

Barbee, Zinith

From: Ryan Sadler [ryan@ctclayton.com]
Sent: Tuesday, July 28, 2009 9:15 AM
To: 'Zinith Barbee'
Cc: mark.poindexter@ncmail.net; 'Jerry Blanchard'; ct@ctclayton.com; tyrus@ctclayton.com
Subject: Dunn-Erwin Landfill CAP
Attachments: LTR 09 0726 Barbee CAP Status Update PN 3002B.pdf

Zinith,
Please find the attached response letter to your correspondence dated July 9, 2009.
Regards,

Ryan Sadler
Project Manager

C. T. Clayton, Sr., PE, Inc.

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Coats, North Carolina 27521

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Fac/Perm Co ID #	Date	Doc ID#
43-02	9/17/09	8625 DIN



July 26, 2009

PN: 3002B

Zinith Barbee
Project Manager
NC Department of Environment and Natural Resources
Division of Waste Management – Solid Waste Section
1646 Mail Service Center
Raleigh, NC 27699-1646

**RE: Follow-up to Letter Dated July 9, 2009 from Mr. Zinith Barbee
Dunn-Erwin Landfill Facility
SWS Permit No. 43-02
Harnett County, NC**

Mr. Barbee,

As a follow-up to your letter dated July 9, 2009, CTC would like to present the following:

The first item referenced on the above mentioned letter is that the County needs to properly characterize the groundwater contamination at the Dunn Erwin C&D Landfill (DELFI). CTC has taken a look at NCGS exceedences for the past three years, April 06 thru Oct 08. At the time of submission of our ACM report in August of 2007 (which was based on the October 2006 statistical analysis and August 2003 detailed plume investigation report) neither 1,4-dichlorobenzene, lead, thallium, vanadium, or mercury had been detected above NCGS exceedences. Also at time of submission, Benzene was only found in one monitoring well and was not statistically significant. Since October of 2006, Benzene and 1,4-dichlorobenzene have repeatedly been above NCGS levels. However, 1,1-dichloroethane hits have disappeared since October 2007 with a corresponding increase in vinyl chloride. This suggests that a natural breakdown of 1,1-dichloroethane has occurred leading to an increase in concentration of the daughter compound of vinyl chloride. As far as the recent hits on lead, vanadium, and mercury (post ACM submission) are concerned, CTC is not positive that these are statistically significant at this time and are currently consulting with other groundwater experts.

The second item referenced is containment of the groundwater contamination. CTC is currently working on addressing your comments made during our June 3, 2009 meeting and subsequent letter dated June 11, 2009. The CAP report and drawings are being updated and meanwhile the following items have been completed/are underway:

- CTC has contacted a consultant regarding getting the wetlands downgradient of the plume delineated and signed off by the ACOE so that we can have a better discussion of what impacts are there.

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- CTC has begun the pilot study process for the possible enhanced bioremediation (EB) injections. CTC has contacted Microbial Insights to perform microbial, groundwater, and soil analysis to help pre-screen this technology. The Dunn Erwin Landfill site has an acidic aquifer which may not be conducive to microbial enhanced bioremediation. Soil and water samples have been sent to Microbial Insights for pH testing of the soil and groundwater. Additional soil samples were sent to perform oil retention testing. These tests will be used by the EB substrate supplier to calculate the amount of substrate that will be required and the amount of pH buffer material that will also be required in conjunction.
- Also underway are additional Microbial Insights tests called "bio-traps". These tubes are suspended in the groundwater monitoring wells for an extended sampling period and are then analyzed for the growth of the necessary microbes required for bioremediation. These "bio-traps" were baited with a known concentration of Benzene, which will allow the laboratory to conclusively demonstrate whether biodegradation of the contaminant has occurred over the sampling period

The third item addressed in your letter is the request of an itemized cost of the corrective action for the financial assurance mechanism. As you noted in your July 9, 2009 letter, the estimated costs in the ACM and CAP were quite different. For the ACM, a brief look was taken at all of the proposed potential technologies. Detailed cost analysis was not performed and was not possible without getting into the potential site specific design of each technology presented. Instead, cost estimations were performed by comparing published costs for existing projects similar in size. When CTC provided costs in the CAP, a more detailed approach was taken. CTC contacted EB substrate suppliers and nurseries for cost information given our general design. With that said, EB costs are still uncertain. Until CTC receives the test results from Microbial Insights, the EB substrate supplier cannot provide an accurate estimation of the amount of substrate required, pH buffer material required, or provide an accurate recommendation of injection well spacing. Also, if the pH tests are unfavorable, or the microbe sampling is not promising, the entire EB approach will be rejected and another remediation technology will be chosen.

