

**Municipal
Services****Engineering
Company, P.A.**

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January 7, 2003

Mr. Don Adams, Manager
County of Alleghany
PO Box 366
Sparta, NC 28675

2003



Re: Groundwater Sampling, Analysis and Assessment for the Landfill

Dear Mr. Adams:

I am writing in reference to our meeting and conversations concerning the groundwater at the Alleghany County Landfill. As we discussed, the compliance boundary or where the groundwater can be contaminated is 250 feet from the waste boundary or 50 feet from the property line. The County presently has four monitoring wells and two of these have shown contamination above State Groundwater Standards. Both of these wells are within 50 feet of the property line. One of the wells happens to be the background well (MW3), which is up gradient from the landfill and should not show any contamination. The contamination in this well could be from its proximity to the waste boundary. Being close to the waste, the gases generated by the landfill could have an effect on the groundwater. The other well, MW1, is at the southwest corner of the landfill. The proximity to waste could also be the problem with this well as well as the actual construction of the well where surface water may be infiltrating from the top of the well.

As we discussed at the landfill, a possible solution to the problem, short of purchasing additional property, is to move the existing monitoring wells as close to the property line as feasible and as far away from the waste boundary as possible. Even though contamination exists within 50 feet of the boundary, it can be shown that natural attenuation is cleaning up the contaminated groundwater prior to it reaching the property boundary. This can be demonstrated if no contamination is detected in the wells at the property line. If contamination is detected at the property line, then the property line may have to be moved if remediation or the cleanup of groundwater is not feasible.

If you choose to purchase the property so that the compliance boundary can be moved at least 250 from the waste boundary, we recommend buying to the creek just below the landfill. This will give the County property to a major discharge point for groundwater. If the groundwater contamination were to reach the major discharge point, it will become diluted to the point that it is no longer detectable. Regardless, the existing groundwater monitoring system will still have to be replaced to determine if the contaminant plume is within or beyond the compliance boundary.

On the 31st of December, I met with Cheryl Marks and Larry Rose with the NC Solid Waste Section to discuss the existing monitoring system and the feasibility of revising the system. They agreed that we could move the background well (MW3) as far away from the waste as we can and still be on the property and remain up gradient of the landfill. They also agreed that the same could be done with MW1 as long as we remain in the same proximity of the southwest corner of the landfill. However, to assure that the groundwater that is directly down gradient from the landfill is being monitored, a nested pair of monitoring wells will be required at the sediment basin that is located directly south and near the projected center of the landfill. A nested pair of wells is two wells that are near each other set at two different depths to sample groundwater at the two depths. The deeper well is sealed from the shallower well so that there is no cross contamination. This helps detect contaminants that are heavier than water and subsequently are not floating on the surface of the groundwater.

Our proposal to you consists of the actual installation of the four (4) new monitoring wells and the subsequent sampling and laboratory analysis of the groundwater samples with the associated reporting. There are unknowns associated with the installation of the monitoring wells because we do not know the depths of the wells and if they will be in rock or not. This is unknown until the time that the work is actually done. This is only an estimate but we believe it is conservative and should cover any costs associated with the installation of the wells. Any savings that are realized will be passed on to the County. This cost also includes the surveyed locations of the monitoring wells as well as a report to the NC Solid Waste Section on the actual construction of the wells. Our cost estimate for the installation, reports and development of the four (4) new monitoring wells is \$16,500.00.

Once the new monitoring wells have been installed and developed, the next semi-annual sampling should include all of the wells (new and existing) as well as the surface water sampling. This sampling will consist of eight (8) monitoring wells and two (2) surface water samples along with field travel and equipment blank samples. The laboratory analysis will be to run EPA test methods 6010, 7841 and 8260 on each sample. The cost to provide the sampling, laboratory analysis and associated report for this event will be \$2,500.00.

In the subsequent semi-annual sampling event, existing monitoring wells 1 and 3 will not be sampled. This will require the sampling of six (6) monitoring wells and two (2) surface water samples. We will provide the sampling, laboratory analysis and associated reports for this event for the cost of \$2,200.00.

We can start on the installation of the monitoring wells as soon as we are given a notice to proceed. Before the installation, we will contact the NC Solid Waste Section to assure that we are in agreement on the placement of the new wells.

Mr. Don Adams
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We would like to thank you for the opportunity of submitting this proposal and we look forward to working with you and Alleghany County on this project. If you have any questions or need additional information, please do not hesitate to contact Jimmy Woodie or me at 1-800-278-6132.

Sincerely yours,
MUNICIPAL ENGINEERING SERVICES CO., PA



D. Wayne Sullivan
Project Manager

Copy: Ms. Cheryl Marks
Mr. Larry Rose

RECORD OF COMMUNICATION

- Phone Call Discussion Field Trip Conference
 Other (Specify)

(Record of item checked above)

To:

From:

Date

4-9-03

Time

9:00

Subject

Allegheny Co. LF - Don Adams - Co. Manager

Summary of Communication

- Have reviewed MESCO's proposal for moving wells
- Concerned that it could be a waste of money.
- Would not solve the problem.
- Are looking @ the situation from a risk approach.
- Sent letters to all surrounding residents using wells and offered free well testing.
- Only 5 responded - Wells were sampled.
- Had a risk analysis done by Lu Anne - monitoring well data.
- May ~~extend~~ extend a water line up the LF road.
- Have spent \$26,000 to run line from town to LF
- Monitoring well data from Jan. sampling event is much better.

L.

Conclusions, Action Taken or Required

INFORMATION COPIES

TO: