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NCBC GULFPORT
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LETTER AND COMMENTS FROM MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL
QUALITY REGARDING LANDFILL COVER ASSESSMENT REPORT SITE 3 NCBC
GULFPORT MS
3/30/2009
MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY



STATE OF MISSISSIPPI
HALEY BARBOUR
GOVERNOR
MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY
TRUDY D. FISHER, EXECUTIVE DIRECTOR

30 March 2009

Robert Fisher
NAVFAC SE (OPG6)
PO Box 30, Bldg 903
NAS Jacksonville, FL 32212-0030

Re: Landfill Cover Assessment Report, Site 3 Northwest Landfill, Naval Construction Battalion Center Gulfport, MS, draft, March 2009.

The Mississippi Office of Pollution Control has reviewed the above referenced document. The following concerns were noted during document review.

1. The study did not address the existing landfill cover thickness.
2. The text (page 4, paragraph 2) states that the guidelines for a low permeability soil cover require K (hydraulic conductivity values) in the $1 \text{ E}^{-5} \text{ cm/sec}$ range to be considered effective. The guidelines used for this evaluation are not identified. The text does not specify whether this refers to vertical or horizontal hydraulic conductivity. Vertical hydraulic conductivity tests should be performed on undisturbed samples taken from representative liner material.

In the absence of guidelines for liners and covers for non permitted landfills, solid waste or hazardous waste landfill guidelines are frequently used in order to identify acceptable construction materials. Solid waste (40 CFR) guidelines generally describe solid waste landfill liner and cover criteria for landfill closure of non permitted landfills or those that do not comply with 40 CFR Solid Waste Regulations. The landfill cover should be less permeable (lower vertical hydraulic conductivity or K_v) than the liner (whether natural or man made) with a maximum permeability (K_v value) of $1 \text{ E}^{-5} \text{ cm/sec}$ for landfills containing a liner of unknown permeability.

A vertical hydraulic conductivity value of 1 E^{-5} is considered to be marginally suitable for landfill cover material, however a less permeable (ex. $1 \text{ E}^{-6} \text{ cm/sec}$) material would be more protective, allowing less infiltration for leachate production.

3. The text (page 2, paragraph 2 and page 4, paragraph 5) states that the proposed cover will be composed of soil (non native and unprocessed) with a lesser permeability than the current cover. OPC concurs with this recommendation. It is noted that Kv values ranged over two orders of magnitude ($1.9 \text{ E } -4 \text{ cm/sec}$ to $4.8 \text{ E } -6 \text{ cm/sec}$) all of which were above the $1 \text{ E } -6$ recommended cover material for permitted solid waste (non hazardous) landfills.
4. It is noted that the landfill gas survey indicated that little or no gas generation is occurring at Site 3 and that a gas venting system will not be necessary. Confirmation of this should be included in the evaluation of the chosen cover material, as this conclusion is based on a limited number of samples (4 within and one outside of site boundaries).

Please feel free to contact me if I can be of further assistance.

Sincerely,
Bob Merrill
Bob Merrill

cc. Bart Reedy, USEPA