



**CONCRETE TEST REPORT**

07/10/2006

RECEIVED  
JUL 17 2006  
ARCADIS Geophysics & Miller

Project Name: UNC CAMPUS AIRPORT DISPOSAL  
Client: ARCADIS

S&ME Project No. 1053-06-171  
Laboratory No. 8726

FIELD INFORMATION	FIELD TEST DATA	
Date Sampled: 06/08/2006 Sampled By: B.SWARR Date Received in Lab: 06/09/2006 Concrete Supplier: CHANDLER Truck No.: 158 Ticket No.: 1367783 Time Batched: 07:50 Time Sampled: 08:35 Size of Load: 9.0 CY Water Added on Site: 10 gal Authorized by: SUPPLIER	Mix Design No.: CH-66 - CHANDLER CONCRETE Admixture: Design Compressive Strength: 4,000 psi based on 28 days of age	
	Test specimens fabricated in general accordance with ASTM C-31	
	Slump: ASTM C143	Field: 3 3/4 Specified: 4.5 MAX
	Air Content: ASTM C231	Field: 0.4% Specified: 0-3%
	Temperature: ASTM C1064	Concrete: 81 F Air: 72 F
	Fresh Unit Weight: ASTM C138	146.2 pcf

CONCRETE PLACEMENT LOCATION
SLAB A TO B FROM 1 TO 2 SAMPLED @ 15'W & 5'S FROM NE CORNER OF SLAB

LABORATORY COMPRESSIVE STRENGTH TEST RESULTS (6+/-0.02" x 12" Cylinder tested in accordance with ASTM C39 unless otherwise noted)									
I.D. No.	Age (Days)	Date Tested	Type Curing	Diameter (inches)	Area (sq.in.)	Load (lbs)	L/D Factor	Strength (psi)	Fracture Type
5	7	06/15/2006	1F/6L	5.97	27.99	89,800	1.00	3,210	Cone & Split
6	28	07/06/2006	1F/27L	5.97	27.99	123,330	1.00	4,410	Cone & Split
7	28	07/06/2006	1F/27L	5.97	27.99	126,570	1.00	4,520	Cone & Split
8	56	08/03/2006	1F/55L	6.00	28.27	HOLD	1.00		

Notes: F = Field Cured, L = Lab Cured

Average 28 day strength = 4,470 psi

Comments:

Distribution: MR. JIM SHILLIDAY, III, LG, MR. WHIT RAWLS, MS. NICOLE BRADLEY

MR. MAL KRAJAN, A.E.T.

Name (Technical Responsibility)

*Mal Krajan TB*  
Signature

QUALITY SYSTEMS COORDINATOR

Position



**CONCRETE TEST REPORT**

06/26/2006

**RECEIVED**

JUL - 7 2006

ARCADIS Geraghty & Miller

Project Name: UNC CAMPUS AIRPORT DISPOSAL

Client: ARCADIS

S&ME Project No. 1053-06-171

Laboratory No. 8617

FIELD INFORMATION	FIELD TEST DATA
Date Sampled: 05/23/2006 Sampled By: A.RIKHEY Date Received in Lab: 05/24/2006 Concrete Supplier: CHANDLER Truck No.: 137 Ticket No.: 1361955 Time Batched: 02:22 Time Sampled: 03:14 Size of Load: 7.5 CY Water Added on Site: 0 gal Authorized by:	Mix Design No.: CH-39 - CHANDLER CONCRETE Admixture: Design Compressive Strength: 4,000 psi based on 28 days of age  Test specimens fabricated in general accordance with ASTM C-31 Slump: ASTM C143 Field: 4 1/2 Specified: 4.5 MAX Air Content: ASTM C231 Field: 2.1% Specified: 0-3% Temperature: ASTM C1064 Concrete: 76 F Air: 71 F Fresh Unit Weight: ASTM C138 146.4 pcf

CONCRETE PLACEMENT LOCATION
SE FOOTING SAMPLED @ 3'W & 2'S FROM NE CORNER OF SE FOOTING

LABORATORY COMPRESSIVE STRENGTH TEST RESULTS									
(6+/-0.02" x 12" Cylinder tested in accordance with ASTM C39 unless otherwise noted)									
I.D. No.	Age (Days)	Date Tested	Type Curing	Diameter (inches)	Area (sq.in.)	Load (lbs)	L/D Factor	Strength (psi)	Fracture Type
1	7	05/30/2006	1F/6L	5.97	27.99	84,910	1.00	3,030	Cone & Split
2	28	06/20/2006	1F/27L	5.97	27.99	131,460	1.00	4,700	Cone & Split
3	28	06/20/2006	1F/27L	5.97	27.99	124,290	1.00	4,440	Cone & Split
4	56	07/18/2006	1F/55L	6.00	28.27	HOLD	1.00		

Notes: F = Field Cured, L = Lab Cured

Average 28 day strength = 4,570 psi

Comments:

Distribution: MR. JIM SHILLIDAY, III, LG, MR. WHIT RAWLS, MS. NICOLE BRADLEY

MR. MAL KRAJAN, A.E.T.

