

ERM NC, PC

8000 Corporate Center Drive
Suite 200
Charlotte, NC 28226
(704) 541-8345
(704) 541-8416 (fax)

July 17, 2009

North Carolina Department of Environment and Natural Resources
Division of Waste Management
1646 Mail Service Center
Raleigh, North Carolina 27699-1646
Attention: Ms. Jaclynne Drummond



Via E-Mail and US Mail

Subject: Preliminary Site Assessment Work Plan
R.J. Reynolds Ash Landfill - Permit #34-05
Edwards Road
Rural Hall, Forsyth County, North Carolina

Dear Ms. Drummond:

On behalf of R.J. Reynolds Tobacco Company, ERM NC, PC (ERM) is submitting a Preliminary Site Assessment Work Plan outlining proposed site assessment activities associated with Industrial Landfill Permit Number 34-05 in Rural Hall, North Carolina. Please contact Steve Curl of R.J. Reynolds Tobacco Company at 336-741-5146 or myself if you have any questions or comments.

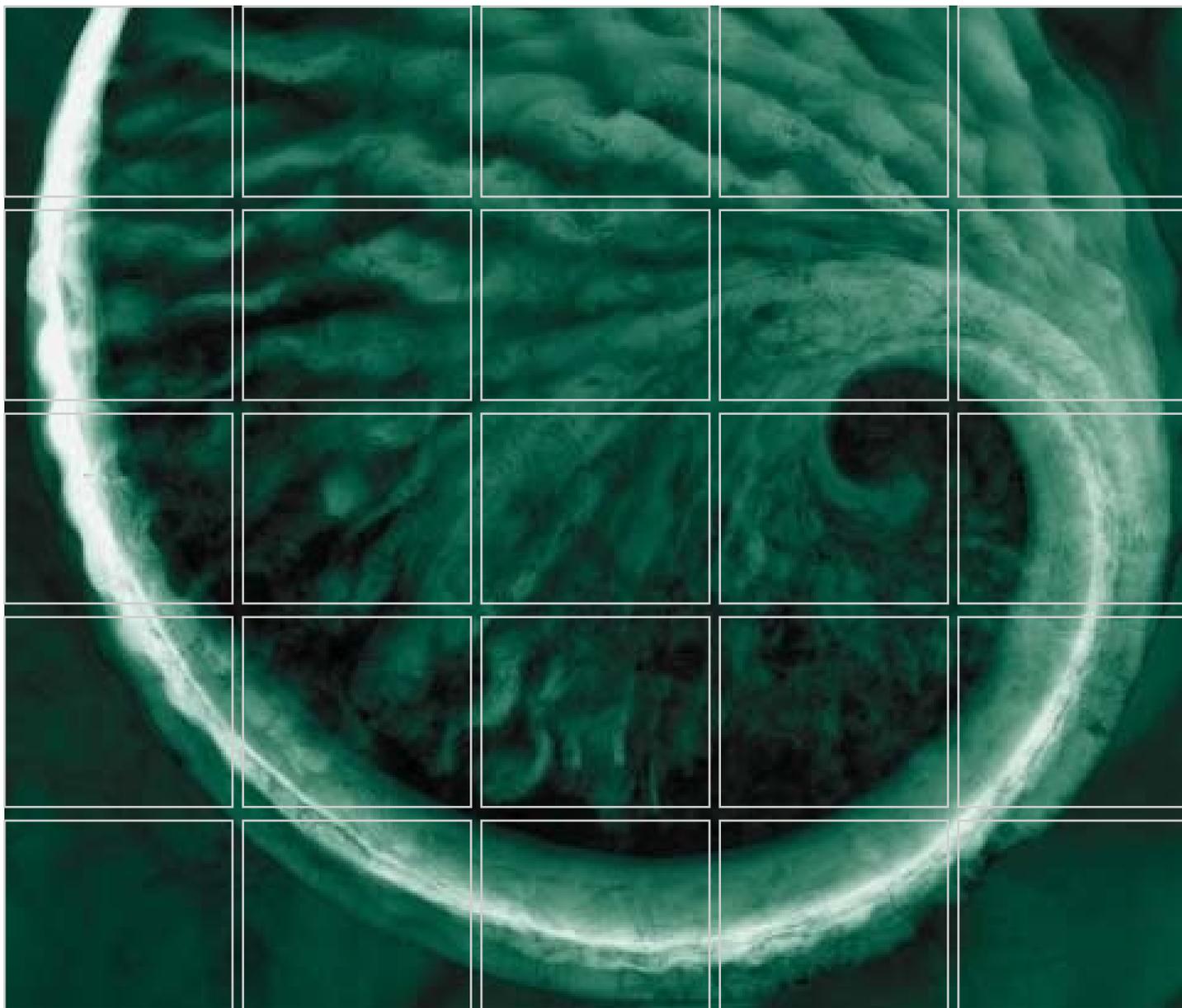
Sincerely,

A handwritten signature in black ink that reads "Alan D. Martin". The signature is written in a cursive style with a large initial "A".

Alan Martin, P.G.
Project Manager

Attachment: Preliminary Site Assessment Work Plan

cc: Mr. John Patrone - NCDENR DWM Winston-Salem Regional Office (e-mail)
Mr. Jason Watkins - NCDENR DWM Winston-Salem Regional Office (e-mail)
Mr. and Mrs. Grady Hawks
Mr. Steve Curl, P.E. - R.J. Reynolds Tobacco Company



R.J. Reynolds Tobacco Company

Preliminary Site Assessment Work Plan

Rural Hall Ash Landfill

Permit No. 34-05

Rural Hall, Forsyth County,
North Carolina

July 2009

R.J. Reynolds Tobacco Company

Preliminary Site Assessment Work Plan

Rural Hall Ash Landfill

Permit No. 34-05

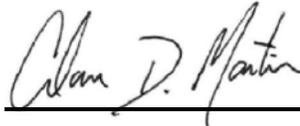
Rural Hall, Forsyth County,
North Carolina

July 17, 2009

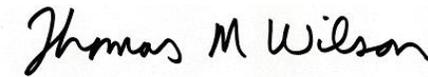
Project No. 0103137



Dave Wasiela, P.E.
Senior Engineer



Alan Martin, P.G.
Project Manager



Thomas M. Wilson, P.G.
Principal-in-Charge

ERM NC, PC
8000 Corporate Center Drive
Suite 200
Charlotte, North Carolina 28226
(704) 541-8345
(702) 541-8416 (fax)



TABLE OF CONTENTS

1.0	INTRODUCTION	1
1.1	OBJECTIVES	1
1.2	ASSESSMENT STRATEGY	1
1.2.1	<i>Summary of Phase I Activities</i>	1
1.2.2	<i>Summary of Phase II Activities</i>	2
1.3	DELIVERABLES	2
2.0	BACKGROUND	4
2.1	PHYSICAL SETTING	4
2.1.1	<i>Regional Geology</i>	5
2.1.2	<i>Local Geology</i>	5
2.1.3	<i>Regional Hydrogeology</i>	6
2.1.4	<i>Local Hydrogeology</i>	6
2.2	HISTORICAL GROUND WATER AND SURFACE WATER QUALITY	7
3.0	SCOPE OF SITE ASSESSMENT WORK PLAN	9
3.1	SUMMARY OF PHASE I SITE ASSESSMENT ACTIVITIES	9
3.1.1	<i>Detailed Geologic Site Reconnaissance and Mapping</i>	9
3.1.2	<i>Ground Water User Survey and Sampling Program</i>	9
3.1.3	<i>Additional Surface Water Sampling</i>	10
3.1.4	<i>Landfill Cover Sampling and Leachate Modeling</i>	12
3.1.5	<i>Preliminary Site Assessment Report</i>	13
3.2	SUMMARY OF PHASE II ASSESSMENT ACTIVITIES	13
4.0	ANTICIPATED SCHEDULE	14
5.0	REFERENCES	15

LIST OF FIGURES

- 1 *Site Location Plan*
- 2 *Site Plan Map*
- 3 *Proposed Water Well Survey & Sampling Plan*
- 4 *Surface Water Monitoring Plan*
- 5 *Undisturbed Sampling Location Plan*

LIST OF TABLES

- 1 *Monitor Well Construction Details and Ground Water Measurements*
- 2A *Summary of Previous Ground Water Sampling Results*
- 2B *Summary of Previous Surface Water Sampling Results*

1.0 INTRODUCTION

R.J. Reynolds Tobacco Company (RJRT) retained ERM NC, PC (ERM) to develop a Work Plan in response to the Compliance Order issued to RJRT on April 17, 2009 by North Carolina Department of Environment and Natural Resources, Division of Waste Management (NCDENR DWM). For the purpose of this site assessment Work Plan, Industrial Landfill Permit Number 34-D is referred to as the “Hawks Landfill” and Permit Number 34-05 is referred to as the “Edwards Road Landfill”. These landfills are located on adjacent parcels northeast of the jurisdictional boundaries of Rural Hall, North Carolina located within Forsyth County. The locations of the landfills are shown on Figure 1.

Iron, manganese, selenium, sulfates and other inorganic compounds have been detected in ground water and surface water samples collected from the Edwards Road landfill in concentrations above the applicable North Carolina Ground Water Standards (15A NCAC 2L .0200). The purpose of the site assessment is to evaluate the nature and extent of these constituents.

1.1 OBJECTIVES

The objective of the following scope of work is to evaluate the extent of ground water and surface water impacts. This objective will be executed by performing the following tasks:

- Evaluate regional and site-specific hydrogeologic characteristics;
- Evaluate background conditions for surface water and ground water;
- Evaluate the extent of ground water and surface water affected by the inorganic compounds;
- Evaluate water supply wells within 1,500 feet of the Edwards Road Landfill.
- Evaluate composition and integrity of the Edwards Road Landfill closure cap.

1.2 ASSESSMENT STRATEGY

The site assessment will be conducted in a phased approach to direct further investigative efforts as additional data is gathered and studied. The phases are summarized in the following sections. Additional tasks deemed necessary will be addressed at a later date via a Work Plan Addendum, if necessary.

1.2.1 Summary of Phase I Activities

The technical approach for the initial phase of site assessment includes:

- Hydrogeologic research and site reconnaissance on a regional and site-specific basis, including a down-hole camera inspection of the existing water supply well on-site identified as PW-1;
- Upgradient and downgradient surface water sampling program;
- Surrounding ground water user survey and sampling program;
- Sampling and geotechnical laboratory testing of the Edwards Road landfill closure soils; and,
- Modeling of rainfall infiltration into and through the Edwards Road landfill along with leachate generation analysis based on existing site conditions and geotechnical laboratory testing results.

Representatives of RJRT and ERM will meet with NCDENR upon completion of the first phase of activities. The results of these activities will be reviewed with NCDENR and additional assessment activities, as appropriate, will be discussed. If necessary, an evaluation and selection of potential interim remedial measures will be conducted following receipt and review of the results from the Phase I site assessment activities.

1.2.2 Summary of Phase II Activities

The second phase of work will include provisions for the following potential tasks, as necessary:

- Supplemental assessment activities, if necessary, based on results of the Phase I activities; and
- Preparation of a Comprehensive Site Assessment Report including the development of a conceptual site model based on the assessment data, potential exposure pathways analysis, risk assessment and, if necessary, the evaluation and selection of potential interim remedial measures.

The results of the Phase I and II activities will be used to develop a Corrective Action Plan as part of the next project phase.

1.3 DELIVERABLES

The results of the identified activities of this Work Plan will be transmitted to NCDENR in accordance with the following deliverables.

PHASE I DELIVERABLES

A brief data report summarizing the results of the first phase of activities, including recommendations for further activity, if necessary, will be prepared.

PHASE II DELIVERABLES

A Comprehensive Site Assessment report (CSA) will be prepared upon completion of Phase II of the investigation. The CSA will include a summary of the results of the subsurface geologic and hydrogeologic investigations, a summary of the identification and evaluation of potential exposure pathways and the associated risks, a summary of the surface water sampling and, if necessary, an evaluation and selection of potential interim remedial measures. An updated conceptual site model will be presented in the CSA report.

2.0 BACKGROUND

Both the Edwards Road and Hawks Landfills were permitted by NCDENR DWM as industrial waste landfills for disposal of coal ash and construction and demolition debris generated at off-site RJRT manufacturing facilities. The landfills were not permitted to accept waste materials from other sources.

The Edwards Road landfill encompasses approximately 17.5 acres of disposal area within a 145-acre tract of land. This landfill was operated by RJRT from 1986 to 2002 under DWM Permit # 34-05 issued to RJRT. The landfill ceased receiving waste in December 2002 and placement of final cover soils over the disposal limits was completed in 2004. The property containing the Edwards Road landfill was sold to Grady and Mary Hawks in 2007 upon RJRT being approached by the Hawks' realtor. Monitoring of the ground water during operations and post closure has detected certain inorganic compounds in excess of the 2L ground water standards.

The Hawks landfill comprises approximately 5.8 acres of disposal area within a 32-acre tract of land owned by Grady and Mary Hawks. This landfill operated from 1980 to 1986 under DWM permit # 34-D issued to RJRT. This landfill was operated by RJRT in accordance with a land use lease agreement with the property owners, Grady and Mary Hawks. The landfill was closed in 1986 with termination of the lease agreement and notification to DWM in accordance with the permit. Monitoring of the ground water or surface water was not a condition of the permit or post-closure requirements.

2.1 PHYSICAL SETTING

The landfills are located in the northern portion of Forsyth County, North Carolina less than one mile northeast of jurisdictional limits of Rural Hall. The physical setting and locations of the landfills are shown on Figures 1 and 2.

The area surrounding the sites is comprised of sparsely to moderately populated land used for livestock grazing and partially wooded land with a few single-family residences. The landfills are located in the northern portion of the Piedmont Physiographic Province. The Piedmont Province generally consists of hills and ridges which are intertwined with an established system of draws and streams. The Piedmont Province is predominately underlain by igneous rock and metamorphic rocks which were initially formed during the late Proterozoic and to middle Paleozoic eras.

In this northern area of the Piedmont, topographic relief is well pronounced with elevations varying greatly over short distances. In the vicinity of the landfill sites, elevations range from a high of 1,000 feet above mean sea level located west of the sites to a low of 700 feet above mean sea level located north of the sites along Town Fork Creek northeast of the sites. Topographic relief generally slopes sharply to well

defined drainage basins with presence of creeks or streams flowing from the southwest to the northeast.

2.1.1 Regional Geology

The sites are located within the Inner Piedmont geologic belt of North Carolina and specifically within the Sauratown Mountain Anticlinorium which is comprised of metamorphic rocks including biotite gneiss and kyanite schist according to the Geologic Map of North Carolina (1985) and Goldsmith, et. al. (1988).

The native, undisturbed soils encountered in this area are the residual product of in-place chemical weathering of rock. In areas not altered by erosion or disturbed by the activities of man, the typical residual soil profile consists of clayey soils near the surface, where soil weathering is more advanced, underlain by sandy silts and silty sands. The boundary between soil and rock is not sharply defined. This transitional zone termed "partially weathered rock" is normally found overlying the parent bedrock. Partially weathered rock (PWR) is defined, for engineering purposes, as residual material with Standard Penetration Resistances in excess of 100 blows per foot. Weathering is facilitated by fractures, joints and by the presence of less resistant rock types. Consequently, the profile of the partially weathered rock and hard rock is irregular and erratic, even over short horizontal distances. Also, it is common to find lenses and boulders of hard rock and zones of partially weathered rock within the soil mantle, well above the general bedrock level.

