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FAX COVER SHEET

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SOLID WASTE DIV.

Company Name: DENR	From: GEOFF UNDERWOOD
Attention: William Hocut	Date: 7/10/01
Fax Number: (919)733-4810	Phone Number:

Total pages, including cover: 5

COMMENTS:

3 pages - text
1 " - table
Drawing from his Eng'R is large format - I will FED-EX to W. Hocutt. Dean Johnson from Ash Basics will follow up with phone call in A.M. Thanks, let me know if any questions.
GEOFF

IF YOU RECIEVE THIS FAX IN ERROR PLEASE CALL THE ABOVE PHONE NUMBER

GROUND
TECHNOLOGICAL
SERVICES
INC.

July 6, 2001

Mr. William Hocutt
NCDENR Division of Solid Waste Management
Mail Service Center 1646
Raleigh, North Carolina 27699-1646

RE: "Race Park USA"
Proposed Conditioned Ash structural fill site: geoprobe borings
Dooley Road, Iredell County
Mooresville, North Carolina
GTSI-10123

Dear Mr. Hocut,

INTRODUCTION:

Ground Technological Services Inc. (GTSI) in conjunction with SAEDACCO Drilling has performed a subsurface evaluation within geoprobe holes on the referenced site. In accordance with the NCDENR 15A-13B.17. - "Conditioned Ash Restrictions", ash fill setback requirements include a minimum 2.0-foot vertical separation from the ash fill horizon to the top of the seasonal high groundwater level. The work was performed on July 3, 2001 to determine existing groundwater elevation measurements within the Geoprobe holes in addition to the maximum high groundwater fluctuation levels based on soil evaluations within the push holes.

Previous work included nine hand auger borings on May 27, 2001 advanced below *residual* grade to a depth of 3.0 feet below residual grade (reported May 29, 2001). The borings were advanced for groundwater measurement purposes, with groundwater noted in the topographically lower B-4 (-14") and B-8 (36") borings.

According to NRCS, DENR and USGS officials, groundwater elevations within one Mecklenburg County well has fluctuated up to approximately 6.0 feet over ten-year periods. Thus based on drought conditions encountered regionally over the last 3 years, the 6.0 foot fluctuation noted above, and *previous* undetermined on-site groundwater fluctuation levels, DENR officials recommended a minimum of 8.0 feet of earthen fill (inclusive of 2.0-foot vertical setback) prior to structural ash fill placement.

INVESTIGATION:

Subsequent to our prior report, contractors have installed structural fill ranging in depth from 0.0' (higher elevations) to 5.0 feet (lower elevations). GTSI retained SAEDAACO of Charlotte, N. C. for direct push drilling at nine locations depicted in Figure 1. The boring locations were surveyed and staked with elevations recorded at *existing* grade surface elevations recorded prior to our arrival and following the structural fill installation. The borings were terminated at a depth of 8.0 feet below the existing soil subgrade elevations.

Push driven sampling tubes collected soil cores in sealed plastic tubes representing the interval from 0.0 to 8.0 feet below existing grade. A soils evaluation of the core samples interpreted groundwater measurements, textural properties and hydric soil indicators including gleying and mottling.

Surveyed grade elevations at the nine geoprobe holes varied from 817.68' to 837.93'.

RESULTS:

Bright orange mottles indicative of seasonally elevated groundwater were encountered in B-5, B-6, B-7 and B-8 at elevations ranging from 6.0 to 6.8 feet below existing grade. In B-8, low chroma gleyed soils signifying long term reducing, saturated conditions were noted in at 7.1', with saturated soils encountered at 7.8 '. Soils were noted as moist generally below 6.0'. A more complete description of the soil characteristics has been provided in the Appendix.

CONCLUSIONS:

GTSI recommends installing at least 2.0 feet of additional earthen fill in the lower elevation areas represented by B-3, B-4, B-5, B-6, B-7 and B-8 to maintain the required 2.0 feet vertical setback distance from seasonal high groundwater elevations. Borings locations have been plotted on the attached drawing.

If you should have any questions, please call us at your convenience.

Sincerely,
Ground Technological Services, Inc.

Geoff Underwood
Staff Geologist

Gary L. Gechter P.G.
President

Mark W. Hoidas P.E.
Vice President- Engineering

NORTH CAROLINA PROFESSIONAL SEAL 025256 ENGINEER MARK W. HOIDAS
7/16/01

c.c. Tim Jewett DENR Division of Waste Management
Winton-Salem Regional Office: 585 Waughtown Rd. 27107

c.c. Dean Johnson
Ash Basics Company

GEOPROBE LOGS: July 3, 2001

D-1	827.91	Tan sandy silt Red brown clayey sand Red sand Saprolite- Brown sand w/clay	0.0-0.5 0.5-1.8 1.8-3.2 3.2-8.0	Moist at	6.5
D-2	826.72	Brown sand w/red silty clay Saprolite: grey silty sand	0.0-3.2 3.2-8.0	Moist	6.2
3	818.73	Light brown silty sand Orange/brown/white sandy silt Saprolite:brown/blacksandy silt	0.0-0.9 0.9-2.9 2.9-8.0	Moist	6.0
4	823.45	Brown silty sand Grey sand Orange silty sand Saprolite: white-grey-orange silty sand	0.0-0.4 0.4-3.6 3.6-4.2 4.2-8.0	Moist	6.0
5	820.84	Dark brown clayey sand with black organics orange brown sandy clay tan sticky sandy clay	0.0-4.1 4.1-6.8 6.8-8.0	Orange mottles and moist	6.8
6	837.93	Dark red silty clay Dark red sandy clay Tan sandy clay	0.0-4.1 4.1-6.1 6.1-8.0	Orange mottles moist	6.1 (moderate) 6.1
7	831.27	Dark red sandy silt Black organics Tan sand w/silt	0.0-2.1 2.1-6.0 6.0-8.0	Orange mottles moist	6.0 (moderate) 6.0
8	818.78	Red-brown silty sand Red silty sand Brown silty clay w/sand Brown organics Grey silty clay	0.0-2.9 2.9-4.2 4.2-5.5 5.5-6.5 6.5-8.0	Orange mottles Grey gleying Wet	6.5 –8.0 (fient) 7.1-8.0 7.8
9	817.68	Dark red sandy silt Brown sandy silt Black organics	0.0-1.9 1.9-3.2 3.2-8.0	Orange mottles saturated	6.1 7.5