



State of Ohio Environmental Protection Agency

Northeast District Office

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Ted Strickland, Governor
Lee Fisher, Lieutenant Governor
Chris Korleski, Director

February 28, 2007

**RE: RES SITE "B" LANDFILL
GROUND WATER MONITORING
NOTICE OF VIOLATION**

CERTIFIED MAIL

Yogi Chokshi
Reserve Environmental Services
4633 Middle Road
P.O. Box 1038
Ashtabula, Ohio 44004

Dear Mr. Chokshi:

The Ohio Environmental Protection Agency (Ohio EPA) has conducted a review of the review the following documents:

- ◆ Reserve Environmental Services Inc., Site B Industrial Solid Waste Disposal Facility, Semiannual Groundwater Monitoring Results 1st Semiannual Event 2004, prepared by Reserve Environmental Services, Inc., dated August 2005. The document was received by Ohio EPA on March 07, 2006; and
- ◆ Reserve Environmental Services Inc., Site B Industrial Solid Waste Disposal Facility, Semiannual Groundwater Monitoring Results 1st Semiannual Event 2005, prepared by Reserve Environmental Services, Inc., dated January 2006. The document was received by Ohio EPA on March 07, 2006.

Reserve Environmental Services' (RES) Site "B" Landfill (RES) must conduct ground water monitoring in accordance with Ohio Administrative Code (OAC) Rules 3745-29-10 and 3745-30-08, as effective August 15, 2003.

Upon review of the documents, Ohio EPA identified the following violations:

1. **OAC Rules 3745-30-08(B)(3)(e), 3745-30-08(C)(7), 3745-30-08(D)(4), 3745-30-08(D)(5), and 3745-30-08(D)(6):**
 - a. RES has failed to maintain, sample, and statistically analyze ground water monitoring wells MW-931S and MW-932S. These wells were apparently damaged during the construction phase of Stage 3. The damage was sustained either in early 1999 or sometime during 1998. To date, RES has failed to sample these wells, install replacement wells, and properly abandon these wells. As such, RES has been in violation of these rules for seven to eight years.

At a minimum, RES must immediately install replacement wells for these locations (MW-931S and MW-932S), properly develop the new wells, and resume semiannual ground water sampling of the replacement wells pursuant to these rules. Once this has been accomplished, RES must arrange for the proper abandonment of the damaged wells, if they have not already been properly abandoned.

- b. RES failed to maintain, sample, and statistically analyze ground water monitoring well MW-906S. During the 2005 sampling event, this well did not produce any ground water that could be sampled or analyzed. This appears to be the first time MW-906S failed to produce any ground water for sampling. Furthermore, RES failed to maintain and sample ground water monitoring well MW-804S. During the 2005 sampling event, this well only produced enough ground water to analyze for the field parameters pH, specific conductance, and temperature. RES did not indicate that any corrective measures were planned or conducted to investigate these situations to determine the cause(s) and attempt to remedy the problems.

At a minimum, RES must immediately investigate wells MW-906S and 804S to determine why they suddenly stopped producing ground water. It could be that pump failure is the problem or the wells have silted in and need to be redeveloped. It could be that local changes in the water table mean that deeper replacement wells will need to be drilled, installed, and sampled. Either way, RES must immediately determine the cause of these wells failure to produce enough ground water for sampling and take action to resolve it. RES should submit a detailed report of their findings and remedy to Ohio EPA. If necessary RES should submit a revised ground water monitoring plan.

2. **OAC Rules 3745-30-08(A)(1), 3745-30-08(B)(1)(b), 3745-30-08(B)(4)(b), and 3745-30-08(B)(5):**

- a. RES has failed to maintain a sufficient number of downgradient monitoring wells capable of representing the quality of ground water passing directly downgradient of the limits of waste placement, and detecting a release from the landfill facility to the ground water at the closest practicable location to the limits of solid waste placement. Ground water monitoring wells MW-931S and MW-932S were apparently damaged during the construction phase of Stage 3, but have never been replaced. The damage was sustained either in early 1999 or sometime during 1998. RES is required to annually evaluate the ground water monitoring system pursuant to paragraph (B)(5), and immediately make any necessary

changes to bring the ground water monitoring system into compliance. As such, the downgradient perimeter monitored by these wells has gone unmonitored, and RES has been in violation of these rules for seven to eight years.