2.1.2 Local Geology

Soil test borings and ground water monitoring wells have been installed at the Edwards Road landfill site beginning in 1987 through 2004 by others. The locations of these soil test borings and monitoring wells are shown on Figure 2. Based on a review of the previous information, a general subsurface pattern can be implied for the site. Borings and monitoring wells executed at the topographically higher portions of the site generally reveal a residual soil layer varying from 23 feet to 48 feet below ground surface. A transition to partially weathered rock is typically encountered within the lower 10 feet of this stratum prior to encountering bedrock. The residual soils are primarily comprised of fine sandy silty clays near the surface transitioning to fine sandy silts with depth. In the topographically lower areas of the site, bedrock is encountered within 12 feet below ground surface with similar residual soils in place above. No soil test borings have been conducted or monitoring wells established in the vicinity of the Hawks landfill and none have been required.

Based on the available information, the top of bedrock beneath the Edwards Road landfill generally follows the surficial topography sloping in the same direction as natural relief but at a lesser degree of slope (not as steep). The bedrock has been described as "mica schist", "chlorite schist" and "sulfidic biotite-muscovite gneiss interlayered with mica schist and minor amphibolite". Cores advanced into bedrock during soil test boring and monitoring well installation describe the presence of

fractures at varying depths. Based on previous studies, the top of bedrock generally strikes between 10 and 45 degrees east of north with dip angles ranging from 28 to 43 degrees toward the east-southeast.

2.1.3 Regional Hydrogeology

The occurrence and movement of ground water in the Piedmont province is within two separate, but interconnected, water bearing zones. A shallow water-bearing zone typically occurs within the saprolite zone, and a deeper zone occurs within the underlying bedrock. Ground water in the shallow saprolite zone occurs in the interstitial pore space of the saprolite. The depth to groundwater in the saprolitic zone can range from 20 to 45 feet along ridges and upland areas. In low lying stream valleys, the ground water level will approach the local surface water elevations in stream channels. Ground water flow in this zone is typically governed by water table conditions. This means that ground water will flow under unconfined conditions and generally mimic topography. Therefore, ground water movement will be from upland areas (recharge zones) to nearby surface streams (discharge zones).

The occurrence and movement of ground water in the deeper water-bearing zone within crystalline bedrock is controlled by secondary joints, fractures, and faults within the bedrock. Ground water within the bedrock zone may be under confined or unconfined conditions. The occurrence and movement of ground water is difficult to predict on a small scale due to the erratic nature of the secondary openings that control ground water flow in bedrock. Small surface water features generally do not provide an indication of the direction of ground water movement in bedrock. However, on a regional scale, the direction of ground water movement will generally be from upland areas to major surface streams downgradient.

2.1.4 Local Hydrogeology

Based on topography, it appears that overland run-off from the sites would ultimately drain to the northeast toward Town Fork Creek. Therefore, it is likely that ground water flows generally to the northeast. Surface water from the Edwards Road landfill area primarily flows east into Leak Creek though a portion of the surface water may flow to the northwest toward an unnamed tributary to Town Fork Creek. Locally, surface water from the Hawks landfill flows to the north into Leak Creek, a tributary to Town Fork Creek.

In 1987 Law Engineering conducted soil test borings at the Edwards Road Landfill but did not encounter ground water. These soil test borings were advanced to "auger refusal" or assumed top of bedrock. Available monitoring well installation records indicate the presence of ground water within the upper few feet of the bedrock layer at the topographically low areas. Records of monitoring wells installed in the topographically higher areas indicate encountering first ground water within fractures located at varying depths below top of bedrock elevations. Monitoring well construction details and depth-to-water measurements for available monitor wells

from the April 2009 ground water and surface water sampling event are presented in Table 1.

In general terms, the surficial aquifer in the area of the Edwards Road landfill appears to be recharged by rainfall infiltration through the residual soils into fractures located within bedrock in the topographically higher regions. With the absence of ground water in the residual soils, it may be assumed that the residual soils are well drained and fractures are abundant enough to prevent significant storage of water above the bedrock. Based on previous site reconnaissance reported by others, the fractures dip in similar direction with topographic relief towards surface discharge creeks and streams at a somewhat constant rate from topographic highs to topographic lows. In some cases this may lend to an artesian effect created by the fracture dip angles as seen at monitoring well W-3B located near Leak Creek.

Depth-to-ground water measurements from monitor wells on the Edwards Road landfill have been recorded during routine sampling since 1989 but elevations for the monitor well top-of-casings have not been surveyed and ground water elevation data are not available.

2.2 HISTORICAL GROUND WATER AND SURFACE WATER QUALITY

Ground water and surface water quality monitoring has been conducted in the vicinity of the Edwards Road Landfill since 1989 in accordance with the conditions of landfill Permit Number 34-05. Ground water and surface water quality monitoring were not required as a permit condition for operation of the Hawks Landfill, Permit Number 34-D.

Ground water quality in the vicinity of the Edwards Road Landfill is currently evaluated via five monitoring wells identified as W-1, W-2, W-3 W-3B and W-6. Four of the monitor wells are located between the eastern limits of the landfill and the eastern property boundary generally defined in this area by Leak Creek. The fifth monitoring well is located west of the limits of the landfill and is utilized to evaluate “background” ground water quality upgradient of the landfill. Figure 2 depicts the locations of the monitor wells and Table 1 presents a summary of available well construction details.

Surface water quality is monitored east of the Edwards Road Landfill at two locations along Leak Creek. These locations, identified as SS-01 and SS-02 are presented on Figure 2. Water quality samples are also collected from two water retention ponds east of the Edwards Road Landfill located in close proximity to ground water monitoring wells W-1 and W-3B.

Ground water and surface water samples from the Edwards Road Landfill site have been analyzed for inorganic compounds including 13 metals, nitrates, sulfates, total dissolved solids, total organic carbon as well as pH, specific conductivity and

temperature. These analytical parameters were established as part of the landfill operation permit. Historical laboratory analytical results for available ground water and surface water samples are summarized on Tables 2A and 2B.

Iron, manganese, selenium, sulfates and other inorganic compounds have been detected in ground water and surface water samples collected from the Edwards Road Landfill in concentrations above the applicable North Carolina Ground Water Standards. Of these, iron, manganese, selenium, sulfates and total dissolved solids have been detected in water samples above the applicable North Carolina Ground Water Standards and, intermittently, exceedances of barium, cadmium, chromium and lead have been observed. No other analytes have been detected in concentrations above the applicable North Carolina Ground Water Standards. The site assessment activities associated with the Edwards Road Landfill will focus on the following constituents.

INORGANICS		FIELD PARAMETERS
Iron	Barium	pH
Manganese	Cadmium	Specific Conductivity
Selenium	Chromium	Temperature
Sulfates	Lead	Oxidation-Reduction Potential
Total Dissolved Solids		

3.0 SCOPE OF SITE ASSESSMENT WORK PLAN

The following scope of work is based on the site assessment strategy as discussed in Section 1.2. Completion of the identified scope of work will contribute to the development, evaluation, selection and implementation of corrective action remedies, as necessary. Activities conducted under this Work Plan will be conducted in general accordance with the procedures outlined in the NCDENR *Solid Waste Section Guidelines for Groundwater, Soil, and Surface Water Sampling* (April 2008).

3.1 SUMMARY OF PHASE I SITE ASSESSMENT ACTIVITIES

The activities will include the items listed in Section 1.2 "Assessment Strategy" and described in the following Sections 3.1.1 through 3.1.5. Phase I activities consist of a number of tasks including detailed geologic mapping, sampling of surface water quality on the Site, survey and sampling of water supply wells in the vicinity, and evaluation of the Edwards Road Landfill soil cap. The Phase I site assessment activities will be performed following approval of the Work Plan by DWM.

3.1.1 Detailed Geologic Site Reconnaissance and Mapping

Field reconnaissance will be executed to identify rock outcroppings and surface water features including seeps or springs. The reconnaissance will catalog the findings of strike and dip angles and orientations for exposed bedrock. Evidence of seeps and springs will be located and mapped if discovered during the reconnaissance. This information shall be used to help develop an overall pattern of geologic features and subsequent ground water flow.

Well PW-1 is an existing water supply well located on the Edwards Road Landfill site previously used for equipment washing and clean-up. The location of this water supply well is depicted on Figures 2 and 4. Most recently the well has been used for washing and cleaning recreational vehicles by the current land owner. This well will be inspected via a downhole camera to evaluate the well construction details as well as information regarding site-specific geology and ground water flow regimes. Based on the results of the video camera inspection, ERM may recommend that the PW-1 well be integrated into the ground water quality monitoring program for the Site. ERM previously requested authorization to conduct the downhole inspection of this well in correspondence to NCDENR on May 29, 2009 and NCDENR granted permission for this inspection in correspondence to RJRT dated June 5, 2009.

3.1.2 Ground Water User Survey and Sampling Program

Ground water samples from monitor wells on the Edwards Road property have indicated the presence of iron, manganese, selenium and sulfates in concentrations above the applicable North Carolina Ground Water Standards (15A NCAC 2L). Barium, cadmium, chromium, and lead have also been intermittently detected in

ground water samples from the subject property in concentrations above the applicable NC Ground Water Standards.

On June 30, 2009, ERM submitted to NCDENR a proposed Water Supply Well Survey & Sampling plan relating to water wells in the vicinity of the Edwards Road Landfill. In summary, the plan proposed a search for water supply wells and collection of samples from each of the water supply wells within 1,500 feet from the limits of the landfill. The proposed search area is presented on Figure 3. ERM will collect owner information and attempt to collect construction details and uses of the identified water supply wells, as provided by the property owner.

The plan also proposed that samples would be collected from the water wells immediately adjacent to the Hawks Landfill (Permit #34-D) on Mr. and Mrs. Grady Hawks' property on the north side of Highway 65 and on the Freedom Baptist Church property. ERM will contact all property owners at these locations requesting permission to sample the water supply wells.

Samples from the water supply wells will be collected in general accordance with EPA Region 4's *Field Branches Quality System and Technical Procedures* and the *NCDENR Solid Waste Section Guidelines for Groundwater, Soil, and Surface Water Sampling* (April 2008). Samples will be analyzed by a North Carolina Division of Public Health-certified laboratory. The samples will be analyzed for the following parameters:

INORGANICS		FIELD PARAMETERS
Iron	Barium	pH
Manganese	Cadmium	Specific Conductivity
Selenium	Chromium	Temperature
Sulfates	Lead	Oxidation-Reduction Potential
Total Dissolved Solids		

Note: Approximately 20 percent of the samples may be split for filtered and unfiltered sampling. Filtered samples will be collected for locations exhibiting the highest turbidity levels.

A summary of the well survey and sampling results will be provided to the NCDENR DWM upon completion. Laboratory sample analytical results will be provided to each well owner.

On July 6, 2009, NCDENR granted permission for the Water Supply Well Survey and Sampling.

3.1.3 Additional Surface Water Sampling

Surface water samples from Leak Creek along the eastern boundary of the Edwards Road Landfill property (SS-01 & SS-02) have indicated the presence of iron, manganese, and sulfates in concentrations above the North Carolina Ground Water

Standards. Cadmium and lead were also detected from 1990 to 1992 in several surface water samples slightly above the applicable NC Ground Water Standards.

Additional surface water samples will be collected from various points on the Edwards Road Landfill property to further evaluate surface water quality in the drainage basin(s) potentially affected by the Edwards Road Landfill as well as the Hawks Landfill. The locations of the proposed and existing surface water sampling points are shown on Figure 4.

Six additional surface water monitoring stations will be established and sampled within the Leak Creek basin and associated tributaries upstream of the Edwards Road Landfill. These samples will also assist with characterization of surface water quality downgradient of the Hawks Landfill located south and upstream of the Edwards Road Landfill in the Leak Creek basin. Samples will also be collected from the current SS-01 and SS-02 monitoring points in Leak Creek for comparison to the additional surface water sample analytical results.

Four additional surface water monitoring stations will be established and sampled along the unnamed tributary to Town Fork Creek located northwest of the Edwards Road Landfill. Results from these sample locations will assist with determining if surface water quality in this basin is affected by stormwater runoff or ground water migration from the Edwards Road Landfill in this direction.

Based on the locations of the historic surface water sampling points, it is not evident that actual background surface water quality has been documented at the Edwards Road Landfill. The SS-02 surface water sampling point may be receiving a component of overland flow draining from southwestern extent of the Edwards Road Landfill. A portion of the proposed locations for additional surface water quality monitoring have been selected for the purpose of establishing background surface water quality for the assessment activities.

Samples will be collected in general accordance with EPA Region 4's *Field Branches Quality System and Technical Procedures* and the *NC DENR Solid Waste Section Guidelines for Groundwater, Soil, and Surface Water Sampling* (April 2008). Samples will be analyzed by a NC DENR Division of Water Quality-certified laboratory. The samples will be analyzed for the following parameters:

INORGANICS		FIELD PARAMETERS
Iron	Barium	pH
Manganese	Cadmium	Specific Conductivity
Selenium	Chromium	Temperature
Sulfates	Lead	Oxidation-Reduction Potential

Note: Approximately 20 percent of the samples may be split for filtered and unfiltered sampling. Filtered samples will be collected for locations exhibiting the highest turbidity levels.

3.1.4 Landfill Cover Sampling and Leachate Modeling

ERM will evaluate the composition and existing condition of the final soil cover cap of the Edwards Road Landfill (Permit #34-05). With the detected levels of constituents in ground water and surface water samples following closure of the landfill, the integrity of the closure components warrants investigation and/or verification. The results of the evaluation will be used to model average and peak leachate generation rates using the US EPA's Hydrologic Evaluation of Landfill Performance (HELP) model and regional precipitation data. The evaluation will consist of a detailed site reconnaissance, field sampling and observations, geotechnical laboratory testing and subsequent modeling.

DETAILED SITE RECONNAISSANCE

The investigation will include a detailed site reconnaissance to identify distressed areas including open gaps, cracking or crevices, existing quality of vegetative cover and evidence of cover soil subsidence. This activity will occur after mowing of the vegetation across the landfill cap for access and visual observation. The intent of a landfill cap is to promote surface runoff from rainfall events in a controlled manner and prevent infiltration of rainfall into the disposed waste mass generating leachate. The findings and subsequent recommendations, if any, will be included in the assessment report.

UNDISTURBED SAMPLING

The accessible surface of the landfill cap is approximately 10-acres. Based on a sampling frequency of 1 sample for every 40,000 square feet, 13 undisturbed samples of the closure components will be retrieved. The samples will be retrieved using 3-inch diameter Shelby tubes pushed on average to 24-inches below existing ground surface using a drill rig. The samples will be sealed with wax on each end to preserve natural moisture content and transported to a geotechnical laboratory for analysis. Each location will be backfilled with bentonite pellets and hydrated following sample retrieval. Proposed locations for extracting undisturbed samples are shown on the attached Figure 5 – Undisturbed Sampling Locations.

