollution and to monitor ground water quality.

The plan to control water pollution from the landfill is based on an engineering study which demonstrates that water flows southward from the site to the Cal Sag Channel at the rate of one-quarter

to one foot per day. Observation wells drilled as part of the study indicate some contamination of this water (R.300-301). The provisions for leachate abatement and final closing of the landfill are specified in detail in the stipulation. Since these provisions will be incorporated in full in our order, they are set forth verbatim below:

"LEACHATE ABATEMENT PROGRAM

A plan has been devised to minimize leachate production from the landfill, allow the leachate which is produced to flow through areas where its impact will be minimal, provide a system for emergency leachate collection, and establish a monitoring well system in the suspected direction of leachate movement.

Specifically, the plan involves:

1. Establishment of a final refuse lift [to create slope] along the entire length of the landfill.

This lift will be carefully compacted and covered with two feet of earth. The cover will be graded to conform with the final contours shown in Figure 2A. [of the stipulation].

This action should minimize precipitation runoff from the top of the landfill; thereby, decreasing the amount of water entering the refuse. It is expected that in so doing ground water mounds in the refuse, particularly that now present in the northern section of the landfill, can be reduced to minimum proportions. This should cause a return to near original flow conditions such that leachate movement to the north and east is reversed and leachate leakage into the dolomite is minimized.

2. Regrading of the drainage ditch along the north and northwest margins of the landfill (Figure 7A to original grades.

This will enable surface water to move freely around the landfill, instead of ponding and infiltrating next to and/or into the refuse as has been the case.

3. Installation of an Impermeable clay liner in the east wall and floor of the presently unfinished southern portion of the landfill.

This liner will prevent normal ground water movement through the refuse fill and virtually eliminate vertical

leachate seepage to the bedrock. The liner has been constructed under the direct supervision of Walter H. Flood and Co., Inc. of Chicago. The top elevation of the liner along the east wall is approximately 600 to 610 feet. The liner is a minimum of 8 feet thick and probably has a maximum permeability of 10^{-2} gpd/ft.².

The floor at the southern end of the landfill is underlain by a minimum thickness of 8 feet, but usually at least 15 feet of undisturbed highly compacted clayey or silty till. Sand above this till is being removed so that the refuse will rest directly on the highly impermeable material.

The south and southwest walls of the landfill will not be lined. This will permit leachate to move from the southern section of the fill through the southern and western outwash sands. By thus maximizing the cross-sectional area through which water can move from the refuse, the appearance of leachate springs will be precluded. Further, widening and lengthening the leachate flowpath will permit the maximum amount of leachate renovation through dilution, dispersion and oxidation.

All leachate generated from a landfill of this design will originate as precipitation infiltration. Thus, no more leachate will be produced with out liners on the southwest end than if the landfill were completely lined. However, without the liner, the entire thickness of the refuse will be flushed through the southern and western outwash sands, lowering the fluid potential at the southern end of the landfill. This will induce at least some of the leachate bottled up in the northern and central sections of the fill to drain southward rather than spilling over the side liners into the outwash sands.

4. Construction of drain lines along both the as-yet unfinished sections of the south and west walls of the landfill

These lines will consist of perforated pipe with a sand cover and will both slope towards the southwest corner of the pit. The drain lines will both be connected to a riser pipe at the southwest corner. The riser will extend above the surface of the final landfill cover.

This system will permit leachate to be drained from the southern section of the landfill in the future by pumping from the riser pipe. Such action could only be warranted in the unforeseen event that:

- a. Water levels in the fill rise high enough that leachate springs appear; and
 - b. the leachate contamination of adjacent ground waters becomes unacceptable for land use.
5. Installation of a monitor well system in the path where leachate movement is anticipated.

Monitor points mostly consisting of 1-1/2 inch diameter plastic pipe with 4 foot screened inlets at locations shown on Figure 2. The wells at the corners of the landfill property and south of 111th Street have been constructed in pairs. At each of these locations, one well is finished in the outwash or floodplain material above the drift, while the second extends to the top of the dolomite.

Two additional shallow wells will be drilled into the outwash sand west of Mannheim Road (locations shown on Figure 2). Well FPI will be flushed out to permit sampling, or it will be redrilled. This will permit monitoring of water levels and water quality in the gaps which currently exist along the section through which leachate movement is anticipated."

