

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

In the Matter of the Petition of)
RONALD FRAZIER, ET AL.)
for Review of Waste Discharge)
Requirements Order No. 92-029)
for the U.S. Army Corps of)
Engineers, Hamilton Air Force)
Base, by the California Regional)
Water Quality Control Board,)
San Francisco Bay Region.)
Our File No. A-793.)

ORDER NO. WQ 93-4

BY THE BOARD:

On March 18, 1992, the Regional Water Quality Control Board, San Francisco Bay Region (Regional Water Board), adopted waste discharge requirements (Order No. 92-029) for the U.S. Army Corps of Engineers, Omaha District Office (Discharger). The requirements regulate the closure of Landfill No. 26 at Hamilton Air Force Base in Marin County (Landfill).

On April 17, 1992, the State Water Resources Control Board (State Water Board) received a petition from Ron Frazier (Petitioner) seeking review of Order No. 92-029. The Petitioner requests a delay or reversal of the Regional Water Board's approval of the Discharger's closure plan, which involves capping the Landfill and pumping and treating contaminated ground water.

The Petitioner prefers a remedy which does not leave hazardous materials on-site.¹

I. BACKGROUND

Hamilton Air Force Base is situated adjacent to tidal flats on the north and south, the periphery of San Pablo Bay on the east, and broad alluvial plains sloping toward the Coast Ranges on the west. The Landfill encompasses an area of approximately 28 acres, and together with a buffer zone extends about 47 acres. The Landfill was active from the early 1940s until the 1970s. It was never a permitted, regulated facility, and was not properly closed in conformance with applicable regulations. The Landfill waste consists generally of oily sludge, pesticides, polychlorinated biphenyls (PCBs), heavy metals, and construction debris.

The Landfill site contains a small stream channel, and a portion of the site is designated as wetland. Ground water is very close to the ground surface, and portions of waste materials are below sea level and are saturated by ground water. Soils

¹ The Petitioner requested a hearing before this Board, but did not comply with the regulatory requirements for such a request. (Tit. 23, Code of California Regulations (CCR) Section 2050(b).) The request is therefore denied. The Petitioner also requested a stay of Order No. 92-029. On October 8, 1992, the State Water Board informed the Petitioner that this request would not be reviewed. The State Water Board has also received petitions requesting review of Order No. 92-029 from Vadim Canby, Robert Gittings, Bobbe Vargas, Larry Gallagher and Lewis Dunn. Three of the petitions--from Vargas, Gallagher and Dunn--were not timely received pursuant to Water Code Section 13320, and will not be considered for that reason. Generally, the contentions raised by Canby and Gittings were similar to those raised by the Petitioner. Any contentions raised by the Petitioner and by Canby and Gittings, which are not addressed in this Order, are dismissed. (Tit. 23 CCR Section 2052; People v. Barry (1987) 194 Cal.App.3d 158.)

within the Landfill area are generally of low permeability with a surface water infiltration rate equal to about 2 inches per week.

Pollutants generated by the Landfill have migrated into underlying soils and ground water. Ground water samples show the presence of refined hydrocarbons and low levels of heavy metals. PCBs and pesticides were not detected in ground water. There is no evidence of constituents from Landfill wastes in ground water beyond the perimeter of the Landfill.

Order No. 92-029 identifies specific requirements for actions and reports for closure of the Landfill. The Discharger's proposal for closure and remediation is the basis for the requirements. Closure will consist of ground water remediation and containment of pollutants in place by dewatering wastes and capping the area.

II. CONTENTIONS AND FINDINGS

Contention: The Petitioner generally contends that the approved closure proposal, which includes capping the Landfill and remediation of ground water, will not provide adequate protection to water quality.

Finding: The Petitioner contests the propriety of capping the Landfill in conjunction with ground water remediation. The Petitioner has submitted documents which he claims support his view that the "cap and pump" method is ineffective and antiquated.

The general requirements for closure of landfills are found in State Water Board regulations at Title 23, California Code of Regulations Section 2510, et seq. (Chapter 15). The construction and siting requirements are not applicable to the Landfill because it became inactive before Chapter 15 was promulgated. (See, Tit. 23, CCR Section 2510(g).) However, where inactive sites are found to have impaired water quality, corrective action pursuant to Section 2550.10 of Chapter 15 is appropriate. (Section 2510(g).)

The Chapter 15 corrective action program requires actions to remediate releases from the Landfill, removal or treatment measures to ensure that constituents of concern achieve concentration limits, and other necessary actions, including source control. (Section 2550.10(b) and (c).) Thus, while the closure requirements for active sites, found in Article 8 of Chapter 15 (at Section 2580 and following) are not specifically applicable to the Landfill, they are appropriate standards against which to judge the requirements contained in Order No. 92-029. Chapter 15 does not contain specific requirements for remediation of ground water.²

In order to determine whether the closure requirements set forth in Order No. 92-029 are proper, it is therefore appropriate to compare them to the closure requirements set forth

² We note that State Water Board Resolution No. 92-49 provides specific guidance on procedures for cleanup and abatement of discharges. This resolution was adopted subsequent to the issuance of Order No. 92-029, and is therefore not applicable to that order. Nonetheless, we find that the waste discharge requirements are consistent with this resolution.

in Chapter 15. Section 2581 of Article 8 requires that closed landfills be provided with a cover of two feet of appropriate materials which are then compacted, followed by one foot of soil which is also compacted, and another foot of soil supporting vegetative growth. Alternatives to these construction standards may be approved where the standard is not feasible and the alternative is consistent with the performance goal and affords equivalent protection to water quality. (Section 2510(b).)