The side slopes of the landfill are not accessible for drill rig access and undisturbed sampling. Hand auger borings will be advanced through the cover soils to classify soil type and depth for comparison with the undisturbed samples along the top of the landfill.

LABORATORY TESTING

Soils contained in the undisturbed samples will be visually inspected and classified upon extraction yielding a closure soil cross section across the top of the landfill area. Testing specimens will be selected from each sample based on visual inspection to

represent an average of the closure component thickness (not including top soil). Each specimen will be tested for coefficient of permeability using a tri-axial cell apparatus and flexible wall permeameter for constant head state (ASTM D 5084). Results of the testing will be summarized and used for modeling purposes.

"HELP" MODEL ANALYSIS

The "HELP" model, made available by the United States Army Corp of Engineers (USACOE), is widely accepted as the standard for modeling leachate generation from landfills at varying states of operation and final closure. Results of the detailed site reconnaissance, most recent topographic information (NC Floodplain Mapping Program, 2008) and laboratory testing of closure soils will be used to input data into the "HELP" model to calculate current leachate generation rates. In order to establish a comparison base, a modeling of the landfill pre-closure will be performed reflecting waste disposal to final grades without the final closure soils.

RESULTS

Results of the previously discussed items will be used to assess the condition and performance of the final closure cap currently in place. Based on the results of leachate generation modeling, a recommendation of final closure repairs or enhancements may be warranted to reduce continued rainfall infiltration into the waste mass.

3.1.5 Preliminary Site Assessment Report

The Preliminary Site Assessment Report will be prepared upon completion of the Phase I assessment activities. The report will include a description of the assessment activities, results of the sample analyses, and an evaluation of site hydrogeologic data. The report will also include recommendations for supplemental assessment activities, including locations of additional monitoring wells, if warranted. The report will include laboratory data sheets, data tables summarizing results of the assessment and figures illustrating assessment activities and results of the sampling activities.

3.2 SUMMARY OF PHASE II ASSESSMENT ACTIVITIES

Based on the results of the Phase I site assessment, a Phase II work plan will be developed for submittal to the DWM, if necessary. The second phase of work will include provisions for supplemental assessment activities, if necessary, based on results of the Phase I activities. Any proposed Phase II activities will be submitted as a Work Plan Addendum for approval.

4.0 ANTICIPATED SCHEDULE

An estimated schedule for implementation and completion of the identified Phase I and Phase II tasks, if necessary, is presented below. ERM estimates that the scope of work for Phase I and Phase II as described in this Work Plan can be completed in seven to nine months depending on the results of the Phase I activities. The identified tasks of Phase I have been organized in a manner that will allow for timely and orderly assessment of Site conditions. The Work Plan includes provisions for meeting with RJRT, ERM and NCDENR to review the results of investigations.

Task	Completion Timeframe
Submittal of Work Plan to NCDENR DWM	July 17, 2009
Receipt of DWM Approval of Work Plan	July 31, 2009
Phase I Site Assessment Activities	
Water Supply Well Survey and Sampling	July 31, 2009
Surface Water Sampling	August 21, 2009
Geologic Reconnaissance and Mapping and Camera Survey of PW-1	August 28, 2009
Sampling of cover soils and geotechnical lab analyses	August 28, 2009
Receipt and review of surface water and water well sample results	September 4, 2009
Receipt and review of geotechnical results of soil cap	September 18, 2009
Modeling of leachate generation	October 2, 2009
Submittal to DWM of Phase I assessment results with recommendations for Phase II assessment activities	October 30, 2009
Phase II Site Assessment Activities (if necessary)	4 th Quarter 2009/ 1 st Quarter 2010

5.0 REFERENCES

Solid Waste Management Permit No. 34-D issued to R.J. Reynolds Tobacco Company March 3, 1980; State of North Carolina Department of Human Resources, Division of Health Services.

Solid Waste Permit No. 34-05 issued to R.J. Reynolds Tobacco Company May 29, 1986; State of North Carolina Department of Human Resources, Division of Health Services.

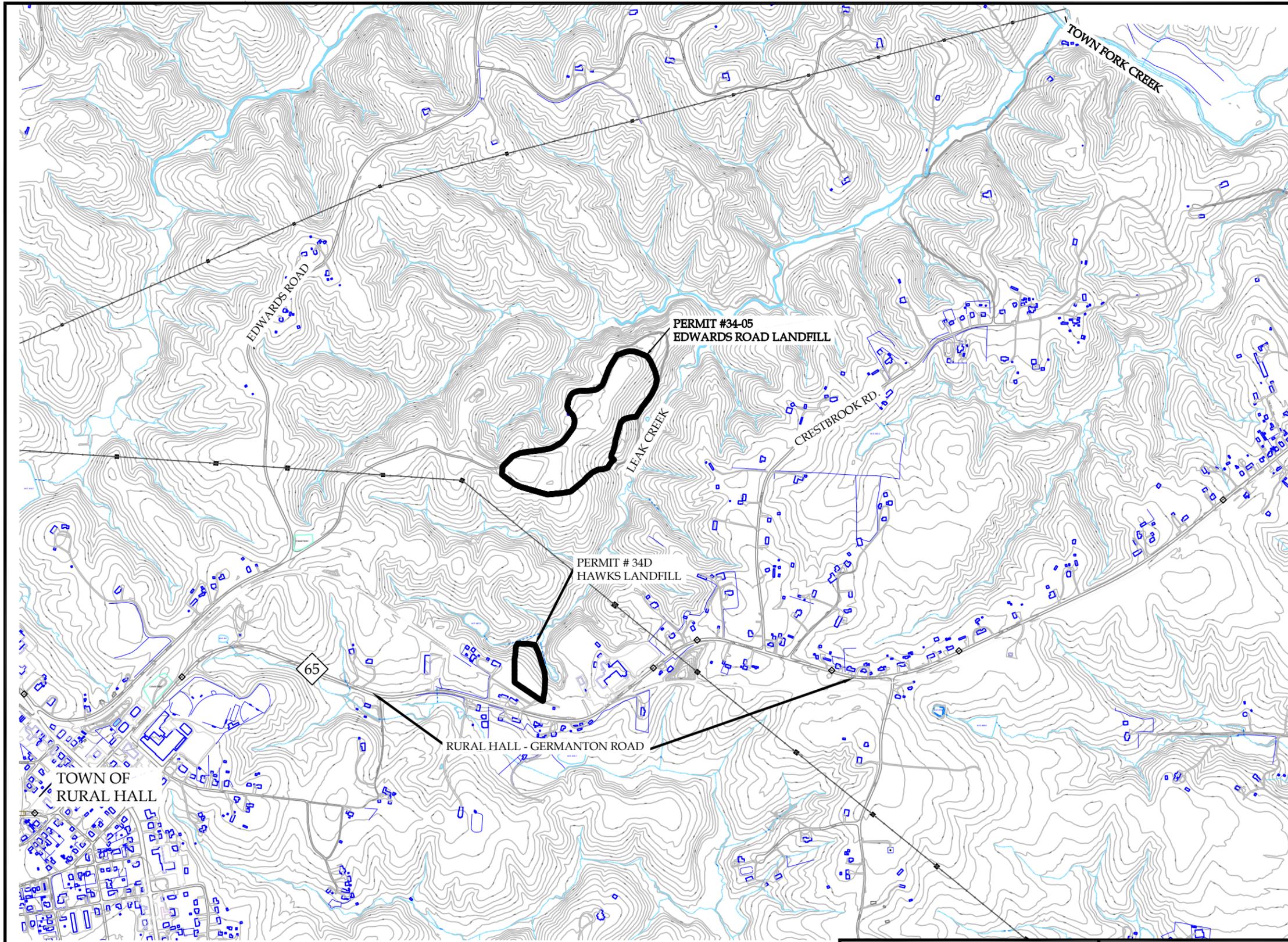
R. J. Reynolds Tobacco Company Ash Landfill Transition Plan, Geo-Environmental Consultants, Inc., October 19, 1999.

Work Plan for Upgrading Groundwater Monitoring, Phase II Ash Fill Area, R.J. Reynolds Tobacco Company, Geo-Environmental Consultants, Inc., January 25, 2000.

Upgrade of Groundwater Monitoring Program, Phase II Ash Fill Area, R.J. Reynolds Tobacco Company, Shield Environmental Associates, Inc., March 13, 2000.

Compliance Order with Administrative Penalty, Facility #34-05, R.J. Reynolds Tobacco Company, Forsyth County, State of North Carolina Department of Environment and Natural Resources, Division of Waste Management, April 17, 2009.

FIGURES



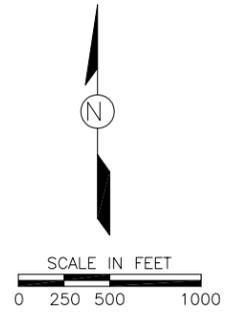
NOTES:

TOPOGRAPHIC INFORMATION SHOWN IS A COMPILATION OF NC FLOODPLAIN MAPPING PROGRAM 2008 AND FORSYTH COUNTY INFORMATION 2005.

CONTOUR INTERVAL IS 10-FT.

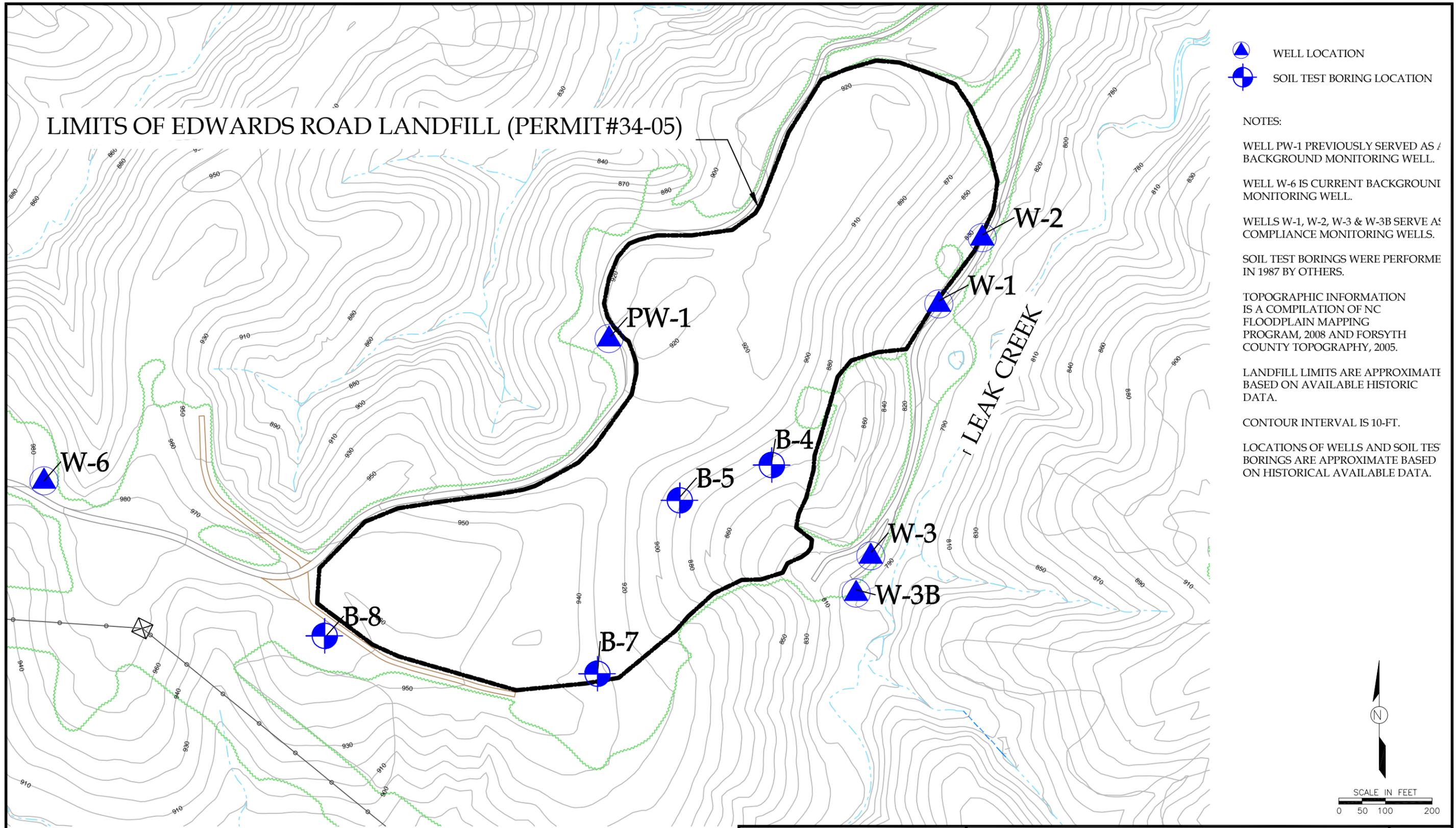
LIMITS OF LANDFILL ARE APPROXIMATE BASED ON AVAILABLE HISTORIC DATA.

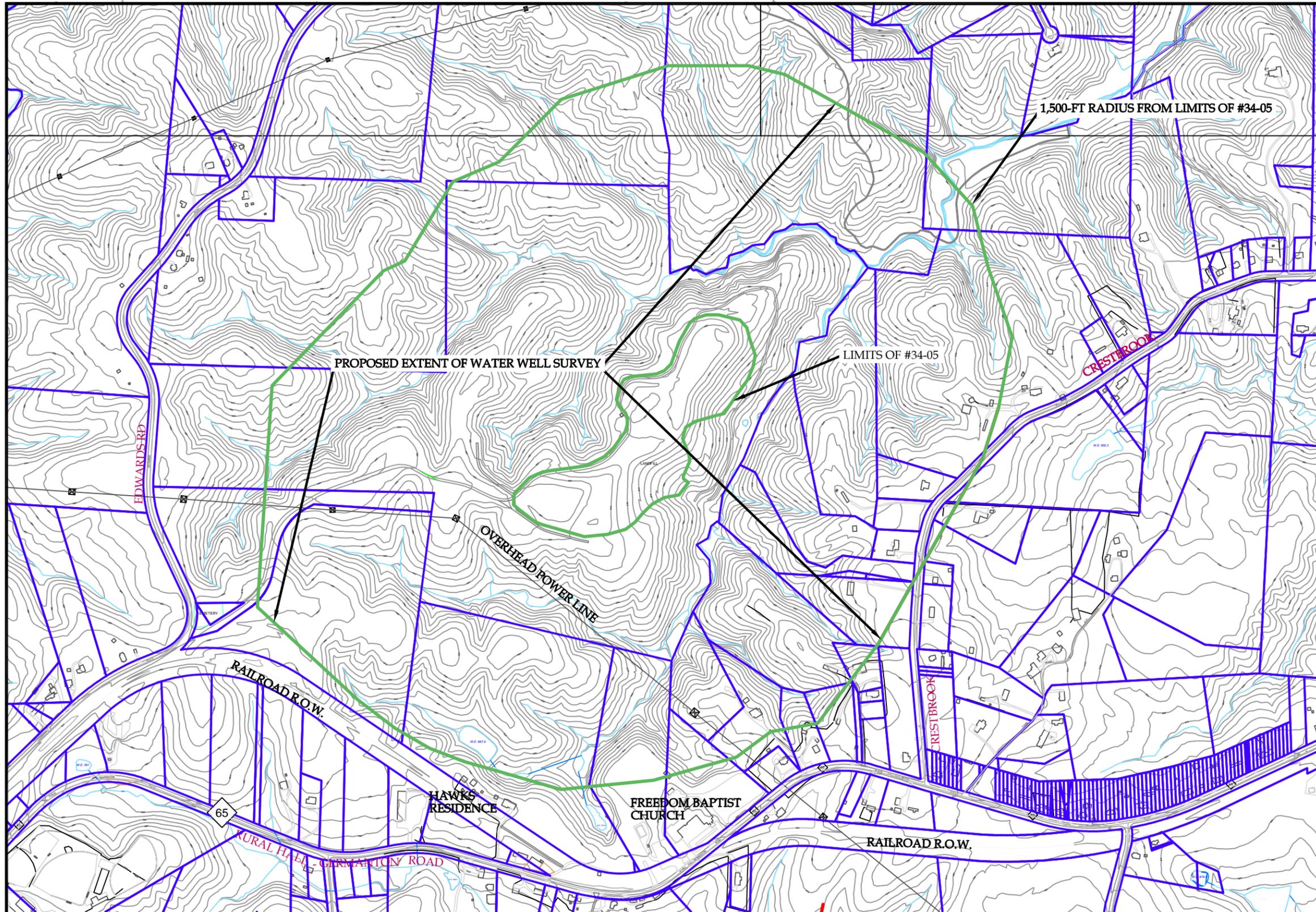
PARCEL BOUNDARY INFORMATION TAKEN FROM FORSYTH COUNTY GIS SYSTEM.



