New Jersey
ACCUTEST.
Laboratories

02/06/07

Technical Report for

Honeywell International Inc.

CMHLLVA: Dundalk Marine Terminal, Balitmore, MD

COPR Investigation 4th QTR 2006

Accutest Job Number: J49618X

Sampling Dates: 12/14/06 - 12/17/06

Report to:

CH2M Hill
3011 S.W. Williston Road
Gainesville, FL 32608-3928

ATTN: Mark Stinnet

Total number of pages in report:

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Vincent J. Pugliese
President

Certifications: NJ(12129), NY(10983), CA, CT, DE, FL, IL, IN, KS, KY, LA, MA, MD, MI, MT, NC, PA, RI, SC, TN, VA, WV

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories.

New Jersey
ACCUTEST.
Laboratories

02/06/07

Technical Report for

Honeywell International Inc.

CMHLLVA: Dundalk Marine Terminal, Balitmore, MD

COPR Investigation 4th QTR 2006

Accutest Job Number: J49618X

Sampling Dates: 12/14/06 - 12/17/06

Report to:

Validata, LLC
3346 NE 178th Street
Seattle, WA 98155

ATTN: Christina Jensen

Total number of pages in report:

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Vincent J. Pugliese
President

Certifications: NJ(12129), NY(10983), CA, CT, DE, FL, IL, IN, KS, KY, LA, MA, MD, MI, MT, NC, PA, RI, SC, TN, VA, WV

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories.

Sample Summary

Honeywell International Inc.

Job No: J49618X

CMHLLVA: Dundalk Marine Terminal, Balitmore, MD
Project No: COPR Investigation 4th QTR 2006

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
J49618-15X	12/14/06	16:30 LC	12/18/06	SO	Soil	DMT-34M-SOI-6466
J49618-16X	12/16/06	14:40 LC	12/18/06	SO	Soil	DMT-36M-SOI-4244
J49618-17X	12/17/06	08:30 LC	12/18/06	SO	Soil	DMT-36M-SOI-5254
J49618-18X	12/17/06	10:15 LC	12/18/06	SO	Soil	DMT-36M-SOI-7274

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

SO FB

J49618 +X

e/

Accutest Labs
2235 ROUTE 130
Dayton, NJ 8810
732-329-0200

Honeywell — Chain Of Custody / Analysis Request

AESI Ref:	39060.45651
COC#	37825-121806 ACTD-1
Lab Proj # (SDG):	
Lab ID	ACTD
Site ID	Dundalk
Lab Job #	
Authorized User:	Honeywell

Text & Excel File Drop: Excel & Text File Order

Privileged & Confidential	Y	Site Name:	Dundalk Marine Terminal
Phase:	RI	Sampling Program	COPR Investigation 4th QTR 2006
Location of Site:	Baltimore, MD		
Sampling Co.:	CH2MHILL	EDD To:	Stefanie.Eggermann@ch2m.com
Sampler:	Lisa Carter	PO #	
Analysis Turnaround Time (TAT):	28	Consultant	CH2M
Full Report TAT:	28		

Client Contact: (name, co., address)
Chris.French@Honeywell.com

Preliminary Data To: [illegible]
Sample Receipt Acknowledgement To: [illegible]
Hard Copy To: Amy Klopper, Christina Jensen
Invoice To: Honeywell

Copyright AESI: Version 8.0 Unauthorized use strictly prohibited.

	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample ?	SW6010-Metals	SW6020-Total Chromium - s	SW7199-Chromium VI	SW9045-pH - s	SW9056-Sulfate - s	SM 2320B-Carbonate	SW9060-TOC & TIC	SW6010-Total Chromium - w	E150.1-pH - w	E300.0-Sulfate - w	ASTM D1498-ORP	ASTM D2216-Moisture	Sampling Method (code)	Lab Sample Numbers
											Units															
1	INC-8	7.0	8.0	-1 INC-8-SOI-0708	12/16/2006	12:30	SOI	SOIL	REG	1	comp	N	X	X	X	X	X	X	X						COMPOSITE	WCI, ME36
2	INC-8	12.0	14.0	-2 INC-8-SOI-1214	12/16/2006	12:45	SOI	SOIL	REG	1	comp	N	X	X	X	X	X	X	X						COMPOSITE	ME37,
3	DMT-36M	13.0	14.0	-3 DMT-36M-SOI-1314	11/29/2006	15:25	SOI	SOIL	REG	1	comp	N	X	X	X	X	X	X	X				X		COMPOSITE	EX42,
4	DMT-36M	18.0	19.0	-4 DMT-36M-SOI-1819	11/29/2006	15:45	SOI	SOIL	REG	1	comp	N	X	X	X	X	X	X	X				X		COMPOSITE	SUB
5	DMT-36M	44.3	46.5	-5 DMT-36M-SOI-4446	12/16/2006	16:05	SOI	SOIL	REG	1	comp	N	X	X	X	X	X	X	X				X		COMPOSITE	WCS
6	DMT-36M	54.5	56.5	-6 DMT-36M-SOI-5456	12/17/2006	9:00	SOI	SOIL	REG	1	comp	N	X	X	X	X	X	X	X				X		COMPOSITE	
7	DMT-36M	62.5	64.5	-7 DMT-36M-SOI-6264	12/17/2006	9:25	SOI	SOIL	REG	1	comp	N	X	X	X	X	X	X	X				X		COMPOSITE	
8	DMT-36M	74.5	76.0	-8 DMT-36M-SOI-7476	12/17/2006	11:20	SOI	SOIL	REG	1	comp	N	X	X	X	X	X	X	X				X		COMPOSITE	
9	DMT-36M	82.5	83.9	-9 DMT-36M-SOI-8284	12/17/2006	14:05	SOI	SOIL	REG	1	comp	N	X	X	X	X	X	X	X				X		COMPOSITE	
10	DMT-36M	92.5	93.5	-10 DMT-36M-SOI-9293	12/17/2006	15:00	SOI	SOIL	REG	1	comp	N	X	X	X	X	X	X	X				X		COMPOSITE	
11	DMT-36M	102.5	103.5	-11 DMT-36M-SOI-102103	12/17/2006	15:40	SOI	SOIL	REG	1	comp	N	X	X	X	X	X	X	X				X		COMPOSITE	
12	Field QC (*) A			-12 DMT-EB-121806	12/18/2006	11:00	SOI	SOIL	REG	1	comp	N	X		X				X	X	X	X			GRAB	PH=7.56 12/18/06 PMD

Relinquished by	Company	Received by	Company	Condition	Custody Seals Intact
[signature] 12/18/06 - 11:55	CH2MHILL	[signature] 12/18/06 11:55		Cooler Temp.	
[signature] 12/18/06 15:15		[signature] 12/18/06 15:15		Cooler Temp.	

Preservatives: (Other; Specify):

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

relinquished by: 12/18/06 Joan Koster ~~20:10~~ 20:50 rec'd by: PMD

(*) sample matrix is water, rec'd 5 vols ATIC vol rec'd unpreserved 12/18/06 PMD

3.6°C PMD

SO FB

J496187X

Accutest Labs
2235 ROUTE 130
Dayton, NJ 8810
732-329-0200

Honeywell — Chain Of Custody / Analysis Request

AESI Ref: 39069.45661
COC#: 37825-121806-ACTD-2

Privileged & Confidential	Y	Site Name:	Dundalk Marine Terminal
Phase:	RI	Lab Proj # (SDG):	
Sampling Co.:	CH2MHILL	EDD To:	Stefanie.Eggermann@ch2m.com
Location of Site:	Baltimore, MD	Sampling Program	COPR Investigation 4th QTR 2006
Lab ID	ACTD	Site ID	Dundalk
Client Contact: (name, co., address)	Chris.French@Honeywell.com	Sampler:	Lisa Carter
PO #		Lab Job #	
Analysis Turnaround Time (TAT):	28	Authorized User:	Honeywell
Consultant	CH2M		
Preliminary Data To	Mark Sumida@ch2m.com; Stefanie.Eggermann@ch2m.com		
Sample Receipt Acknowledgement To	Mark Sumida@ch2m.com; Stefanie.Eggermann@ch2m.com		
Hard Copy To	Amy Klopper, Christina Jensen	Full Report TAT:	28
Invoice To:	Honeywell		

Fast & Easy File Drive — Excel & Text Order

Copyright AESI: Version 8.0 Unauthorized use strictly prohibited.

	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample ?	SW6010-Metals	SW8020-Total Chromium - s	SW7199-Chromium VI	SW9045-pH - s	SW9056-Sulfate - s	SM 23208-Carbonate	SW9060-TOC & TIC	ASTM D1498-ORP	ASTM D4318-Atterberg Limits	ASTM D2216-Moisture	ASTM D2434-Permeability	ASTM D2937-Bulk Density	ASTM D422-Grain Size	Sampling Method (code)	Lab Sample Numbers
											Units																
1	DMT-36M	112.5	113.2	-13 DMT-36M-SOI-112113	12/16/2006	9:00	SOI	SOIL	REG	1	comp	N	X	X	X	X	X	X	X	X						COMPOSITE	
2	DMT-36M	62.5	64.5	-14 DMT-36M-SOI-6264D	12/17/2006	9:30	SOI	SOIL	REG	1	comp	N	X	X	X	X	X	X	X	X						COMPOSITE	
3	DMT-34M	64.0	66.0	-15 DMT-34M-SOI-6466	12/14/2006	16:30	SOI	SOIL	REG	1	comp	N									X	X	X	X	X	Shelby Tube	
4	DMT-36M	42.5	44.5	-16 DMT-36M-SOI-4244	12/16/2006	14:40	SOI	SOIL	REG	1	comp	N									X	X	X	X	X	Shelby Tube	
5	DMT-36M	52.5	54.5	-17 DMT-36M-SOI-5254	12/17/2006	6:30	SOI	SOIL	REG	1	comp	N									X	X	X	X	X	Shelby Tube	
6	DMT-36M	72.5	74.5	-18 DMT-36M-SOI-7274 *	12/17/2006	~~11:15~~ RJ 1015	SOI	SOIL	REG	1	comp	N									X	X	X	X	X	Shelby Tube	
7																											
8																											
9																											
10																											
11																											
12																											

Relinquished by	Company	Received by	Company	Condition	Custody Seals Intact
[signature]	CH2M HILL — Date/Time 12/18/06 - 11:55	[signature]	Date/Time 12/18/06 11:55	Cooler Temp.	
Relinquished by: [signature]	Company — Date/Time 12/18/06 15:15	Received by: Joan Koski	Company — Date/Time 12/18/06 15:15	Condition	Custody Seals Intact
				Cooler Temp.	

Preservatives: (Other; Specify):

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

relinquished by: 12/18/06 Joan Koski 20:50 rec'd by: [illegible] * rec'd w/ time @ 10:15 12/18/06 [illegible]

* per K.B & L. CARTER USE VOLUME FROM -18 FOR TIC FROM PHOR X CTL VOLUME, AND CORRECT TIME FOR SAMPLE -18 = 1015. NB 12-19-06

CHAIN OF CUSTODY

ACCUTEST

Fresh Ponds Corporate Village, Building B
2235 Route 130, Dayton, NJ 08810
908-329-0200 FAX: 908-329-3499/3480

Accutest Job #:	
Accutest Quote #:	

Client Information

Accutest

Name: 2235 Route 130

Address: Dayton NJ 08810

City / State / Zip

Marty Vitanza

Send Report to:

Phone #: (732) 329-0200 X-214

Facility Information

Project Name: HW-DUNDALK

Location:

Project No.: J49618X

FAX #: (732) 329-3499

Analytical Information

Field ID / Point of Collection	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Preservation HCL	NaOH	HNO3	H2So4	None	Grain Size w/ hydro	Atterberg D4318	PERM D2434	DENSITY D422			
J49618) -15X	12/14/06	9:38	LC	Soil							X	X	X	X			
-16X	12/16/06	11:30	LC	Soil							X	X	X	X			
-17X	12/17/06	11:35	LC	Soil							X	X	X	X			
-18X	12/14/06	11:40	LC	Soil							X	X	X	X			

Turnaround Information

- [ ] 21 Day Standard — Approved By:
- [ ] 14 Day
- [ ] 7 Days *EMERGENCY*
- [X] Other 28 (Days)

21 Day Turnaround Hardcopy, Emergency or RUSH is FAX Data unless previously approved.

Data Deliverable Information

- [ ] NJ Reduced
- [X] NJ Full
- [ ] FULL CLP
- [ ] Disk Deliverable
- [ ] Other (Specify)
- [ ] Commercial "A"
- [ ] Commercial "B"
- [ ] State Forms

Comments / Remarks

TUBES SHOULD REMAIN UPRIGHT DURING TRANSIT

Sample Custody must be documented below each time samples change possesion including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	12/14/06 [illegible]	1	2	12/14/06 [illegible]	2
3		3	4		4
5		5	Seal #	Preserved where applicable ☐	On Ice ☐

Accutest
Subcontractor Order

Date/Time:	12/20/06 10:34 AM	**Sub Lab:**	French & Parrello
Accutest Job No.	J49618X	**Address:**	1800 Rt 34, Suite 101
Client Project:	HW-DUNDALK		Wall NJ 07719
CSR:	DJM	**Contact:**	Ron Heller
		Phone:	312-9727

Sample #:	Analyses
J49618X - 15X	Grain Size w/ hydro / / /
16X	Grain Size w/ hydro / / /
17X	Grain Size w/ hydro / / /
18X	Grain Size w/ hydro / / /
0	
0	
0	
0	
0	
0	
Turn Around	28

Sample Managment receipt: _____ **Date:** _____

(Print form and sign/date. Submit this form to Login Dept. with the SUB COC.)

e/sop_new/subform

SUBCONTRACT DATA

FRENCH & PARRELLO
ASSOCIATES, P.A., CONSULTING ENGINEERS

SUMMARY OF LABORATORY TESTING

AASHTO Accreditated Laboratory

PROJECT: Accutest - Honeywell - Dundalk (J49618X) **PROJECT #:** 06L017A **DATE:** 2/07

Boring & Sample Number	Depth (ft)	Classification	Natural Water Content %	Atterberg Limits		Unconfined Compression		Unit Dry Weight PCF	Specific Gravity	Permeability cm/sec @ 20 deg C	Compaction	Grain Size	Consolidation	Triaxial	CBR	pH	Organic Content %
				Liquid Limit	Plastic Limit	Stress TSF	Strain %										
15X	64 - 66	Grey Organic SILT, trace f Sand	57	83	45			60.2		1.5×10^{-7}		*					
16X	42 - 44	Grey Organic SILT	48	80	42			72.9		1.5×10^{-7}		*					
17X	52.5 - 54.5	Grey Organic SILT, trace mf Sand	73	102	43			57.5		6.3×10^{-8}		*					
18X	72.5 - 74.5	Grey Organic SILT, little- mf+ Sand	46	37	27			75.1		2.2×10^{-7}		*					

This Report Has Been
Spot Check Reviewed By
The Accutest QA Staff.