According to the Microbial Insights website, normal sample turnaround is 20-30 days on the bio-traps. They were installed on July 10, 2009. CTC, its groundwater consultant, and the EB supplier will need time to review the results and make appropriate decisions on the EB injection system design. Consequentially, the current schedule is:

- Remove Bio-Trap samplers week of August 10, 2009 and send to Microbial Insights for evaluation
- Microbial Insights performs sample analysis (up to 30 days) ~ completion September 10, 2009.
- CTC and groundwater consultant review the Microbial Insights findings, make determination, and inform the SWS ~ September 30, 2009.

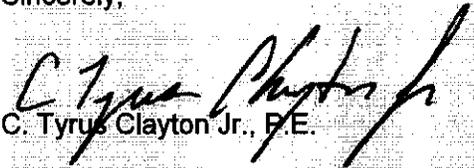
In conclusion, CTC and the County are diligently revising the DELF Correction Action Plan and addressing your comments. Hopefully, the response and above timeline will demonstrate that both CTC and the County has put forth much effort in attempting to stay in compliance.



The revised DELF Corrective Action Plan will be submitted as soon as the bio-trap sample results are received and the design of the EB injection system can be finalized.

Please feel free to contact me to discuss this issue further.

Sincerely,



C. Tyrus Clayton Jr., P.E.

/attachment

cc: Ryan Sadler, CTC
C. T. Clayton, Sr., PE, CTC
Mark Poindexter, Field Operations Manager, SWS
Jerry Blanchard, General Services Manager, Harnett County
CJ Poran, PE, ENSOL



North Carolina Department of Environment and Natural Resources

Division of Waste Management

Dexter R. Matthews
Director

Beverly Eaves Perdue
Governor

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Secretary

July 9, 2009

Jerry Blanchard
General Services Manager
Harnett County General Services
P. O. Box 940
Lillington, North Carolina 27546-0940

Subject: Corrective Action Plan
Harnett County Dunn-Erwin Landfill
Construction and Demolition Landfill,
Permit 43-02
Doc ID 7939

Dear Mr. Blanchard:

The Solid Waste Section (SWS) has not received the revised Corrective Action Plan (CAP) it requested when meeting C.T. Clayton, Sr., P.E., Inc. (CTC) on June 3, 2009. The CAP is required pursuant to 15A NCAC 13B .0547(4)(c), effective July 1, 2008. In the meeting, Mark Poindexter and I discussed foremost issues for CTC to address: (1) properly characterized groundwater contamination; (2) containment of the groundwater contamination; and (3) cost of groundwater contamination remedies. More issues had been listed in SWS correspondence, dated June 11, 2009 (Doc ID 6841). Because of past delays, the SWS communicated to CTC the urgency in submitting a revised CAP as soon as possible.

In the meeting, the SWS also requested a list of itemized costs for the amount shown in the financial assurance mechanism for corrective action. The amount is more than double the costs presented in the Assessment of Corrective Action report (Doc ID 6472). Show all the activity covered by financial assurance. Show that financial assurance is sufficient for what increased the original costs. Also, in Regulation 15A NCAC 13B .1628 (d)(1)(A) is the specification that the cost estimate be adjusted for inflation. Include the itemized costs in the revised CAP. Also submit a list of the itemized costs to Ms. Shawn McKee. She can be contacted at 919-508-8512 and at shawn.mckee@ncdenr.gov.

If you have question, I can be contacted at 919-508-8401 or at zinith.barbee@ncdenr.gov

Sincerely,

Zinith Barbee
Project Manager
Solid Waste Section

cc: Mark Poindexter Field Operations Supervisor
Ed Mussler Solid Waste Section
Shawn McKee SWS
C. Tyrus Clayton, Jr. C. T. Clayton, Sr., P.E., Inc.
Central File