SITE LOCATION PLAN
RURAL HALL ASH LANDFILLS
R.J. REYNOLDS TOBACCO COMPANY
RURAL HALL, NORTH CAROLINA

FIGURE
1





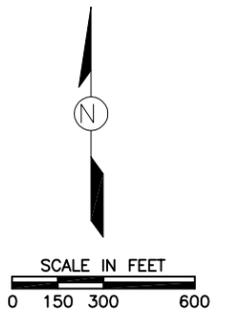
NOTES:

TOPOGRAPHIC INFORMATION SHOWN IS A COMPILATION OF NC FLOODPLAIN MAPPING PROGRAM 2008 AND FORSYTH COUNTY INFORMATION 2005.

CONTOUR INTERVAL IS 10-FT.

LIMITS OF LANDFILL ARE APPROXIMATE BASED ON AVAILABLE HISTORIC DATA.

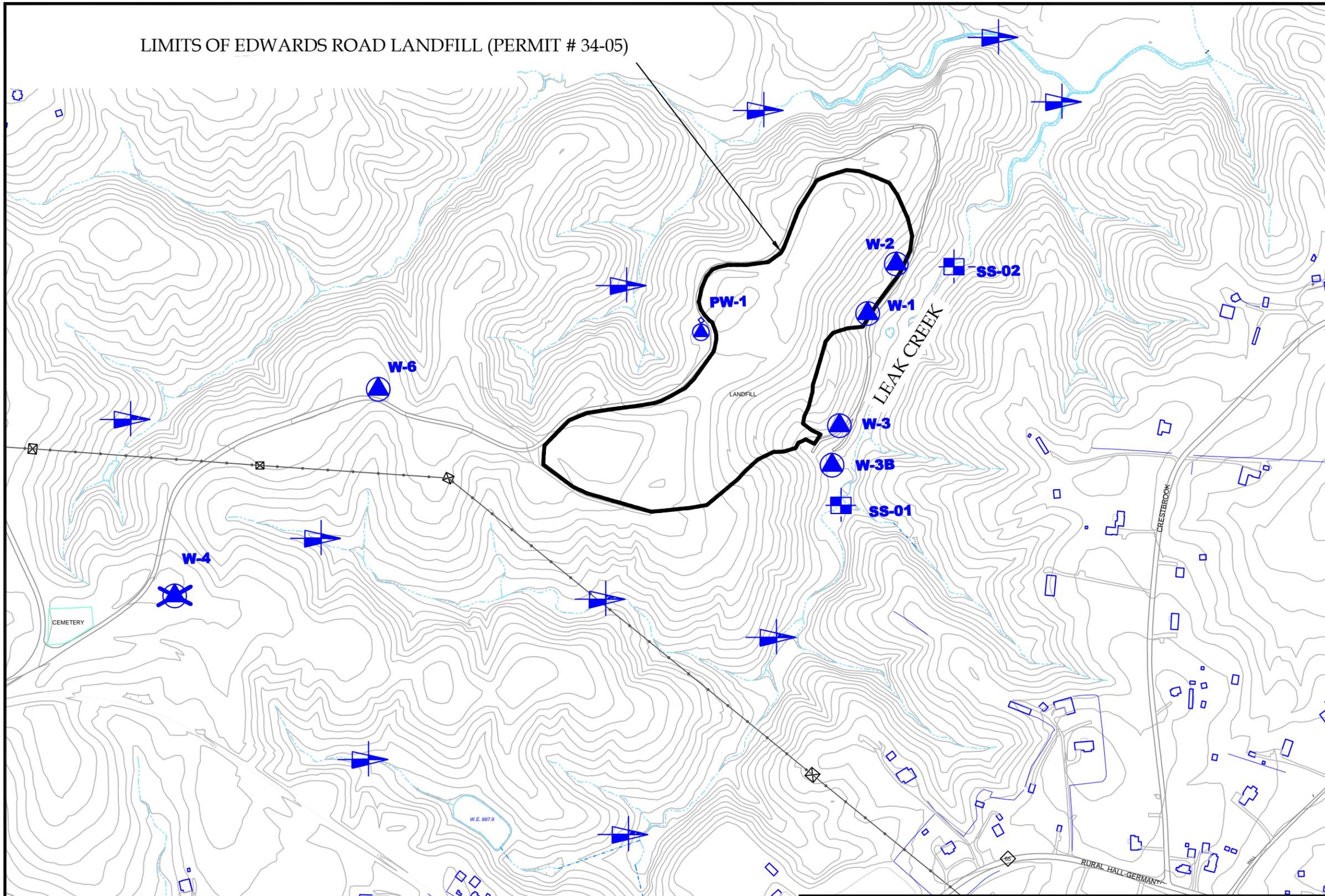
PARCEL BOUNDARY INFORMATION TAKEN FROM FORSYTH COUNTY GIS SYSTEM.



PROPOSED WATER WELL SURVEY & SAMPLING PLAN
 JUNE 2009
 R.J. REYNOLDS TOBACCO COMPANY
 RURAL HALL, NORTH CAROLINA

FIGURE
3

LIMITS OF EDWARDS ROAD LANDFILL (PERMIT # 34-05)



- LEGEND**
- W-6** EXISTING MONITORING WELL
 - W-4** ABANDONED MONITORING WELL
 - SS-01** EXISTING SURFACE WATER MONITORING LOCATION
 - PROPOSED SURFACE WATER MONITORING LOCATION
 - EXISTING CONTOUR 10-FT INTERVAL

NOTES:

WELL PW-1 PREVIOUSLY SERVED AS A BACKGROUND MONITORING WELL.

WELL W-6 IS CURRENT BACKGROUND MONITORING WELL.

WELLS W-1, W-2, W-3 & W-3B SERVE AS COMPLIANCE MONITORING WELLS.

TOPOGRAPHIC INFORMATION IS A COMPILATION OF NC FLOODPLAIN MAPPING PROGRAM, 2008 AND FORSYTH COUNTY TOPOGRAPHY, 2005.

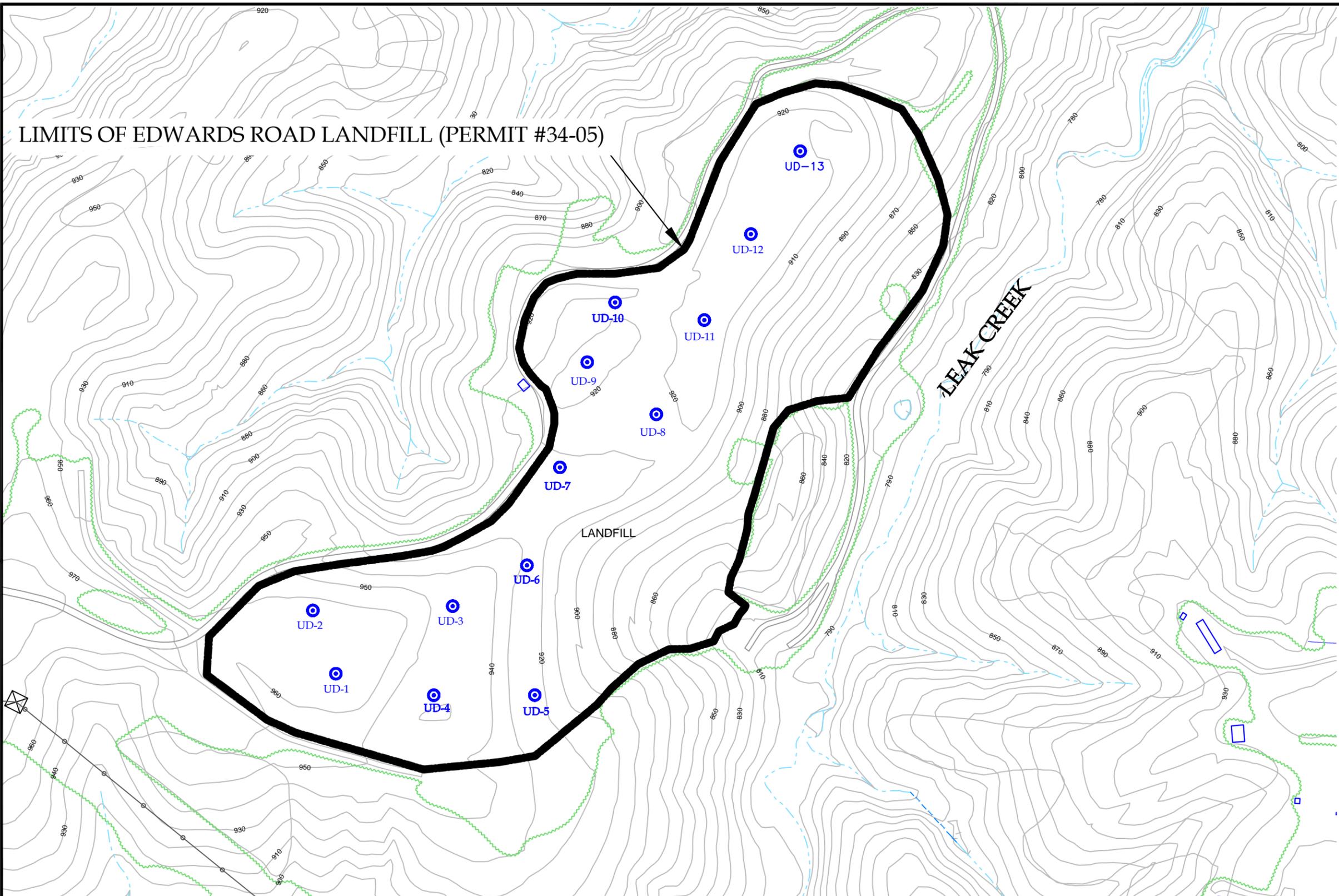
LANDFILL LIMITS ARE APPROXIMATE BASED ON AVAILABLE HISTORIC DATA.

CONTOUR INTERVAL IS 10-FT.

LOCATIONS OF WELLS AND EXISTING SURFACE WATER SAMPLE LOCATIONS ARE APPROXIMATE BASED ON HISTORICAL AVAILABLE DATA.



SURFACE WATER MONITORING PLAN
RURAL HALL ASH LANDFILLS
R.J. REYNOLDS TOBACCO COMPANY
RURAL HALL, NORTH CAROLINA



LIMITS OF EDWARDS ROAD LANDFILL (PERMIT #34-05)

- LEGEND**
- PROPOSED UNDISTURBED SAMPLING LOCATION
 - EXISTING CONTOUR 10-FT INTERVAL

NOTES:

TOPOGRAPHIC INFORMATION IS A COMPILATION OF NC FLOODPLAIN MAPPING PROGRAM, 2008 AND FORSYTH COUNTY TOPOGRAPHY, 2005.

LANDFILL LIMITS ARE APPROXIMATE BASED ON AVAILABLE HISTORIC DATA.

CONTOUR INTERVAL IS 10-FT.



UNDISTURBED SAMPLING LOCATION PLAN
 RURAL HALL ASH LANDFILLS
 R.J. REYNOLDS TOBACCO COMPANY
 RURAL HALL, NORTH CAROLINA

FIGURE
5

TABLES

**TABLE 1
MONITOR WELL CONSTRUCTION DETAILS AND GROUND WATER ELEVATIONS
ASH LANDFILL - PERMIT 34-05
RURAL HALL, NORTH CAROLINA**

MONITOR WELL CONSTRUCTION DETAILS

Monitor Well	Installation Date	Northing	Easting	TOC Elevation (ft MSL)	Boring Depth (ft BGL)	Outer Casing Depth (ft BGL)	Screened Interval (ft BGL)	Geologic Zone Screened	Comments
W-1	10/13/87	--	--	--	20.5	NA	10-20	Saprolite	2 inch dia. PVC, TOC 0.6' above ground surface (ags). well replaced 11/93
W-2	12/6/89	--	--	--	17	NA	7-17	Sap/PWR	2 inch dia. PVC, TOC 2.5' ags,
W-3	12/7/89	--	--	--	17	NA	7-17	Sap/PWR	2 inch dia. PVC, TOC 2.5' ags, (alternate IDs W-3A, W-2A, RH-MW-003)
W-3B	5/14/04	--	--	--	210	Unknown	190-210	Bedrock	2 inch dia. PVC, TOC 3' ags,
W-4	6/8/93	--	--	--	188	NA	138-188	Bedrock	2 inch dia. PVC, abandoned 8/27/03
W-6	8/22/03	--	--	--	200	NA	170-200	Bedrock	2 inch dia. PVC, TOC 2' ags, (alternate IDs MW-6)

GROUND WATER ELEVATION DATA

Monitor Well	TOC Elevation (ft MSL)	Screened Interval (ft BGL)	Geologic Zone Screened	At Installation		30-Apr-2009	
				Depth ft BTOC	Date	Depth ft BTOC	Elevation ft MSL
W-1	--	10-20	Saprolite	13.5	10/13/87	13.23	--
W-2	--	7-17	Sap/PWR	11	12/6/89	15.18	--
W-3	--	7-17	Sap/PWR	14	12/7/89	7.12	--
W-3B	--	190-210	Bedrock	Artesian	2004	Artesian	--
W-6	--	138-188	Bedrock	50	5/17/93	98.28	--