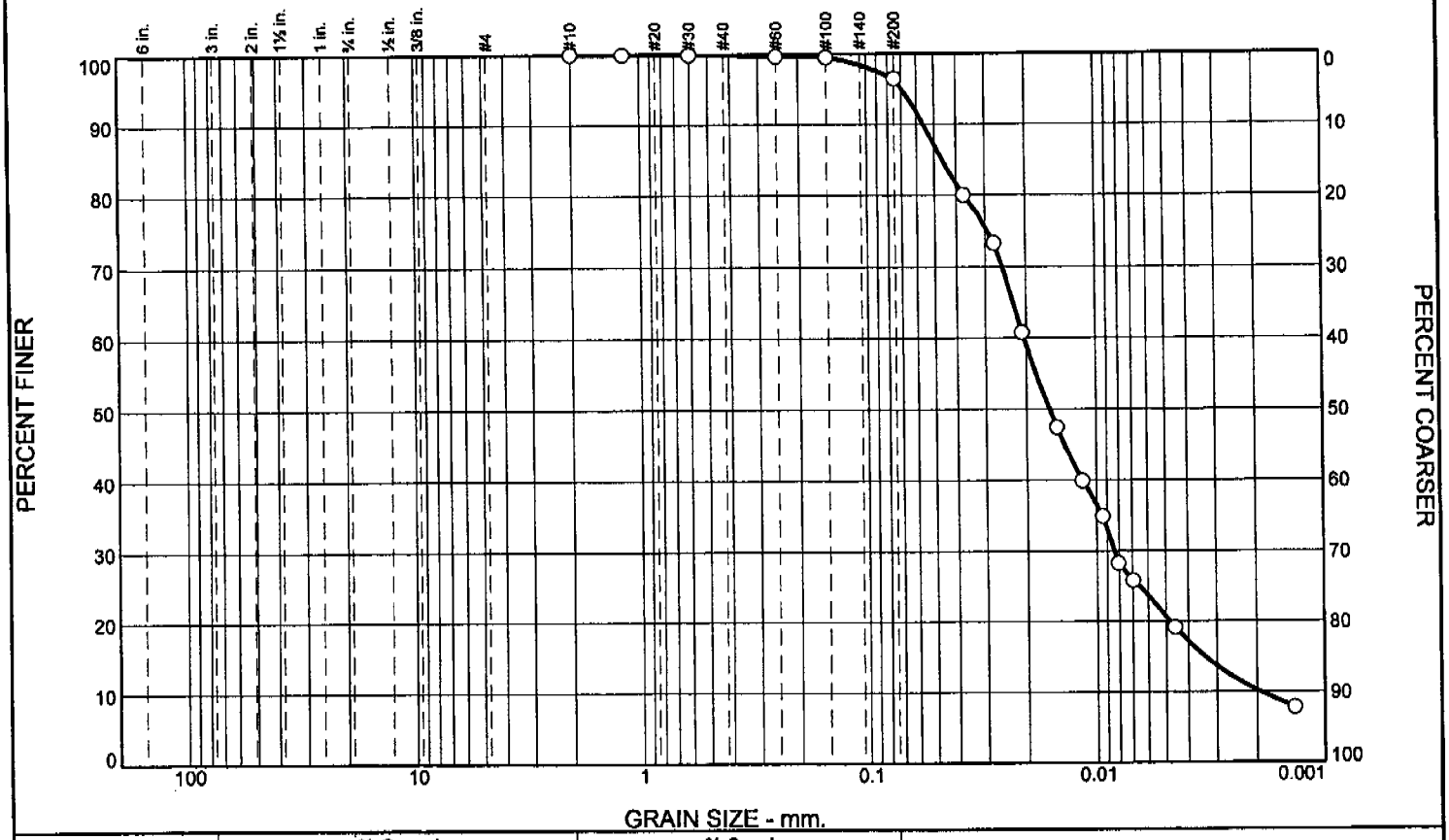
Reviewer: [illegible]

Review Date: 2/7/07

* SEE TEST CURVES

J49618X

Particle Size Distribution Report



% +3"	% Gravel			% Sand			% Fines
	Coarse	Medium	Fine	Coarse	Medium	Fine	
0.0	0.0	0.0	0.0	0.1	0.3	3.1	96.5

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#16	100.0		
#30	99.9		
#60	99.6		
#100	99.5		
#200	96.5		

* (no specification provided)

Material Description

Grey Organic SILT, trace f Sand

Atterberg Limits

PL= 45 LL= 83 PI= 38

Coefficients

D_{85}= 0.0463 D_{60}= 0.0205 D_{50}= 0.0160
D_{30}= 0.0084 D_{15}= 0.0034 D_{10}= 0.0019
C_u= 10.57 C_c= 1.78

Classification

USCS= MH AASHTO= A-7-5(48)

Remarks

Sample Number: 15X
Source of Sample: J49618X **Depth:** 64' - 66' **Date:** 1/12/07

FRENCH & PARRELLO ASSOCIATES, P.A.
CONSULTING ENGINEERS
Wall, NJ

Client: Accutest Laboratories
Project: Accutest - Honeywell - Dundalk
Project No: 06L017A **Figure**

Tested By: CK **Checked By:** RH

GRAIN SIZE DISTRIBUTION TEST DATA

2/1/2007

Client: Accutest Laboratories
Project: Accutest - Honeywell - Dundalk
Project Number: 06L017A
Location: J49618X
Depth: 64' - 66' **Sample Number:** 15X
Material Description: Grey Organic SILT, trace f Sand
Date: 1/12/07 **PL:** 45 **LL:** 83 **PI:** 38
USCS Classification: MH **AASHTO Classification:** A-7-5(48)
Tested by: CK **Checked by:** RH
Sieve opening list: FPA Default

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Cumulative Pan Tare Weight (grams)	Sieve Opening Size	Cumulative Weight Retained (grams)	Percent Finer
60.00	0.00	0.00	#10	0.00	100.0
			#16	0.02	100.0
			#30	0.05	99.9
			#60	0.22	99.6
			#100	0.28	99.5
			#200	2.10	96.5

Hydrometer Test Data

Hydrometer test uses material passing #4
Percent passing #4 based upon complete sample = 100.0
Weight of hydrometer sample =60.00
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C = -5
Meniscus correction only = 1.0
Specific gravity of solids = 2.65
Hydrometer type = 152H
Hydrometer effective depth equation: L = 16.294964 - 0.164 x **Rm**

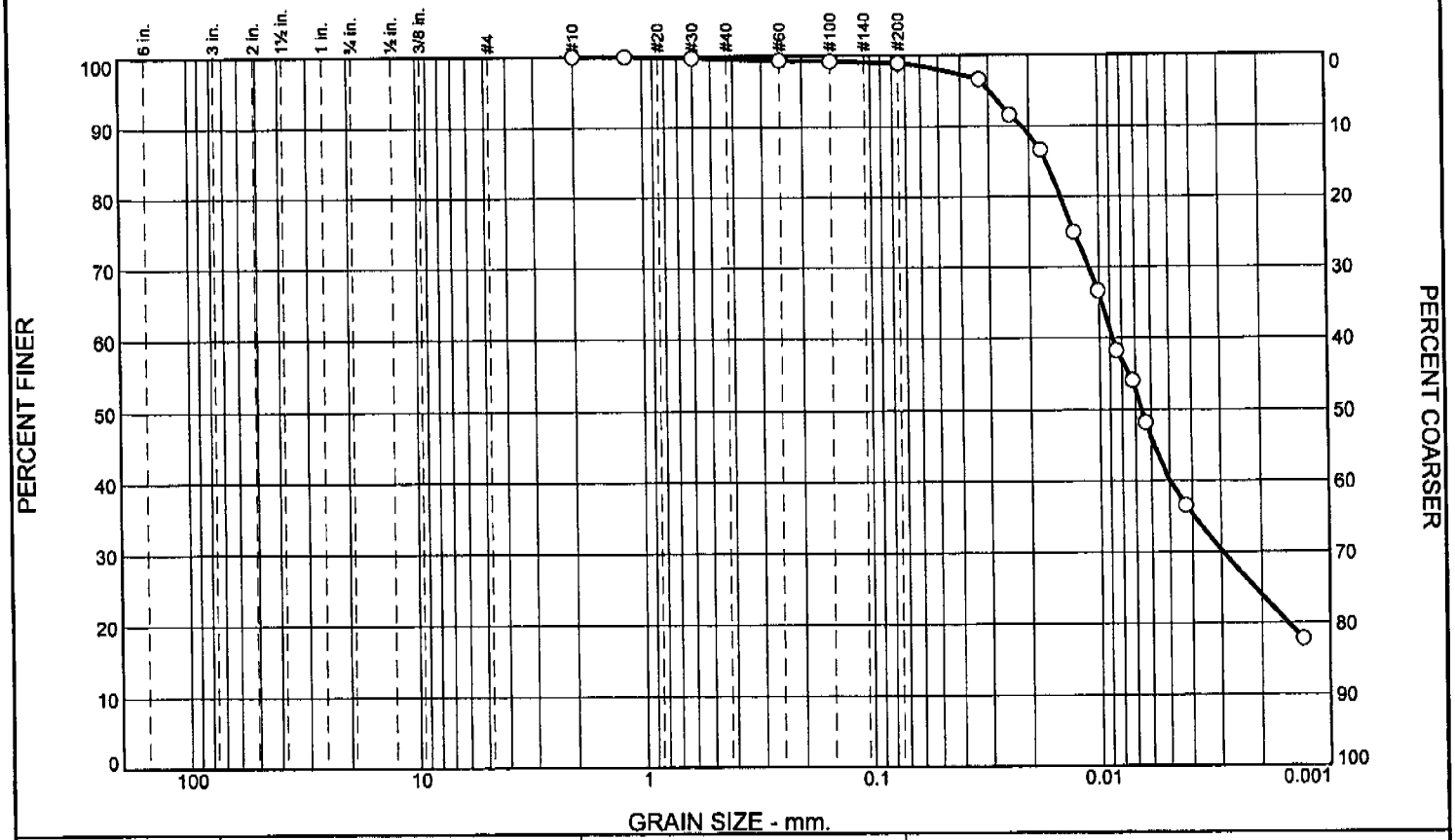
Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
1.00	20.0	53.0	48.0	0.0136	54.0	7.4	0.0372	79.9
2.00	20.0	49.0	44.0	0.0136	50.0	8.1	0.0275	73.3
4.00	20.0	41.5	36.5	0.0136	42.5	9.3	0.0208	60.8
9.00	20.0	33.5	28.5	0.0136	34.5	10.6	0.0148	47.4
16.00	20.0	29.0	24.0	0.0136	30.0	11.4	0.0115	39.9
25.00	20.0	26.0	21.0	0.0136	27.0	11.9	0.0094	34.9
36.00	20.0	22.0	17.0	0.0136	23.0	12.5	0.0080	28.3
49.00	20.0	20.5	15.5	0.0136	21.5	12.8	0.0070	25.8
120.00	20.0	16.5	11.5	0.0136	17.5	13.4	0.0046	19.1
1440.00	21.0	9.5	4.7	0.0135	10.5	14.6	0.0014	7.8

Cobbles	Gravel				Sand				Fines
	Coarse	Medium	Fine	Total	Coarse	Medium	Fine	Total	
0.0	0.0	0.0	0.0	0.0	0.1	0.3	3.1	3.5	96.5

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0019	0.0034	0.0048	0.0084	0.0160	0.0205	0.0373	0.0463	0.0560	0.0691

Fineness Modulus	C_u	C_c
0.01	10.57	1.78

Particle Size Distribution Report



% +3"	% Gravel			% Sand			% Fines
	Coarse	Medium	Fine	Coarse	Medium	Fine	
0.0	0.0	0.0	0.0	0.3	0.4	0.4	98.9

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#16	99.9		
#30	99.7		
#60	99.3		
#100	99.2		
#200	98.9		

* (no specification provided)

Material Description

Grey Organic SILT

Atterberg Limits

PL= 42 LL= 80 PI= 38

Coefficients

D_{85}= 0.0168 D_{60}= 0.0088 D_{50}= 0.0066
D_{30}= 0.0030 D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= MH AASHTO= A-7-5(49)

Remarks

Sample Number: 16X
Source of Sample: J49618X **Depth:** 42' - 44' **Date:** 1/12/07

FRENCH & PARRELLO ASSOCIATES, P.A.
CONSULTING ENGINEERS
Wall, NJ

Client: Accutest Laboratories
Project: Accutest - Honeywell - Dundalk
Project No: 06L017A **Figure**

Tested By: CK **Checked By:** RH

GRAIN SIZE DISTRIBUTION TEST DATA

2/1/2007

Client: Accutest Laboratories
Project: Accutest - Honeywell - Dundalk
Project Number: 06L017A
Location: J49618X
Depth: 42' - 44'
Sample Number: 16X
Material Description: Grey Organic SILT
Date: 1/12/07 **PL:** 42 **LL:** 80 **PI:** 38
USCS Classification: MH
AASHTO Classification: A-7-5(49)
Tested by: CK
Checked by: RH
Sieve opening list: FPA Default

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Cumulative Pan Tare Weight (grams)	Sieve Opening Size	Cumulative Weight Retained (grams)	Percent Finer
60.00	0.00	0.00	#10	0.00	100.0
			#16	0.04	99.9
			#30	0.17	99.7
			#60	0.39	99.3
			#100	0.50	99.2
			#200	0.65	98.9

Hydrometer Test Data

Hydrometer test uses material passing #4
Percent passing #4 based upon complete sample = 100.0
Weight of hydrometer sample =60.00
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C = -5
Meniscus correction only = 1.0
Specific gravity of solids = 2.65
Hydrometer type = 152H
Hydrometer effective depth equation: L = 16.294964 - 0.164 **x Rm**

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
1.00	20.0	63.0	58.0	0.0136	64.0	5.8	0.0329	96.6
2.00	20.0	60.0	55.0	0.0136	61.0	6.3	0.0242	91.6
4.00	20.0	57.0	52.0	0.0136	58.0	6.8	0.0178	86.6
9.00	20.0	50.0	45.0	0.0136	51.0	7.9	0.0128	74.9
16.00	20.0	45.0	40.0	0.0136	46.0	8.8	0.0101	66.6
25.00	20.0	40.0	35.0	0.0136	41.0	9.6	0.0084	58.3
36.00	20.0	37.5	32.5	0.0136	38.5	10.0	0.0072	54.1
49.00	20.0	34.0	29.0	0.0136	35.0	10.6	0.0063	48.3
120.00	20.0	27.0	22.0	0.0136	28.0	11.7	0.0043	36.6
1440.00	21.0	15.5	10.7	0.0135	16.5	13.6	0.0013	17.8