Name (Technical Responsibility)

Signature

QUALITY SYSTEMS COORDINATOR

Position



**RECEIVED**

JUN 19 2006

ARCADIS Geraghty & Miller

June 5, 2006

Arcadis  
801 Corporate Center Drive  
Suite 300  
Raleigh, North Carolina 27607

ATTENTION: Mr. Jim Shilliday, III, LG

**Reference: SOIL DENSITY TEST RESULTS**  
UNC Campus Airport Disposal Area  
Chapel Hill, North Carolina  
S&ME Project No. 1053-06-171

Dear Mr. Shilliday:

Please find enclosed the results of field density test performed on May 22, 2006 at the above referenced project.

The above referenced in-place field density tests were obtained using general guidelines from ASTM D-1556, "Test Method for Density and Unit Weight of Soil in Place by the Sand Cone Method" and ASTM D-4959, "Test Method for Determination of Water (Moisture) Content of Soil by Direct Heating Method". Laboratory testing was performed in general accordance with the specified moisture-density relationship listed on the attached Summary of Density Test Results.

If you have any questions or comments concerning these results, please do not hesitate to contact our office.

Sincerely,  
S&ME, Inc.

Ms. Nicole Bradley  
Project Manager

NB/jp

Enclosure(s)

cc: Mr. Whit Rawls—Arcadis

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## Summary of Density Test Results

Page No. 1

Report Date: June 05, 2006

Project No.: 1053-06-171

Project Name: UNC CAMPUS AIRPORT DISPOSAL

Client: ARCADIS, 801 CORPORATE CENTER DRIVE, SUITE 300, RALEIGH, NORTH CAROLINA 27607

Test		In-Place Density Test			Check Plug Data		Reference Standard				Compaction		Location	Elevation or Stone Depth
No.	Date	Type	Dry Density	Moisture Content	Dry Density	Moisture Content	Type	Ref. Curve	MDD	Optimum Moisture Content	Percent Specified	Percent In-Place		
1	05/22/06	D 1556	93.3	28.5			D 698	1	91.5	28.4	95.0	100+	BLDG PAD; CENTER OF BLDG PAD	-1.5'
2	05/22/06	D 1556	96.6	27.8	89.7	22.2	D 698	1	91.5	28.4	95.0	100+	BLDG PAD; CENTER OF BLDG PAD	SG

\* = Failed Specified Compaction, \*\* = Failed Specified Moisture Content

All Test Locations and Elevations are Approximate

**Notes:**

**References:** ASTM D 1556: Density and Unit Weight of Soil In Place by the Sand Cone Method, ASTM D 698: Laboratory Compaction Characteristics of Soil Using Standard Effort

**Distribution:** MR. JIM SHILLIDAY, III, LG, MR. WHIT RAWLS, MS. NICOLE BRADLEY

MS. NICOLE BRADLEY

*Name (Technical Responsibility)*

*Signature*

PROJECT MANAGER

*Position*



May 12, 2006

Arcadis  
801 Corporate Center Drive  
Suite 300  
Raleigh, North Carolina 27606

Attention: Mr. Jim Shilliday, III, LG

Reference: **LABORATORY TEST RESULTS**  
UNC Airport Disposal Area  
Chapel Hill, North Carolina  
S&ME Job No. 1053-06-171

Dear Mr. Shilliday:

S&ME, Inc. has completed laboratory testing on materials from the UNC Airport Disposal Area project in Chapel Hill, North Carolina. Two bulk samples were obtained and delivered to our office. One sample was obtained from a hand auger boring for classification testing and the other sample was obtained from American Stone for Moisture-Density Relations testing. This report presents results of laboratory testing.

## **LABORATORY TESTING**

Laboratory testing of soil samples were conducted in general accordance with ASTM D-698, "Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort," ASTM D-2216, "Standard Test Method for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass," ASTM D-854, "Specific Gravity of Soils", ASTM D-2487 "Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)." ASTM D-422 "Standard Test Method for Particle-Size Analysis of Soils," and ASTM D-4818, "Standard Test Method for Liquid Limit, Plastic Limit, and Plastic Index of Soils."

Results of Laboratory Testing  
Classification Sample Numbers 1 through 7 (5/02/2006)  
Sam's Club #4946  
Rocky Mount, North Carolina

S&ME Project Number 1053-06-070  
May 8, 2006


The sample obtained for classification testing (HA-1, Sample 1) was classified in general accordance with ASTM D-2487 "Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)." This sample classifies as sandy silty clay (CH) with a liquid limit of 78, a plastic limit of 34, and a plastic index of 44. Grain size analysis results indicate fines contents (passing the sieve no.200) of 89.6 percent of the total sample.

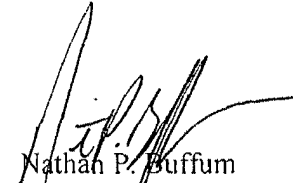
Laboratory Test results indicate the sample obtained for Moisture-Density Relations testing consisted of sandy clayey silt with gravel (visual). The Moisture-density Relations indicate a maximum dry density (MDD) of 96.3 pounds per cubic foot (PCF) with an optimum moisture content of 25.3 percent. The natural moisture content was approximately 26.9 percent.

We have attached laboratory test results for your review. S&ME, Inc. appreciates the opportunity to be of service to you on this project. If you have any questions concerning this report, please contact our office.

