

GARY E. JOHNSON GOVERNOR

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June 25, 1999

State of New Mexico ENVIRONMENT DEPARTMENT Hazardous & Radioactive Materials Bureau 2044 Galisteo Street P.O. Box 26110 Santa Fe, New Mexico 87502 (505) 827-1557 Fax (505) 827-1544



PETER MAGGIORE SECRETARY

Mr. Larry Gandy Vice President Gandy-Marley Corporation Triassic Park Waste Disposal Facility 1109 E. Broadway Tatum, New Mexico 88267

RE: GROUNDWATER MONITORING WAIVER, TRIASSIC PARK HAZARDOUS WASTE DISPOSAL FACILITY PERMIT APPLICATION

Dear Mr. Gandy:

Gandy-Marley Corporation (GM) requested in a draft correspondence dated November 8, 1998 that the Hazardous and Radioactive Materials Bureau (HRMB) of the New Mexico Environment Department (NMED) grant a "groundwater monitoring waiver" at GM's proposed Triassic Park (TP) hazardous waste disposal facility (proposed facility). In the November, 1998, permit application for the proposed facility, GM provided supporting technical information for the requested waiver. Related information and a suggestion that the waiver be incorporated into the permit application is in GM's response to HRMB's March 11, 1999, Request for Supplemental Information (RSI). This letter serves as a response to the request for a groundwater monitoring waiver and its associated correspondence.

NMED's authority to grant a groundwater monitoring waiver lies in the New Mexico Hazardous Waste Management Regulations (20 NMAC 4.1.500), which adopts by reference 40 CFR 264.90(b)(4). The relevant regulation states that the owner or operator of regulated units are not subject to regulations of 40 CFR 264.90 for releases into the uppermost aquifer under this part if "... the Regional Administrator finds that there is no potential for migration of liquid from a regulated unit to the uppermost aquifer during the active life of the regulated unit ...".

GM is requesting to substitute a vadose zone monitoring system for the regulatory-required monitoring of the "uppermost" saturated zone. GM's proposed hazardous waste disposal site is complicated by the existence of two aquifers that could be affected by potential releases from the facility. One aquifer is the Santa Rosa Sandstone aquifer; it has been demonstrated that approximately six hundred vertical feet of consolidated mudstone exists between it and the base of the Upper Dockum. The other aquifer is the shallower Upper Dockum siltstone aquifer, which Larry Gandy June 25, 1999 Page 2 Serie

may not exist directly beneath the site. This aquifer has been inferred to exist 2,500 feet east of the facility, and due to stratigraphic conditions could potentially be affected by a release from the facility. HRMB considers the shallower Upper Dockum siltstone aquifer the "uppermost" aquifer. The requested waiver from monitoring the deep Santa Rosa aquifer is therefore moot because it is not considered the uppermost aquifer required by regulation to be monitored. Moreover, HRMB considers not monitoring the Santa Rosa Sandstone aquifer protective of human health and the environment for the following reasons:

- 1. a commitment exists from GM to construct hazardous waste management units (HWMU) with leachate and release monitoring and retrieval systems;
- 2. approximately six hundred vertical feet of consolidated mudstone exists between the top of the aquifer and the proposed facility, as demonstrated through both site specific and regional investigation reports;
- 3. additional vadose zone and uppermost aquifer monitoring systems will be constructed that should detect releases from the HWMUs before the deeper aquifer is threatened;
- 4. the Santa Rosa Aquifer has artesian characteristics as demonstrated through a site specific investigation; and
- 5. installing monitoring wells in the Santa Rosa Sandstone aquifer could cause contamination of the aquifer by contaminant migration.

The HRMB lacks sufficient data at this point to grant the waiver for monitoring the shallower Upper Dockum aquifer, particularly with regard to the proximity and hydraulic properties of the uppermost aquifer. GM must first satisfactorily resolve the associated issues identified in the March, 1999, RSI, and the concerns and requirements listed below.