At a minimum, RES must immediately install replacement wells for these locations (MW-931S and MW-932S), properly develop the new wells, and resume semiannual ground water sampling of the replacement wells pursuant to these rules. Once this has been accomplished, RES must arrange for the proper abandonment of the damaged wells, if they have not already been properly abandoned.

- b. RES has failed to maintain a sufficient number of downgradient monitoring wells capable of representing the quality of ground water passing directly downgradient of the limits of waste placement, and detecting a release from the landfill facility to the ground water at the closest practicable location to the limits of solid waste placement. During the 2005 sampling event, downgradient monitoring well MW-906S did not produce any ground water that could be sampled or analyzed. This appears to be the first time MW-906S failed to produce any ground water for sampling. RES did not indicate that any corrective measures were planned or conducted to investigate this situation to determine the cause(s) and attempt to remedy the problem.

At a minimum, RES must immediately investigate well MW-906S to determine why it suddenly stopped producing ground water. It could be that pump failure is the problem or the well silted in and must be redeveloped. It could be that local changes in the water table mean that a deeper replacement well will need to be drilled, installed, and sampled. Either way, RES must immediately determine the cause of this well's failure to produce any ground water for sampling and take action to resolve it. RES should submit a detailed report of their findings and remedy to Ohio EPA. If necessary, RES should submit a revised ground water monitoring plan.

3. OAC Rule 3745-30-08(C)(8):

- a. RES failed to submit the 2004 and 2005 ground water data reports within the 75-day time frame specified by this rule. Regarding the 2004 ground water event, sampling activities ended on October 6, 2004. Counting 75 days from the 6th of October means the results of this sampling event were due on December 20, 2004. However, Ohio EPA did not receive the sampling results until March 7, 2006, one year and 77 days past the 75-

day requirement. This same problem occurred for the 2005 ground water event. Sampling activities ended on October 15, 2005, meaning the results of this sampling event were due on December 29, 2005. Again, Ohio EPA did not receive the sampling results until March 7, 2006, 68 days past the 75-day requirement.

At a minimum, RES must immediately resume regularly meeting the 75-day reporting requirement after each ground water sampling event.

- b. RES failed to submit all ground water analysis results. Review of the 2004 and 2005 ground water data reports revealed that the reports were missing all of the field information forms that RES should have used, or photocopies of the field book pages where RES recorded all the purging and sampling activities that were conducted at each individual well during these sampling events. Consequently, there is no record that RES measured and recorded the field parameters pH, specific conductance, and temperature at each monitoring well prior to collecting the ground water samples. There is also no documentation that RES followed all appropriate and required sampling procedures to ensure that all ground water samples are representative of true ground water quality in the units being sampled.

At a minimum, RES must immediately submit all field information forms or photocopied pages of the field book that documents the purging and sampling activities that took place at each monitoring well during both the 2004 and 2005 sampling events. RES should also submit documentation to demonstrate that the field parameters pH, specific conductance, and temperature were measured and recorded at each monitoring well prior to collecting the ground water samples.

- c. It appears that an entire page of analytical data results for volatile organic compounds (VOCs) for monitoring well MW-809D was not submitted with the 2004 ground water data report. Specifically, review of the 2004 analytical laboratory results for MW-809D revealed that page 2 of 3, which contains the first half of the VOC results, was missing. A detailed review of the entire data report did not turn up the missing page of lab results. As such, there is no record that RES sampled and analyzed ground water from this well for the complete list of VOCs contained in Appendix III of this rule. Furthermore, a detailed review of the entire data report did not identify the chain of custody form that documents the field and transportation custody for the ground water samples collected from MW-809D. Without proper chain of custody documentation, sample results are suspect since it is unknown whether or not the samples could have been tampered with and by whom.