Sincerely,

**S&ME, Inc.**

  
Malyne L. Krajan, A.E.T.  
Quality System Manager

  
Nathan P. Buffum  
Project Manager

  
David B. Carver  
Construction Services Manager

Enclosures

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# Particle Size Analysis of Soils

ASTM D 422

**Project #:** 1053-06-171

**Test Date(s):** 04/28 - 05/02/2006

**Project Name:** UNC Airport Disposal Area

**Report Date:** 05/02/2006

**Client Name:** Arcadis

**Client Address:** 801 Corporate Center Drive, Suite 300, Raleigh, North Carolina 27606

**Boring #:** HA-1      **Sample #:** 1      **Sample Date:** 04/28/2006  
**Location:** Hand Auger Boring      **Depth (ft):** -1.0'  
**Sample Description:** Orange Brown Fine Sandy Silty CLAY (CH)

Particle Size Analysis / Without Hydrometer Analysis			Moisture Content		Natural
				Tare #	37
	Tare Number	37	A	Tare Weight	112.51
A	Tare Weight	112.51	B	Wet Weight + Tare Wt.	364.03
B	Total Sample Dry Wt. + Tare Wt.	298.84	C	Dry Weight + Tare Wt.	298.84
C	Total Sample Dry Weight (B-A)	186.33	D	Water Wt. (B-C)	65.19
D	Total Sample Wt. After #200 Wash	19.82	E	Dry Wt.(C-A)	186.33
E	Percent Passing #200 (1-D/C)x100	89.4%	Moisture Content (100 x D/E) (%)		35.0%

Sieve Size (mm)	Sieve Size	Retained Weight	Percent Retained	Percent Passing Total Sample
37.50	1.5"	0.0	0.0%	100.0%
25.00	1.0"	0.00	0.0%	100.0%
19.00	3/4"	0.00	0.0%	100.0%
12.50	1/2"	0.00	0.0%	100.0%
9.50	3/8"	0.00	0.0%	100.0%
4.75	#4	0.10	0.1%	99.9%
2.00	#10	0.70	0.4%	99.6%
0.85	#20	1.19	0.6%	99.4%
0.43	#40	2.83	1.5%	98.5%
0.25	#60	7.85	4.2%	95.8%
0.15	#100	13.52	7.3%	92.7%
0.075	#200	19.45	10.4%	89.6%

<b>Notes:</b>	Maximum Particle Size	3/8"	Gravel	< 75 mm and > 4.75 mm (#4)	0.1%
	Apparent Relative Density	ND	Coarse Sand	< 4.75 mm and > 2.00 mm (#10)	0.3%
	Liquid Limit	78	Medium Sand	< 2.00 mm and > 0.425 mm (#40)	1.1%
	Plastic Limit	34	Fine Sand	< 0.425 mm and > 0.075 mm (#200)	8.9%
	Plastic Index	44	% Silt and Clay	< 0.075 mm	89.6%
<b>ND=Not determined</b>			Description of Sand & Gravel	Rounded <input checked="" type="checkbox"/> Angular <input checked="" type="checkbox"/>	
			Hard & Durable <input type="checkbox"/> Soft <input type="checkbox"/>	Weathered & Friable <input checked="" type="checkbox"/>	

Organic Content      ND

D10 =      D30 =      D60 =      D50 =      D90 =

ASTM D 422: Particle Size Analysis of Soils      *Hydrometer portion of test method not utilized.*  
 ASTM D 421: Dry Preparation of Soil Samples      ASTM D 854: Specific Gravity of Soils  
 ASTM D 4318: Liquid Limit, Plastic Limit, & Plastic Index of Soils  
 ASTM D 2487: Classification of Soils for Engineering Purposes (Unified Soil Classification System)