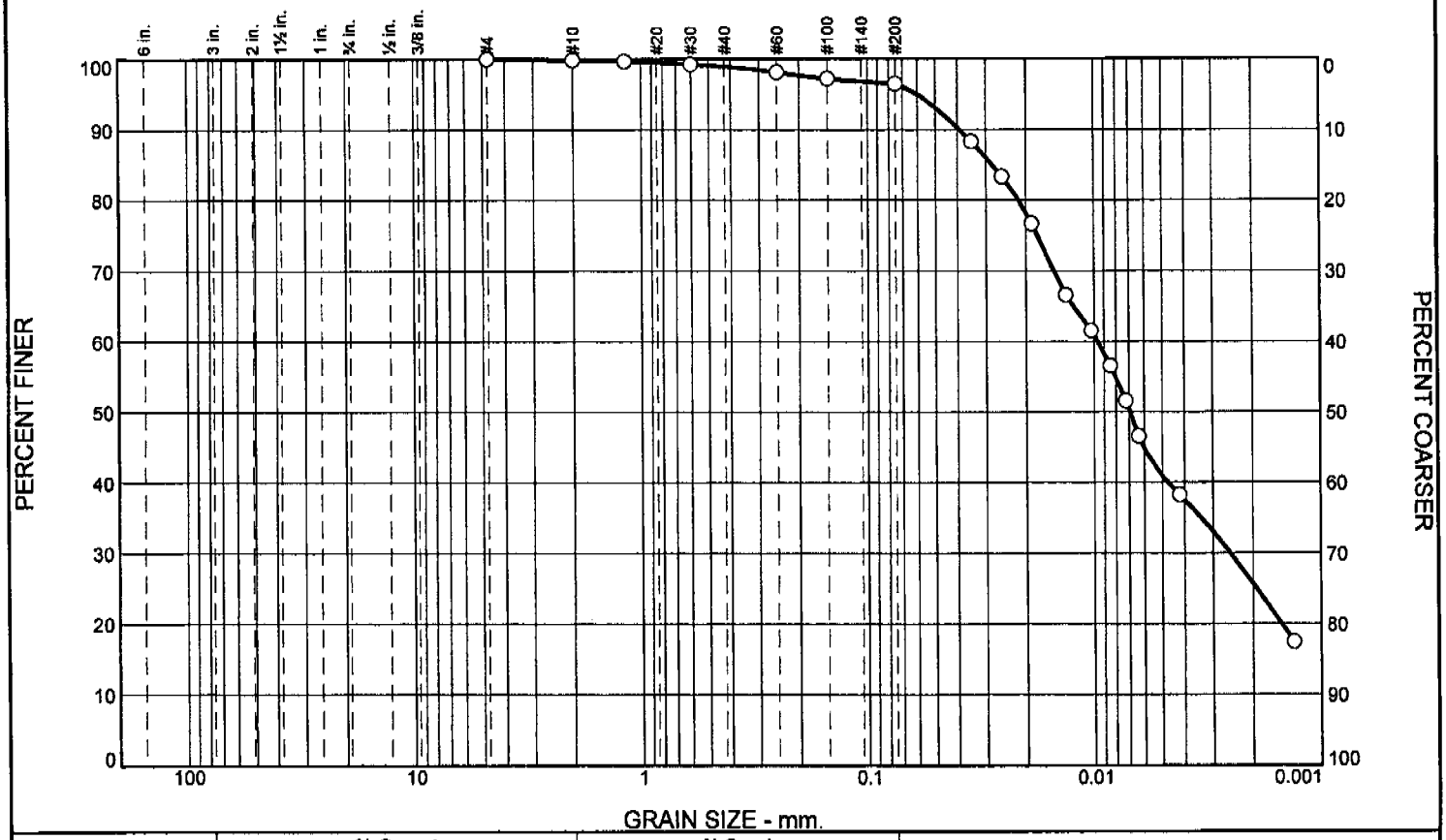
Particle Size Analysis

Cobbles	Gravel				Sand				Fines
	Coarse	Medium	Fine	Total	Coarse	Medium	Fine	Total	
0.0	0.0	0.0	0.0	0.0	0.3	0.4	0.4	1.1	98.9

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
		0.0015	0.0030	0.0066	0.0088	0.0147	0.0168	0.0214	0.0297

Fineness Modulus
0.02

Particle Size Distribution Report



% +3"	% Gravel			% Sand			% Fines
	Coarse	Medium	Fine	Coarse	Medium	Fine	
0.0	0.0	0.0	0.2	0.6	1.1	1.6	96.5

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.8		
#16	99.7		
#30	99.2		
#60	98.1		
#100	97.2		
#200	96.5		

* (no specification provided)

Material Description

Grey Organic SILT, trace mf Sand

Atterberg Limits

PL= 43 LL= 102 PI= 59

Coefficients

D_{85}= 0.0281 D_{60}= 0.0096 D_{50}= 0.0069
D_{30}= 0.0025 D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= MH AASHTO= A-7-5(71)

Remarks

Sample Number: 17X
Source of Sample: J49618X **Depth:** 52.5' - 54.5' **Date:** 1/17/07

FRENCH & PARRELLO ASSOCIATES, P.A.
CONSULTING ENGINEERS
Wall, NJ

Client: Accutest Laboratories
Project: Accutest - Honeywell - Dundalk
Project No: 06L017A **Figure**

Tested By: CK **Checked By:** RH

GRAIN SIZE DISTRIBUTION TEST DATA

2/1/2007

Client: Accutest Laboratories
Project: Accutest - Honeywell - Dundalk
Project Number: 06L017A
Location: J49618X
Depth: 52.5' - 54.5' **Sample Number:** 17X
Material Description: Grey Organic SILT, trace mf Sand
Date: 1/17/07 **PL:** 43 **LL:** 102 **PI:** 59
USCS Classification: MH **AASHTO Classification:** A-7-5(71)
Tested by: CK **Checked by:** RH
Sieve opening list: FPA Default

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Cumulative Pan Tare Weight (grams)	Sieve Opening Size	Cumulative Weight Retained (grams)	Percent Finer
60.00	0.00	0.00	#4	0.00	100.0
			#10	0.11	99.8
			#16	0.21	99.7
			#30	0.48	99.2
			#60	1.14	98.1
			#100	1.67	97.2
			#200	2.10	96.5

Hydrometer Test Data

Hydrometer test uses material passing #4
Percent passing #4 based upon complete sample = 100.0
Weight of hydrometer sample =60.00
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C = -6
Meniscus correction only = 1.0
Specific gravity of solids = 2.65
Hydrometer type = 152H
Hydrometer effective depth equation: L = 16.294964 - 0.164 **x Rm**

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
1.00	20.0	59.0	53.0	0.0136	60.0	6.5	0.0347	88.3
2.00	20.0	56.0	50.0	0.0136	57.0	6.9	0.0254	83.3
4.00	20.0	52.0	46.0	0.0136	53.0	7.6	0.0188	76.6
9.00	20.0	46.0	40.0	0.0136	47.0	8.6	0.0133	66.6
16.00	20.0	43.0	37.0	0.0136	44.0	9.1	0.0103	61.6
25.00	20.0	40.0	34.0	0.0136	41.0	9.6	0.0084	56.6
36.00	20.0	37.0	31.0	0.0136	38.0	10.1	0.0072	51.6
49.00	20.0	34.0	28.0	0.0136	35.0	10.6	0.0063	46.6
120.00	20.0	29.0	23.0	0.0136	30.0	11.4	0.0042	38.3
1440.00	20.0	16.5	10.5	0.0136	17.5	13.4	0.0013	17.4

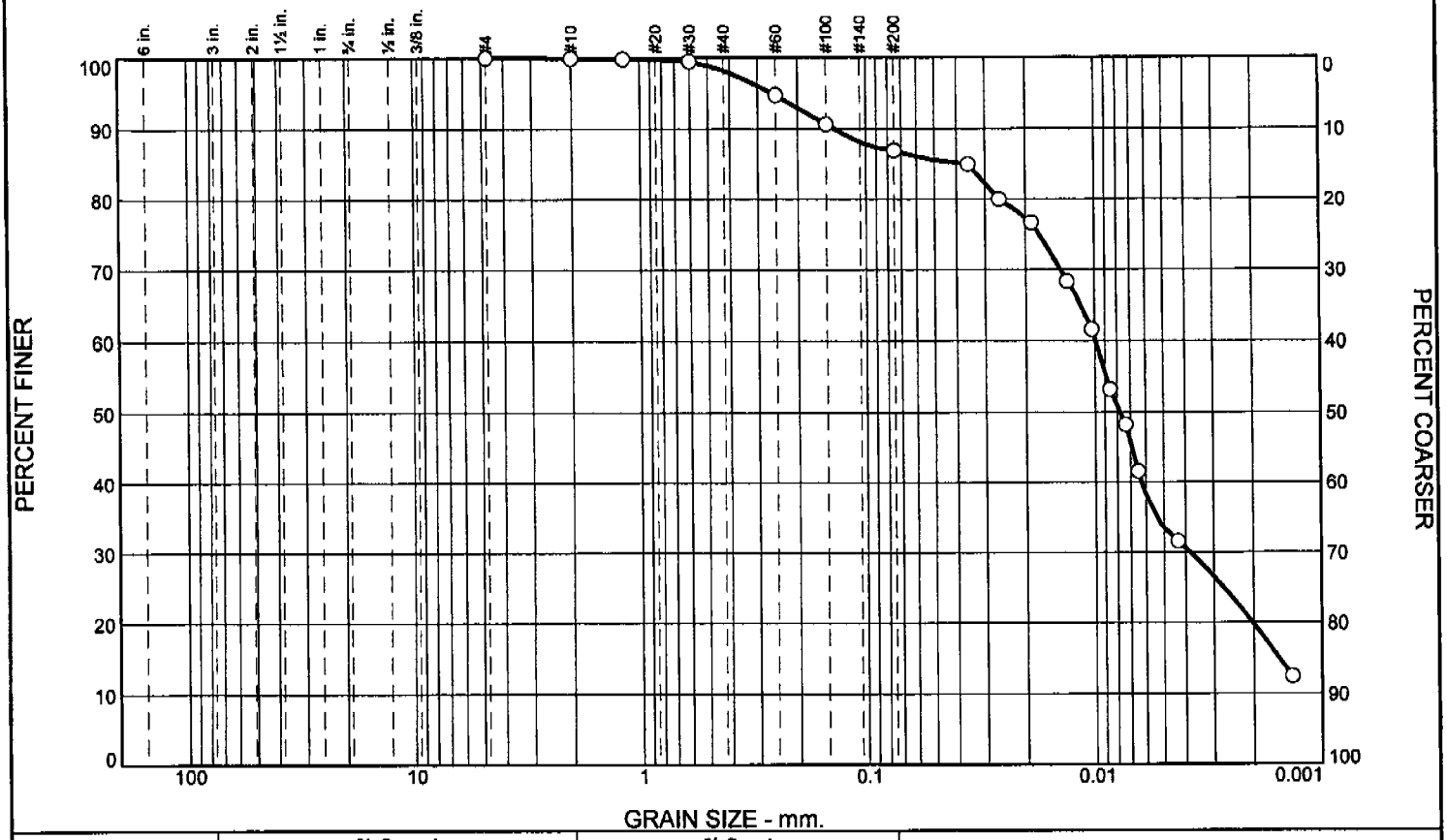
Percentage Components

Cobbles	Gravel				Sand				Fines
	Coarse	Medium	Fine	Total	Coarse	Medium	Fine	Total	
0.0	0.0	0.0	0.2	0.2	0.6	1.1	1.6	3.3	96.5

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
		0.0015	0.0025	0.0069	0.0096	0.0216	0.0281	0.0391	0.0602

Fineness Modulus
0.06

Particle Size Distribution Report



% +3"	% Gravel			% Sand			% Fines
	Coarse	Medium	Fine	Coarse	Medium	Fine	
0.0	0.0	0.0	0.1	0.4	4.7	7.9	86.9

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.9		
#16	99.8		
#30	99.5		
#60	94.8		
#100	90.6		
#200	86.9		

* (no specification provided)

Material Description

Grey Organic SILT, little- mf+ Sand

Atterberg Limits

PL= 27 LL= 37 PI= 10

Coefficients

D_{85}= 0.0374 D_{60}= 0.0099 D_{50}= 0.0077
D_{30}= 0.0038 D_{15}= 0.0015 D_{10}=
C_u= C_c=

Classification

USCS= ML AASHTO= A-4(10)

Remarks

Sample Number: 18X
Source of Sample: J49618X **Depth:** 72.5' - 74.5' **Date:** 1/17/07

FRENCH & PARRELLO ASSOCIATES, P.A.
CONSULTING ENGINEERS
Wall, NJ

Client: Accutest Laboratories
Project: Accutest - Honeywell - Dundalk
Project No: 06L017A **Figure**

Tested By: CK **Checked By:** RH

GRAIN SIZE DISTRIBUTION TEST DATA

2/1/2007

Client: Accutest Laboratories
Project: Accutest - Honeywell - Dundalk
Project Number: 06L017A
Location: J49618X
Depth: 72.5' - 74.5' **Sample Number:** 18X
Material Description: Grey Organic SILT, little- mf+ Sand
Date: 1/17/07 **PL:** 27 **LL:** 37 **PI:** 10
USCS Classification: ML **AASHTO Classification:** A-4(10)
Tested by: CK **Checked by:** RH
Sieve opening list: FPA Default

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Cumulative Pan Tare Weight (grams)	Sieve Opening Size	Cumulative Weight Retained (grams)	Percent Finer
60.00	0.00	0.00	#4	0.00	100.0
			#10	0.05	99.9
			#16	0.11	99.8
			#30	0.31	99.5
			#60	3.14	94.8
			#100	5.62	90.6
			#200	7.86	86.9

Hydrometer Test Data

Hydrometer test uses material passing #4
Percent passing #4 based upon complete sample = 100.0
Weight of hydrometer sample =60.00
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C = -6
Meniscus correction only = 1.0
Specific gravity of solids = 2.65
Hydrometer type = 152H
Hydrometer effective depth equation: L = 16.294964 - 0.164 **x Rm**

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
1.00	20.0	57.0	51.0	0.0136	58.0	6.8	0.0355	84.9
2.00	20.0	54.0	48.0	0.0136	55.0	7.3	0.0260	79.9
4.00	20.0	52.0	46.0	0.0136	53.0	7.6	0.0188	76.6
9.00	20.0	47.0	41.0	0.0136	48.0	8.4	0.0132	68.3
16.00	20.0	43.0	37.0	0.0136	44.0	9.1	0.0103	61.6
25.00	20.0	38.0	32.0	0.0136	39.0	9.9	0.0086	53.3
36.00	20.0	35.0	29.0	0.0136	36.0	10.4	0.0073	48.3
49.00	20.0	31.0	25.0	0.0136	32.0	11.0	0.0065	41.6
120.00	20.0	25.0	19.0	0.0136	26.0	12.0	0.0043	31.6
1440.00	20.0	13.5	7.5	0.0136	14.5	13.9	0.0013	12.4

Particle Size Data

Cobbles	Gravel				Sand				Fines
	Coarse	Medium	Fine	Total	Coarse	Medium	Fine	Total	
0.0	0.0	0.0	0.1	0.1	0.4	4.7	7.9	13.0	86.9

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
	0.0015	0.0020	0.0038	0.0077	0.0099	0.0262	0.0374	0.1385	0.2578

Fineness Modulus
0.14

FRENCH & PARRELLO
ASSOCIATES, P.A., CONSULTING ENGINEERS
WWW.FPAENGINEERS.COM
1800 Route 34, Suite 101
Wall, New Jersey 07719
732-312-9800
fax 732-312-9801

LETTER OF TRANSMITTAL

DATE	JOB NO.
2-2-07	06L017A

ATTENTION: MR. MARTY VITANZA

RE: J49618X

TO Accutest
2235 Route 130
Dayton N.J. 08810

WE ARE SENDING YOU ☒ Attached ☐ Under separate cover via _____ the following items:

☐ Shop drawings ☐ Prints ☐ Plans ☐ Samples ☐ Specifications
☐ Copy of letter ☐ Change order ☒ 4 limits, Grain Size, Sd, MC, FW Perm

COPIES	DATE	NO.	DESCRIPTION

THESE ARE TRANSMITTED as checked below:

☐ For approval ☐ Approved as submitted ☐ Resubmit _____ copies for approval
☒ For your use ☐ Approved as noted ☐ Submit _____ copies for distribution
☒ As requested ☐ Returned for corrections ☐ Return _____ corrected prints
☐ For review and comment ☐ _____
☐ FOR BIDS DUE _____ ☐ PRINTS RETURNED AFTER LOAN TO US

REMARKS

This Report Has Been Spot-Check Reviewed By The Accutest QA Staff.
Reviewer: [signature]
Review Date: 2/6/07

RECD 2/5/07
KSV

COPY TO LAB FILE

SIGNED: [signature]

If enclosures are not as noted, kindly notify us at once.