MSL - above mean sea level

PWR = Partially Weathered Rock

BTOC = Below Top of Casing

BGL - Below ground level

**TABLE 2A
GROUND WATER ANALYTICAL RESULTS SUMMARY
ASH LANDFILL - PERMIT 34-05
RURAL HALL, NORTH CAROLINA**

Sample Location / ID	Date	Aluminum	Arsenic	Barium	Cadmium	Chromium (Total)	Copper	Iron	Lead	Manganese	Mercury	Selenium	Silver	Zinc	Nitrate-nitrogen	Sulfate	Dissolved Solids	Total Organic Carbon	pH	Temperature (degrees Celsius)	Conductivity (µmhos/cm)	
NC 2L Ground Water Standard		NE	0.050	2.0	0.00175	0.050	1.0	0.300	0.015	0.050	0.00105	0.050	0.0175	1.05	10.0	250	500	NE	6.5 - 8.5	NE	NE	
Solid Waste Section Limit		NE	0.010	0.100	0.001	0.010	0.010	0.300	0.010	0.050	0.0002	0.010	0.01	0.01	10.0	250	NE	NE	NE	NE	NE	
NC 2B Surface Water Standard		0.087	0.050	1.0 ¹	0.002	0.050	0.007	1.0	0.025	0.200 ¹	0.000012	0.005	0.00006	0.05	10.0 ¹	250 ¹	500 ¹	NE	6.0 - 9.0	NE	NE	
W-2 (RHMW-002, MW-1A)	1/16/90	NS	<0.010	0.21	<0.002	<0.020	NS	NS	<0.005	NS	0.00020	<0.010	<0.010	NS	NS	NS	NS	NS	6.1	NS	NS	
	9/24/90	0.85	<0.010	0.219	0.0083	<0.020	<0.020	1.40	<0.005	9.90	<0.00020	<0.010	<0.010			41	533	14.00	6.2	16.7	717	
	10/24/91	0.169	<0.010	0.082	<0.002	<0.020	<0.020	9.30	0.0074	16.5	<0.00020	<0.010	<0.010		1.67	1,150	1,937	15.0	6.0	18.7	2,080	
	3/26/92	2.79	<0.010	<0.250	0.0034	<0.020	<0.020	38.4	0.016		<0.00020	<0.010	<0.010				1,860	2,611	12.0	5.8	13.8	2,880
	9/30/92		<0.010	<0.250	<0.002	<0.020	<0.020		<0.005	21.3	<0.00020	<0.010	<0.010		1.03	1,320	2,525	6.0	6.1	17.9	2,670	
	3/31/93	0.417	<0.010	0.177	<0.002	<0.020	<0.020	1.28	0.0076	0.053	<0.00020	<0.010	<0.010	0.04	0.05	600	948	2.0	5.6	15.2	167	
	9/17/93	5.65	<0.010	0.508	0.0038	<0.020	0.079	34.7	0.012	22.3	<0.00020	<0.010	<0.010	0.062	0.166	1,570	3,350	12.0	6.4	20.8	4,030	
	3/30/94	18.7	<0.010	2.77	0.003	0.076	<0.020	50.9	0.034	2.40	<0.00020	<0.010	<0.010	0.025	6	200	555		5.7	16	1,640	
	9/30/94	21.4	<0.010	0.942	<0.002	0.037	0.058	0.36	0.013	3.71	<0.00020	<0.010	<0.010	0.088	0.45	415	969	15.9	6.2	18.3	1,440	
	3/31/95	45	<0.010	1.71	<0.002	0.078	0.058	5.05	0.028	3.66	<0.00020	<0.010	<0.010	0.172	0.85	155	460		6.2	13.7	930	
	9/29/95	109	<0.010	3.95	0.03	0.209	0.142	206	0.068	3.75	<0.00020	0.005	<0.010	0.292	0.313	379	944	7.37	5.6	16.4	1,345	
	3/30/96	66.5	<0.010	1.25	0.012	0.105	0.078	96.6	0.044	3.61	<0.00020	<0.010	<0.010	0.183	---	13	127	4.68	5.6	14	316	
	9/27/96	89.1	<0.010	1.51	<0.002	<0.020	0.0088	150	0.015	3.06	<0.00020	<0.010	<0.010	0.098	0.11	---	373	9.22	7.0	21	840	
	3/29/97	64.4	<0.010	1.10	0.02	0.102	0.072	98	0.047	2.50	<0.00020	<0.010	<0.010	0.15	0.09	1,010	2,020	10.80	6.4	14	1,300	
	9/17/97	56.5	<0.010	1.62	0.013	0.087	0.088	99.9	0.035	20.20	<0.00020	<0.005	<0.010	0.201	1.13	1,410	3,600	11.3	6.6	17	3,780	
	3/27/98	10.9	<0.010	0.584	<0.002	<0.020	<0.020	26.0	<0.005	6.16	<0.00020	<0.010	<0.010	<0.020	<0.050	116	1,130	6.34	6.8	19.9	743	
	9/30/98	15.4	<0.010	0.518	<0.002	0.039	0.034	28.8	0.022	15.0	<0.00020	<0.010	<0.010	0.060	0.78	762	3,380	15.70	6.4	21	753	
	3/31/99	2.38	<0.010	0.852	<0.002	0.045	0.035	47.0	0.021	6.92	<0.00020	<0.010	<0.010	0.073	0.32	26	262	1.41	6.2	18	126	
	9/29/99	9.7	<0.010	0.296	<0.002	0.036	<0.020	26.9	0.009	0.20	<0.00020	<0.010	<0.010	<0.020	0.08	293	458	15.30	6.2	20	182	
	9/15/00	5.49	<0.010	0.508	<0.002	<0.020	<0.020	1.60	0.007	1.140	<0.00020	<0.010	<0.010	<0.020	0.06	93	374	1.89	6.6	19	170	
	3/16/00	12.70	<0.010	0.434	<0.002	0.028	0.025	19.4	<0.005	2.160	<0.00020	<0.010	<0.010	0.028	0.136	281	642	7.36	NS	NS	NS	
	3/23/01	2.60	<0.010	<0.250	<0.002	<0.020	<0.020	4.74	0.006	0.234	<0.00020	<0.010	<0.010	0.037	0.08	26	173	6.82	6.5	18	270	
	3/28/02	17.9	<0.010	<0.250	<0.002	0.047	0.046	45.3	0.016	3.03	NS	NS	<0.010	<0.010	0.088	<0.050	23	219	11.90	6.7	14	140
	10/3/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
3/25/03	6.07	<0.010	0.264	<0.002	<0.020	<0.020	8.42	<0.005	0.115	<0.00020	<0.010	<0.010	0.025	0.069	14	118	5.29	6.1	18	140		
10/2/03	4.63	<0.010	0.277	<0.002	<0.020	<0.020	10.9	0.008	11.1	<0.00020	<0.010	<0.010	<0.020	0.122	1,270	3,380	7.78	6.1	20	3,020		
4/28/04	3.6	<0.010	<0.250	<0.002	<0.020	<0.020	11.0	0.006	2.63	<0.00020	<0.010	<0.010	0.036	0.193	233	634	8.13	NS	14.4	1,460		
10/26/04	30.2	<0.010	2.14	0.009	0.112	0.083	65.6	0.021	5.08	<0.00020	<0.010	<0.010	0.144	4.17	1,710	3,800	7.22	NS	NS	3,690		
4/27/05	2.75	<0.010	<0.250	0.006	<0.020	<0.020	9.15	0.008	8.95	<0.00020	<0.010	<0.010	0.026	1.08	1,260	2,868	13.8	NS	NS	3,170		
10/20/05	9.38	<0.010	0.377	0.002	0.020	0.203	26.2	0.009	6.8	<0.00020	<0.010	<0.010	0.116	0.550	1,510	1,700	22	NS	NS	1,110		
10/19/06	3.63	<0.010	<0.250	<0.002	<0.020	<0.020	8.08	0.006	1.90	<0.00020	<0.010	<0.010	0.044	0.133	749	1,210	8.99	NS	NS	1,050		
4/27/07	46.5	<0.010	0.451	<0.002	0.002		55.9			<0.00020	<0.010	<0.010	0.046	0.452	1,570	2,800	9.01	NS	NS	1,880		
11/19/07	5.75	<0.010	<0.250	<0.002	<0.020	<0.020	12.0	0.008	3.03	<0.00020	<0.010	<0.010	<0.020	<0.050	1,330	1,310	9.71	NS	NS	1,330		
4/30/08	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	4.45	0.005	0.334	<0.00020	<0.010	<0.010	0.072	0.071	246	330	7.26	NS	NS	609		
4/30/09	5.17	<0.010	0.268	<0.001	0.0139	0.0113	12.5	0.0118	0.441	<0.0002	<0.010	<0.010	0.0375	0.072	10.4	157	7.57	NS	NS	93.7		

**TABLE 2A
GROUND WATER ANALYTICAL RESULTS SUMMARY
ASH LANDFILL - PERMIT 34-05
RURAL HALL, NORTH CAROLINA**

Sample Location / ID	Date	Aluminum	Arsenic	Barium	Cadmium	Chromium (Total)	Copper	Iron	Lead	Manganese	Mercury	Selenium	Silver	Zinc	Nitrate-nitrogen	Sulfate	Dissolved Solids	Total Organic Carbon	pH	Temperature (degrees Celsius)	Conductivity (µmhos/cm)	
NC 2L Ground Water Standard		NE	0.050	2.0	0.00175	0.050	1.0	0.300	0.015	0.050	0.00105	0.050	0.0175	1.05	10.0	250	500	NE	6.5 - 8.5	NE	NE	
Solid Waste Section Limit		NE	0.010	0.100	0.001	0.010	0.010	0.300	0.010	0.050	0.0002	0.010	0.01	0.01	10.0	250	NE	NE	NE	NE	NE	
NC 2B Surface Water Standard		0.087	0.050	1.0 ¹	0.002	0.050	0.007	1.0	0.025	0.200 ¹	0.000012	0.005	0.00006	0.05	10.0 ¹	250 ¹	500 ¹	NE	6.0 - 9.0	NE	NE	
W-3 (RHMW-003 / 003A, W-2A)	1/16/90	NS	<0.010	0.300	<0.002	<0.020	NS	NS	<0.005	NS	<0.00020	<0.010	<0.010	NS	NS	NS	NS	NS	7.0	NS	NS	
	9/24/90	2.17	<0.010	0.134	0.0081	0.04	2		<0.005	0.08	<0.00020	<0.010	<0.010	<0.020	0.67	9	174	12	6.5	16.2	238	
	3/26/92		<0.010	0.119	<0.002	<0.020	<0.020		<0.005		<0.00020	<0.010	<0.010	<0.020	6.81	23	136	10	6.1	13.1	307	
	9/30/92	0.67	<0.010	0.120	<0.002	<0.020	<0.020	0.580	<0.005	0.410	<0.00020	<0.010	<0.010	<0.020	0.232	20	189	1	5.9	17.1	223	
	3/31/93	1.17	<0.010	0.180	<0.002	<0.020	<0.020	2.30	<0.005		<0.00020	<0.010	<0.010	0.055		15	163	6	5.5	15.7	238	
	9/17/93	9.46	<0.010	0.444	0.0028	<0.020	0.071	20.7	0.010	0.173	<0.00020	<0.010	<0.010	0.106	0.25	28	207	2	6.2	18.3	282	
	3/30/94	4.42	<0.010	0.259	<0.002	<0.020	0.024	10.7	0.015	0.264	<0.00020	<0.010	<0.010	0.107	1.48	17	180		5.7	15.9	180	
	9/30/94	25.4	<0.010	0.485	<0.002	0.026	0.067	32.0	0.017	0.526	<0.00020	<0.010	<0.010	0.086			193	26.1	6.3	18	202	
	3/31/95	31.3	<0.010	0.466	<0.002	0.027	0.055	36.4	0.025	0.430	<0.00020	<0.010	<0.010	0.186	0.28	133	206		6.6	12.7	220	
	9/29/95	55.4	<0.010	0.813	0.007	0.051	0.122	70.1	0.042	1.020	<0.00020	<0.010	<0.010	0.183	0.2	139	302	1.32	5.4	15.4	245	
	3/30/96	17.1	<0.010	0.436	0.002	0.02	0.046	25.9	0.019	0.409	<0.00020	<0.010	<0.010	0.1	1.25	20	217	3.41	5.6	13	285	
	9/27/96	11.2	<0.010	0.257	<0.002	<0.020		16.4	0.015	0.235	<0.00020	<0.010	<0.010	0.094	0.11	60	215	1.1	7.8	18	243	
	3/29/97	16.4	<0.010	0.347	0.003	<0.020	0.043	23.0	0.013	0.384	<0.00020	<0.010	<0.010	0.051	0.12	21	223	7.86	6.6	12	153	
	9/17/97	32.2	<0.010	0.478	0.004	0.027	0.067	40.2	0.024	0.590	<0.00020	<0.005	<0.010	0.280	1.10	89	262	1.29	6.9	16	366	
	3/27/98	12.2	<0.010	0.491	<0.002	<0.020	<0.020	21.3	<0.005	0.604	<0.00020	<0.010	<0.010	<0.020	0.130	19.1	248	1.26	6.1	19.9	542	
	9/30/98	4.15	<0.010	<0.250	<0.002	<0.020	<0.020	5.69	<0.005	0.151	<0.00020	<0.010	<0.010	0.039	0.300	5.1	238	1.34	6.8	20	276	
	3/31/99	2.38	<0.010	<0.250	<0.002	<0.020	<0.020	3.93	<0.005	0.126	<0.00020	<0.010	<0.010	0.073	0.32	26.3	262	1.41	6.2	18	126	
	9/29/99	2.13	<0.010	<0.250	<0.002	<0.020	<0.020	4.23	<0.005	0.090	<0.00020	<0.010	<0.010	<0.020	0.21	27.3	272	1.71	6.8	19	315	
	9/15/00	6.59	<0.010	0.323	<0.002	<0.020	0.026	9.90	0.011	0.309	<0.00020	0.017	<0.010	<0.020	0.12	20.9	187	1.53	6.7	18	390	
	3/16/00	11.7	<0.010	0.356	<0.002	<0.020	0.035	15.70	0.007	0.334	<0.00020	0.016	<0.010	0.036	0.208	17.8	193	2.63	NS	NS	NS	
	3/23/01	0.828	<0.010	<0.250	<0.002	<0.020	<0.020	1.02	0.009	0.045	<0.00020	<0.010	<0.010	0.023	0.20	27.4	175	1.56	6.7	17	310	
	10/4/01	3.64	<0.010	<0.250	<0.002	<0.020	<0.020	6.02	0.008	0.221	<0.00020	0.013	<0.010	<0.020	0.22	24.7	186	3.2	6.1	17	200	
	3/28/02	1.72	<0.010	<0.250	<0.002	<0.020	<0.020	2.82	<0.005	0.100	NS	<0.010	<0.010	<0.020	0.40	38.5	203	1.45	6.7	14	470	
	3/28/02	2.37	<0.010	<0.250	<0.002	<0.020	<0.020	2.82	<0.005	0.100	<0.00020	0.017	<0.010	<0.020	0.287	25.6	177	<1.0	NS	NS	238	
	duplicate	10/3/02	8.77	<0.010	0.387	<0.002	<0.020	0.022	16.40	<0.005	0.450	<0.00020	<0.010	<0.010	0.035	0.35	58.2	231	1.02	8.1	19	210
		3/25/03	15.3	<0.010	0.362	<0.002	<0.020	0.026	23.8	0.008	0.622	<0.00020	<0.010	<0.010	0.045	0.520	42.6	194	<1.0	6.2	19	210
		10/2/03	2.46	<0.010	0.646	<0.002	<0.020	<0.020	4.08	<0.005	0.212	<0.00020	<0.010	<0.010	<0.020	0.371	28.3	199	<1.0	6.7	17	243
		4/28/04	1.49	<0.010	<0.250	<0.002	<0.020	<0.020	2.82	<0.005	0.080	<0.00020	0.013	<0.010	<0.020	0.259	1,350	171	<1.0	NS	14.6	225
		10/26/04	2.37	<0.010	<0.250	<0.002	<0.020	<0.020	3.49	<0.005	0.129	<0.00020	0.017	<0.010	<0.020	0.287	25.6	177	<1.0	NS	NS	238
		4/27/05	0.874	<0.010	<0.250	<0.002	<0.020	<0.020	1.58	<0.005	0.066	<0.00020	0.016	<0.010	0.040	0.254	34.4	192	0.74	NS	NS	277
		10/20/05	3.50	<0.010	0.252	<0.002	<0.020	0.107	4.23	<0.005	0.072	<0.00020	0.030	<0.010	0.071	0.356	44.0	218	18	NS	NS	317
		10/19/06	0.553	<0.010	0.277	<0.002	<0.020	<0.020	1.02	<0.005	0.037	<0.00020	0.048	<0.010	<0.020	0.389	70.4	237	0.69	NS	NS	330
		4/27/07	<0.10	<0.010	0.262	<0.002	<0.020	<0.020	0.708	<0.005	<0.010	<0.00020		<0.010	<0.020	0.452	89.4	251	1.51	NS	NS	388
	11/19/07	0.124	<0.010	0.263	<0.002	<0.020	<0.020	0.156	<0.005	<0.010	<0.00020	0.065	<0.010	<0.020	0.190	53.0	293	0.86	NS	NS	403	
duplicate	11/19/07	0.139	<0.010	0.254	<0.002	<0.020	<0.020	0.158	<0.005	0.012	<0.00020	0.065	<0.010	<0.020	0.203	64.2	278	0.88	NS	NS	402	
	4/30/08	<0.100	<0.010	0.261	<0.002	<0.020	<0.020	0.148	<0.005	<0.010	<0.00020	0.094	<0.010	<0.020	0.553	91.0	331	0.76	NS	NS	470	
	10/29/08	<0.100	<0.010	0.274	0.00033	0.0106	<0.010	0.216	0.0033	0.124	0.00010	0.0955	0.00515	<0.010	0.474	96.0	360	1.04	NS	NS	571	
	4/30/09	0.442	<0.010	0.368	<0.001	<0.010	<0.010	0.638	0.0085	0.0616	<0.0002	0.154	<0.010	0.0682	0.535	199	399	0.94	NS	NS	603	
duplicate	4/30/09	0.571	<0.010	0.268	<0.0010	<0.010	0.0025	0.332	0.0071	0.0308	<0.0002	0.153	<0.010	0.0324	0.510	203	389	1.07	NS	NS	617	