**Technician Name:** Chana Savanapridi

NICET 116132  
 Certification  
  
 Signature

**Technical Responsibility:** Mal Krajan

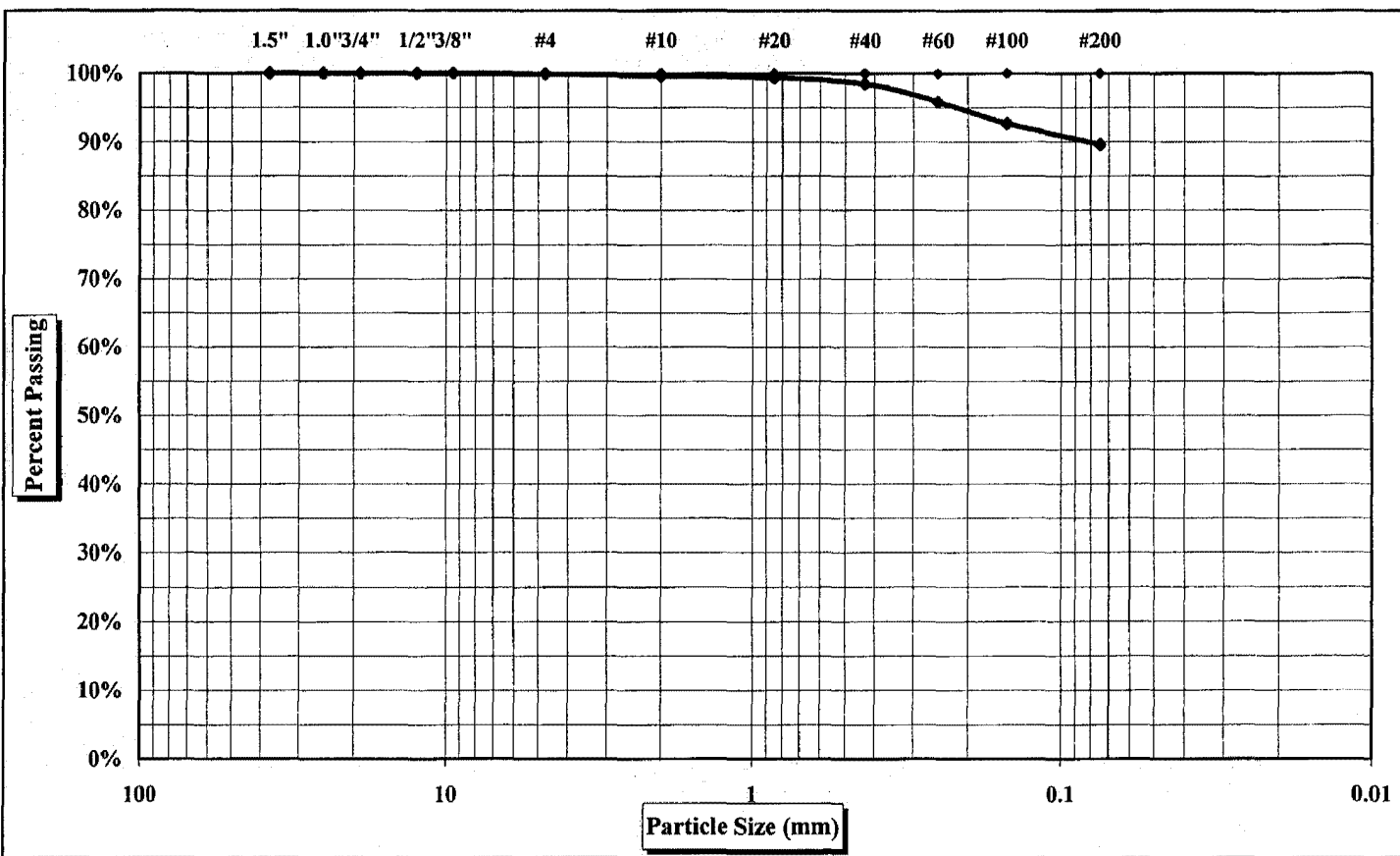
Laboratory Supervisor  
 Position

## Particle Size Analysis of Soils

ASTM D 422

<b>S&amp;ME Project #:</b>	1053-06-171	<b>Report Date:</b>	05/02/2006
<b>Project Name:</b>	UNC Airport Disposal Area	<b>Test Date(s):</b>	04/28 - 05/02/2006
<b>Client Name:</b>	Arcadis		
<b>Client Address:</b>	801 Corporate Center Drive, Suite 300, Raleigh, North Carolina 27606		

Boring #: HA-1	Sample #: 1	Sample Date: 04/28/2006
Location: Hand Auger Boring	Depth (ft): -1.0'	
Sample Description: Orange Brown Fine Sandy Silty CLAY (CH)		



Cobbles	< 300 mm (12") and > 75 mm (3")	Fine Sand	< 0.425 mm and > 0.075 mm (#200)
Gravel	< 75 mm and > 4.75 mm (#4)	Silt	< 0.075 and > 0.005 mm
Coarse Sand	< 4.75 mm and > 2.00 mm (#10)	Clay	< 0.005 mm
Medium Sand	< 2.00 mm and > 0.425 mm (#40)	Colloids	< 0.001 mm

Maximum Particle Size	3/8"	Gravel	0%	Medium Sand	1%
Silt & Clay (% Passing #200)	89.6%	Coarse Sand	0%	Fine Sand	9%
Apparent Relative Density	ND	Moisture Content	35.0%	Organic Content	ND
Liquid Limit	78	Plastic Limit	34	Plastic Index	44

ND=Not determined

**Description of Sand & Gravel**

Rounded      
 Angular      
 Hard & Durable      
 Soft      
 Weathered & Friable

**References:**     
 ASTM D 422: Particle Size Analysis of Soils Hydrometer portion of test method not utilized.  
 ASTM D 421: Dry Preparation of Soil Samples     
 ASTM D 854: Specific Gravity of Soils  
 ASTM D 4318: Liquid Limit, Plastic Limit, & Plastic Index of Soils  
 ASTM D 2487: Classification of Soils for Engineering Purposes (Unified Soil Classification System)

<b>Technical Responsibility:</b>  S&ME, INC.	<b><u>Mal Krajan</u></b> <i>Signature</i>	<b><u>[Signature]</u></b> Laboratory Supervisor <i>Position</i>
3109 Spring Forest Road, Raleigh, NC. 27616		HA-1 Classification