FRENCH & PARRELLO
ASSOCIATES, P.A., CONSULTING ENGINEERS

SUMMARY OF LABORATORY TESTING

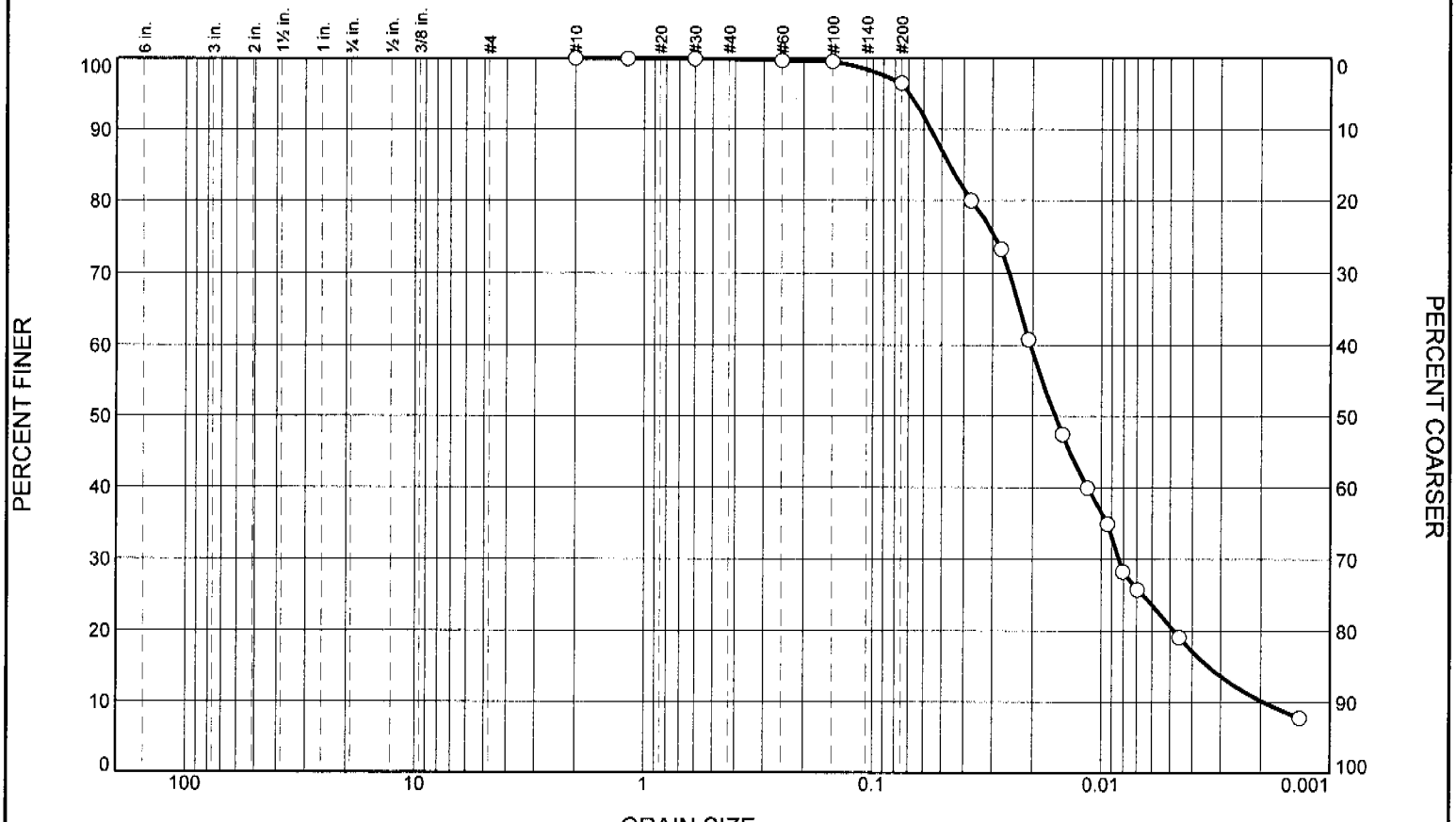
AASHTO Accreditated Laboratory

PROJECT: Accutest - Honeywell - Dundalk (J49618X) **PROJECT #:** 06L017A **DATE:** 2/07

Boring & Sample Number	Depth (ft)	Classification	Natural Water Content %	Atterberg Limits		Unconfined Compression		Unit Dry Weight PCF	Specific Gravity	Permeability cm/sec @ 20 deg C	Compaction	Grain Size	Consolidation	Triaxial	CBR	pH	Organic Content %
				Liquid Limit	Plastic Limit	Stress TSF	Strain %										
15X	64 - 66	Grey Organic SILT, trace f Sand	57	83	45			60.2		1.5×10^{-7}		*					
16X	42 - 44	Grey Organic SILT	48	80	42			72.9		1.5×10^{-7}		*					
17X	52.5 - 54.5	Grey Organic SILT, trace mf Sand	73	102	43			57.5		6.3×10^{-8}		*					
18X	72.5 - 74.5	Grey Organic SILT, little- mf+ Sand	46	37	27			75.1		2.2×10^{-7}		*					

* SEE TEST CURVES

Particle Size Distribution Report



% +3"	% Gravel			% Sand			% Fines
	Coarse	Medium	Fine	Coarse	Medium	Fine	
0.0	0.0	0.0	0.0	0.1	0.3	3.1	96.5

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#16	100.0		
#30	99.9		
#60	99.6		
#100	99.5		
#200	96.5		

* (no specification provided)

Material Description

Grey Organic SILT, trace f Sand

Atterberg Limits

PL= 45 LL= 83 PI= 38

Coefficients

D_{85}= 0.0463 D_{60}= 0.0205 D_{50}= 0.0160
D_{30}= 0.0084 D_{15}= 0.0034 D_{10}= 0.0019
C_u= 10.57 C_c= 1.78

Classification

USCS= MH AASHTO= A-7-5(48)

Remarks

Sample Number: 15X
Source of Sample: J49618X **Depth:** 64' - 66' **Date:** 1/12/07

FRENCH & PARRELLO ASSOCIATES, P.A.
CONSULTING ENGINEERS
Wall, NJ

Client: Accutest Laboratories
Project: Accutest - Honeywell - Dundalk
Project No: 06L017A **Figure**

Tested By: CK **Checked By:** RH

GRAIN SIZE DISTRIBUTION TEST DATA

2/1/2007

Client: Accutest Laboratories
Project: Accutest - Honeywell - Dundalk
Project Number: 06L017A
Location: J49618X
Depth: 64' - 66' **Sample Number:** 15X
Material Description: Grey Organic SILT, trace f Sand
Date: 1/12/07 **PL:** 45 **LL:** 83 **PI:** 38
USCS Classification: MH **AASHTO Classification:** A-7-5(48)
Tested by: CK **Checked by:** RH
Sieve opening list: FPA Default

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Cumulative Pan Tare Weight (grams)	Sieve Opening Size	Cumulative Weight Retained (grams)	Percent Finer
60.00	0.00	0.00	#10	0.00	100.0
			#16	0.02	100.0
			#30	0.05	99.9
			#60	0.22	99.6
			#100	0.28	99.5
			#200	2.10	96.5

Hydrometer Test Data

Hydrometer test uses material passing #4
Percent passing #4 based upon complete sample = 100.0
Weight of hydrometer sample =60.00
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C = -5
Meniscus correction only = 1.0
Specific gravity of solids = 2.65
Hydrometer type = 152H
Hydrometer effective depth equation: L = 16.294964 - 0.164 **x Rm**

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
1.00	20.0	53.0	48.0	0.0136	54.0	7.4	0.0372	79.9
2.00	20.0	49.0	44.0	0.0136	50.0	8.1	0.0275	73.3
4.00	20.0	41.5	36.5	0.0136	42.5	9.3	0.0208	60.8
9.00	20.0	33.5	28.5	0.0136	34.5	10.6	0.0148	47.4
16.00	20.0	29.0	24.0	0.0136	30.0	11.4	0.0115	39.9
25.00	20.0	26.0	21.0	0.0136	27.0	11.9	0.0094	34.9
36.00	20.0	22.0	17.0	0.0136	23.0	12.5	0.0080	28.3
49.00	20.0	20.5	15.5	0.0136	21.5	12.8	0.0070	25.8
120.00	20.0	16.5	11.5	0.0136	17.5	13.4	0.0046	19.1
1440.00	21.0	9.5	4.7	0.0135	10.5	14.6	0.0014	7.8

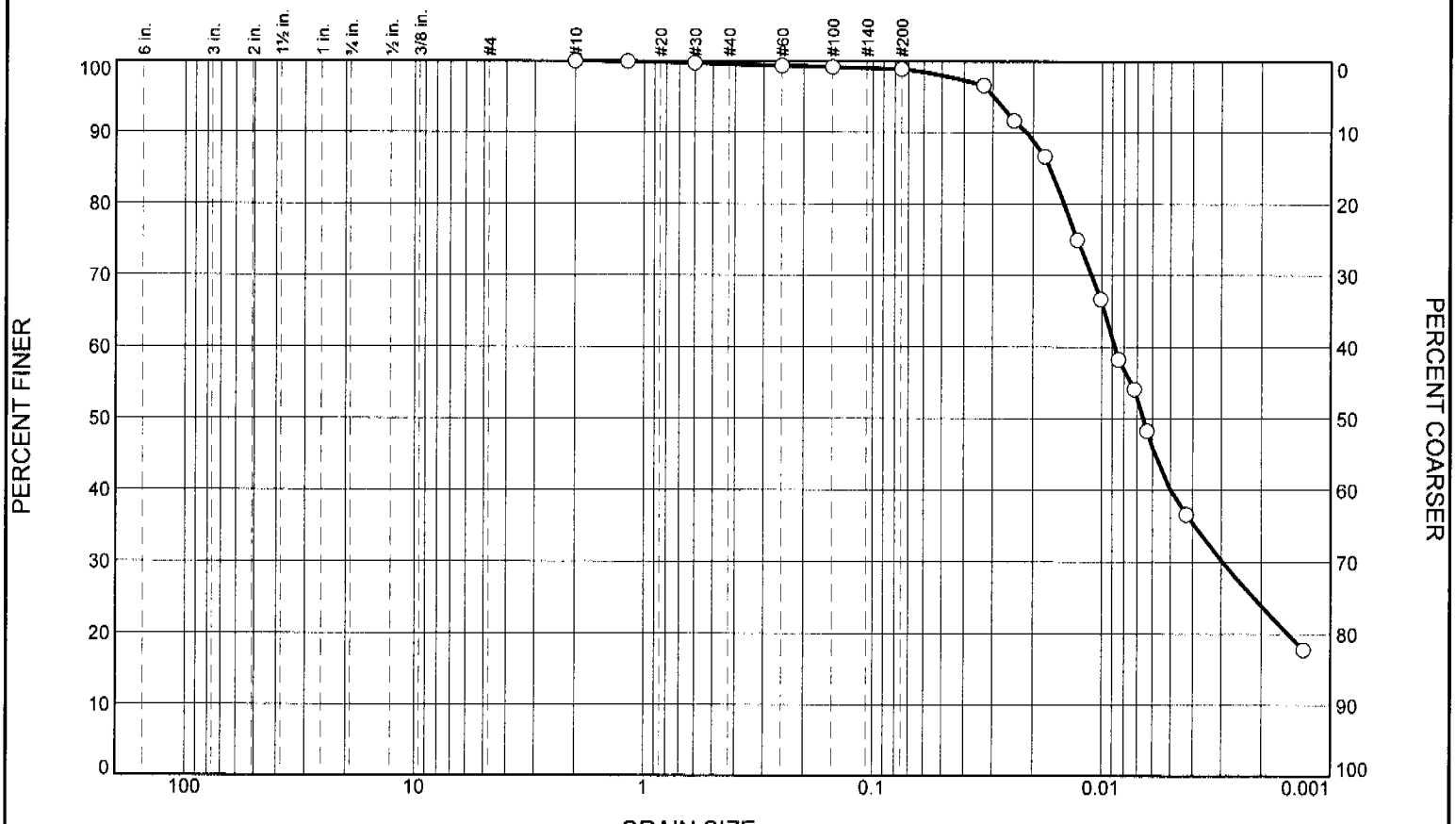
Fractional Components

Cobbles	Gravel				Sand				Fines
	Coarse	Medium	Fine	Total	Coarse	Medium	Fine	Total	
0.0	0.0	0.0	0.0	0.0	0.1	0.3	3.1	3.5	96.5

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0019	0.0034	0.0048	0.0084	0.0160	0.0205	0.0373	0.0463	0.0560	0.0691

Fineness Modulus	C_u	C_c
0.01	10.57	1.78

Particle Size Distribution Report



% +3"	% Gravel			% Sand			% Fines
	Coarse	Medium	Fine	Coarse	Medium	Fine	
0.0	0.0	0.0	0.0	0.3	0.4	0.4	98.9

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#16	99.9		
#30	99.7		
#60	99.3		
#100	99.2		
#200	98.9		

* (no specification provided)

Material Description

Grey Organic SILT

Atterberg Limits

PL= 42 LL= 80 PI= 38

Coefficients

D_{85}= 0.0168 D_{60}= 0.0088 D_{50}= 0.0066
D_{30}= 0.0030 D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= MH AASHTO= A-7-5(49)

Remarks

Sample Number: 16X
Source of Sample: J49618X **Depth:** 42' - 44' **Date:** 1/12/07

FRENCH & PARRELLO ASSOCIATES, P.A.
CONSULTING ENGINEERS
Wall, NJ

Client: Accutest Laboratories
Project: Accutest - Honeywell - Dundalk
Project No: 06L017A **Figure**

Tested By: CK **Checked By:** RH

GRAIN SIZE DISTRIBUTION TEST DATA

2/1/2007

Client: Accutest Laboratories
Project: Accutest - Honeywell - Dundalk
Project Number: 06L017A
Location: J49618X
Depth: 42' - 44'
Sample Number: 16X
Material Description: Grey Organic SILT
Date: 1/12/07
PL: 42
LL: 80
PI: 38
USCS Classification: MH
AASHTO Classification: A-7-5(49)
Tested by: CK
Checked by: RH
Sieve opening list: FPA Default

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Cumulative Pan Tare Weight (grams)	Sieve Opening Size	Cumulative Weight Retained (grams)	Percent Finer
60.00	0.00	0.00	#10	0.00	100.0
			#16	0.04	99.9
			#30	0.17	99.7
			#60	0.39	99.3
			#100	0.50	99.2
			#200	0.65	98.9

