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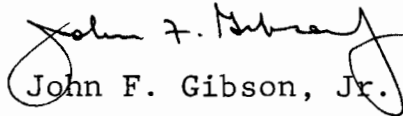
RE: Land Developers, Inc.
Application for Solid Waste Permit

Dear Mrs. Garnett:

Enclosed for the Commission's action is my recommended decision on the adjudication hearing conducted in the referenced matter.

I apologize to the parties for the unusual length of time this matter was held under advisement, but the testimony was quite lengthy.

Respectfully,


John F. Gibson, Jr.

JFG/cs

cc: Mr. Phillip Deisch
Mr. Sam Gibson

BEFORE THE ARKANSAS
DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY

IN THE MATTER OF THE APPLICATION
OF LAND DEVELOPERS, INC., FOR A
SOLID WASTE PERMIT ON CERTAIN PROPERTY
IN SECTION 1, TOWNSHIP 1 SOUTH,
RANGE 14 WEST, SALINE COUNTY

NO. 85-061

RECOMMENDATION OF HEARING OFFICER

This is an adjudication hearing on a Request for Commission Review of a Director's Decision denying the application of Land Developers, Inc., for a permit to operate a solid waste landfill on certain lands near Baseline Road in Saline County, which request for review was filed herein by Land Developers, Inc. under the provisions of the administrative procedures, regulation No. 8 (Part 3, Section 4), of the Arkansas Department of Pollution Control and Ecology. The hearing was conducted on December 18 and 19, 1985, pursuant to notice to the parties as provided by law. During the hearing, stipulations were made and evidence was introduced by both parties, from all of which the hearing officer doth find and recommend to the Commission, as follows:

Applicable Law

It is the policy of the State of Arkansas "to regulate the collection and disposal of solid wastes in a manner that will (a) protect the public health and welfare; (b) prevent water pollution or air pollution; (c) prevent the spread of disease and the creation of nuisances; (d) conserve natural resources; (e) and enhance the beauty and quality of the environment." Ark. Stat. Anno. Sec. 82-2702. In the application for a landfill permit, "the geological characteristics of the site shall be determined...to indicate...ground water elevation and movement and subsurface characteristics." Section 6(a)(3), Arkansas Solid Waste Disposal Code.

Cover material for a landfill shall have the ability to provide a tight seal and the ability to permit only minimal

percolation with proper compaction. Sections 6(a)(4) and 6(f)(6), Arkansas Solid Waste Disposal Code.

Sections 6(a)(7) and 6(a)(9) of the Code require the applicant to provide reasonable assurance that leachate from the landfill will not contaminate ground or surface water.

Sanitary landfill operations shall be designed and operated so as to avoid creating a public nuisance or a public health hazard and to avoid causing water or air pollution. Section 6(a)(5), Arkansas Solid Waste Disposal Code.

Section 6(a)(9) of the Code specifically provides that areas having a high ground water table shall be limited to operations, "which will maintain a safe vertical distance between deposited refuse and the maximum water table elevation..."

Findings of Fact

Tim Daters, a registered professional civil engineer, of the consulting engineering firm, Smith & Associates, testified that he was contacted to look at the proposed site and that he met with the owner and Mark Witherspoon of the Department of Pollution Control and Ecology. They went over the permit procedure and potential problems of the site at that point in time. Mr. Edward G. Anderson, a geotechnical engineer whose firm gathered data for the applicant, walked over the site with Mr. Daters and Mr. Witherspoon, and it appeared to be favorable to Anderson. Anderson's opinion was based upon this original inspection of the site.

The final plans (Commission Exhibit No. 1, I-13) called for the leveling of a large hill in the middle of the site for a depth of 8 feet from the original ground surface for the purpose of providing extra fill and cover material for the cells to be used in the landfill operation, if sufficient material is not available from the cells themselves. It is estimated that approximately 120,000 cubic yards of fill and cover material would be available

from the borrow area.

Mr. Daters is of the opinion that cross sections and borings prove that loose rocks, referred to as "float", found at the site do not interfere with compaction requirements set out in Sections 6(a)(4) and 6(f)(6) of the Code, pointing out that there are no hazardous materials to be deposited in this particular landfill.