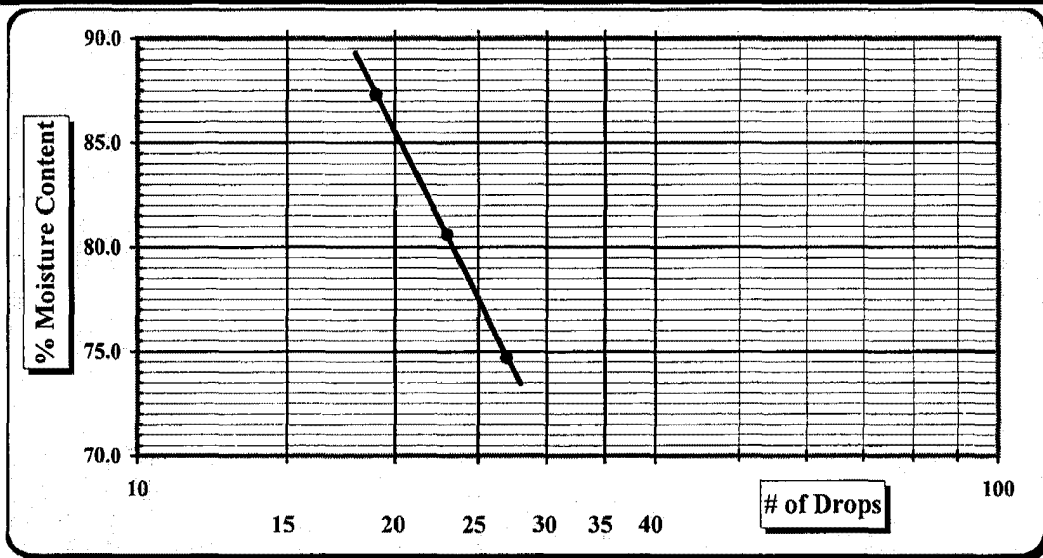


## Liquid Limit, Plastic Limit, and Plastic Index

**Project #:** 1053-06-171 **Report Date:** 05/02/2006  
**Project Name:** UNC Airport Disposal Area **Test Date(s):** 04/28 - 05/02/2006  
**Client Name:** Arcadis  
**Client Address:** 801 Corporate Center Drive, Suite 300, Raleigh, North Carolina 27606  
**Boring #:** HA-1 **Sample #:** 1 **Sample Date:** 04/28/2006  
**Location:** Hand Auger Boring **Offset:** NA **Depth (ft):** -1.0'

**Sample Description:** Orange Brown Fine Sandy Silty CLAY (CH)

Pan #	Test #	Liquid Limit						Plastic Limit		
		1	2	3	4	5	6	1	2	3
	Tare #	3	36	32				98	103	
A	Tare Weight	11.12	13.47	13.60				13.62	13.72	
B	Wet Soil Weight + A	22.60	23.80	23.06				22.96	23.16	
C	Dry Soil Weight + A	17.69	19.19	18.65				20.60	20.77	
D	Water Weight (B-C)	4.91	4.61	4.41				2.36	2.39	
E	Dry Soil Weight (C-A)	6.57	5.72	5.05				6.98	7.05	
F	% Moisture Content (D/E)*100	74.7%	80.6%	87.3%				33.8%	33.9%	
N	# OF DROPS	27	23	19				<i>Moisture Contents determined by ASTM D 2216</i>		
LL	LL = F * FACTOR									
Ave.	Average							33.9%		



One Point Liquid Limit			
N	Factor	N	Factor
20	0.974	26	1.005
21	0.979	27	1.009
22	0.985	28	1.014
23	0.990	29	1.018
24	0.995	30	1.022
25	1.000		

**Notes:** Estimate the % Retained on the #40 Sieve

**Special Sampling Methods:**

Sample Preparation:	Wet Preparation <input type="checkbox"/>	Dry Preparation <input type="checkbox"/>	Air Dried <input checked="" type="checkbox"/>	NP, Non-Plastic <input type="checkbox"/>
Liquid limit Test:	Multipoint Method <input checked="" type="checkbox"/>	One-point Method <input type="checkbox"/>		Liquid Limit <u>78</u>
Classification:	ASTM D 2487 <input checked="" type="checkbox"/>	AASHTO M 145 <input type="checkbox"/>		Plastic Limit <u>34</u>
Liquid limit Test:	ASTM D 4318 <input checked="" type="checkbox"/>	AASHTO T 89 <input type="checkbox"/>		Plastic Index <u>44</u>
Plastic limit Test:	ASTM D 4318 <input checked="" type="checkbox"/>	AASHTO T 90 <input type="checkbox"/>		Group Symbol <u>CH</u>

