

New York State Department of Environmental Conservation

Division of Solid and Hazardous Materials, Region 9

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May 10, 1999

██████████ P.E., DEE

Senior Associate

Malcolm Pirnie, Inc.

40 Centre Drive

P. O. Box 1938

Buffalo, New York 14219-0138

Dear ██████████:

Town of Tonawanda Landfill, #15S29
Landfill Closure Investigation Report
Revised February, 1999

The Department's Region 9 staff have reviewed the revised Closure Investigation Report (CIR) for the Town of Tonawanda landfill. While the majority of the Department's earlier comments on the draft CIR have been adequately addressed, Malcolm Pirnie, Inc. (MPI) still needs to provide further clarification for the following items.

**Attachment A - MPI Responses to NYSDEC Comments:
Response to February 26, 1996 Letter From ██████████**

1. In MPI's response to Comment # 1 the elevated level of combustible landfill gas (>100% LEL) detected in borehole P-1 is attributed to the probable decomposition of the large amount of yard wastes observed during drilling. Regardless of the origin of the combustible gas, i.e., yard wastes versus putrescible household wastes, adequate provisions will be needed for venting the gas found in this, and any other areas of the landfill which contain significant levels of landfill gas. As P-1 is not located in one of the known putrescible waste areas which are proposed to have gas venting trenches installed, MPI must address how adequate gas venting will be accomplished in this area.
2. In MPI's response to Comment # 4, it is stated that Plate 1 has been revised to show the locations of the additional leachate seeps identified in 1996 and 1998. Plate 1 does not appear to have been revised accordingly.
3. MPI's response to Comment # 8 indicates that the last sentence in Section 6.1.4 has been revised, however the wording in that section of the CIR has not been changed from the draft version. Furthermore, the revised wording proposed by MPI is not entirely correct

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as the data in Table 5-1 of the CIR indicates that positive, although very low readings, (1%-3% LEL) of combustible gas were detected at several locations along the northern boundary of the landfill. Please correct the statements in Section 6.1.4 to reflect the actual data obtained during the soil gas surveys.

Response to April 26, 1996 Letter From

4. In response to Comment # 40 MPI states that existing piezometers P-1 through P-4 will be retained to monitor leachate levels and the effectiveness of the capping in reducing the leachate mound. However, Figure 1 in the Work Plan for Characterization of Leachate, dated February 1999, shows piezometers P-1, P-3 and P-4 as being vandalized and obstructed. Are these sampling points still available or do they need to be replaced?
5. Please provide a map which shows the locations of the combustible gas monitoring points, G-1 through G-28 as listed in Table 2.

Closure Investigation Report

6. Figure 5-1 contained in the Department's copy of the report does not show the entire landfill area. It is obvious that only part of the map was copied during the reproduction of the report. Please provide the entire figure.
7. The first sentence in the second paragraph of Section 5.2.2 is incomplete. Please clarify which landfill area is referred to in this statement.
8. Regarding Section 6.1.4, please see comment # 3 above.

Conceptual Closure Plan

9. On Figure 6-1 please clarify that the leachate collection trench proposed to be installed along the northwestern property line will be extended as far to the east as required to eliminate the potential for landfill gas to migrate to offsite residences or other buildings.
10. Regarding the conceptual plan to remove the majority of the waste/fill on the NMPC property, it is stated that excavation will proceed "until all visual signs of waste/fill have been removed." It is likely that some sampling and analysis of the soils remaining at the bottom of the excavation will be needed to verify that no waste or contamination is left in place. The closure plan will need to address this issue.
11. It is stated that much of the soil materials required for construction of the landfill cover system will be mined from the "Mud Flats" area located to the south of the landfill. It should be noted that the Radiological Human Health Assessment Technical Memorandum issued by the US Army Corps of Engineers in February 1999, has identified an area in the western most part of the Mud Flats in which elevated

radioactivity levels have been detected. Any soils excavation work in this area must address all potential environmental and human health concerns related to the soils radioactivity. Furthermore, if the Town of Tonawanda and/or the US Army Corps of Engineers has any intention of removing these soils from the Mud Flats and placing them in the landfill for consolidation prior to closure, this issue must be addressed as soon as possible in order to not impact the closure schedule.

12. As was discussed during our July 28, 1998 meeting, Figure 6-4, Gas Venting Details was to be corrected to show the gas venting trench extending a minimum of 5'-0" into the waste, not the 1'-0" as shown. Also as discussed previously, the typical gas vent detail should be revised to clarify how gas will be vented at the top of the riser pipe. Additionally, upon further review of this detail, it is apparent that the proposed design incorporating a grated cover will allow the infiltration of rainwater through the venting gravel and into the waste. MPI must modify the design to not allow water to seep through the vent by installing some type of impermeable cutoff within the catch basin.
13. Please provide some additional discussion on how the perimeter leachate collection system will be designed to also function for landfill gas venting. For example, will there be gas vent risers installed within the collection trench and what will be the depth of the trench? The trench should be keyed into the seasonal low groundwater table, bedrock layer or first layer of impermeable soils as required by 360-2.15(f)(1). MPI should provide a preliminary, typical detail drawing for the proposed leachate collection/gas venting trench system at this time.
14. Also as discussed at our July 28, 1998 meeting, the conceptual post closure monitoring program must include provisions for the long term monitoring of explosive gas as required by 360-2.15(k)(4).

Appendix I - Variance Justification Letter

15. On page 2 please correct the second reference to the Part 360 subsections to read 360-2.13(r)(2)(iii), instead of 360-2.13(q)(2)(iii), since the proposed barrier layer consists of a geomembrane.
16. Please discuss the potential for landfill gas to migrate along preferential pathways such as underground utility lines and how the conceptual closure design will deal with this issue. This is especially critical for the ECWA pipeline ROW in which waste materials will remain following the landfill closure. All other underground utility lines, if any exist in the immediate vicinity of the landfill, must be identified and addressed accordingly.
17. Regarding the combined functions of the leachate collection/landfill gas venting system, please see comment # 13, above.

18. Regarding the proposed design of the gas vents, please see comment # 12, above. Figure V-3 should also be revised as per this comment.
19. Please check the cost figure stated on page 6 as it appears that the actual cost savings due to the proposed variance requests is \$2.9 million.
20. Even though Figure V-2 is only a preliminary drawing, the locations of the proposed gas collection trenches in Landfill Areas 3 and 7 should be expanded to cover the full aerial extent of these areas. The delineation of Areas 3 and 7 should be considered approximate for design purposes.
21. It might be useful to reference and include a copy of the US Army Corps of Engineers Radiological Human Health Assessment Technical Memorandum in the appendices of the CIR in order to have a single, comprehensive document on the current status of the landfill.

Should you have any questions on these comments, please call me at 851-7220.

Sincerely,

[Redacted Signature]

. Environmental Engineer II

cc: [Redacted], Regional Solid Materials Engineer
[Redacted], Engineering Geologist II
[Redacted], Assistant Regional Attorney
[Redacted], DSHM, Albany
[Redacted], Bureau Of Pesticides & Radiation/Albany
[Redacted] US Army Corps of Engineers
[Redacted], Town of Tonawanda