Mr. Daters testified that he never met with staff geologist Joe Doughty in the review process. Mr. Daters has never been involved in any previous landfill projects, but he testified that in the operation of the proposed landfill individual cells or pits would be inspected by a geotechnical engineer to determine fitness before use and that the borrow area would be used to satisfy cover requirements to provide a two foot cover over the entire site. A demonstration excavation of a cell 4 to 6 feet deep required from one-half to one day for the excavation and the compaction of the cover material.

Edward G. Anderson, a consulting engineer, testified that upon original inspection, involving a field trip to the site, it was his verbal opinion that the site appeared to be suitable and that further investigation was warranted--to take test borings and to construct test pits. He testified that the borings demonstrated the overburden soils to be composed of clays and silts; that the clays were up to 6 feet thick; that there was high gravel content and severely weathered shale. He further testified that an 8 foot depth was contemplated for the landfill cells and that the overburden was rather uniform. He also noted some sandstone at the site and that the water table conditions consisted of seepage or "perched" water. It was Mr. Anderson's opinion that the site did contain adequate quantities of suitable material; that he was looking for plastic type clays which were relatively impervious. It appeared to him that the site contained such clays and that it warranted further

investigation. His findings from three borings were that the predominate material was composed of shale which was found to be suitable in the following manner: Excavation equipment was taken to the site and an excavation was made to 4 or 5 feet. The material removed from the excavation was then put to standard compaction procedure and he determined the material to be adequate.

It was Mr. Anderson's further opinion that the "float" mentioned in the director's decision of July 3, 1985, would not interfere with compaction; that some rock is not bad. He further stated that the "float" was 5 feet above weathered shale and that the weathered shale is also suitable for compaction; and that at an eleven foot depth they were still in weathered shale.

It was Mr. Anderson's observation that no springs were present, only rain runoff springs which occur in wet weather only. The surface drainage was found to be opposite the dip of the rock. It was Mr. Anderson's opinion (although questionable as to how he formed that opinion) that the ground water at the site is at such great depth that there is no reasonable chance of contamination, and that artificial liners in these cells would not be needed.

To summarize his testimony it was Mr. Anderson's opinion that the site consisted of adequate cohesive materials, adequate drainage of runoff, the absence of permanent ground water, and that the shale material was impervious.

Mr. Anderson had been involved in three or four other landfills over the last five years, but this was his first involvement to this extent. He clarified that the surface water runs to the west and the shale dips to the east, but he did not determine the direction of the groundwater flow. Borings showed perched water to exist anywhere down to 10 feet deep. Perched water is not an aquifer, but is associated only with the surface of the ground. The

department either suggested or requested that a pump test be conducted, but Mr. Anderson said there was no attempt to drill through the perched water and that no pump test was made. Regarding protection against surface conditions caused by perched water at the proposed site, Anderson found insignificant amounts of permanent water near the surface. Mr. Anderson pointed out that ditches were designed in the plans to protect against the action of the perched waters.

Mr. Kent B. Hyde is a life insurance salesman who bought an interest in Land Developers, Inc., he testified that the applicant, if issued a permit, will abide by the law and conditions on the permit.

The Director presented the following evidence:

Robert Blanz, Ph.D., who is Chief of the permits branch of the Commission's Staff supervised the technical review of the application after it was received in the solid land disposal section. A pre site investigation was conducted and his initial opinion was that the site was not suitable because the potential for pollution to nearby wells was overwhelming. It was his testimony that all landfills leak and that in this case there was an imminent potential that off site private drinking waterwells might be contaminated, and that the conditions available to permit this site are not sufficiently known. In other words, there is not enough information about the site geologically or its ground water conditions to make a decision granting a permit.

In this application a review of the plans was done by Witherspoon and Doughty of the staff, and the director's decision of July 3, 1985, was based solely upon geological findings. Blanz did admit, however, that the department's decision might have been influenced somewhat by the its past bad experience with Jerry Miller, a principal investor in the applicant corporation.

Permits geologist, Tony Morris, has been involved in permitting 20 to 30 landfills. He works under the

supervision of Mark Witherspoon and gives the following resume on the proposed site: It is a 54 acre area in the Ouachita Mountains, located in what is known as the Broken Bow-Benton Uplift. He presented two drawings depicting the underlying stratigraphy (Exhibit 5). Exhibit No. 6 is a topographic map of the site showing twelve homes located nearby on Baseline Road, there are two predominant rock formations underlying the site: The Womble Shale and the Big Fork Chert. The Big Fork Chert is the most extensive and reliable quality water producer in the Ouachitas. In recharge, ground water moves through these formations at the rate of from 15 to 50 feet per year. There is located at the site a system of springs along faults in the rock formations.