**TABLE 2A
GROUND WATER ANALYTICAL RESULTS SUMMARY
ASH LANDFILL - PERMIT 34-05
RURAL HALL, NORTH CAROLINA**

Sample Location / ID	Date	Aluminum	Arsenic	Barium	Cadmium	Chromium (Total)	Copper	Iron	Lead	Manganese	Mercury	Selenium	Silver	Zinc	Nitrate-nitrogen	Sulfate	Dissolved Solids	Total Organic Carbon	pH	Temperature (degrees Celsius)	Conductivity (µmhos/cm)
NC 2L Ground Water Standard	NE	0.050	2.0	0.00175	0.050	1.0	0.300	0.015	0.050	0.00105	0.050	0.0175	1.05	10.0	250	500	NE	6.5 - 8.5	NE	NE	
Solid Waste Section Limit	NE	0.010	0.100	0.001	0.010	0.010	0.300	0.010	0.050	0.0002	0.010	0.01	0.01	10.0	250	NE	NE	NE	NE	NE	
NC 2B Surface Water Standard	0.087	0.050	1.0 ¹	0.002	0.050	0.007	1.0	0.025	0.200 ¹	0.000012	0.005	0.00006	0.05	10.0 ¹	250 ¹	500 ¹	NE	6.0 - 9.0	NE	NE	
W-3B (RHMW-003B)	10/26/04	2.33	<0.010	<0.250	<0.002	<0.020	<0.020	3.17	<0.005	0.157	<0.00020	<0.010	<0.010	0.024	<0.050	174	545	2.71	NS	NS	862
	4/27/05	0.203	<0.010	<0.250	0.002	<0.020	<0.020	1.83	0.015	0.907	<0.00020	0.041	<0.010	0.036	<0.050	590	840	10.1	NS	NS	1,180
	10/20/05	3.63	<0.010	<0.250	<0.002	<0.020	0.029	4.29	0.005	0.068	<0.00020	<0.010	<0.010	0.075	<0.050	146	627	30	NS	NS	550
	10/19/06	0.135	<0.010	<0.250	<0.002	<0.020	<0.020	0.95	0.005	0.811	<0.00020	<0.010	<0.010	0.042	<0.050	318	750	5.24	NS	NS	739
	4/27/07	0.238	<0.010	<0.250	<0.002	<0.020	<0.020	0.901	<0.005	1.28	<0.00020	<0.010	<0.010	<0.020	<0.050	475	1,050	2.57	NS	NS	1,240
	11/19/07	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	1.17	<0.005	1.27	<0.00020	<0.010	<0.010	<0.020	<0.050	582	101	22.6	NS	NS	1,310
	4/30/08	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	0.505	<0.005	1.01	<0.00020	<0.010	<0.010	<0.020	<0.050	570	955	1.18	NS	NS	1,270
	10/29/08	<0.100	<0.010	0.048	<0.001	0.0049	<0.010	1.95	<0.010	0.946	0.00007	<0.010	<0.010	0.0105	<0.05	305	760	0.83	NS	NS	1,080
4/30/09	<0.100	<0.010	0.0426	<0.001	<0.010	<0.010	0.49	0.0105	0.999	<0.0002	0.0097	0.0015	0.0087	<0.050	185	827	5.56	NS	NS	1,150	
W-4 (Background) (damaged & replaced 2003 with W-6)	9/30/94		<0.010	<0.250	<0.002	<0.020	<0.020	0.62	<0.005	1.23	<0.00020	3.31	<0.010	<0.020	0.05	460	850	8	6.4	15.1	1,247
	4/4/95	9.72	<0.010	<0.250	<0.002	<0.020	<0.020	15.6	0.007	0.564	<0.00020	<0.010	<0.010	0.058	1	7.88	231	136	6.1	19	234
	9/17/97	4.42	<0.010	<0.250	0.002	<0.020	<0.020	10.0	0.006	0.406	<0.00020	<0.010	<0.010	0.190	0.550	8.86	212	3.19	7.5	18	366
	3/27/98	3.41	<0.010	<0.250	<0.002	<0.020	<0.020	6.25	<0.005		<0.00020	<0.010	<0.010	0.044	<0.050	7.12	226	2.69	6.7	19.2	390
	9/30/98	0.219	<0.010	<0.250	<0.002	<0.020	<0.020	1.61	<0.005	0.299	<0.00020	<0.010	<0.010	<0.020	<0.050	6.42	200	7.26	5.9	21	322
	3/31/99	0.637	<0.010	<0.250	<0.002	<0.020	<0.020	2.15	<0.005	0.285	<0.00020	<0.010	<0.010	<0.020	<0.050	5.71	202	8.53	6.5	16	279
	9/29/99	0.127	<0.010	<0.250	<0.002	<0.020	<0.020	1.44	0.005	0.271	<0.00020	<0.010	<0.010	0.024	<0.050	<5.00	207	2.85	6.4	18	315
	3/16/00	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	1.47	<0.005	0.298	<0.00020	<0.010	<0.010	<0.020	<0.050	<5.00	191	6.05			
	9/15/00	0.165	<0.010	<0.250	<0.002	<0.020	<0.020	1.09	<0.005	0.252	<0.00020	<0.010	<0.010	<0.020	0.08	5.30	241	15.5	6.2	17	310
	3/23/01	2.75	<0.010	<0.250	0.004	<0.020	<0.020	9.91	0.016	0.447	<0.00020	<0.010	<0.010	0.028	<0.050	6.53	219	5.99	6.4	16	240
	10/4/01	0.204	<0.010	<0.250	<0.002	<0.020	<0.020	0.915	0.007	0.229	<0.00020	<0.010	<0.010	<0.020	<0.05	<5.00	186	7.8	6.3	20	300
	3/28/02	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	1.46	<0.005	0.212	NS	<0.010	<0.010	<0.020	<0.050	5.16	196	1.68	6.2	14	190
	10/3/02	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	1.13	<0.005	0.237	<0.00020	<0.010	<0.010	0.029	<0.050	5.08	202	4.07	6.1	19	280
3/25/03	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	0.976	<0.005	0.212	<0.00020	<0.010	<0.010	<0.020	<0.050	6.05	185	1.61	6.2	16	260	
W-6 (Background) Replaced W-4 9/2003 duplicate	10/2/03	1.92	<0.010	<0.250	<0.002	0.268	0.024	3.22	<0.005	0.154	<0.00020	<0.010	<0.010	0.44	0.207	95	466	34	7.3	19	661
	4/28/04	1.16	<0.010	<0.250	<0.002	0.030	0.026	0.917	0.007	0.037	<0.00020	<0.010	<0.010	0.149	0.137	370	692	139	NS	14.7	937
	10/26/04	0.790	<0.010	<0.250	<0.002	0.089	0.032	0.259	<0.005	0.012	<0.00020	<0.010	<0.010	0.087	0.096	116	630	79.2	NS	NS	917
	4/27/05	0.389	<0.010	<0.250	<0.002	<0.020	<0.020	<0.100	0.005	<0.010	<0.00020	<0.010	<0.010	0.056	<0.050	87.5	565	13.2	NS	NS	932
	10/20/05	<0.100	<0.010	<0.250	<0.002	<0.020	0.040	0.3557	<0.005	<0.010	<0.00020	<0.010	<0.010	0.060	0.064	35.4	553	27	NS	NS	939
	10/19/06	0.529	<0.010	<0.250	<0.002	<0.020	<0.020	0.077	<0.005	0.012	<0.00020	<0.010	<0.010	0.066	<0.050	46.4	471	29.3	NS	NS	655
	4/27/07	2.66	<0.010	<0.250	<0.002	0.029	<0.020	2.79	<0.005	0.106	<0.00020	<0.010	<0.010	0.168	<0.050	29.5	442	8.84	NS	NS	776
	11/19/07	0.627	<0.010	<0.250	<0.002	<0.020	<0.020	0.711	<0.005	0.024	<0.00020	<0.010	<0.010	0.038	<0.050	11.2	431	8.98	NS	NS	694
	4/30/08	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	<0.100	<0.005	<0.010	<0.00020	<0.010	<0.010	0.037	<0.050	<10.0	392	5.61	NS	NS	615
	10/29/08	0.235	<0.010	0.0358	0.00041	0.0068	<0.010	0.268	<0.010	0.0093	<0.00020	<0.010	<0.010	0.067	<0.050	<10.0	393	4.13	NS	NS	724
	10/29/08	0.222	<0.010	0.293	0.001	<0.010	0.0027	0.460	0.0049	0.0846	0.00016	0.101	<0.010	<0.010	0.488	98.8	384	0.860	NS	NS	574
4/30/09	0.139	<0.010	0.0366	<0.001	0.007	<0.010	0.0331	0.0029	0.0015	<0.0002	0.0081	<0.010	0.0332	<0.050	10.5	463	10.3	NS	NS	807	

Notes:
All concentrations in milligrams per liter.
NS - Not sampled

NE - Not established
¹ - No freshwater aquatic life standard established. Water Supply criteria presented.

Bold indicates exceedance of Solid Waste Section Limits (SWSL)
Gray background indicates exceedance of NC Ground Water Standard