Hydrometer Test Data

Hydrometer test uses material passing #4
Percent passing #4 based upon complete sample = 100.0
Weight of hydrometer sample =60.00
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C = -5
Meniscus correction only = 1.0
Specific gravity of solids = 2.65
Hydrometer type = 152H
Hydrometer effective depth equation: L = 16.294964 - 0.164 **x Rm**

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
1.00	20.0	63.0	58.0	0.0136	64.0	5.8	0.0329	96.6
2.00	20.0	60.0	55.0	0.0136	61.0	6.3	0.0242	91.6
4.00	20.0	57.0	52.0	0.0136	58.0	6.8	0.0178	86.6
9.00	20.0	50.0	45.0	0.0136	51.0	7.9	0.0128	74.9
16.00	20.0	45.0	40.0	0.0136	46.0	8.8	0.0101	66.6
25.00	20.0	40.0	35.0	0.0136	41.0	9.6	0.0084	58.3
36.00	20.0	37.5	32.5	0.0136	38.5	10.0	0.0072	54.1
49.00	20.0	34.0	29.0	0.0136	35.0	10.6	0.0063	48.3
120.00	20.0	27.0	22.0	0.0136	28.0	11.7	0.0043	36.6
1440.00	21.0	15.5	10.7	0.0135	16.5	13.6	0.0013	17.8

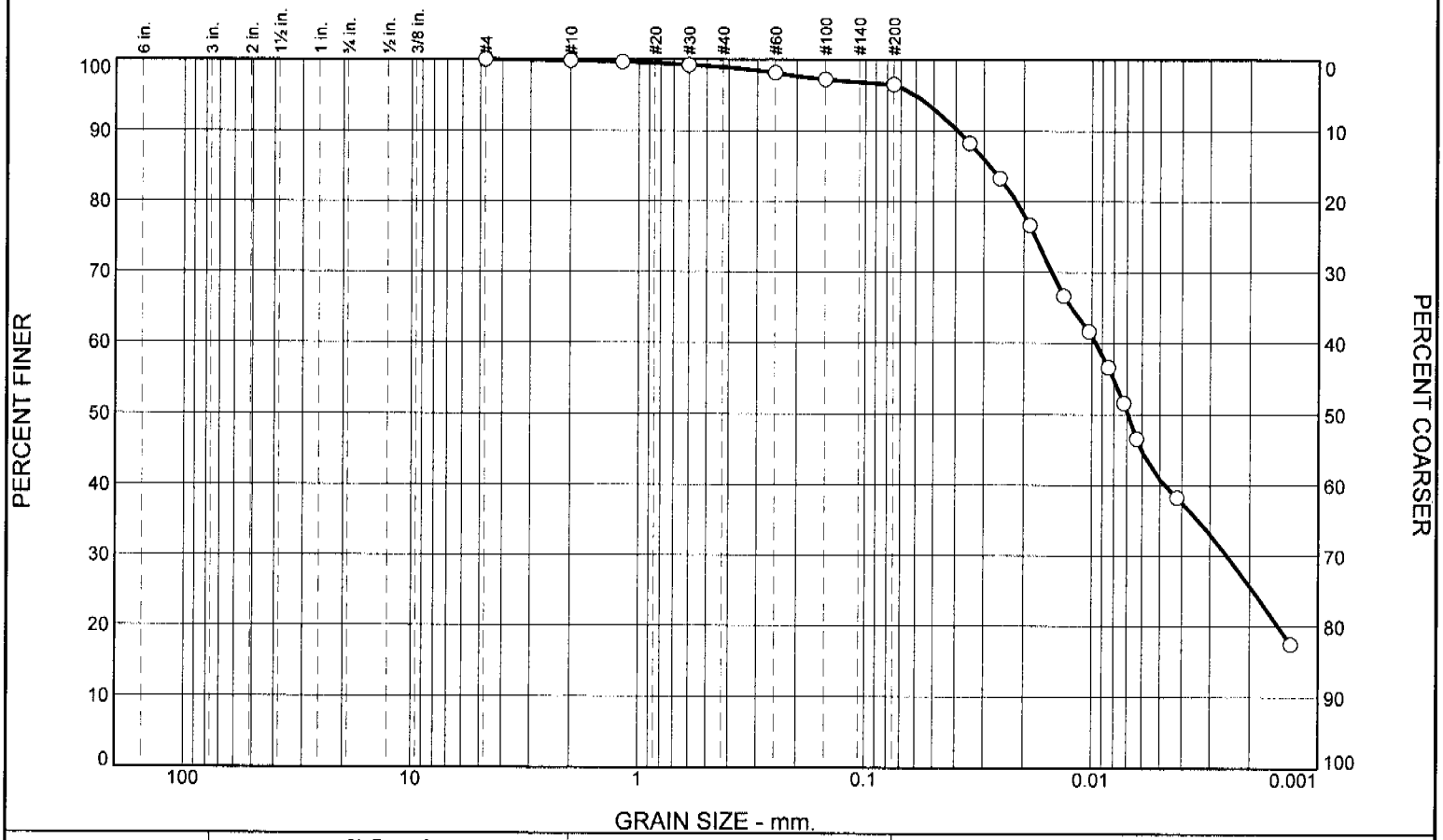
Fractional Components

Cobbles	Gravel				Sand				Fines
	Coarse	Medium	Fine	Total	Coarse	Medium	Fine	Total	
0.0	0.0	0.0	0.0	0.0	0.3	0.4	0.4	1.1	98.9

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
		0.0015	0.0030	0.0066	0.0088	0.0147	0.0168	0.0214	0.0297

Fineness Modulus
0.02

Particle Size Distribution Report



% +3"	% Gravel			% Sand			% Fines
	Coarse	Medium	Fine	Coarse	Medium	Fine	
0.0	0.0	0.0	0.2	0.6	1.1	1.6	96.5

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.8		
#16	99.7		
#30	99.2		
#60	98.1		
#100	97.2		
#200	96.5		

* (no specification provided)

Material Description

Grey Organic SILT, trace mf Sand

Atterberg Limits

PL= 43 LL= 102 PI= 59

Coefficients

D_{85}= 0.0281 D_{60}= 0.0096 D_{50}= 0.0069
D_{30}= 0.0025 D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= MH AASHTO= A-7-5(71)

Remarks

Sample Number: 17X
Source of Sample: J49618X **Depth:** 52.5' - 54.5' **Date:** 1/17/07

FRENCH & PARRELLO ASSOCIATES, P.A.
CONSULTING ENGINEERS
Wall, NJ

Client: Accutest Laboratories
Project: Accutest - Honeywell - Dundalk
Project No: 06L017A **Figure**

Tested By: CK **Checked By:** RH

GRAIN SIZE DISTRIBUTION TEST DATA

2/1/2007

Client: Accutest Laboratories
Project: Accutest - Honeywell - Dundalk
Project Number: 06L017A
Location: J49618X
Depth: 52.5' - 54.5' **Sample Number:** 17X
Material Description: Grey Organic SILT, trace mf Sand
Date: 1/17/07 **PL:** 43 **LL:** 102 **PI:** 59
USCS Classification: MH **AASHTO Classification:** A-7-5(71)
Tested by: CK **Checked by:** RH
Sieve opening list: FPA Default

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Cumulative Pan Tare Weight (grams)	Sieve Opening Size	Cumulative Weight Retained (grams)	Percent Finer
60.00	0.00	0.00	#4	0.00	100.0
			#10	0.11	99.8
			#16	0.21	99.7
			#30	0.48	99.2
			#60	1.14	98.1
			#100	1.67	97.2
			#200	2.10	96.5

Hydrometer Test Data

Hydrometer test uses material passing #4
Percent passing #4 based upon complete sample = 100.0
Weight of hydrometer sample =60.00
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C = -6
Meniscus correction only = 1.0
Specific gravity of solids = 2.65
Hydrometer type = 152H
Hydrometer effective depth equation: L = 16.294964 - 0.164 **x Rm**

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
1.00	20.0	59.0	53.0	0.0136	60.0	6.5	0.0347	88.3
2.00	20.0	56.0	50.0	0.0136	57.0	6.9	0.0254	83.3
4.00	20.0	52.0	46.0	0.0136	53.0	7.6	0.0188	76.6
9.00	20.0	46.0	40.0	0.0136	47.0	8.6	0.0133	66.6
16.00	20.0	43.0	37.0	0.0136	44.0	9.1	0.0103	61.6
25.00	20.0	40.0	34.0	0.0136	41.0	9.6	0.0084	56.6
36.00	20.0	37.0	31.0	0.0136	38.0	10.1	0.0072	51.6
49.00	20.0	34.0	28.0	0.0136	35.0	10.6	0.0063	46.6
120.00	20.0	29.0	23.0	0.0136	30.0	11.4	0.0042	38.3
1440.00	20.0	16.5	10.5	0.0136	17.5	13.4	0.0013	17.4

Fractional Components

Cobbles	Gravel				Sand				Fines
	Coarse	Medium	Fine	Total	Coarse	Medium	Fine	Total	
0.0	0.0	0.0	0.2	0.2	0.6	1.1	1.6	3.3	96.5

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
		0.0015	0.0025	0.0069	0.0096	0.0216	0.0281	0.0391	0.0602

Fineness Modulus
0.06

Particle Size Distribution Report

% +3"	% Gravel			% Sand			% Fines
	Coarse	Medium	Fine	Coarse	Medium	Fine	
0.0	0.0	0.0	0.1	0.4	4.7	7.9	86.9

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.9		
#16	99.8		
#30	99.5		
#60	94.8		
#100	90.6		
#200	86.9		

* (no specification provided)

Material Description

Grey Organic SILT, little- mf+ Sand

Atterberg Limits

PL= 27 LL= 37 PI= 10

Coefficients

D_{85}= 0.0374 D_{60}= 0.0099 D_{50}= 0.0077
D_{30}= 0.0038 D_{15}= 0.0015 D_{10}=
C_u= C_c=

Classification

USCS= ML AASHTO= A-4(10)

Remarks

Sample Number: 18X
Source of Sample: J49618X **Depth:** 72.5' - 74.5' **Date:** 1/17/07

FRENCH & PARRELLO ASSOCIATES, P.A.
CONSULTING ENGINEERS
Wall, NJ

Client: Accutest Laboratories
Project: Accutest - Honeywell - Dundalk
Project No: 06L017A **Figure**

Tested By: CK **Checked By:** RH

GRAIN SIZE DISTRIBUTION TEST DATA

2/1/2007

Client: Accutest Laboratories
Project: Accutest - Honeywell - Dundalk
Project Number: 06L017A
Location: J49618X
Depth: 72.5' - 74.5' **Sample Number:** 18X
Material Description: Grey Organic SILT, little- mf+ Sand
Date: 1/17/07 **PL:** 27 **LL:** 37 **PI:** 10
USCS Classification: ML **AASHTO Classification:** A-4(10)
Tested by: CK **Checked by:** RH
Sieve opening list: FPA Default

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Cumulative Pan Tare Weight (grams)	Sieve Opening Size	Cumulative Weight Retained (grams)	Percent Finer
60.00	0.00	0.00	#4	0.00	100.0
			#10	0.05	99.9
			#16	0.11	99.8
			#30	0.31	99.5
			#60	3.14	94.8
			#100	5.62	90.6
			#200	7.86	86.9

Hydrometer Test Data

Hydrometer test uses material passing #4
Percent passing #4 based upon complete sample = 100.0
Weight of hydrometer sample =60.00
Automatic temperature correction
Composite correction (fluid density and meniscus height) at 20 deg. C = -6
Meniscus correction only = 1.0
Specific gravity of solids = 2.65
Hydrometer type = 152H
Hydrometer effective depth equation: L = 16.294964 - 0.164 **x Rm**

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
1.00	20.0	57.0	51.0	0.0136	58.0	6.8	0.0355	84.9
2.00	20.0	54.0	48.0	0.0136	55.0	7.3	0.0260	79.9
4.00	20.0	52.0	46.0	0.0136	53.0	7.6	0.0188	76.6
9.00	20.0	47.0	41.0	0.0136	48.0	8.4	0.0132	68.3
16.00	20.0	43.0	37.0	0.0136	44.0	9.1	0.0103	61.6
25.00	20.0	38.0	32.0	0.0136	39.0	9.9	0.0086	53.3
36.00	20.0	35.0	29.0	0.0136	36.0	10.4	0.0073	48.3
49.00	20.0	31.0	25.0	0.0136	32.0	11.0	0.0065	41.6
120.00	20.0	25.0	19.0	0.0136	26.0	12.0	0.0043	31.6
1440.00	20.0	13.5	7.5	0.0136	14.5	13.9	0.0013	12.4

Fractional Components

Cobbles	Gravel				Sand				Fines
	Coarse	Medium	Fine	Total	Coarse	Medium	Fine	Total	
0.0	0.0	0.0	0.1	0.1	0.4	4.7	7.9	13.0	86.9

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
	0.0015	0.0020	0.0038	0.0077	0.0099	0.0262	0.0374	0.1385	0.2578

Fineness Modulus
0.14

ATTERBERG LIMITS

SOIL SAMPLE Grey Organic Silt

LOCATION

BORING No. DEPTH

SAMPLE No. 15x

SPECIFIC GRAVITY

PROJECT Acutest - J49618x

FILE No. 06L017A

TEST No.

DATE 1/12/06

TESTED BY

CHECKED BY RH

PLASTIC LIMIT

DETERMINATION No.	1	2	3
CONTAINER No.	[illegible]	A-502	
WT. CONTAINER & WET SOIL IN g	12.60	17.45	
WT CONTAINER & DRY SOIL IN g	15.62	15.45	
WT. WATER IN g			
WT. CONTAINER IN g	11.23	11.05	
WT. DRY SOIL IN g			
WATER CONTENT IN %	45.10	45.45	

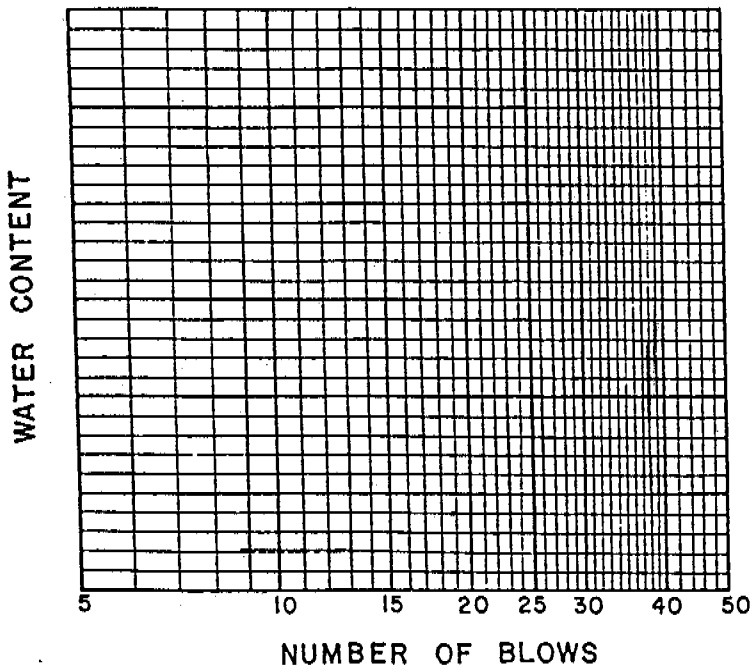
NATURAL WATER CONTENT

1	2	3
A-512		
22.99		
18.78		
10.84		
53.02		

LIQUID LIMIT

DETERMINATION No.						
No. OF BLOWS	25					
CONTAINER No.	A-40					
WT. CONTAINER & WET SOIL IN g	28.44					
WT. CONTAINER & DRY SOIL IN g	20.55					
WT. WATER IN g						
WT. CONTAINER IN g	11.01					
WT. DRY SOIL IN g						
WATER CONTENT IN %	82.70					

FLOW CURVE



RESULTS SUMMARY

NATURAL WATER CONTENT, w, -

LIQUID LIMIT, w_ℓ, 83

PLASTIC LIMIT, w_p, 45

PLASTICITY INDEX 38

FLOW INDEX

WATER–PLASTICITY RATIO $\frac{w-w_p}{w_\ell-w_p}$

REMARKS

ATTERBERG LIMITS

SOIL SAMPLE Grey Organic Silt

LOCATION

BORING No. DEPTH

SAMPLE No. 16X

SPECIFIC GRAVITY

PROJECT Accutest - J49618X

FILE No. 061017A

TEST No.