At a minimum, RES must immediately submit the missing information for monitoring well MW-809D for the 2004 sampling event. This should include the complete list of VOC results for this well, as well as the appropriately completed chain of custody form for this well that was completed in the field and should have been included with the samples transported to the lab.

4. **OAC Rule 3745-30-08(C)(2):**

- a. RES failed to measure the ground water elevations in all monitoring wells within a single 24-hour period, prior to purging and sampling each well, and did not document the elevations associated with each well on the subsequent potentiometric maps. According to the narrative report for the 2004 sampling event, all ground water elevations were measured in May 2004. But because no field information forms or field book notes were submitted to document these measurements, it is unclear if all ground water elevations were measured within a single 24-hour period. Additionally, sampling of the monitoring wells did not commence until September 15, 2004, three to four months later. Therefore, RES would have had to re-measure the ground water elevations at all of the monitoring wells anyway to be able to generate accurate up-to-date potentiometric maps showing the direction of ground water flow in the shallow zone of saturation and the uppermost aquifer system, in addition to meeting the requirement that the elevations be measured prior to purging and sampling each well. Review of the potentiometric maps revealed that none of the measured ground water elevations were marked next to the appropriate monitoring well.

In the future, RES must adequately document all ground water elevation measurements so Ohio EPA can verify that the measurements were collected within a single 24-hour period, prior to purging and sampling each well, and the ground water elevations for each well are documented on the potentiometric map showing the direction of ground water flow for that specific semiannual sampling event. This is also why it is important that the timing of the measurement of the ground water elevations and the sampling event coincide with each other.

- b. RES failed to document the ground water elevation measurements associated with each well on the subsequent potentiometric maps for the 2005 sampling event. Review of the 2005 potentiometric maps revealed that none of the measured ground water elevations were marked next to the appropriate monitoring well.

In the future, RES must ensure that the ground water elevations for each well are documented on the potentiometric maps.

5. **OAC Rule 3745-30-08(C)(1) and 3745-30-08(C)(1)(b)(iv):** RES failed to adequately preserve all the 2004 ground water samples by not cooling the ground water samples and maintaining them in a cooled state until they were received and analyzed by the lab. Review of the 2004 sampling report revealed that nearly all of the ground water samples were received by the laboratory at temperatures greater than 4 degrees Celsius. Ground water samples from monitoring wells MW-917D, 917S, 917SDup, TB-3, TB-5, 811D, 811S, 932D, and 932DDup, were all logged in at a temperature of 9 degrees Celsius. Meanwhile, the ground water samples from monitoring wells MW-804DR, 804S, 808D, 808S, 809D, 809S, 906D, 906S, 913D, 913S, and 931D, were all logged in at a temperature of 10 degrees Celsius. The presence of ice was not noted anywhere in the sampling report. This brings into question the validity of all analytical results for those constituents that require temperature preservation to 4 degrees Celsius, including but not limited to VOCs. Chapter 2 of SW-846 on-line contains a table (Table 2-36) that lists the required preservation temperatures for various compounds. Cooling to 4 degrees Celsius is the standard for preserving those constituents known to be temperature sensitive. In addition, Ohio EPA's Technical Guidance Manual for Hydrogeologic Investigations and Ground Water Monitoring specifies the following regarding temperature preservation:

“Samples for temperature-sensitive parameters should be thermally preserved immediately after collection by placement into an insulated cooler maintained at a temperature of approximately $4^{\circ} \pm 2^{\circ}$ C with ice or an ice substitute. Any deviation in temperature should be noted and assessed as to its impact on sample quality. The laboratory should record whether or not the cooler contains any amount of visible ice. The presence of ice is sufficient to demonstrate that the samples are adequately preserved. If no ice is present, the laboratory should obtain a measure or estimate of the sample temperature upon receipt of the samples.”

