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MEMORANDUM

TO: Plateau File
FROM: Ann Claassen, Water Resource Specialist
DATE: 8 March 1984
RE: Rationale for Denying Plateau's Ground Water Monitoring Waiver

Plateau requested a waiver of all ground water monitoring requirements for their Bloomfield Refinery on October 8, 1981. ^{ATTACHMENT I} As documentation for the waiver, Plateau submitted a copy of "Discharge and Monitoring Plan for a Refinery Operated by Plateau, Inc. near Bloomfield, NM." This Discharge and Monitoring Plan ^{DMP} (~~DMP~~) was originally submitted in September, 1977 to NM Oil Conservation Division to support ~~support~~ Plateau's application for a discharge permit.

Ground water monitoring requirements for interim-status facilities are set forth in Section 206.C.1 of the NM Hazardous Waste Regulations (equivalent to 40 CFR 265.90 through 265.94). Requirements for waivers of the ground water monitoring are covered under 206.C.1.a.(3) (Attachment II). Basically, the regulations state that the monitoring requirements may be waived if the owner or operator can demonstrate that there is low potential for hazardous wastes to migrate via the uppermost

aquifer ~~to the~~ from the facility to water supply wells or surface water.

Plateau's Discharge and Monitoring Plan (DMP) fails to demonstrate that there is low potential for hazardous wastes to migrate from their facility into the groundwater and to the nearby surface water (Hammond Ditch and San Juan River). In fact, data for that site indicates that such migration has occurred and may be occurring now. Not only should Plateau's waiver be denied — ground water monitoring should be instituted as soon as possible[†] in order to define the extent of contamination and to assess the potential hazard to the San Juan River.

Following is greater detail on specific reasons for denying Plateau's waiver.

1. Scope of Document too Narrow. The DMP addresses only the solar evaporation ponds. It does not consider the possibility of migration of hazardous wastes from other refinery units, e.g., the oily water ponds, the spray irrigation landfarm, the oily water pond sludge disposal site.

2. Inadequate Information. 206.C.1.2.(3) requires that the waiver demonstration contain several specific ~~types~~^{items} of information. Plateau's DMP does not adequately cover these items, as follows.

- 206.C.1.2.(3)(a)(i) calls for a water balance of precipitation, evapotranspiration, runoff and infiltration. The DMP includes an estimate of evaporation from the solar ponds, but no other water balance information.

- 206.C.1.2.(3)(a)(ii) calls for an evaluation of unsaturated zone characteristics and 206.C.1.2.(3)(b)(i) for an evaluation of saturated zone characteristics. This is to include information on geologic^{materials}, physical properties, depth to groundwater, and ground water flow rate. All that is provided in the DMP is a general description of the geologic strata in the area. No physical properties (e.g., hydraulic conductivity, porosity, grain size) are described. The DMP assumes that there is no ground water beneath the facility, an assumption subsequently shown to be invalid.

- 206.C.1.2.(3)(b)(ii) requires an evaluation of the proximity of facility to water supply wells or surface waters. While it is clear from the DMP,

that Hammond Ditch and San Juan are very near the facility, this proximity is not evaluated in terms of the potential for hazardous waste migration.

3. Disregard of Relevant Data. The DMP assumes that there is no ground water beneath the Bloomfield facility, and assumes that no seepage would occur through the bentonite sealer of the evaporation ponds. Plateau's own data shows that both these assumptions are incorrect — see their ¹⁹⁷⁹ report "Milestone Report on Monitoring Activities at the Bloomfield Refinery Operated by Plateau, Inc., San Juan County, New Mexico". The fact that the solar evaporation ponds leak brings into question Plateau's assumption that their bentonite seal was preventing seepage from the oily water ponds. Note that the data proving the incorrectness of the DMP assumptions was available to Plateau at the time they submitted for a ground water monitoring waiver.