DATE 1/12/07

TESTED BY

CHECKED BY

PLASTIC LIMIT

DETERMINATION No.	1	2	3
CONTAINER No.	A508	A-507	
WT. CONTAINER & WET SOIL IN g	17.31	16.63	
WT CONTAINER & DRY SOIL IN g	15.32	14.85	
WT. WATER IN g			
WT. CONTAINER IN g	10.57	10.54	
WT. DRY SOIL IN g			
WATER CONTENT IN %	41.89	41.30	

NATURAL WATER CONTENT

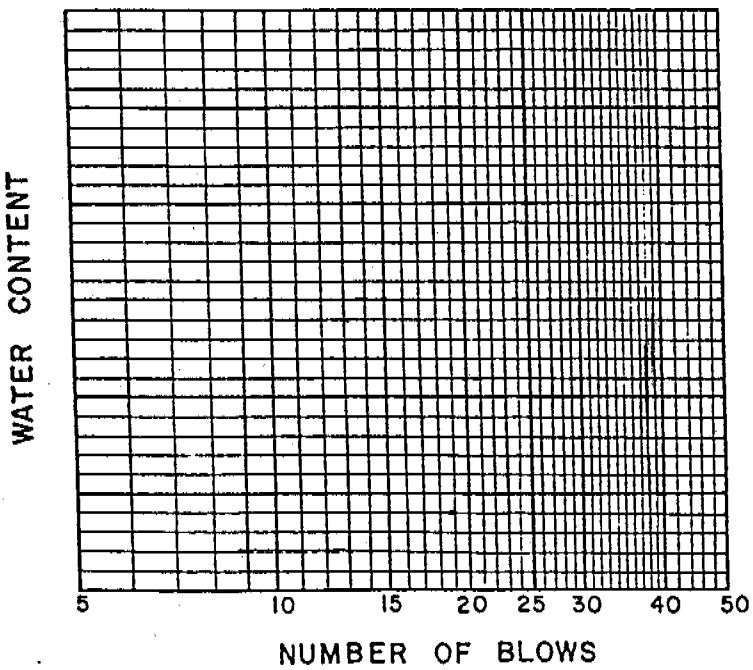
1	2	3
A-523		
33.66		
26.37		
10.99		
47.40		

LIQUID LIMIT

DETERMINATION No.						
No. OF BLOWS	15					
CONTAINER No.	CC10					
WT. CONTAINER & WET SOIL IN g	26.18					
WT. CONTAINER & DRY SOIL IN g	19.17					
WT. WATER IN g						
WT. CONTAINER IN g	10.95					
WT. DRY SOIL IN g						
WATER CONTENT IN %	85.28					

80 @ 25

FLOW CURVE



RESULTS SUMMARY

NATURAL WATER CONTENT, w, -

LIQUID LIMIT, w_ℓ, 80

PLASTIC LIMIT, w_p, 42

PLASTICITY INDEX 38

FLOW INDEX

WATER-PLASTICITY RATIO $\frac{w - w_p}{w_\ell - w_p}$

REMARKS

ATTERBERG LIMITS

Gray Silt

SOIL SAMPLE Grey

LOCATION

BORING No. DEPTH 52.5 - 54.5

SAMPLE No. 17x

SPECIFIC GRAVITY

PROJECT Accutest J49618X

FILE No. 061017A

TEST No.

DATE 1/17/07

TESTED BY

CHECKED BY

PLASTIC LIMIT

DETERMINATION No.	1	2	3
CONTAINER No.	A-7	B-6	
WT. CONTAINER & WET SOIL IN g	17.07	17.24	
WT CONTAINER & DRY SOIL IN g	15.25	15.32	
WT. WATER IN g			
WT. CONTAINER IN g	11.01	10.86	
WT. DRY SOIL IN g			
WATER CONTENT IN %	42.92	43.05	

NATURAL WATER CONTENT

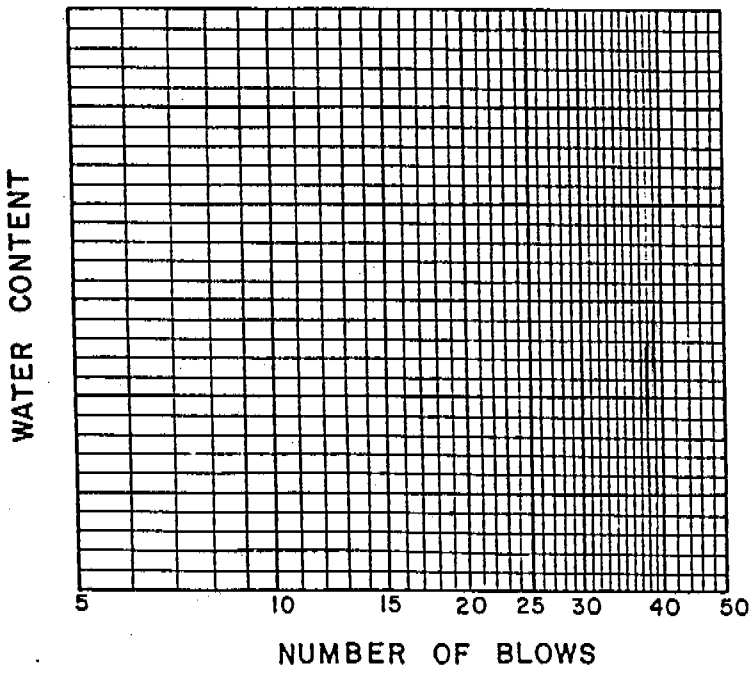
1	2	3
A521		
24.83		
19.02		
10.99		
72.35		

LIQUID LIMIT

DETERMINATION No.						
No. OF BLOWS	29					
CONTAINER No.	A504					
WT. CONTAINER & WET SOIL IN g	26.10					
WT. CONTAINER & DRY SOIL IN g	18.73					
WT. WATER IN g						
WT. CONTAINER IN g	11.38					
WT. DRY SOIL IN g						
WATER CONTENT IN %	100.27					

102 ORS

FLOW CURVE



RESULTS SUMMARY

NATURAL WATER CONTENT, w, -

LIQUID LIMIT, w_ℓ, 102

PLASTIC LIMIT, w_p, 43

PLASTICITY INDEX 59

FLOW INDEX

WATER-PLASTICITY RATIO $\frac{w-w_p}{w_\ell-w_p}$

REMARKS

619 999

ATTERBERG LIMITS

SOIL SAMPLE Grey Organic Silt Some mf Sand

LOCATION

BORING No. DEPTH

SAMPLE No. 18 X

SPECIFIC GRAVITY

PROJECT Accutest - J49618X

FILE No. 061017A

TEST No.

DATE 1/17/07

TESTED BY

CHECKED BY

Q6

PLASTIC LIMIT

DETERMINATION No.	1	2	3
CONTAINER No.	A512	A515	
WT. CONTAINER & WET SOIL IN g	12.04	19.28	
WT CONTAINER & DRY SOIL IN g	15.75	17.48	
WT. WATER IN g			
WT. CONTAINER IN g	10.83	10.78	
WT. DRY SOIL IN g			
WATER CONTENT IN %	26.2195	26.8657	

NATURAL WATER CONTENT

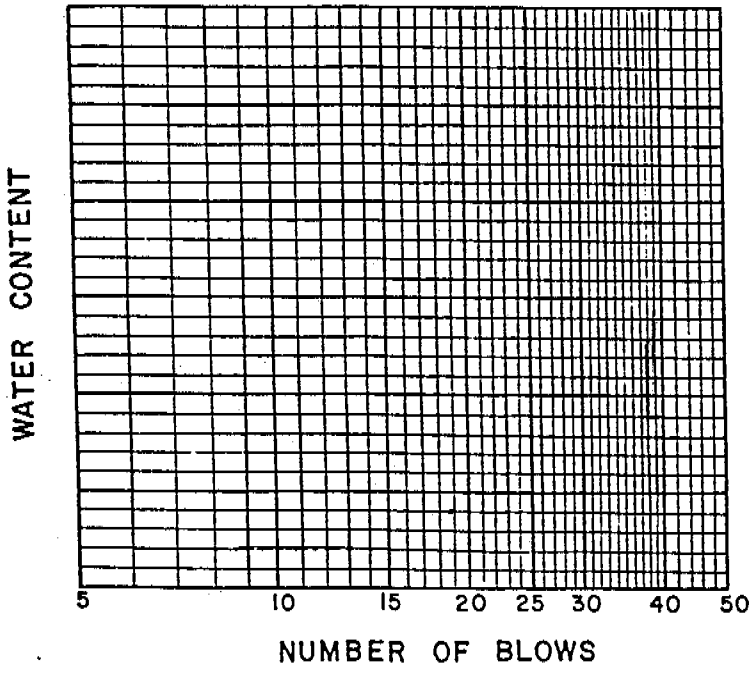
1	2	3
A522		
28.50		
23.51		
11.11		
40.24		

LIQUID LIMIT

DETERMINATION No.						
No. OF BLOWS	21					
CONTAINER No.	D-82					
WT. CONTAINER & WET SOIL IN g	25.90					
WT. CONTAINER & DRY SOIL IN g	21.81					
WT. WATER IN g						
WT. CONTAINER IN g	11.12					
WT. DRY SOIL IN g						
WATER CONTENT IN %	38.26					

37

FLOW CURVE



RESULTS SUMMARY

NATURAL WATER CONTENT, w, -

LIQUID LIMIT, w_ℓ, 37

PLASTIC LIMIT, w_p, 27

PLASTICITY INDEX 10

FLOW INDEX

WATER-PLASTICITY RATIO $\frac{w-w_p}{w_\ell-w_p}$

REMARKS

FRENCH & PARRELLO
ASSOCIATES, P.A., CONSULTING ENGINEERS

Particle-Size Analysis of Soil
ASTM D 422

Soil Sample	Water Content	Project: Accutest -J49618x
Description: Grey Organic Silt	Container # Z-3	Project # 06L017A
	Wt. Container: 8.50	Date: 1/12/07
Location:	Wt. Cont. & Wet Soil: 207.28	Tested By: CK
Boring #	Wt. Cont. & Dry Soil: 135.90	Checked By: RH
Sample # 15x	Wt. Water:	Dry Sieve
Depth:	Wt. Dry Soil: 127.40	Wash Sieve
Specific Gravity:	Water Content in % 56.03	Combined X

Soil Sample	Hydrometer Data	
Wt. Cont. & Wet Soil:	Excess Y-16	Correction: 5/5.5 Specif. Grav.
Wt. Cont.	Wt. Cont. & Wet Soil:	Deflocculant Agent:
Wt. Wet Soil:	Wt. Cont.	Beaker # Temp. 20/21
Wt. Dry Soil:	Wt. Dry Soil: 60.00	Hydrometer # 6

Total Sample			Hydrometer Data				
U.S. Standard Sieve No.	Cumulative Wt. of Soil Retained	Total Sample % Finer by Wt.	Date/Time	Elapsed Time in Minutes	Hydrometer Reading	Particle Diameter	Percent Finer
				0.5			
3"				1.0	53		
2 1/2"				1.5			
2"				2.0	49		
1 1/2"				4.0	41.5		
1				9.0	33.5		
3/4"				16.0	29		
3/8"				25.0	26		
#4	0			36.0	22		
Total Sample Dry Wt.				49.0	20.5		
			% Coarse Gravel	120.0	16.5		
			21°	1440	10		
Split Sample			% Medium Gravel				
U.S. Standard Sieve No.	Cumulative Wt. of Soil Retained	Total Sample % Finer by Wt.					
#10	0		% Fine Gravel				
#16	.02		0				
#30	.05		% Coarse Sand	Total Gravel %			
#60	.22		0.1	0			
#100	.28		% Medium Sand	Total Sand %			
#200	2.10		0.3	3.5			
Pan			% Fine Sand	Total Silt/Clay %			
			3.1	96.5			

FRENCH & PARRELLO
ASSOCIATES, P.A., CONSULTING ENGINEERS

Particle-Size Analysis of Soil
ASTM D 422

Soil Sample	Water Content	Project: Accutest - J49618X
Description: Grey Organic SILT	Container # Z-5	Project # 061017A
	Wt. Container: 8.93	Date: 1/12/07
Location:	Wt. Cont. & Wet Soil: 200.20	Tested By: CK
Boring #	Wt. Cont. & Dry Soil: 138.70	Checked By: RH
Sample # 16X	Wt. Water:	Dry Sieve
Depth:	Wt. Dry Soil: 129.77	Wash Sieve
Specific Gravity:	Water Content in % 47.39	Combined X

Soil Sample	Hydrometer Data	
Wt. Cont. & Wet Soil:	Excess Y-15	Correction: 5/5.5 Specif. Grav.
Wt. Cont.	Wt. Cont. & Wet Soil:	Deflocculant Agent:
Wt. Wet Soil:	Wt. Cont.	Beaker # Temp. 20/21
Wt. Dry Soil:	Wt. Dry Soil: 60.00	Hydrometer # 5

Total Sample			Hydrometer Data				
U.S. Standard Sieve No.	Cumulative Wt. of Soil Retained	Total Sample % Finer by Wt.	Determina.	Elapsed Time in Minutes	Hydrometer Reading	Particle Diameter	Percent Finer
				0.5			
3"				1.0	63		
2 1/2"				1.5			
2"				2.0	60		
1 1/2"				4.0	57		
1				9.0	50		
3/4"				16.0	45		
3/8"				25.0	40		
#4	0			36.0	37.5		
Total Sample Dry Wt.				49.0	34		
			% Coarse Gravel	120.0	27		
			21°	1440	16		
Split Sample			% Medium Gravel				
U.S. Standard Sieve No.	Cumulative Wt. of Soil Retained	Total Sample % Finer by Wt.					
#10	0		% Fine Gravel				
#16	.04						
#30	.17		% Coarse Sand	Total Gravel %			
#60	.39		.3				
#100	.50		% Medium Sand	Total Sand %			
#200	.65		.4	1.1			
Pan			% Fine Sand	Total Silt/Clay %			
			.4	98.9			

