



ENGINEERING, INC.

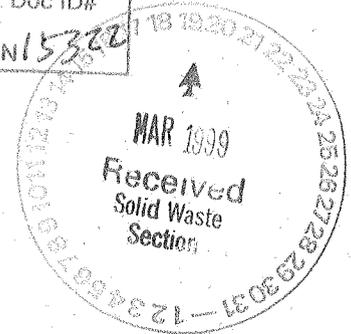
CONSULTANTS SERVING THE ENVIRONMENTAL INDUSTRY

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March 18, 1999

Ms. Cheryl Marks
NCDENR/Solid Waste Section
P.O. Box 27687
Raleigh, North Carolina 27611-7687

Fac/Perm/Co ID #	Date	Doc ID#
97-03	10/06/2011	DIN15322



RE: Proposed Groundwater Monitoring System Revisions
ABTco Ash Monofill, Permit Number 97-03
Wilkes County, North Carolina
JEI Project No. 364.00, Task 03

Dear Cheryl,

Thank you for taking the time to meet with Erich Burke and myself at the ABTco facility on March 2. As requested in your December 9, 1998 letter to Mr. Burke, and as discussed during our meeting, Joyce Engineering, Inc. (JEI) is submitting this proposed plan for an upgrade of the detection monitoring system at the above referenced facility.

Attached is a map of the facility showing the two proposed well locations agreed upon during the March 2 meeting. Proposed well FA-3 is designed to serve as a downgradient detection monitoring well situated to monitor any potential release from the western portion of the landfill. Proposed well FA-4 is designed to serve as the facility background well, and will replace existing well FA-1. Well FA-1 is to be dropped from the routine detection monitoring system, but will be maintained for possible future use.

Construction specifications for the two proposed wells are shown in the attached Monitoring Well Construction Diagrams. Both wells will be installed with fifteen foot screened intervals placed to intercept the water table, and to insure adequate sample volume during dry periods.

ABTco is currently considering the option of installing dedicated bladder pumps in well FA-4, and perhaps FA-2 and FA-3. The equipment being considered (Well Wizard) is designed to be installed in wells constructed with two-inch casing and standard slotted screens, without need for modification.

During drilling, blow counts and split-spoon samples will be obtained at five-foot intervals. Approximately six selected samples will be forwarded to a laboratory for particle size analysis, bulk density determination, and volume percent water

determinations. This information will be gathered to estimate hydraulic parameters of the surficial aquifer, to be used for flow and transport modelling, if needed.

Approximately one week after well installation and development, all four wells at the facility will be field tested to estimate hydraulic conductivities. At that time a baseline sampling event will be completed for the two newly installed wells and for well FA-2.

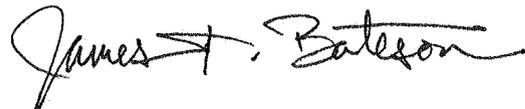
Field measurements will include pH, temperature, turbidity, and specific conductivity. Groundwater samples from each of these wells will be analyzed for RCRA metals, the Appendix I list of volatile organic compounds using EPA method 8260, and for naphthalenes and phenols using EPA method 8270. JEI proposes that the baseline sampling event serve as the first 1999 semiannual event for the facility.

Newly installed wells will be surveyed by a registered N.C. surveyor for vertical and horizontal control.

Upon receiving approval from the Solid Waste Section, well installation will be scheduled for late April or early May. After laboratory results become available, JEI will submit a report on behalf of ABTco containing details of drilling procedures, laboratory soils test results, well completion specifications, survey coordinates, a revised potentiometric map for the site, and the laboratory analytical report for baseline groundwater samples.

Please contact me, or Mr. Erich Burke of ABTco (800-334-3551), if this proposal meets the approval of the Solid Waste Section. If you have any questions about the plan, please call me at (336) 230-1992. Thank you for your assistance in resolving this matter.

Sincerely,
JOYCE ENGINEERING, INC.