4. High Potential for Migration. Rather than demonstrating a low potential for migration of hazardous wastes, Plateau's DMP and other data indicate that there is a high potential for hazardous wastes

to migrate via ground water from the Bloomfield facility to surface waters. Factors ~~contributed~~ contributing to this high potential include:

- ground water exists underneath the facilities at a depth of only 10-20 feet;

- several sources of contaminated water exist at the facility, each of which could easily provide significant quantities of infiltrate into the soil above the aquifer;

- the geologic materials of the aquifer and above the aquifer (cobble overlain by silt) would allow for rapid transmission of infiltrate into the aquifer and for rapid flow of the groundwater;

- contaminants that reach the aquifer need travel as little as 100 feet before reaching Hammond Ditch, or before reaching seeps in the bluff over the San Juan River.

~~Data~~ Samples of the seeps collected by EPA show high levels of lead and other hazardous constituents attributable to the Bloomfield Refinery. There is good evidence that a plume of contamination

⑥

exists in the ground water beneath the refinery; this contamination threatens the quality of the San Juan River and of Hammond Ditch. Plateau should determination the extent and nature of this contamination as soon as possible.

ATTACHMENT

PLATEAU, INC.

P.O. BOX 26251
ALBUQUERQUE, NEW MEXICO 87125
PHONE 505/262-2221

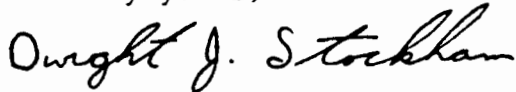
October 8, 1981

U. S. EPA
ATTN: Zoe Shultz 6 E-GR
1201 Elm Street
1st International Building
Dallas, Texas 75201

Dear Ms. Shultz:

Plateau, Inc. submits this Discharge and Monitoring Plan on monitoring activities at the Bloomfield Refinery as documentation for a complete waiver of groundwater monitoring as outlined in 40 CFR, Parts 265.90 through 265.94. We feel that all of the groundwater monitoring requirements of this subpart should be waived for the Bloomfield Refinery. The Discharge and Monitoring Plan demonstrates that there is no potential for migration of hazardous waste or hazardous waste constituents to water supply wells or surface waters. If you have further questions, feel free to contact me.

Sincerely yours,



D. J. Stockham
Associate Environmental Engineer

DJS:sac

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206.

C. Standards for Treatment, Storage, and Disposal Facilities with Interim Status.

1. Ground-Water Monitoring.³⁷

a. Applicability.

(1) Any owner or operator of a surface impoundment, landfill, or land treatment facility which is used to manage hazardous waste must implement a ground-water monitoring program capable of determining the facility's impact on the quality of ground water in the uppermost aquifer underlying the facility, except as 206.A. and 206.C.1.a.(3) and (5) provide otherwise.

(2) Except as 206.C.1.a.(3) and (4) provide otherwise, the owner or operator must install, operate, and maintain a ground-water monitoring system which meets the requirements of 206.C.1.b. and must comply with 206.C.1.c. through e. This ground-water monitoring program must be carried out during the active life of the facility, and, for disposal facilities, during the post-closure care period as well.

(3) All or part of the ground-water monitoring requirements of 206.C.1. may be waived if the owner or operator can demonstrate that there is a low potential for migration of hazardous waste or hazardous waste constituents from the facility via the uppermost aquifer to water supply wells (domestic, industrial, or agricultural) or to surface water. This demonstration must be in writing, and must be kept at the facility. This demonstration must be certified by a qualified geologist or geotechnical engineer and must establish the following:

(a) The potential for migration of hazardous waste or hazardous waste constituents from the facility to the uppermost aquifer, by an evaluation of:

(i) A water balance of precipitation, evapotranspiration, runoff, and infiltration; and

(ii) Unsaturated zone characteristics (i.e., geologic materials, physical properties, and depth to ground water); and

(b) The potential for hazardous waste or hazardous waste constituents which enter the uppermost aquifer to migrate to a water supply well or surface water, by an evaluation of:

(i) Saturated zone characteristics (i.e., geologic materials, physical properties, and rate of ground-water flow); and

(ii) The proximity of the facility to water supply wells or surface water.