FRENCH & PARRELLO
ASSOCIATES, P.A. CONSULTING ENGINEERS

Particle-Size Analysis of Soil
ASTM D 422

Soil Sample	Water Content	Project: Accutest J49618x
Description: Grey Organic Silt	Container # H-13	Project # 06L017A
	Wt. Container: 9.27	Date: 1/17/07
Location:	Wt. Cont. & Wet Soil: 214.24	Tested By: CK
Boring #	Wt. Cont. & Dry Soil: 126.98	Checked By: RT
Sample # 17x	Wt. Water:	Dry Sieve
Depth:	Wt. Dry Soil: 117.71	Wash Sieve
Specific Gravity:	Water Content in % 74.13	Combined X

Soil Sample	Hydrometer Data	
Wt. Cont. & Wet Soil:	Excess A-18	Correction: 6/6 Specif. Grav.
Wt. Cont.	Wt. Cont. & Wet Soil:	Deflocculant Agent:
Wt. Wet Soil:	Wt. Cont. 8.87	Beaker # Temp. 20/20
Wt. Dry Soil:	Wt. Dry Soil: 60.00	Hydrometer # 2

Total Sample			Hydrometer Data				
U.S. Standard Sieve No.	Cumulative Wt. of Soil Retained	Total Sample % Finer by Wt.	Date/Time	Elapsed Time in Minutes	Hydrometer Reading	Particle Diameter	Percent Finer
				0.5			
3"				1.0	59		
2 1/2"				1.5			
2"				2.0	56		
1 1/2"				4.0	52		
1				9.0	46		
3/4"				16.0	43		
3/8"				25.0	40		
#4	0.9			36.0	37		
Total Sample Dry Wt.				49.0	34		
			% Coarse Gravel	120.0	29		
				1440	16.5		
Split Sample			% Medium Gravel				
U.S. Standard Sieve No.	Cumulative Wt. of Soil Retained	Total Sample % Finer by Wt.					
#10	.11		% Fine Gravel				
#16	.21		.2				
#30	.48		% Coarse Sand	Total Gravel %			
#60	1.14		0.6	0.2			
#100	1.67		% Medium Sand	Total Sand %			
#200	2.10		1.1	33			
Pan			% Fine Sand	Total Silt/Clay %			
			1.6	96.5			

FRENCH & PARRELLO
ASSOCIATES, P.A., CONSULTING ENGINEERS

Particle-Size Analysis of Soil
ASTM D 422

Soil Sample	Water Content	Project: Acutest - J49618X
Description: Grey Organic Silt	Container # A-28	Project # 06L017A
	Wt. Container: 8.25	Date: 1/17/07
Location:	Wt. Cont. & Wet Soil: 193.33	Tested By: CK
Boring #	Wt. Cont. & Dry Soil: 128.95	Checked By: RT
Sample # 18x	Wt. Water:	Dry Sieve
Depth:	Wt. Dry Soil: 120.70	Wash Sieve
Specific Gravity:	Water Content in % 53.34	Combined X

Soil Sample	Hydrometer Data	
Wt. Cont. & Wet Soil:	Excess X-18	Correction: 6/6 Specif. Grav.
Wt. Cont.	Wt. Cont. & Wet Soil:	Defloculant Agent:
Wt. Wet Soil:	Wt. Cont. 9.08	Beaker # Temp. 20/20
Wt. Dry Soil:	Wt. Dry Soil: 60.00	Hydrometer # 3

Total Sample

U.S. Standard Sieve No.	Cumulative Wt. of Soil Retained	Total Sample % Finer by Wt.
3"		
2 1/2"		
2"		
1 1/2"		
1		
3/4"		
3/8"		
#4	0	
Total Sample Dry Wt.		

Split Sample

U.S. Standard Sieve No.	Cumulative Wt. of Soil Retained	Total Sample % Finer by Wt.
#10	.05	
#16	.11	
#30	.31	
#60	3.14	
#100	5.62	
#200	7.66	
Pan		

Hydrometer Data

Date/Time	Elapsed Time in Minutes	Hydrometer Reading	Effective Diameter	Percent Finer
	0.5			
	1.0	57		
	1.5			
	2.0	54		
	4.0	52		
	9.0	47		
	16.0	43		
	25.0	38		
	36.0	35		
	49.0	31		
% Coarse Gravel	120.0	25		
	1440	13.5		
% Medium Gravel				
% Fine Gravel				
.1				
% Coarse Sand	Total Gravel %			
.4	0.1			
% Medium Sand	Total Sand %			
4.7	13.0			
% Fine Sand	Total Silt/Clay %			
7.9	86.9			

PROJECT: Accutest - J49618X - HW - Dundalk JOB No. _____ DATE: 1/12/07

SAMPLE DESIGNATION 15X LOCATION _____ UNIT No. PC-7

	Before In.	Before Cm.	After In.	After Cm.
Sample Dia.	2.861	7.2669	2.88	7.163
Sample Length	1.51725	3.8538	1.497	3.80
Volume		159.8394		
Weight	249.88 - 154.32 =			
Unit Weight		60.24		
Area		41.4756	40.2954	

Water Content	Before	After
Tare No.		A-4
Wet wt. Sample & Tare		257.36
Dry wt. Sample & Tare		163.25
Wt. of Water		
Wt. of Tare		8.93
Wt. of Dry Soil		154.32
Water Content %	61.92	60.98

STAGE-BACK PRESSURE INFORMATION

Date	Time	CHAMBER σ_c	CHAMBER Shared Buret.	PEDESTAL σ_{B1}	PEDESTAL Buret.	TOP CAP σ_{B2}	TOP CAP Buret	Remarks
1-17/07	15:35	0	0	0	5	0	7	
1-18	13:45	17	6.5	15	5.7	15	9.7	
"	14:15	32	8.0	30	9.0	30	11.4	
"	15:20	62	10.4	60	10.5	60	12.0	
	16:30	92	12.4	90	11.7	90	13.4	

Response Check: σ_c = _____ u_B = _____ $\Delta\sigma_c$ = _____

t	u_b	%	t	u_b	%
0	94	0			
3	103.9	99			

$K = 1.5 \times 10^{-7}$

page ___ of ___

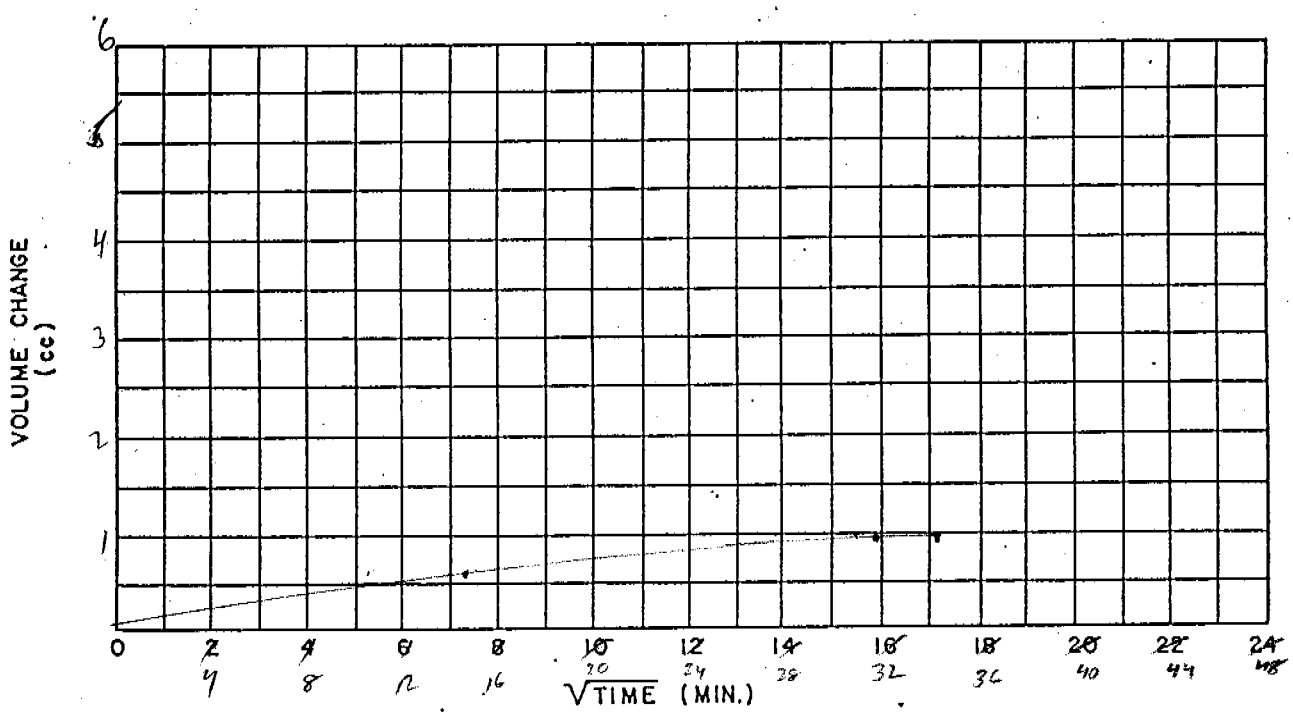
133381

CONSOLIDATION TEST :

SAMPLE DESIGNATION 15X JOB NO. 06L017A DATE: 1-18-07

σ_{Co} 92 → σ_I 94 σ_{Bo} 90 σ_B 90 $\bar{\sigma}$ 4

DATE	TIME	ELAPSED TIME	CHAMBER BURET	PEDESTAL BURET	TOP CAP BURET	VOLUME CHANGE	REMARKS
1-18	16:44	0	0.0	5.0	7.0	0	
		3:07/187 13.7	0.5	5.1 .1	7.5 .5	0.6	
1-19		1016 31.9	0.5	5.2	7.7	0.9	
		1171 34.2	0.5	5.2	7.7	0.9	



SAMPLE DESIGNATION: 15X TEST UNIT PC-7

Chamber Pressure 94 TEMP. 20

	DATE:	TIME:	ELAPSED TIME:	HEAD PRESSURE	HEAD BURET	TAIL PRESSURE	TAIL BURET	ΔV (cc)
	1-19-07	13:50	0	90	0.0	90	25.0	0
3x10^-7	1-20		1148		3.5	17.9	21.4	
	1-21	13:18	0	90	0.0	90	25.0	0
0x10^-7	1-22		1203		3.3	18.4	21.7	
	1-22	9:26	0	90	0.0	90	25.0	0
2.7x10^-7	1-23		1434		3.4	18.1	21.5	
	1-23	9:25	0	90	0.0	90	25.0	0
5x10^-7	1-24		1431		3.1	18.8	21.9	
	1-24	9:21	0	90	0.0	90	25.0	0
1.1x10^-7	1-25		1535		2.6	20.2	22.8	
	1-25	11:02	0	90	0.0	90	25.0	0
1.2x10^-7	1-26		1377		2.5	20.1	22.6	
	1-26	10:03	0	90	0.0	90	25.0	0
4.4x10^-7	1-28		2981		4.4	16.1	20.5	
	1-28	11:47	0	90	0.0	90	25.0	0
1.1x10^-7	1-29		1260		2.0	20.9	22.9	
	1.5x10^-7 / [illegible]							

PROJECT: Accutest - J49618X JOB No. 06L017A DATE: 1/12/07

SAMPLE DESIGNATION 16x LOCATION _____ UNIT No. PC-5

	Before In.	Before Cm.	After In.	After Cm.
Sample Dia.	2.86375	7.2739	2.87	7.2898
Sample Length	1.543	3.9192	1.56	3.9624
Volume		162.8639		
Weight	281.03 = 190.22 dry			
Unit Weight		72.88		
Area		41.5554		41.7370

Water Content

	Before	After
Tare No.		M-20
Wet wt. Sample & Tare		291.74
Dry wt. Sample & Tare		199.21
Wt. of Water		
Wt. of Tare		8.99
Wt. of Dry Soil		190.22
Water Content %	42.74	48.64

STAGE-BACK PRESSURE INFORMATION

Date	Time	CHAMBER σ_c	CHAMBER Shared Buret.	PEDESTAL σ_{B1}	PEDESTAL Buret.	TOP CAP σ_{B2}	TOP CAP Buret	Remarks
1/17/07	15:35	0	0	0	5	0	7	
1/18	13:45	17	6.5	15	5.0	15	7.2	
	14:15	32	8.0	30	5.9	30	8.5	
	15:20	62	10.4	60	6.5	60	9.4	
	16:30	92	12.4	90	7.1	90	10.2	

Response Check: σ_c = _____ U_B = _____ $\Delta\sigma_c$ = _____

t	u_b	%	t	u_b	%
0	94	0			
4	104	100			

$K = 1.5 \times 10^{-7}$

133381

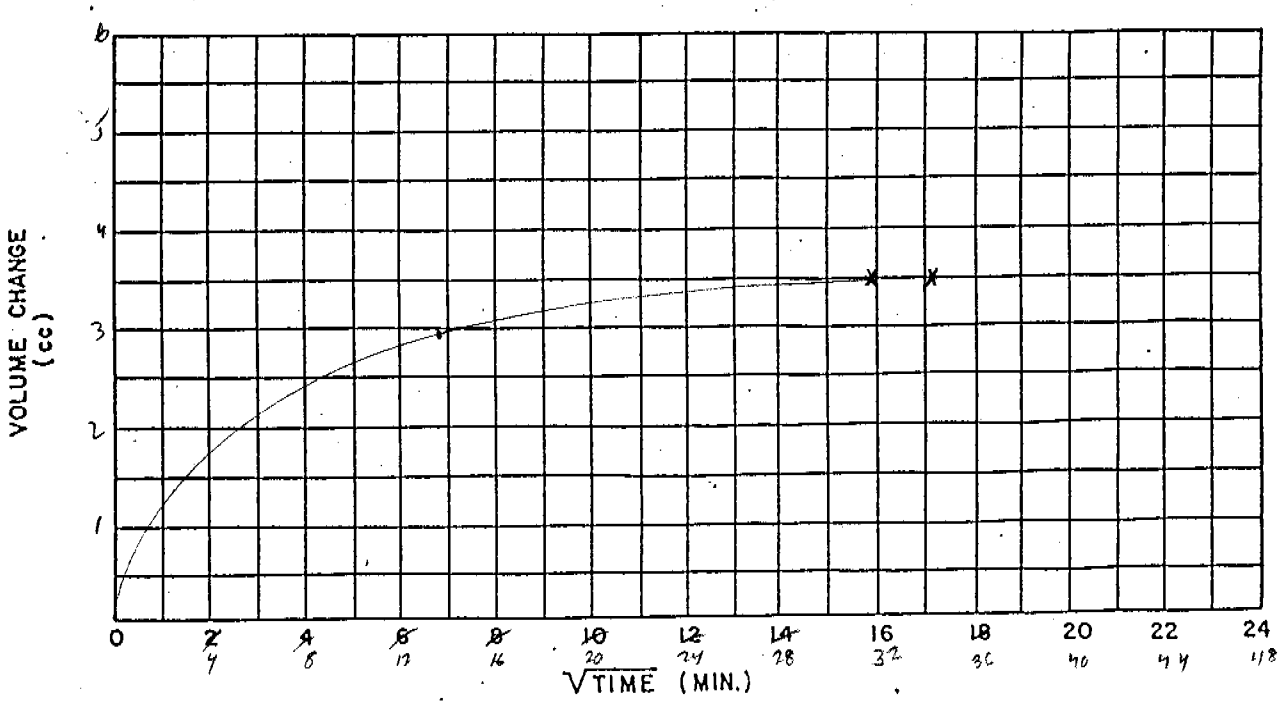
page ___ of ___

CONSOLIDATION TEST:

SAMPLE DESIGNATION 16X JOB NO. 06L017A DATE: 1-18-07

σ_{Co} 92 → σ_I 94 σ_{Bo} 90 σ_B 90 $\bar{\sigma}$ 4

DATE	TIME	ELAPSED TIME	CHAMBER BURET	PEDESTAL BURET	TOP CAP BURET	VOLUME CHANGE	REMARKS
1-18	16 44	0	0.0	5.0	7.0		
		187 (13.7)	0.5	6.6 (1.6)	8.3 (1.3)	2.9	
1-19		1016 (31.9)	0.5	7.0 (2.0)	8.5 (1.5)	3.5	
		1171 (34.2)	0.5	7.0 (2.0)	8.5 (1.5)	3.5	



SAMPLE DESIGNATION: 16X TEST UNIT PC-5

Chamber Pressure 94 TEMP. 20

	DATE:	TIME:	ELAPSED TIME:	HEAD PRESSURE	HEAD BURET	TAIL PRESSURE	TAIL BURET	ΔV (cc)
	1-19-07	13:50	0	90	0.0	90	25.0	0
2.6x10^-7	1-20		1148		2.7	19.8	22.5	
	1-21	13:18	0	90	0.0	90	25.0	0
5x10^-7	1-22		1203		2.8	19.9	22.7	
	1-22	9:26	0	90	0.0	90	25.0	0
6x10^-7	1-23		1434		3.2	18.8	21.8	
	1-23	9:25	0	90	0.0	90	25.0	0
6x10^-7	1-24		1431		3.2	18.8	21.8	
	1-24	9:21	0	90	0.0	90	25.0	0
5x10^-7	1-25		1535		3.4		21.8	
	1-25	11:02	0	90	0.0	90 19.7	25.0	0
5x10^-7	1-26		1377		2.9	19.3	22.2	
	1-26	10:03	0	90	0.0	90	25.0	0
2x10^-7	1-28		2981		4.7	15.7	20.4	
	1-28	11:47	0	90	0.0	90	25.0	0
x10^-7			1260		2.0	21.0	23.0	
K=1.5x10^-7								

PROJECT: Accutest - J49618X JOB No. 06L017A DATE: 1/17/07

SAMPLE DESIGNATION 17X LOCATION UNIT No. PC-8

	Before In.	Before Cm.	After In.	After Cm.
Sample Dia.	2.86225	7.2701	2.866	7.2796
Sample Length	1.49725	3.8030	1.4889	3.7821
Volume		157.8703		
Weight	248.95 - 145.39 dry			
Unit Weight		57.46		
Area		41.5119	41.6207	

Water Content	Before	After
Tare No.		E-2
Wet wt. Sample & Tare		256.46
Dry wt. Sample & Tare		154.76
Wt. of Water		
Wt. of Tare		9.37
Wt. of Dry Soil		145.39
Water Content %	71.23	69.95

STAGE-BACK PRESSURE INFORMATION

Date	Time	CHAMBER σ_c	CHAMBER Shved Buret.	PEDESTAL σ_{B1}	PEDESTAL Buret.	TOP CAP σ_{B2}	TOP CAP Buret	Remarks
1/17/07	15:35	0	0	0	5	0	7	
1/18	13:45	17	6.5	15	4.2	15	6.8	
	14:15	32	8.0	30	5.1	30	7.9	
	15:20	62	10.4	60	5.6	60	8.7	
	16:30	92	12.4	90	6.0	90	9.5	

Response Check:

σ_c = Ub = $\Delta\sigma_c$ =

t	ub	%	t	ub	%
0	94	0			
2	104	100			

$k = 6.0 \times 10^{-8}$

page ___ of ___

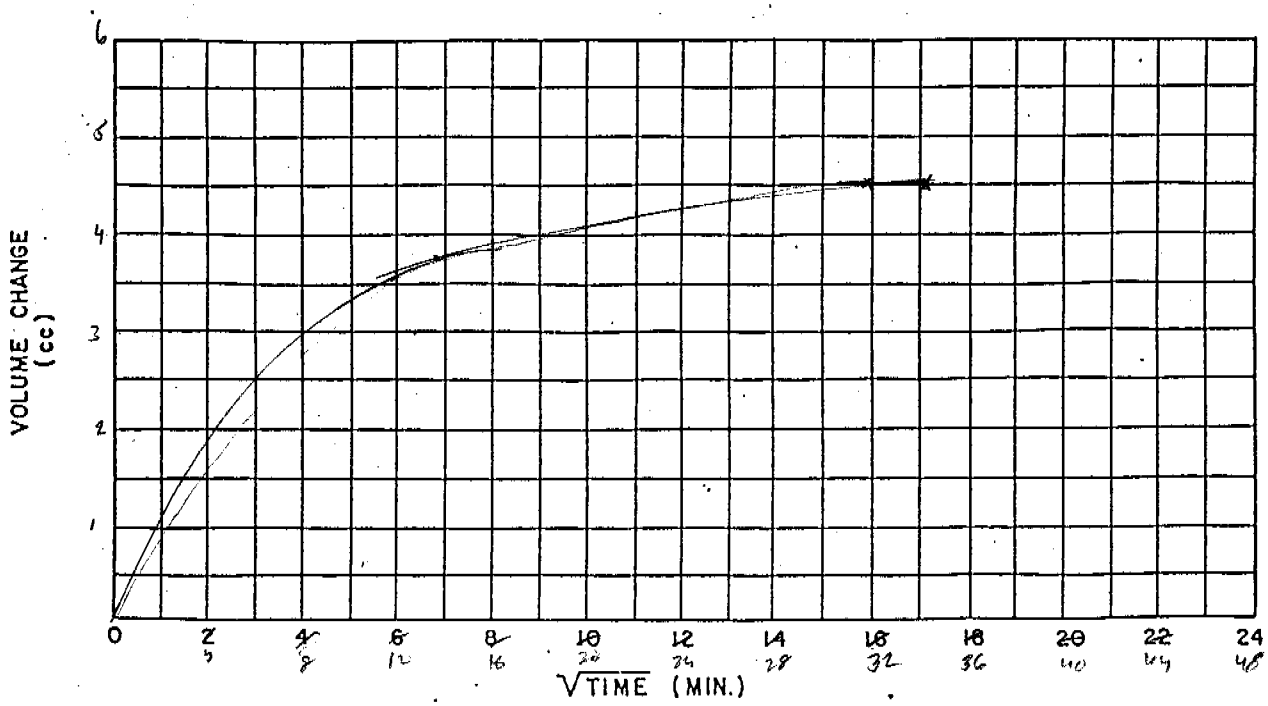
133381

CONSOLIDATION TEST:

SAMPLE DESIGNATION 17X JOB NO. 06L017A DATE: 1-18-07

σ_{Co} 92 → σ_I 94 σ_{Bo} 90 σ_B 90 $\bar{\sigma}$ 4

DATE	TIME	ELAPSED TIME	CHAMBER BURET	PEDESTAL BURET	TOP CAP BURET	VOLUME CHANGE	REMARKS
1-18-07	16.44	0	0.0	5.0	7.0	0	
		187 13.7	0.6	6.9 1.9	8.9 1.9	3.8	
1-19		1016 31.9	0.5	2.3 2.3	9.2 2.2	4.5	
		1771 34.2	0.5	7.3 2.3	9.2 2.2	4.5	



SAMPLE DESIGNATION: 17X TEST UNIT PC-8

Chamber Pressure 94 TEMP. 20

	DATE:	TIME:	ELAPSED TIME:	HEAD PRESSURE	HEAD BURET	TAIL PRESSURE	TAIL BURET	ΔV (cc)
	1-19-07	13:50	0	90	0.0	90	25.0	0
6.1×10^{-8}	1-20		1148		1.2	22.8	24.0	
	1-21	13:18	0	90	0.0	90	25.0	0
~~8.7~~ $\times10^{-8}$ 8.6	1-22		1203		1.3	21.8	23.1	
	1-22	9:26	0	90	0.0	90	25.0	0
5.8×10^{-8}	1-23		1434		1.3	22.4	23.7	
	1-23	9:25	0	90	0.0	90	25.0	0
6.3×10^{-8}	1-24		1431		1.4	22.2	23.6	
	1-24	9:21	0	90	0.0	90	25.0	0
6.1×10^{-8}	1-25		1535		1.4	22.1	23.5	
	1-25	11:02	0	90	0.0	90	25.0	0
6.1×10^{-8} 6.0	1-26		1377		1.4	22.4	23.8	
	1-26	10:03	0	90	0.0	90	25.0	0
5.8×10^{-8}	1-28		2981		2.6	19.9	22.5	
	1-28	11:47	0	90	0.0	90	25.0	0
~~5.6~~ $\times10^{-8}$ 5.5			1260		1.1	22.8	23.9	
	6.3×10^{-8} /							

PROJECT: Accutest- J49618X JOB No. 06L017A DATE: 1/17/07

SAMPLE DESIGNATION 18 x LOCATION UNIT No. PC-10

	Before In.	Before Cm.	After In.	After Cm.
Sample Dia.	2.86066	7.2646	2.847	7.2314
Sample Length	1.532875	3.8935	1.523	3.868
Volume		161.3801		
Weight	282.88 - 194.13			
Unit Weight		75.06		
Area		41.4486		41.0707

Water Content	Before	After
Tare No.		A-7
Wet wt. Sample & Tare		290.28
Dry wt. Sample & Tare		202.96
Wt. of Water		
Wt. of Tare		8.83
Wt. of Dry Soil		194.13
Water Content %	45.72	44.98

STAGE-BACK PRESSURE INFORMATION

Date	Time	CHAMBER σ_c	CHAMBER Buret. (shared)	PEDESTAL σ_{B1}	PEDESTAL Buret.	TOP CAP σ_{B2}	TOP CAP Buret	Remarks
1/17/07	15:35	0	0	0	5	0	7	
1/18	13:45	17	6.5	15	4.2	15	5.9	
	14:15	32	8.0	30	4.8	30	6.9	
	15:20	62	10.9	60	4.8	60	7.6	
	16:30	92	12.4	90	5.0	90	7.9	

Response Check: σ_c = Ub = $\Delta\sigma_c$ =

t	ub	%	t	ub	%
0	99.1	0			
3	103.9	98			

K= 2.2 x10^-7

page ___ of ___

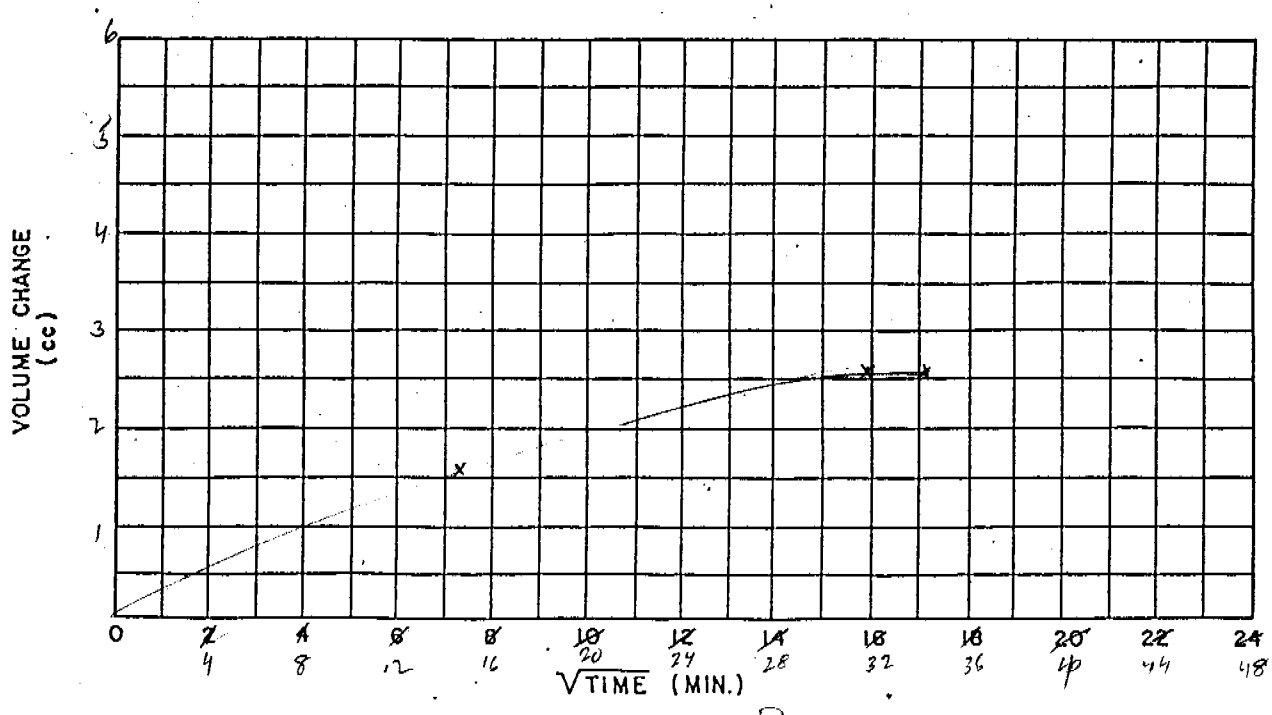
133381

CONSOLIDATION TEST :

SAMPLE DESIGNATION 18X JOB NO. 06L017A DATE: 1-18-07

σ_{Co} 92 → σ_I 94 σ_{Bo} 90 σ_B 90 $\bar{\sigma}$ 4

DATE	TIME	ELAPSED TIME	CHAMBER BURET	PEDESTAL BURET	TOP CAP BURET	VOLUME CHANGE	REMARKS
1-18-07	1649	0	0.0	5.0	2.0	0	
		187 13.7	0.5	6.0	2.6 .6	1.6	
1-19		1016 31.9	0.5	6.8 1.8	2.8 .8	2.6	
		1771 39.2	0.5	6.8	2.8	2.6	



13

33381

SAMPLE DESIGNATION: 18X TEST UNIT PC 10

Chamber Pressure 94 TEMP. 20

	DATE:	TIME:	ELAPSED TIME:	HEAD PRESSURE	HEAD BURET	TAIL PRESSURE	TAIL BURET	ΔV (cc)
	1-19-07	13:50	0	90	0.0	90	25.0	0
2.2×10^{-7}	1-20		1148		3.6	18.0	21.6	
	1-21	13:18	0	90	0.0	90	25.0	0
2.1×10^{-7}	1-22		1203		3.6	18.0	21.6	
	1-22	9:26	0	90	0.0	90	25.0	0
2.2×10^{-7}	1-23		1434		4.2	16.6	20.8	
	1-23	9:25	0	90	0.0	90	25.0	0
2.2×10^{-7}	1-24		1431		4.2	16.7	20.9	
	1-24	9:21	0	90	0.0	90	25.0	0
2.2×10^{-7}	1-25		1535		4.3	16.2	20.5	
	1-25	11:02	0	90	0.0	90	25.0	0
2.3×10^{-7}	1-26		1327		4.2	16.8	21.0	
	1-26	10:03	0	90	0.0	90	25.0	0
2.2×10^{-7}	1-28		2981		6.9	11.0	17.9	
	1-28	11:47	0	90	0.0	90	25.0	0
2.1×10^{-7}			1260		3.5	17.9	21.4	
	$K = 2.2\times10^{-7}$							