- 1. The geohydrologic investigation must be expanded to include the northern portion of the proposed site. Figure 3-14 (permit application, Vol. I) shows the southern portion of the proposed site having sufficient geohydrologic delineation, while all figures showing the proposed facility layout locate both the surface impoundment and the Phase 1 landfill in the northern portion of the site. A primary objective of the expanded investigation should be the determination of the presence of shallow groundwater below the northern portion.
- 2. The hydrologic characteristics of the siltstones at the contact between the Upper and Lower Dockum must be verified by performing an appropriate aquifer test in a minimum of five feet of saturated thickness down gradient and as proximal as possible to the Phase 1 landfill.

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- 3. There must be a commitment to monitor the shallow groundwater down gradient of the proposed site for chemistry and water table elevation. This monitoring must occur as close to the proposed Phase 1 landfill location as possible.
- 4. The HRMB reiterates its March 11, 1999 requirement (comment # 27) of establishing preexisting groundwater chemical concentrations adjacent to the facility (i.e., background groundwater quality concentrations) as required in 40 CFR 264.97(a)(1).
- 5. A vadose zone monitoring well (VZMW) system must be constructed in addition to the monitoring sumps. HRMB anticipates a system similar to that presented in Exhibit No.1, faxed to HRMB May 10, 1999; we withhold final design concurrence until all site investigations are complete.
- 6. The HRMB reiterates its March 11, 1999 requirement that "... construction of the VZMW will, at a minimum, require the same lithologic characterization as all previous boreholes. HRMB requires a detailed VZMW construction workplan as part of the permit application." In addition, HRMB requires that all subsequent boreholes, where the intent is related to identifying or monitoring the contact between the Upper and Lower Dockum, be shown to have been drilled a minimum of 30 feet into the lower unit.
- 7. HRMB is concerned about free liquids migrating out of the storm water impoundment and other sources into the subsurface and confusing the vadose zone monitoring. This situation was not addressed in the water balance evaluation presented in the groundwater monitoring waiver petition. GM must explain how it proposes to address this situation.
- 8. GM must demonstrate that the monitoring systems in the sumps are capable of functioning for the expected post-closure care period. In particular, it must be shown that all mechanical and electrical components can be tested to ensure proper operation and that the equipment can be serviced should it malfunction.
- 9. The response to the RSI (comment 25) states that all bore holes were plugged using "original drill cuttings and/or bentonite". GM must evaluate this generally unsuitable borehole abandonment technique as to the possible impact of fluid migration to either of the proximal aquifers and the proposed VZMW network. In the future all boreholes must have a suitable plug or annular seal preapproved by HRMB.

All other requirements within 40 CFR Part 264, Subpart F (Releases From Solid Waste Management Units) must be addressed in the permit application, including the following;

a. the definition of a detection monitoring program at all vadose zone and groundwater monitoring points, as stipulated in 40 CFR 264.98;

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- b. the establishment of a statistical approach to determining whether a significant release has occurred. This must be proposed from the list in 40 CFR 264.97(h); and
- c. the development of a contingency plan for corrective action in the event that fluids enter the VZMW system or contaminated fluids enter the groundwater monitoring system.

I believe resolution of these issues will greatly aid our expeditious review of the permit application. Should you have any questions about the groundwater issues related to the proposed facility, please contact Steve Pullen of my staff at 827-1561 (ext. 1020). All other inquiries regarding the permit application should be directed to HRMB's Project Leader, Stephanie Kruse. Please do not hesitate to let me know how we can be of further assistance.

Sincerely,

fames P. Bearzi Chief Hazardous and Radioactive Materials Bureau

cc: Gregory Lewis, NMED, W&WMD Stephanie Kruse, NMED/HRMB Steve Pullen, NMED/HRMB Dale Gandy, GM Jim Bonner, Infimedia Pat Corser, MW David Neleigh, EPA Region 6