At a minimum, RES must consult with the analytical laboratory that analyzed these 2004 ground water samples to determine what impacts on sample quality may have occurred. The results of this consultation need to be submitted to Ohio EPA. In the future, RES must ensure that all ground water samples are properly temperature preserved by making sure that a sufficient amount of ice is packed in the coolers when they are prepared and sealed for shipment to the laboratory. The sampling and analysis plan should be revised as necessary and submitted to Ohio EPA for review.

6. **OAC Rule 3745-30-08(C)(1) and 3745-30-08(C)(1)(f)(i):**

- a. RES failed to adequately document the custody of the samples from collection to the laboratory. The chain of custody forms for 2004 contain some "custody holes" where it is not clear who was in charge of the ground water samples. This leads to questions about tampering and the validity of the sample results. One issue is clear, all the ground water samples were marked as being picked up by the laboratory. The following bullets break down the various chain of custody problems for 2004:

MW-811S and 811D samples were relinquished on 9/28/2004, but were not noted as received until 10/1/2004. It is not clear who was in possession of the samples for three days;

MW-917D did not have a completely filled out chain of custody. It is not known when and in what condition the samples were received by the lab;

MW-917S and 917S-dup exhibited a two-day lag where it is not clear who was in possession of the samples;

MW-804S, 804DR, 808S, 808D, 809S, 809D, 906S, 906D, 913S, 913D, 931D, and 932D were all relinquished on 10/6/2004, but were not received at the lab until 10/8/2004. Again, it is not clear who was in possession of the samples for two days.

At a minimum, RES must explain what happened to these 2004 samples and who had possession of them. In addition, RES must verify that these samples were not impacted or tampered with in any way during these periods of unknown custody. Furthermore, RES must ensure that proper relinquish and receipt documentation will take place from now on. Since the lab is picking these samples up at the facility during business hours, it should not be that difficult for RES to arrange for the samples to be in the custody of someone who can then relinquish custody to the lab with all of the proper signatures, times, and dates documented on the chain of custody.

- b. RES failed to adequately document the custody of the samples from collection to the laboratory. Similar to 2004, the chain of custody forms for 2005 contain some "custody holes" where it is not clear who is in charge of the ground water samples. This leads to questions about tampering and the validity of the sample results. One issue is clear, all the ground water samples were marked as being picked up by the laboratory. However, all of the chain of custody forms contain a one-day period, where it is really not clear who was in possession of the samples.

Yogi Chokshi
Reserve Environmental Services
February 28, 2007
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At a minimum, RES must explain what happened to these 2005 samples and who had possession of them. In addition, RES must verify that these samples were not impacted or tampered with in any way during these periods of unknown custody. Furthermore, RES must ensure that proper relinquish and receipt documentation will take place from now on. Since the lab is picking these samples up at the facility during business hours it should not be that difficult for RES to arrange for the samples to be in the custody of someone, who can then relinquish custody to the lab, with all of the proper signatures, times, and dates documented on the chain of custody.

The content of this letter does not relieve the owner/operator from its obligation to comply with other applicable requirements set forth in ORC Chapter 3734 and the rules promulgated thereunder, or its obligation to comply with other applicable State and Federal laws and regulations.

Please respond to this letter in writing within fourteen (14) days to indicate how you have abated or will abate the above violations. The content of this letter does not relieve the owner/operator from its obligation to comply with other applicable requirements set forth in ORC Chapter 3734 and the rules promulgated there under, or its obligation to comply with other applicable State and Federal laws and regulations.

If you have any technical questions regarding this review, please contact Mark Kroenke at (330) 963-1225. Please submit all correspondence to Colum McKenna, Division of Solid and Infectious Waste Management, Northeast District Office, Ohio EPA, 2110 East Aurora Road, Twinsburg, Ohio 44087.

Sincerely,



Colum McKenna
Environmental Specialist
Division of Solid and Infectious Waste Management

CJM:cl

cc: Mark Kroenke, NEDO-DDAGW
Ray Saporito, Ashtabula County Board of Health
File: [TUKEL/LAND/RES Site "B" Landfill/GRO/04]

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