**Technician Name:** Chana Savanapridi

NICET 116132

**Technical Responsibility:** Mal Krajan

*[Signature]*  
Signature

Laboratory Supervisor  
Position

# Moisture - Density Report



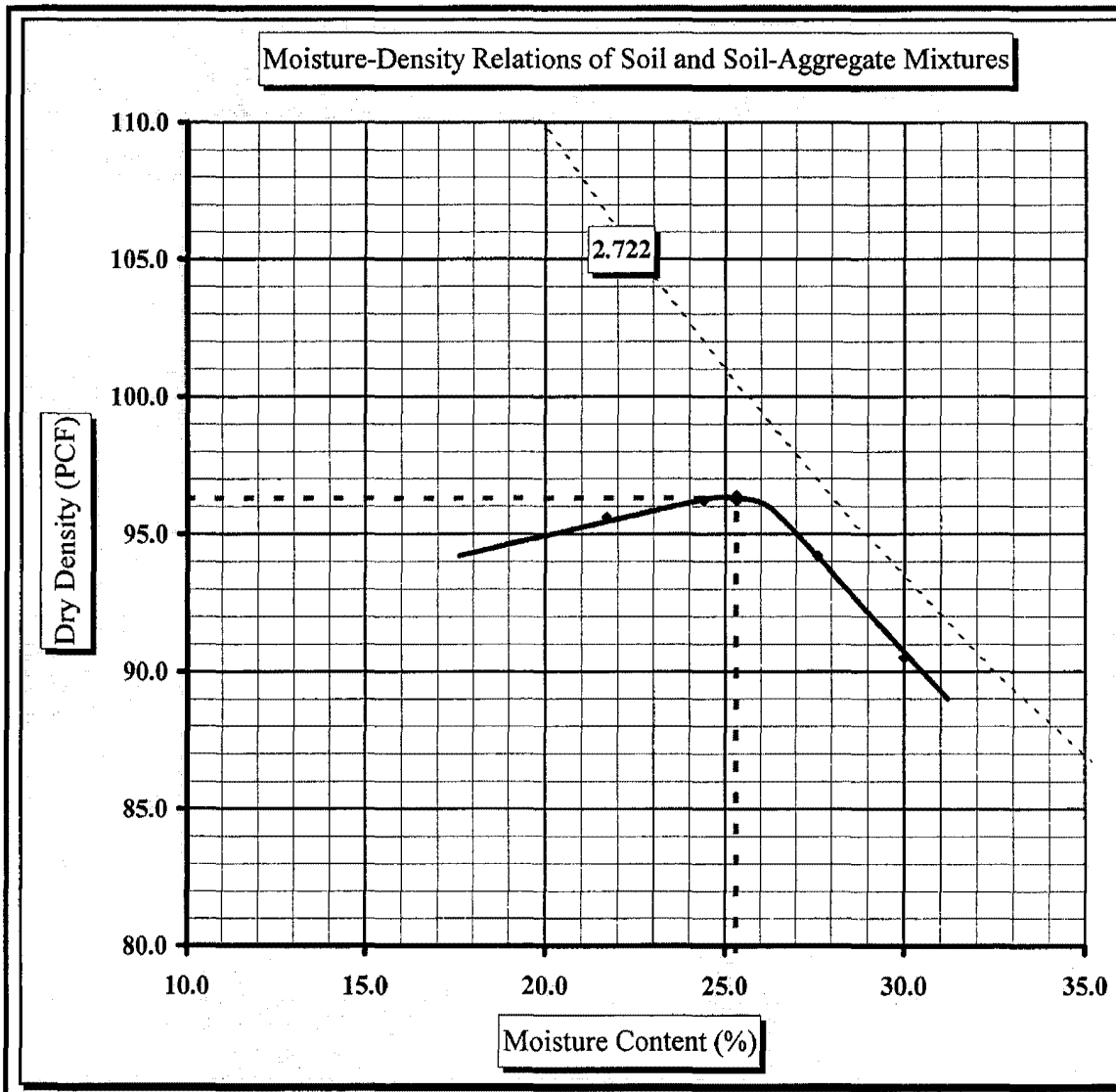
**S&ME Project #:** 1053-06-171  
**Project Name:** UNC Campus Airport Disposal Area  
**Client Name:** Arcadis  
**Client Address:** 801 Corporate Center Drive, Suite 300, Raleigh, North Carolina

**Report Date:** May 9, 2006  
**Test Date(s):** 05/05 - 05/08/2006

**Boring #:** Bulk Bag      **Sample #:** 1      **Sample Date:** May 5, 2006  
**Location:** American Stone      **Offset:** N/A      **Depth (ft):** N/A  
**Sample Description:** Red-Brown Micaceous Sandy Clayey SILT with Gravel (Visual)

**Maximum Dry Density** 96.3 PCF.      **Optimum Moisture Content** 25.3 %

ASTM D 698 Method B



Soil Properties	
Natural Moisture Content:	26.9%
Liquid Limit:	ND
Plastic Limit:	ND
Plastic Index:	ND
Specific Gravity:	2.722
% Passing	
3/8"	83.4
Oversize Fraction	
Bulk Sp. Gravity	2.650
% Moisture	11.5%
Oversize Fraction	16.6%
<b>MDD</b>	<b>103.5</b>
<b>Opt. MC</b>	<b>23.0%</b>

Moisture-Density Curve Displayed:      Fine Fraction       Corrected for Oversize Fraction (ASTM D 4718)   
 Sieve Size used to separate the Oversize Fraction:      #4 Sieve       3/8 inch Sieve       3/4 inch Sieve   
 Mechanical Hammer       Manual Hammer       Moist Preparation       Dry Preparation