In summary, the control program provides for the clay sealing of the floor at the southern end of the site where filling is still in progress and of a portion of the walls of the landfill, to reduce the quantity of surface water entering and percolating through the refuse area, and to prevent contaminated water from flowing out of the area. The floor seal is to be constructed so that drainwater leaching through and accumulating in the site at the south end of the landfill will be cleaned of its contaminants by gradually filtering through the sand, silts and clays naturally present in that area (R.302-03). The water, after this planned renovation, will drain into the Cal Sag Channel. In addition to reducing the side entry of water into the site and controlling the subsurface drainage away from the landfill, the plan calls for sloping the landfill surface so that precipitation will not collect in pools, thereby reducing the opportunity for rainfall to infiltrate the landfill. The graded surface, over the completed portions of the landfill, will consist of a two-foot compacted layer of impermeable clay capped with a one-foot layer of humus material to support vegetation, (R.307) which will terminate the odor nuisance that has been the chief source of complaint by contiguous residents.

Pursuant to the agreement, Respondent is also to drill observation wells to monitor the quality of water flowing away from the landfill.

The control program is to be finalized by the "fall of 1973" upon the complete filling of the landfill. (Stipulation, p. 4). Since the Board may not grant a variance in excess of one year, the proposed control program and monitoring wells are to be completed before September 26, 1973 or on the date of completion of the filling of the landfill, whichever comes first.

Finally, the stipulation leaves the issue of penalty to Board resolution. The evidence of the unlawful and unsanitary operation of this landfill would normally call for a penalty far in excess of the \$2,500.00 we assess. A penalty is imposed to assure that Respondent not profit from its pollution-causing activities and to deter others from violating the law. Respondent must not gain financially from its admitted failure to apply the required covering and stabilization and from the deferring of fence construction necessary to control the scattering of debris. We are not unaware of the delay in compliance with the relevant regulations and the degree of nuisance imposed on the community. However, in arriving at the penalty assessed, we do take into consideration Respondent's comprehensive implementation plan for abatement of air and water pollution, the installation and costs anticipated, the monitoring program proposed and the prospective assurance that the Regulations will be complied with. Since this program is total in concept and arrived at by agreement of the parties after extended public hearings, we are not disposed to set it aside nor to conduct further hearings on the matter of penalty. Our assessment of penalty is in consideration of all of the foregoing factors. See Environmental Protection Agency v. Granite City Steel Company, #70-34, Opinion dated May 3, 1972.

We approve the stipulation and proposal for final settlement as submitted, the provisions of which will be incorporated in our order. A penalty in the amount of \$2,500.00 is assessed for the causing of air pollution in violation of Section 9(a) of the Act and the violation of the Rules and Statutes in respect to open dumping, failure to cover, and to provide fencing, as charged in the complaint.

This opinion constitutes the findings of fact and conclusions of law of the Board.

IT IS HEREBY ORDERED:

1. The Stipulation and Proposal for Settlement of the parties is hereby approved and incorporated by reference in full as paragraph 1 of this order.
2. Respondent shall cease and desist all violation of Sections 9(a) and 21(b) of the Environmental Protection Act and of Rules 3.04, 4.03(a), 5.07 and 5.07(a) of

the Rules and Regulations for Refuse Disposal Sites and Facilities and shall completely grade, fill and cover the entire refuse site with a two foot layer of impermeable clay capped with a one-foot layer of humus material to support vegetation.

3. Respondent shall pay to the State of Illinois within thirty-five days from the date hereof, the sum of \$2,500.00 as a penalty for the violations found in this proceeding. Penalty payment by certified check or money order payable to the State of Illinois shall be made to: Fiscal Services Division, Illinois Environmental Protection Agency, 2200 Churchill Drive, Springfield, Illinois 62706.
4. Respondent shall complete before September 26, 1973 or on the date of the complete filling of its landfill, whichever is earlier, construction of its landfill design as specified in Exhibit "A" of this proceeding and shall comply with all terms of said Exhibit "A".
5. Respondent shall construct and maintain observation wells at its landfill as provided in Exhibit "A" of the Stipulation so as to monitor the impact of drainage from the landfill on the ground and surface waters of Illinois and shall undertake to abate any pollution of the waters of Illinois from said drainage.
6. Respondent shall file with the Agency monthly reports on its progress toward compliance with Parts 4 and 5 of this Order.
7. Respondent shall, within seven days of the receipt of this Order, post with the Agency a personal bond or other security in the amount of \$35,000.00, to be sent to the Fiscal Services Division, Environmental Protection Agency, 2200 Churchill Road, Springfield, Illinois 62706, in a form satisfactory to the Agency which sum shall be forfeited to the State of Illinois in the event that the conditions of this Order are not complied with.

Mr. Dumelle dissents.

I, Christan Moffett, Clerk of the Illinois Pollution Control Board, certify that the above Opinion and Order was adopted on the 20th day of September, 1972, by a vote of 7 to 1.