**TABLE 2B
SURFACE WATER ANALYTICAL RESULTS SUMMARY
ASH LANDFILL - PERMIT 34-05
RURAL HALL, NORTH CAROLINA**

Sample Location / ID	Date	Aluminum	Arsenic	Barium	Cadmium	Chromium (Total)	Copper	Iron	Lead	Manganese	Mercury	Selenium	Silver	Zinc	Nitrate-nitrogen	Sulfate	Dissolved Solids	Total Organic Carbon	pH	Temperature (degrees Celsius)	Conductivity (µmhos/cm)
NC 2L Ground Water Standard		NE	0.050	2.0	0.00175	0.050	1.0	0.300	0.015	0.050	0.00105	0.050	0.0175	1.05	10.0	250	500	NE	6.5 - 8.5	NE	NE
Solid Waste Section Limit		NE	0.010	0.100	0.001	0.010	0.010	0.300	0.010	0.050	0.0002	0.010	0.01	0.01	10.0	250	NE	NE	NE	NE	NE
NC 2B Surface Water Standard		0.087	0.050	1.0 ¹	0.002	0.050	0.007	1.0	0.025	0.200 ¹	0.000012	0.005	0.00006	0.05	10.0 ¹	250 ¹	500 ¹	NE	6.0 - 9.0	NE	NE
Landfill Creek Upstream	4/29/1988	--	--	0.118	0.008	--	--	0.086	--	--	--	--	--	0.015	0.22	64	220	2.81	6.8	NS	NS
SS-01 (RHSS-001) Surface Water - Upstream	4/29/1988	0.152	<0.010	0.059	0.008	<0.020	<0.020	0.057	<0.005	0.314	<0.00020	<0.010	<0.010	0.576	1.52	37	290	1.28	6.9	NS	NS
	7/13/1989	NS	<0.010	0.100	<0.002	<0.020	NS	NS	<0.005	NS	<0.00020	<0.010	<0.010	NS	NS	NS	NS	NS	NS	NS	NS
	9/24/90	0.14	<0.010	<0.250	0.0048	<0.020	<0.020	0.2	<0.005		<0.00020	<0.010	<0.010	<0.020	0.52	40	352	12	7.2	11.6	490
	10/24/91	0.109	<0.010	<0.250	<0.002	<0.020	<0.020	<0.100	<0.005		<0.00020	<0.010	<0.010	<0.020	0.15	108	248	12	7.9	17.2	381
	3/26/92	4.15	<0.010	<0.250	0.0034	<0.020	<0.020	5.0	0.0158	0.064	<0.00020	<0.010	<0.010	<0.020	0.25	9	185	14	5.8	11.3	126
	9/30/92	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	0.16	<0.005	0.085	<0.00020	<0.010	<0.010	<0.020	0.19	84	241	2.0	5.7	13.8	356
	3/31/93	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	0.400	<0.005	0.077	<0.00020	<0.010	<0.010	0.029	1.34	70.4	127	2.0	5.9	13	207
	9/17/93	0.34	<0.010	<0.250	<0.002	<0.020	<0.020	0.598	<0.005	0.028	<0.00020	<0.010	<0.010	<0.020	0.45	77.4	251	3.0	7.1	20.9	360
	3/30/94	0.220	<0.010	<0.250	<0.002	<0.020	<0.020	0.873	<0.005	0.03	<0.00020	<0.010	<0.010	<0.020	0.25	30.6	108	<1.0	5.9	14	380
	9/30/94	1.300	<0.010	<0.250	<0.002	<0.020	<0.020	1.69	0.006	0.084	<0.00020	<0.010	<0.010	<0.020	0.43	64.8	255	30.0	7.1	19.1	332
	3/31/95	3.580	<0.010	<0.250	<0.002	<0.020	<0.020	2.44	<0.005	0.106	<0.00020	<0.010	<0.010	0.246	0.19	48.9	211	<1.0	7.8	13.9	290
	9/29/95	0.2	<0.010	<0.250	<0.002	<0.020	<0.020	0.358	0.007	0.038	<0.00020	<0.010	<0.010	<0.020	0.5	70.0	264	3.74	5.2	13.9	458
	3/30/96	0.279	<0.010	<0.250	<0.002	<0.020	<0.020	0.547	<0.005	0.014	<0.00020	<0.010	<0.010	<0.020	0.185	31.3	129	1.72	6.7	11	193
	9/27/96	0.125	<0.010	<0.250	<0.002	<0.020	<0.020	0.3	0.005	0.021	<0.00020	<0.010	<0.010	0.095	0.29	56.1	225	2.36	7.7	19	336
	3/29/97	0.307	<0.010	<0.250	<0.002	<0.020	<0.020	0.552	<0.005	0.016	<0.00020	<0.010	<0.010	0.013	0.225	30.0	138	3.04	7.6	16	94
	9/17/97	0.476	<0.010	<0.250	<0.002	<0.020	<0.020	0.835	<0.005	0.040	<0.00020	<0.005	<0.010	0.169	0.625	47.4	224	1.67	7.9	19	319
	3/27/98	0.190	<0.010	<0.250	<0.002	<0.020	<0.020	0.685	<0.005	0.012	<0.00020	<0.010	<0.010	0.061	0.680	38.7	163	5.23	7.6	18.6	473
	9/30/98	0.126	<0.010	<0.250	<0.002	<0.020	<0.020	0.54	0.006	0.033	<0.00020	<0.010	<0.010	<0.020	0.300	28.0	177	4.09	7.2	18	322
	3/31/99	0.239	<0.010	<0.250	<0.002	<0.020	<0.020	0.332	<0.005	0.044	<0.00020	<0.010	<0.010	<0.020	0.12	63.2	191	2.49	7.1	16	247
	9/29/99	1.53	<0.010	<0.250	<0.002	<0.020	<0.020	3.33	0.005	0.088	<0.00020	<0.010	<0.010	<0.020	0.09	23.2	143	8.81	7.8	16	308
	9/15/00	0.327	<0.010	<0.250	<0.002	<0.020	<0.020	0.166	<0.005	0.038	<0.00020	<0.010	<0.010	<0.020	0.16	26.1	157	5.08	7.3	19	410
	3/16/00	0.117	<0.010	<0.250	<0.002	<0.020	<0.020	1.94	<0.005	0.922	<0.00020	<0.010	<0.010	<0.020	0.199	50.9	202	3.78			
	3/23/01	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	0.158	<0.005	0.010	<0.00020	<0.010	<0.010	<0.020	<0.050	26.1	113	2.81	6.9	16	150
	10/4/01	0.116	<0.010	<0.250	<0.002	<0.020	<0.020	<0.100	<0.005	0.029	<0.00020	<0.010	<0.010	<0.020	0.3	99.0	343	5.30	7.4	19	440
	3/28/02	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	0.201	<0.005	0.010	NS	<0.010	<0.010	0.027	0.32	41.9	177	3.18	7.0	11	400
	10/3/02	0.317	<0.010	<0.250	<0.002	<0.020	<0.020	0.767	<0.005	0.052	<0.00020	<0.010	<0.010	<0.020	0.75	73.3	300	3.07		19	330
	3/25/03	0.673	<0.010	<0.250	<0.002	<0.020	<0.020	0.607	<0.005	0.024	<0.00020	<0.010	<0.010	<0.020	0.115	31.6	119	2.08	6.9	18	440
	10/2/03	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	0.705	<0.005	0.072	<0.00020	<0.010	<0.010	<0.020	0.446	29.4	181	2.38	6.3	15	249
	4/28/04	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	0.179	<0.005	0.080	<0.00020	<0.010	<0.010	<0.020	0.374	70.4	176	2.06	NS	11.7	281
	10/26/04	0.145	<0.010	<0.250	<0.002	<0.020	<0.020	0.132	<0.005	0.036	<0.00020	<0.010	<0.010	<0.020	0.209	58.8	217	2.62	NS	NS	397
4/27/05	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	0.105	<0.005	0.011	<0.00020	<0.010	<0.010	<0.020	0.149	41.4	174	2.15	NS	NS	294	
10/20/05	0.347	<0.010	<0.250	<0.002	<0.020	0.084	0.453	<0.005	0.015	<0.00020	<0.010	<0.010	0.055	0.288	47.6	213	9.50	NS	NS	232	
10/19/06	0.937	<0.010	<0.250	<0.002	<0.020	<0.020	1.63	<0.005	0.130	<0.00020	<0.010	<0.010	0.022	0.226	59.2	168	2.97	NS	NS	423	
4/27/07	0.446	<0.010	<0.250	<0.002	<0.020	<0.020	1.24	<0.005	0.018	<0.00020	<0.010	<0.010	<0.020	0.188	27.4	128	3.60	NS	NS	209	
11/19/07	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	0.104	<0.005	0.011	<0.00020	<0.010	<0.010	<0.020	0.117	61.5	243	3.54	NS	NS	371	
4/30/08	0.170	<0.010	<0.250	<0.002	<0.020	<0.020	0.242	<0.005	0.021	<0.00020	<0.010	<0.010	<0.020	0.238	56.3	171	2.69	NS	NS	260	
10/29/08	<0.100	<0.010	0.0564	0.0003	<0.010	0.003	0.0206	<0.010	0.006	0.00005	<0.010	<0.010	0.051	0.229	76.3	254	2.87	NS	NS	392	
4/30/09	<0.100	<0.010	0.0648	<0.001	<0.010	<0.010	0.0778	0.0054	0.0083	<0.0002	0.0099	<0.010	0.0159	0.302	52.3	211	4.47	NS	NS	325	

**TABLE 2B
SURFACE WATER ANALYTICAL RESULTS SUMMARY
ASH LANDFILL - PERMIT 34-05
RURAL HALL, NORTH CAROLINA**

Sample Location / ID	Date	Aluminum	Arsenic	Barium	Cadmium	Chromium (Total)	Copper	Iron	Lead	Manganese	Mercury	Selenium	Silver	Zinc	Nitrate-nitrogen	Sulfate	Dissolved Solids	Total Organic Carbon	pH	Temperature (degrees Celsius)	Conductivity (µmhos/cm)	
NC 2L Ground Water Standard		NE	0.050	2.0	0.00175	0.050	1.0	0.300	0.015	0.050	0.00105	0.050	0.0175	1.05	10.0	250	500	NE	6.5 - 8.5	NE	NE	
Solid Waste Section Limit		NE	0.010	0.100	0.001	0.010	0.010	0.300	0.010	0.050	0.0002	0.010	0.01	0.01	10.0	250	NE	NE	NE	NE	NE	
NC 2B Surface Water Standard		0.087	0.050	1.0 ¹	0.002	0.050	0.007	1.0	0.025	0.200 ¹	0.000012	0.005	0.00006	0.05	10.0 ¹	250 ¹	500 ¹	NE	6.0 - 9.0	NE	NE	
RHSS-002 Surface Water - Downstream	9/24/90	0.130	<0.010	0.094	0.0046	<0.020	<0.020	0.1	<0.005		<0.00020	<0.010	<0.010	<0.020	1.14	47	141	15.0	7.5	14.6	607	
	10/24/91		<0.010	0.17	<0.002	<0.020	<0.020	0.82	<0.005	0.711	<0.00020	<0.010	<0.010	0.08	1.02	490	806	10.0	7.8	18	1,280	
	3/26/92	7.650	<0.010	<0.250	0.0021	<0.020	<0.020	8.07	0.0129	0.130	<0.00020	<0.010	<0.010	<0.020	0.25	13	149	12.0	6.0	11.5	111	
	9/30/92	0.330	<0.010	<0.250	<0.002	<0.020	<0.020		<0.005		<0.00020	0.0073	<0.010	<0.020	0.55	183	474	3.0	6.1	15.1	778	
	3/31/93	0.208	<0.010	<0.250	<0.002	<0.020	<0.020	0.675	<0.005	0.327	<0.00020	<0.010	<0.010	<0.020	0.35	70	185	4.0	5.8	14.1	341	
	9/17/93	0.470	<0.010	<0.250	<0.002	<0.020	<0.020	1.27	<0.005	0.722	<0.00020	<0.010	<0.010	<0.020	2.3	154	523	4.0	7.5	22.2	754	
	3/30/94	0.220	<0.010	<0.250	<0.002	0.032	<0.020	1.12	<0.005	0.117	<0.00020	<0.010	<0.010	0.165	0.32	40	143		6.0	14.4	692	
	9/30/94	0.120	<0.010	<0.250	<0.002	<0.020	0.028	0.47	<0.005	0.356	<0.00020	<0.010	<0.010	0.024	0.325	135	397	37.9	7.4	18.6	573	
	3/31/95	0.165	<0.010	<0.250	<0.002	<0.020	<0.020	0.526	<0.005	0.332	<0.00020	<0.010	<0.010	0.041	0.75	102	342		7.9	14.5	496	
	9/29/95	0.406	<0.010	<0.250	<0.002	<0.020	<0.020	1.02	0.006	0.598	<0.00020	<0.010	<0.010	<0.020	1.03	155	505	2.68	5.6	13.5	1,095	
	3/30/96	0.426	<0.010	<0.250	<0.002	<0.020	<0.020	0.787	<0.005	0.250	<0.00020	<0.010	<0.010	<0.020	0.19	31	198	2.99	6.5	12	282	
	9/27/96	0.061	<0.010	<0.250	<0.002	<0.020	<0.020	0.227	0.01	0.262	<0.00020	<0.010	<0.010	0.047	0.75	147	409	3.19	7.6	20	613	
	3/29/97	0.209	<0.010	<0.250	<0.002	<0.020	<0.020	0.644	<0.005	0.246	<0.00020	<0.010	<0.010	0.01	0.45	73	255	2.47	7.8	16	224	
	9/17/97	0.165	<0.010	<0.250	<0.002	<0.020	<0.020	0.428	0.006	0.333	<0.00020	<0.005	<0.010	0.153	2.21	160	562	2.43	7.8	18	826	
	3/27/98	0.220	<0.010	<0.250	<0.002	<0.020	<0.020	0.960	<0.005	0.363	<0.00020	<0.010	<0.010	0.032	0.550	94	324	3.96	7.8	17.5	724	
	9/30/98	0.100	<0.010	<0.250	<0.002	<0.020	<0.020	0.595	<0.005	0.351	<0.00020	<0.010	<0.010	<0.020	1.55	89	444	6.85	7.4	19	368	
	3/31/99	0.129	<0.010	<0.250	<0.002	<0.020	<0.020	0.947	<0.005	0.587	<0.00020	<0.010	<0.010	<0.020	1.55	204	420	3.26	7.4	17	340	
	9/29/99	1.380	<0.010	<0.250	<0.002	<0.020	<0.020	3.03	<0.005	0.147	<0.00020	<0.010	<0.010	0.021	0.16	46	173	8.10	7.6	17	623	
	9/15/00	0.283	<0.010	<0.250	<0.002	<0.020	<0.020	0.225	<0.005	0.416	<0.00020	<0.010	<0.010	<0.020	1.24	170	439	6.58	7.4	20	640	
	3/16/00	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	0.96	<0.005	0.464	<0.00020	<0.010	<0.010	<0.020	1.18	175	500	3.75				
	3/23/01	0.108	<0.010	<0.250	<0.002	<0.020	<0.020	0.26	0.007	0.135	<0.00020	<0.010	<0.010	0.034	0.103	72	224	3.08	6.6	16	170	
	10/4/01	0.166	<0.010	<0.250	<0.002	<0.020	<0.020	0.746	0.008	0.91	<0.00020	<0.010	<0.010	<0.020	6.32	421	1,250	27	7.2	19	680	
	3/28/02	0.121	<0.010	<0.250	<0.002	<0.020	<0.020	0.502	<0.005	0.206	NS	<0.010	<0.010	<0.020	0.32	127	405	2.97	7.4	11	510	
	10/3/02	0.220	<0.010	<0.250	<0.002	<0.020	<0.020	0.494	<0.005	0.549	<0.00020	<0.010	<0.010	<0.020	1.11	266	517	4.28	5.8	18	130	
	3/25/03	1.57	<0.010	<0.250	<0.002	<0.020	<0.020	1.28	0.006	0.264	<0.00020	<0.010	<0.010	0.024	0.162	90	234	1.91	6.0	18	1,260	
	duplicate	3/25/03	1.75	<0.010	<0.250	<0.002	<0.020	<0.020	1.32	<0.005	0.265	<0.00020	<0.010	<0.010	0.024	0.194	95	235	2.00	6.0	18	1,260
	10/2/03	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	1.01	<0.005	0.546	<0.00020	<0.010	<0.010	<0.020	0.61	115	395	2.50	6.5	14	556	
	4/28/04	0.109	<0.010	<0.250	<0.002	<0.020	<0.020	0.40	<0.005	0.417	<0.00020	<0.010	<0.010	<0.020	0.608	220	394	2.26	NS	12.7	623	
	10/26/04	0.216	<0.010	<0.250	<0.002	<0.020	<0.020	0.839	<0.005	0.582	<0.00020	<0.010	<0.010	<0.020	2.00	276	554	3.06	NS	NS	807	
	4/27/05	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	0.356	<0.005	0.272	<0.00020	<0.010	<0.010	<0.020	0.648	38	460	2.48	NS	NS	737	
10/20/05	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	0.072	1.12	<0.005	0.33	<0.00020	<0.010	<0.010	0.048	0.546	240	571	3.4	NS	NS	419	
10/19/06	0.530	<0.010	<0.250	<0.002	<0.020	<0.020	1.06	<0.005	0.534	<0.00020	<0.010	<0.010	0.032	0.299	204	422	3.49	NS	NS	550		
4/27/07	0.389	<0.010	<0.250	<0.002	<0.020	<0.020	0.811	<0.005	0.488	<0.00020	<0.010	<0.010	<0.020	0.333	439	303	4.42	NS	NS	511		
11/19/07	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	0.136	<0.005	0.308	<0.00020	<0.010	<0.010	0.023	0.258	300	647	3.54	NS	NS	908		
4/30/08	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	0.278	<0.005	0.254	<0.00020	<0.010	<0.010	0.046	0.285	159	371	2.74	NS	NS	569		
10/29/08	<0.100	<0.010	0.0563	0.00024	<0.010	<0.010	0.128	<0.010	0.318	<0.00020	<0.010	<0.010	0.0142	0.407	342	708	3.43	NS	NS	1,070		
4/30/09	<0.100	<0.010	0.0608	<0.001	<0.010	<0.010	0.0894	<0.010	0.222	<0.0002	<0.010	<0.010	0.0192	0.499	201	518	3.39	NS	NS	821		