**References:**      ASTM D 698: Laboratory Compaction Characteristics of Soil Using Standard Effort  
 ASTM D 2216: Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass  
 ASTM D 422: Particle Size Analysis of Soils      ASTM D 854: Specific Gravity of Soils

Technical Responsibility: Mal Krajan      *[Signature]*      ND=Not Determined  
 Laboratory Supervisor      Position



May 1, 2006

Arcadis  
801 Corporate Center Drive, Suite 300  
Raleigh, North Carolina 27622

Attention: Mr. Whit Rawls

Reference: **SOIL EVALUATION**  
UNC Campus Airport Disposal Area  
Chapel Hill, North Carolina  
S&ME Job No. 1053-06-171

Dear Mr. Rawls:

As requested, S&ME, Inc. visited the referenced site to evaluate existing soil conditions at the proposed UNC Campus Airport Disposal Area in Chapel Hill, North Carolina. Included is a brief summary of project information, comments regarding the suitability of evaluated soils, laboratory test results, and our recommendations.

## **PROJECT INFORMATION**

The proposed site is located at the end of Municipal Road near the UNC Campus in Chapel Hill, North Carolina. The site currently has been cleared of trees; however, topsoil and rootmat were still present at the time of our visit. We understand that planned development will consist of a single-story, metal framed storage building with an adjacent drive. Based on the provided structural drawings, we understand the foundations have been designed using an allowable soil bearing capacity of 2,000 pounds per square foot. Fill depths will range from approximately 1 to 2 feet to reach planned site grades in the building pad after stripping.

## **FIELD EVALUATIONS**

On April 28, 2006, a representative of S&ME, Inc. was present at the project site to evaluate existing subsurface soils within the building pad area prior to site grading. During the site visit, S&ME performed four (4) shallow hand auger borings with Dynamic Cone Penetrometer tests to evaluate the subsurface soil conditions. Soil was visually classified during our evaluation and a soil sample was obtained for laboratory testing and classification.

The Dynamic Cone Penetrometer is a device that uses a 15-pound weight falling 20 inches to drive a conical point into the soil. The number of blows required to drive the point 1-3/4 inches is measured and recorded. The "blow counts" are used as an indication of the soil's relative consistency and can provide general information regarding foundation and slab support characteristics. Blow counts were recorded at 1 foot intervals at each hand auger boring location.

Blow count values ranged from 3 to greater than 20 blows per increment. Hand auger borings were performed to depths of approximately 5 feet below existing ground elevation (including topsoil and rootmat). Soils were visually classified as residual, fine sandy clays and silty clays and appeared highly plastic and above optimum moisture content. There was approximately 12 inches of topsoil and rootmat present at each hand auger boring location.

## **LABORATORY TEST RESULTS**

Laboratory testing of soil samples were conducted in general accordance with ASTM D-854, "Specific Gravity of Soils," ASTM D-422 "Standard Test Method for Particle-Size Analysis of Soils," and ASTM D-4818, "Standard Test Method for Liquid Limit, Plastic Limit, and Plastic Index of Soils."

The soil sample was obtained within hand auger boring location HA-2, at a depth of approximately 1 foot below existing elevation. The soil sample was classified in general accordance with ASTM D-2487 "Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)." This sample classifies as sandy silty clay (CH) with a liquid limit of 78, a plastic limit of 34, and a plastic index of 44. Grain size analysis results indicate fines contents (passing the sieve no.200) of about 90 percent of the total sample. We have attached laboratory test results for your review.

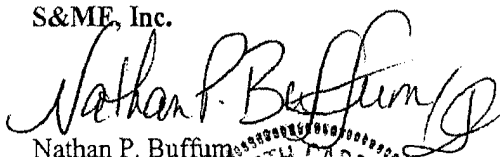
## COMMENTS AND RECOMMENDATIONS

Based on the results of hand auger borings and laboratory testing, near surface soils are relatively soft and highly plastic. It is our opinion that these soils are not capable of supporting foundation loads without risk of settlement. Also, highly plastic clays have a tendency to shrink and swell with changes in moisture content. This could result in settlement or heave of foundations and cracking of concrete slabs.

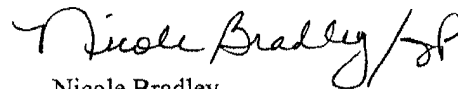
We recommend that highly plastic soils be removed from within the upper 3 feet of finished subgrade in building area. Soils should be undercut at least 5 feet beyond the building footprint to a depth of 3 feet after the topsoil and rootmat has been stripped. Suitable soils should be used as structural fill and should be placed in maximum 8 inch loose lifts. Fill should be compacted to at least 95 percent of the standard Proctor maximum dry density, and 98 percent within the upper 18 inches. A representative of S&ME, Inc. should be present during fill placement to perform in-place soil density testing. Once the foundations have been excavated, a representative of S&ME, Inc. should evaluate the bearing soils prior to placement of concrete. This evaluation should include probing with a small diameter rod and performance of random hand auger borings with DCP testing.

S&ME, Inc. appreciates the opportunity to be of service to you on this project. If you have any questions concerning this report, please contact our office.

Sincerely,  
S&ME, Inc.