James T. Bateson, P.G.
Senior Project Geologist

Enclosures

C: Mr. Erich Burke, P.E., ABTco
Mr. Daniel Moore, P.G., JEI

MONITORING WELL CONSTRUCTION DIAGRAM



Project: ABTco Ash Monofill

Monitoring Well Number: FA-3

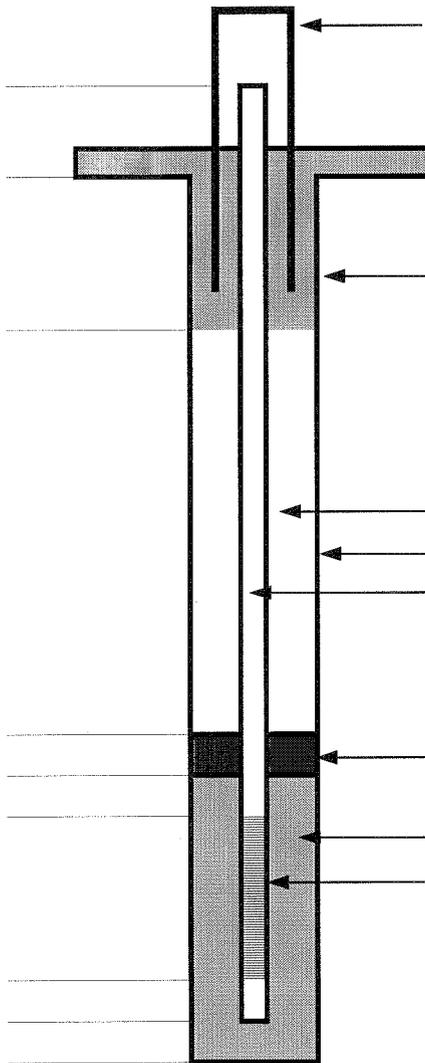
Distance (ft) from:

Ground Surface

-2.5
0.00
1.00

11.00
13.00
15.00

25.00
25.00



O.D. of Outer Protective Casing 4.0 inches

Type of Surface Seal Concrete

Type of Backfill Grout
Diameter of Borehole 8.25-inches
I.D. of Riser Pipe 2.0-inches
Riser Pipe Material Sch. 40 PVC

Type of Seal Bentonite

Size of Filter Sand #1 DSI
I.D. of Screen 2.0-inches
Screen Opening 0.010-inches
Screen Material Sch. 40 PVC
Slot Type Slotted

Diagram Not to Scale

NOTES: Preconstruction Plan

Total depth of well may be between 20 and 30 feet below ground surface.

Screen length to equal 15 feet

MONITORING WELL CONSTRUCTION DIAGRAM



Project: ABTco Ash Monofill

Monitoring Well Number: FA-4

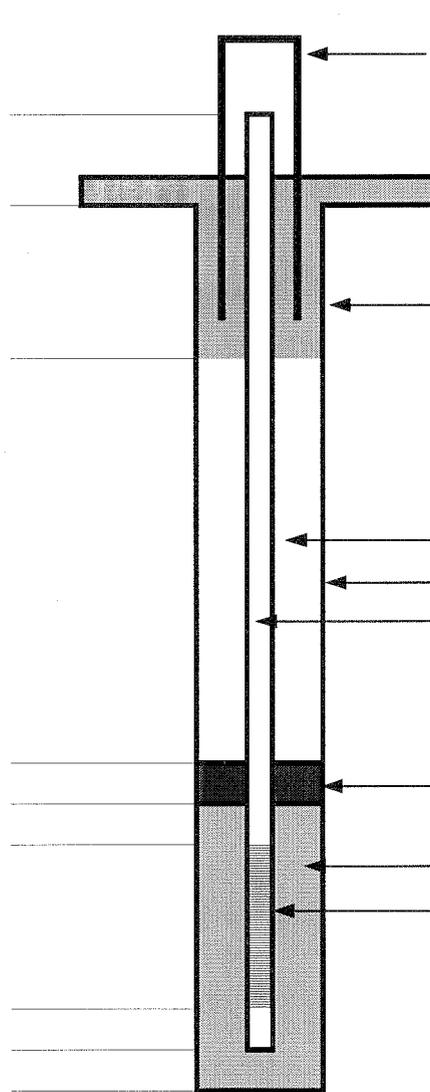
Distance (ft) from: _____

Ground Surface

-2.5
0.00
1.00

51.00
53.00
55.00

70.00
70.00



O.D. of Outer Protective Casing 4.0 inches

Type of Surface Seal Concrete

Type of Backfill Grout
Diameter of Borehole 8.25-inches
I.D. of Riser Pipe 2.0-inches
Riser Pipe Material Sch. 40 PVC

Type of Seal Bentonite

Size of Filter Sand #1 DSI
I.D. of Screen 2.0-inches
Screen Opening 0.010-inches
Screen Material Sch. 40 PVC
Slot Type Slotted

Diagram Not to Scale

NOTES: Preconstruction Plan

Total depth of well may be between 60 and 80 feet below ground surface.

Screen length to equal 15 feet