**TABLE 2B
SURFACE WATER ANALYTICAL RESULTS SUMMARY
ASH LANDFILL - PERMIT 34-05
RURAL HALL, NORTH CAROLINA**

Sample Location / ID	Date	Aluminum	Arsenic	Barium	Cadmium	Chromium (Total)	Copper	Iron	Lead	Manganese	Mercury	Selenium	Silver	Zinc	Nitrate-nitrogen	Sulfate	Dissolved Solids	Total Organic Carbon	pH	Temperature (degrees Celsius)	Conductivity (µmhos/cm)	
NC 2L Ground Water Standard		NE	0.050	2.0	0.00175	0.050	1.0	0.300	0.015	0.050	0.00105	0.050	0.0175	1.05	10.0	250	500	NE	6.5 - 8.5	NE	NE	
Solid Waste Section Limit		NE	0.010	0.100	0.001	0.010	0.010	0.300	0.010	0.050	0.0002	0.010	0.01	0.01	10.0	250	NE	NE	NE	NE	NE	
NC 2B Surface Water Standard		0.087	0.050	1.0 ¹	0.002	0.050	0.007	1.0	0.025	0.200 ¹	0.000012	0.005	0.00006	0.05	10.0 ¹	250 ¹	500 ¹	NE	6.0 - 9.0	NE	NE	
RET. POND MW-001 Surface Water from Sediment Basin at W-1	9/30/94	2.58	0.016	<0.250	<0.002	<0.020	0.044	23.2	<0.005	6.49	<0.00020	<0.010	<0.010	0.035	2.95	787	2,230	258.00	7.4	22.5	3,140	
	3/31/95	0.66	<0.010	<0.250	<0.002	<0.020	<0.020	5.15	<0.005	2.36	<0.00020	<0.010	<0.010	0.155	8.88	794	2,540	459	7.8	17.5	3,680	
	9/29/95	0.156	<0.010	<0.250	<0.002	<0.020	<0.020	5.24	0.008	4.88	<0.00020	<0.010	<0.010	<0.020	1.03	801	2,660	4.95	5.4	14.8	4,220	
	3/30/96	0.112	<0.010	<0.250	0.002	<0.020	<0.020	5.02	<0.005	5.4	<0.00020	<0.010	<0.010	<0.020	2.08	--	2,340	6.65	7.2	15	3,050	
	9/27/96	0.167	<0.010	<0.250	<0.002	<0.020	<0.020	--	0.009	4.53	<0.00020	<0.010	<0.010	0.066	1.70	1,010	2,700	4.04	7.3	23	1,510	
	3/29/97	0.097	<0.010	<0.250	<0.002	<0.020	<0.020	6.18	<0.005	5.46	<0.00020	<0.010	<0.010	0.010	1.29	1,050	2,460	4.31	7.5	22	1,770	
	3/17/97	0.164	<0.010	<0.250	<0.002	<0.020	<0.020	3.66	<0.005	5.40	<0.00020	<0.010	<0.010	0.055	0.608	1,160	3,000	6.43	7.2	22	3,660	
	duplicate	3/27/98	<0.100	0.010	<0.250	<0.002	<0.020	<0.020	11.4	<0.005	5.90	<0.00020	<0.010	<0.010	0.021	0.290	942	2,780	4.43	7.2	23.4	1,419
	9/30/98	0.274	<0.010	<0.250	<0.002	<0.020	<0.020	--	<0.005	4.94	<0.00020	<0.010	<0.010	<0.020	--	666	2,700	15.4	7.6	20	1,200	
	3/31/99	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	7.55	0.006	4.45	<0.00020	<0.010	<0.010	<0.020	0.600	1,560	2,930	7.92	7.3	18	1,021	
	9/29/99	0.877	<0.010	<0.250	<0.002	<0.020	<0.020	6.77	<0.005	0.862	<0.00020	<0.010	<0.010	0.08	3.36	330	715	13.30	7.1	18	2,930	
	3/16/00	0.41	<0.010	<0.250	<0.002	<0.020	<0.020	72	<0.005	4.54	<0.00020	<0.010	<0.010	<0.020	1.09	948	2,610	10.60	--	--	--	
	9/15/00	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	2.02	<0.005	3.48	<0.00020	<0.010	<0.010	<0.020	6.27	894	2,470	5.21	6.6	19	980	
	3/23/01	0.144	<0.010	<0.250	0.004	<0.020	<0.020	35.9	0.012	4.07	<0.00020	<0.010	<0.010	<0.020	0.48	926	2,630	5.85	6.5	17	480	
	duplicate	3/23/01	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	6.9	0.007	4.19	<0.00020	<0.010	<0.010	<0.020	0.35	939	2,640	7.52	6.5	17	480
	10/4/01	0.204	<0.010	<0.250	<0.002	<0.020	<0.020	0.915	0.007	0.229	<0.00020	<0.010	<0.010	<0.020	<0.05	<5.00	186	7.8	6.3	20	300	
	3/28/02	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	5.1	<0.005	3.66	NS	<0.010	<0.010	<0.020	0.28	1,000	3,010	3.77	6.4	12	1,080	
	duplicate	10/3/02	<0.100	<0.010	<0.250	0.002	<0.020	0.027	1.52	<0.005	3.34	<0.00020	<0.010	<0.010	<0.020	1.82	1,030	2,940	4.94	6.7	18	370
	10/3/02	<0.100	<0.010	<0.250	0.002	<0.020	<0.020	0.024	1.58	<0.005	3.33	<0.00020	<0.010	<0.010	<0.020	1.78	1,040	2,860	5.12	5.7	18	370
	3/25/03	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	6.69	0.006	3.56	<0.00020	<0.010	<0.010	0.025	0.406	846	2,530	3.72	6.6	17	330	
	duplicate	10/2/03	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	11.3	0.007	3.88	<0.00020	<0.010	<0.010	0.042	0.174	916	2,710	3.92	5.6	15	3,050
	10/2/03	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	11.4	0.006	3.88	<0.00020	<0.010	<0.010	<0.020	<0.050	958	2,690	3.9	5.6	15	3,170	
	4/28/04	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	11.1	0.006	6.08	<0.00020	<0.010	<0.010	<0.020	<0.050	1,460	2,550	5.36	NS	17.3	2860	
	10/26/04	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	5.25	<0.005	4.55	<0.00020	<0.010	<0.010	<0.020	0.287	1,190	2,950	3.64	NS	NS	3,480	
	4/27/05	<0.100	<0.010	<0.250	0.002	<0.020	<0.020	7.63	0.007	5.73	<0.00020	<0.010	<0.010	<0.020	<0.050	1,100	2,550	4.71	NS	NS	2,870	
	10/20/05	1.63	<0.010	<0.250	0.004	<0.020	<0.020	103	0.006	4.88	<0.00020	<0.010	<0.010	0.057	0.428	403	3,010	89	NS	NS	529	
	10/19/06	0.172	<0.010	<0.250	0.002	<0.020	<0.020	0.347	27.4	<0.005	3.60	<0.00020	<0.010	<0.010	0.027	0.139	1,320	2,850	4.37	NS	NS	2,000
	4/27/07	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	5.36	<0.005	2.38	<0.00020	<0.010	<0.010	<0.020	0.287	1,380	2,750	4.01	NS	NS	4,830	
11/19/07	<0.100	0.042	<0.250	0.002	<0.020	<0.020	48.2	<0.005	3.28	<0.00020	<0.010	<0.010	0.025	<0.050	1,560	3,060	3.82	NS	NS	3,300		
4/30/08	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	9.68	<0.005	2.99	<0.00020	<0.010	<0.010	0.022	0.155	1,100	2,910	3.38	NS	NS	4,880		
10/29/08	<0.100	<0.010	0.0687	<0.001	<0.010	<0.010	4.84	0.0035	2.88	<0.00020	<0.010	<0.010	<0.010	<0.050	188	3,060	3.510	NS	NS	4,200		
4/30/09	<0.100	<0.010	0.0774	0.0018	<0.010	0.0036	4.08	0.0044	3.10	<0.0002	<0.010	<0.010	<0.010	0.264	37.7	2,904	3.940	NS	NS	4,070		

**TABLE 2B
SURFACE WATER ANALYTICAL RESULTS SUMMARY
ASH LANDFILL - PERMIT 34-05
RURAL HALL, NORTH CAROLINA**

Sample Location / ID	Date	Aluminum	Arsenic	Barium	Cadmium	Chromium (Total)	Copper	Iron	Lead	Manganese	Mercury	Selenium	Silver	Zinc	Nitrate-nitrogen	Sulfate	Dissolved Solids	Total Organic Carbon	pH	Temperature (degrees Celsius)	Conductivity (µmhos/cm)
NC 2L Ground Water Standard		NE	0.050	2.0	0.00175	0.050	1.0	0.300	0.015	0.050	0.00105	0.050	0.0175	1.05	10.0	250	500	NE	6.5 - 8.5	NE	NE
Solid Waste Section Limit		NE	0.010	0.100	0.001	0.010	0.010	0.300	0.010	0.050	0.0002	0.010	0.01	0.01	10.0	250	NE	NE	NE	NE	NE
NC 2B Surface Water Standard		0.087	0.050	1.0 ¹	0.002	0.050	0.007	1.0	0.025	0.200 ¹	0.000012	0.005	0.00006	0.05	10.0 ¹	250 ¹	500 ¹	NE	6.0 - 9.0	NE	NE
RET. POND MW-003 Surface Water from Sediment Basin at W-3	9/30/94	1.77	<0.010	<0.250	<0.002	<0.020	0.113	3.37	<0.005	2.2	<0.00020	<0.010	<0.010	0.096	0.20	159	415	20.1	6.9	19.6	519
	3/31/95		<0.010	<0.250	<0.002	<0.020	<0.020	4.86	<0.005	5.98	<0.00020	<0.010	<0.010	0.032	0.10	294	625		7.6	13.6	896
	9/29/95	1.64	<0.010	<0.250	<0.002	<0.020	<0.020	3.42	0.007	2.94	<0.00020	<0.010	<0.010	0.104	0.463	314	740	3.74	4.9	14	1,040
	3/30/96	11.4	<0.010	<0.250	0.002	<0.020	<0.020	23.3	0.009	3.16	<0.00020	<0.010	<0.010	0.126	0.13	222	552	3.83	7.2	12	750
	9/27/96	0.11	<0.010	<0.250	<0.002	<0.020	<0.020	1.01	0.007	2.36	<0.00020	<0.010	<0.010	0.03	0.16	283	737	6.73	7.6	20	974
	3/29/97	0.238	<0.010	<0.250	<0.002	<0.020	<0.020	1.93	<0.005	3.05	<0.00020	0.013	<0.010	0.02	0.18	809	807	4.17	7.8	16	590
	9/17/97	0.169	<0.010	<0.250	<0.002	<0.020	<0.020	0.715	0.005	3.06	<0.00020	0.006	<0.010	0.212	0.330	562	1,290	5.29	7.7	19	1,650
	3/27/98	0.270	<0.010	<0.250	<0.002	<0.020	<0.020	2.50	<0.005	3.37	<0.00020	0.013	<0.010	0.041	0.250		929	6.98	7.2	20.0	1,214
	9/30/98	0.353	<0.010	<0.250	<0.002	<0.020	<0.020	1.38	<0.005		<0.00020	0.017	<0.010	<0.020	0.780	367	1,280	10.1	6.9	19	920
	3/31/99	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	4.83	<0.005	5.55	<0.00020	<0.010	<0.010	<0.020	0.19	482	842	7.58	7.1	16	592
	9/29/99	0.677	<0.010	<0.250	<0.002	<0.020	<0.020	1.94	<0.005	0.894	<0.00020	<0.010	<0.010	<0.020	0.10	258	413	8.14	7.7	19	741
	9/15/00	0.224	<0.010	<0.250	<0.002	<0.020	<0.020	2.38	<0.005	2.8	<0.00020	<0.010	<0.010	<0.020	0.16	550	1,260	8.58	7.1	21	680
	3/23/01	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	3.69	0.010	2.25	<0.00020	<0.010	<0.010	0.030	0.23	530	1,230	5.72	6.6	17	640
	10/4/01	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	4.24	0.006	3.65	<0.00020	<0.010	<0.010	<0.020	0.08	592	1,440	30	7.0	20	600
	3/28/02	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	5.62	<0.005	2.18	NS	<0.010	<0.010	<0.020	0.11	682	1,590	5.36	6.4	13	680
	10/3/02	<0.100	<0.010	<0.250	0.002	<0.020	<0.020	6.51	<0.005	5.29	<0.00020	<0.010	<0.010	<0.020	<0.050	932	1,900	8.51	6.2	19	150
	3/25/03	3.28	<0.010	<0.250	<0.002	<0.020	<0.020	6.17	0.008	4.29	<0.00020	<0.010	<0.010	0.078	0.088	784	1,520	1.34	6.4	18	110
	10/2/03	0.634	<0.010	<0.250	<0.002	<0.020	<0.020	5.95	0.008	6.75	<0.00020	<0.010	<0.010	0.05	0.174	765	1,420	3.97	6.1	14	1,460
	4/28/04	0.152	<0.010	<0.250	<0.002	<0.020	<0.020	8.37	<0.005	6.72	<0.00020	<0.010	<0.010	<0.020	0.224	1,040	1810	3.89	NS	12.1	2030
	10/26/04	0.554	<0.010	<0.250	0.005	<0.020	<0.020	16.3	<0.005	4.22	<0.00020	<0.010	<0.010	0.036	0.289	1,070	2,140	5.16	NS	NS	2,150
4/27/09	<0.100	<0.010	<0.250	0.002	<0.020	<0.020	4.47	<0.005	6.11	<0.00020	<0.010	<0.010	<0.020	0.246	1,075	2,090	4.05	NS	NS	2,320	
10/20/05	<0.100	<0.010	<0.250	0.005	<0.020	0.027	7.90	<0.005	5.87	<0.00020	<0.010	<0.010	0.044	0.279	1,300	2,090	30	NS	NS	1,060	
10/19/06	<0.100	<0.010	1.46	<0.002	<0.020	<0.020	6.04	<0.005	4.55	<0.00020	<0.010	<0.010	0.021	0.281	1,170	1,920	4.2	NS	NS	1,370	
4/27/07	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	8.33	<0.005	4.19	<0.00020	<0.010	<0.010	<0.020	0.290	1,130	2,130	3.83	NS	NS	2,230	
11/19/07	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	8.20	<0.005	6.00	<0.00020	<0.010	<0.010	<0.020	0.064	1,680	2,550	4.59	NS	NS	2,710	
4/30/08	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	3.36	<0.005	3.80	<0.00020	<0.010	<0.010	0.037	0.297	2,090	2,110	3.56	NS	NS	2,290	
10/29/08	<0.100	<0.010	0.0593	<0.001	<0.010	<0.010	2.88	0.0023	4.36	<0.0002	<0.010	<0.010	<0.010	0.171	988	2,360	3.48	NS	NS	2,740	
4/30/09	<0.100	<0.010	0.0532	<0.001	<0.010	<0.010	4.62	0.0072	4.96	<0.0002	<0.010	<0.010	0.0146	0.337	261	2,460	4.11	NS	NS	2,930	

Notes:
 All concentrations in milligrams per liter. NE - Not established
 NS - Not sampled ¹ - No freshwater aquatic life standard established. Water Supply criteria presented. Gray background indicates exceedance of NC 2B Surface Water Standard