Many unanswered questions come to mind. For instance, will leachate from the pits digest in the soil and if not, how long will it take the contaminant to get to the wells located nearby? Rocks located on the site, or "float" as referred to by the geologists, does not make good liner. It has been used in other landfills in Conway, Fort Smith and Clarksville, but experience shows that there have been problems encountered with the use of similar type material as is found at this sight.

It is the opinion of the Commission staff geologists that the well water on Baseline Road originates in outcroppings of the Big Fork Chert located in the landfill site. It is the further opinion of the Commission staff that the site contains insufficient quantities of cohesive soils--that it consists of from 50 to 80% of quartz float. the wells in question are located approximately 400 feet from the recharge area.

The staff requested Anderson & Associates to furnish information on hydrologic gradients. They did not do this. This was basic information needed to provide a monitoring system.

Mark Witherspoon of the Commission staff holds a degree in physical geography and is an expert in geology on groundwater and hydrogeology. Mr. Witherspoon is supervisor of the Land Disposal Section. He testified that the applicant was advised after a review of the proposed design and after the pre site evaluation that the site did not qualify geologically. Witherspoon further testified that flowing springs have been documented at various times during the year at the site location and due to absence of required data reasonable doubts continue to exist that groundwater at the site might become polluted from leachate seeping from the landfill cells. He further testified that the Commission's previous involvement with Jerry Miller had nothing to do with his opinion.

Joe Carol Doughty, engineering supervisor, who holds a Masters in environmental engineering, testified that on initial consideration of the application he made calculations on compactability of the soils found in the area. It was his opinion that too many assumptions were made that there is good material at the site, and it is his expert opinion that you cannot safely crush the rock located there. He stated that no treatment systems were provided in the plans. Further, his testimony was to the effect that there was no way that engineering could overcome geological problems associated with the site. This opinion was passed to his supervisors by memo dated May 28, 1985. See Exhibit III-18. It was Doughty's testimony if this proposed landfill were in operation, he would not drill a well and drink the water out there where the houses are located on Baseline Road.

CONCLUSION

The burden is upon the applicant to prove that the application for permit should be granted. This requires that the site selected for the proposed landfill, the

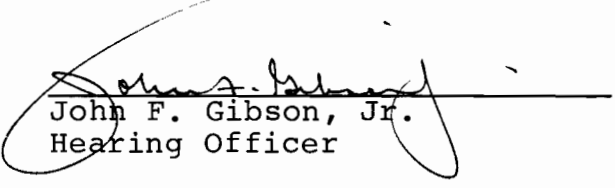
engineering design of the solid waste disposal system, the operational technique system, including any required treatment, all be adequate to ensure that the landfill will not present a threat to the public health and welfare, that it will not result in water pollution, that it will not create a nuisance and will not be detrimental to the environmental quality of the area. These objects are within the stated purposes of the Arkansas Solid Waste Management Act of 1971, Ark. Stet. Anno. Section 82-2702.

It is the responsibility of the Department of Pollution Control and Ecology to assist and work with applicants for landfill operations because such projects should be encouraged to protect the environmental quality of the State of Arkansas.

It is found that the applicant failed to adequately determine the geological characteristics concerning ground-water elevation and movement at the proposed site; that the application does not adequately demonstrate a subsoil structure which will provide reasonable assurances against leachate contamination to nearby water wells, nor is there a suitable collection or treatment system to overcome a problem presented by flowing springs existing in the area; that the proposed landfill operation and design fails to insure a safe vertical distance between the bottom of the cells and the water table; that, geologically, cover material at the site is of insufficient cohesiveness and is not adequate for the proposed operation; and that the applicant has not sustained its burden of insuring that the proposed landfill does not pose a threat to the public health and welfare. In keeping with the State's policy of protecting the public health and welfare, protecting water pollution, including spring water and well water, the application should be denied.

It is recommended that an Order of the Commission be issued denying the application of Land Developers, Inc. for

a solid waste landfill permit, and the Directors decision of July 3, 1985, should be affirmed in all respects and in accordance with the findings set forth herein.



John F. Gibson, Jr.
Hearing Officer

Dated: May 21, 1986