Nathan P. Buffum  
Project Manager

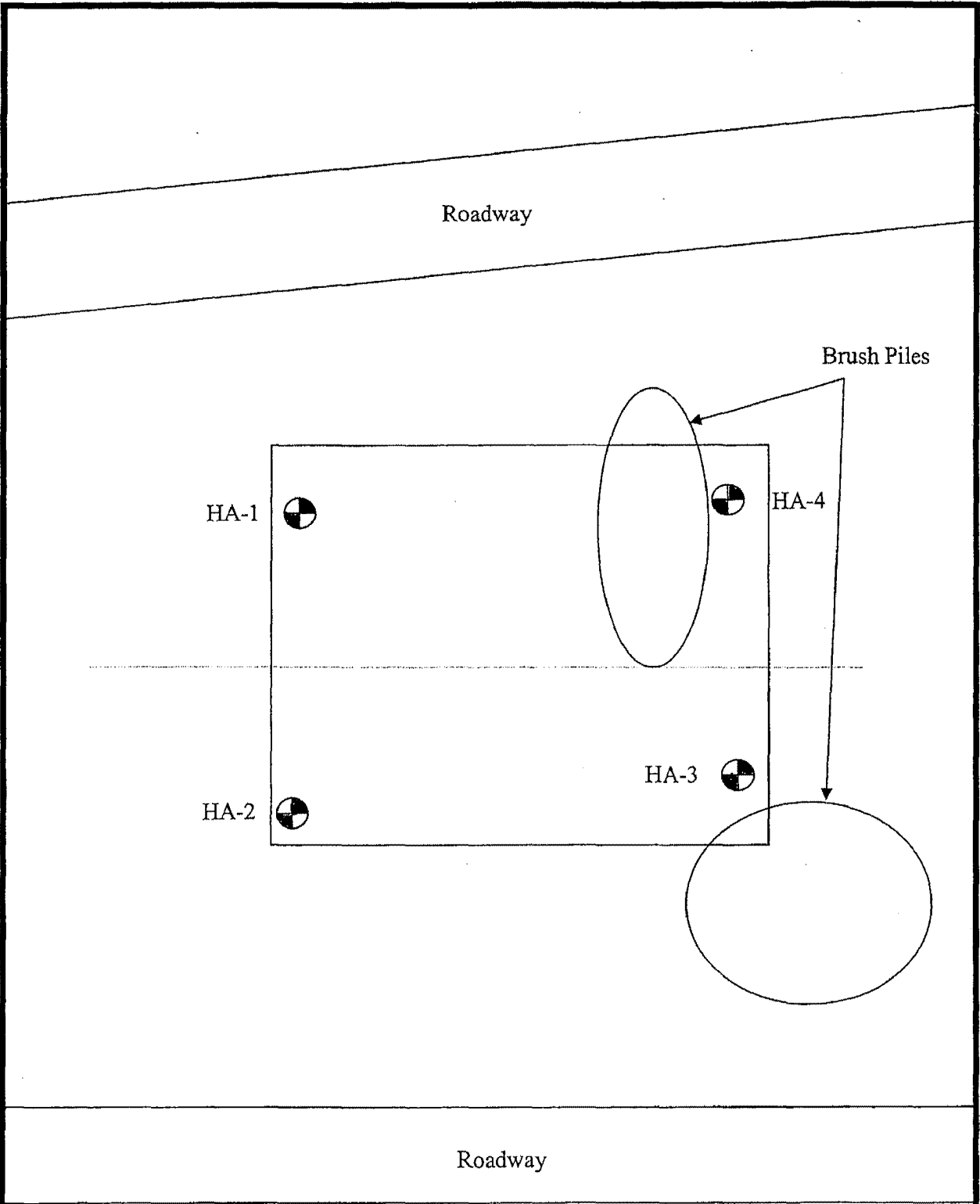


Nicole Bradley  
Staff Professional



Wes Lowder, P.E.  
Branch Manager

cc: Mr. Shannon Dorsey, Arcadis



SCALE:  
 CHECKED BY:  
 DRAWN BY: NPB  
 DATE: May 1, 2006



UNC Campus Airport Disposal Area  
 Chapel Hill, North Carolina

JOB NO. 1053-06-171

FIGURE NO  
 1

**SUMMARY OF HAND AUGER BORING**



Project Name: UNC Campus Airport Disposal Area

Job No.: 1053-06-171

**STRATIFICATION**

**Dynamic Cone Penetrometer Resistance**

DATE	TEST LOCATION	DEPTH FEET	SOIL DESCRIPTION	DEPTH (FEET)	HAMMER BLOWS			
					INCREMENT			AVERAGE
					1st	2nd	3rd	
4/28/2006	HA-1	SG-1'	Topsoil -Rootmat Wet	SG	5	5	5	5
		1'-5'	Residual - Orange/Brown Fine Sandy Clay - moist/wet	1	5	5	5	5
				2	10	10	10	10
				3	14	20+		20+
				4	20+			20+
				5	17			20+
4/28/2006	HA-2	SG-1'	Topsoil -Rootmat Wet	SG	4	4	5	4.5
		1'-5'	Residual - Tan/Orange Silty Clay	1	5	5	5	5
				2	2	3	5	4
				3	3	4	3	3.5
				4	5	7	10	8.5
				5	12	20+		20+