The major components of the capping proposal which was approved in Order No. 92-029 include placement of a landfill cap system comprised of various soil, geotextile, and geosynthetic components installed in a multi-layered arrangement to minimize infiltration of moisture from the surface environment. Ground water remediation will use on-site treatment technology and disposal of treated water by reinjection or surface water discharge. The Discharger is also required to create a separation between ground water and Landfill wastes and associated polluted materials, maintained by perpetual pumping and extraction of ground water.

In reviewing the capping and pump and treat proposal approved in Order No. 92-029, we find that this approach is consistent with policies adopted by this Board and with the closure requirements of Chapter 15. The Landfill cap system is an adequate engineered alternative to the construction requirements contained in Section 2581. It should preclude resaturation of wastes and polluted materials after dewatering,

and consequently should curtail further downward migration of pollutants to the ground water because of lack of a driving force. The pump and treat system should remove existing pollutants from ground water, and, therefore, diminish the potential for off-site migration. The ongoing ground water extraction for dewatering and creation of a perpetual hydraulic barrier should minimize wetting of polluted materials, and subsequent off-site migration. The combined approach of isolation of pollutants along with pump and treat technology should be effective at the Landfill site.

We therefore conclude that the closure and remediation system approved in Order No. 92-029 should effectively contain pollution on site and preclude the pollutants from migrating off site. Ground water extraction in conjunction with capping is a reasonable method of isolating and immobilizing pollutants so long as wastes are dewatered perpetually.³ The approved system is a proper and practical approach to containment of potential pollutants and protecting water quality at this particular site. If pollutants from the Landfill are detected down gradient of the site, ground water extraction and treatment can be utilized for remediation.

Contention: The Petitioner contends that the Regional Water Board should have either required treatment of "toxic hot spots" in place, or removal of all waste materials from the landfill.

³ *The dewatering proposal is currently scheduled to last 30 years. At the end of that time period, it will be necessary either to continue dewatering or to take other remedial action.*

Finding: The treatment by "solidification" of soils in waste pollutant "hot spots" was considered in conjunction with a cap system. Regional Water Board staff and the Discharger testified that proposal was rejected because of the difficulty in finding all "hot spots", therefore making a cap still necessary, and because treatment of "hot spots" would not enhance performance of the cap. Upon review of the record, we find that it was appropriate and proper for the Regional Water Board to accept a proposal which did not require treatment of "hot spots".

Order No. 92-029 includes preloading of the Landing (covering with soil in order to consolidate underlying bay mud), which should minimize the potential for differential settling of wastes, with resulting disruption of the cap system. Dewatering prior to preloading, as is required, will protect against any release of pollutants caused by the preloading.

The purpose of the capping requirement in Chapter 15 is to prevent pollutants associated with closed landfills from coming into contact with off-site ground water. This is accomplished by designing, constructing, and maintaining the cap to minimize infiltration of surface water and wetting of waste below the cap. Without a hydraulic driving force, pollutants should not migrate downward to the ground water table. The cap at the Landfill should serve this purpose so long as the proposed water extraction system is in operation and working properly. The ground water pump and treat system should remediate the

ground water which has already been contaminated, and serve as a backup in the event that there is any further leaking of waste materials into the ground water.

We conclude that the cap at the Landfill should minimize any infiltration of surface water, and the dewatering should prevent any resaturation of waste materials. Therefore, there would be no benefit to water quality from the costly and difficult process of finding and treating "hot spots."

We also find that the Regional Water Board did not err in failing to require complete removal of waste materials from the Landfill. Complete removal of all wastes could require removal of soils and sediment within the Landfill boundary to a depth of ten feet. The maximum volume of material could be as much as 400,000 cubic yards. Unless removal included all materials which could potentially impact water quality, capping and ground water monitoring would still be required. In any event, remediation of the already contaminated ground water would be required. The Discharger presented evidence that the cost of complete removal would exceed \$137 million, while the proposed closure and remediation costs are estimated at \$35.5 million. We conclude that the Regional Water Board acted properly in not requiring this expenditure in light of any slight increase in water quality protection it would afford.

Contention: The Petitioner contends that the Regional Water Board improperly excluded evidence at its public meeting.

Finding: After reviewing the record in this matter, including the transcript of the proceedings before the Regional Water Board, we find that the Regional Water Board conducted its public meeting properly and fairly. There is no evidence that the Regional Water Board improperly excluded evidence, and this Board has also allowed the Petitioner to submit documents which were not a part of the Regional Water Board's record.

III. CONCLUSION

After review of the record and consideration of the contentions of the Petitioner, and for the reasons discussed above, we conclude:

1. The methods of closure and remediation of ground water which are approved in Order No. 92-029 are appropriate and proper.

2. The Regional Water Board acted correctly in issuing waste discharge requirements which did not require treatment of "hot spots" or removal of all waste materials from the Landfill.

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3. The Regional Water Board did not improperly exclude evidence.

IV. ORDER

IT IS HEREBY ORDERED that the petition is denied.

CERTIFICATION

The undersigned, Administrative Assistant to the Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on February 18, 1993.

AYE: Eliseo M. Samaniego
John Caffrey
Marc Del Piero
James M. Stubchaer

NO: None

ABSENT: None

ABSTAIN: None


Maureen Marché
Administrative Assistant
to the Board