November 27, 2007

Mr. Mark Stinnett
CH2M HILL
3011 S.W. Williston Road
Gainesville, FL 32608-3928

Re: Revised Report – Job J67727x

Dear Mr. Stinnett:

Enclosed is additational report for J67727x. The Accutest database has been edited to reflect this change.

We apologize for any inconvenience this change may have caused. Please contact your client services representative at (732)- 329-0200 if you have a question or further assistance is required.

Sincerely,
Accutest Laboratories

Una Chang

Una Chang
Report Production Technician

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RECEIVED
DEC 07 2007
BY

New Jersey
ACCUTEST
Laboratories

11/26/07

Technical Report for

Honeywell International Inc.

CMHLLVA: Dundalk Marine Terminal, Balitmore, MD

COPR Investigation Phase 2

Accutest Job Number: J67727X

Sampling Dates: 07/24/07 - 07/26/07

Report to:

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

ATTN: Mark Stinnett

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

Client Service contact: Nadine Yakes 732-329-0200

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.
Test results relate only to samples analyzed.

Sample Summary

Honeywell International Inc.

Job No: J67727X

CMHLLVA: Dundalk Marine Terminal, Balitmore, MD
Project No: COPR Investigation Phase 2

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
J67727-1X	07/24/07	09:00 LC	08/01/07	SO	Soil	DMT-48US-SOI-240260-G
J67727-2X	07/26/07	16:00 LC	08/01/07	SO	Soil	DMT-53US-SOI-100120-G

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

SOL

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

Honeywell

Chain Of Custody / Analysis Request

J67727

AESI Ref: 39295.3629
COC#: 37825-0801 ACTD-1G

Privileged & Confidential		Site Name:	Dundalk Marine Terminal
		Phase:	RI
Sampling Co.:	CH2MHILL	EDD To:	John.Mitchell@ch2m.com
		Location of Site:	BALTIMORE, MD
		Sampling Program	COPR Investigation Phase 2
Client Contact: (name, co., address)		Sampler:	Lisa Carter
Bill Soukup		PO #	
HydroQual, Inc		Analysis Turnaround Time (TAT):	28
1200 MacArthur Blvd. Mahwah, NJ 07430		Consultant	CH2M
Preliminary Data To	Mark.Stinnet@ch2m.com,John.Mitchell@ch2m.com		
Sample Receipt Acknowledgement To	Mark.Stinnet@ch2m.com,John.Mitchell@ch2m.com		
Hard Copy To	Amy Klopper, Christina Jensen	Full Report TAT:	28
Invoice To:	Honeywell		

Lab Proj # (SDG):
Lab ID: ACTD
Site ID: Dundalk
Lab Job #:
Authorized User: Honeywe
Text & Excel File Drive: Excel & Text Order

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	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 ?	ASTM D2216-Moisture	ASTM D854-Specific Gravity	ASTM D422-Grain Size	ASTM D4318-Atterberg Limits	ASTM D2435-Consolidation Test	ASTM D2166-Compression	ASTM D4767-CU Strength	ASTM D3080-04-Direct Shear	ASTM D5084-Hydraulic Conductivity	ASTM D2937-Bulk Density	ASTM D2434-Permeability	ASTM D1498-ORP	Sampling Method (code)	Lab Samp Numbers
											Units															
1	DMT-49US -1	24.0	26.0	DMT-49US-SOI-240260-G	7/24/2007	9:00	SOI	SOIL	REG	1	grab	N	X	X	X	X						X	X		Shelby Tube	
2	DMT-53US -2	10.0	12.0	DMT-53US-SOI-100120-G	7/26/2007	16:00	SOI	SOIL	REG	1	grab	N	X	X	X	X						X	X		Shelby Tube	
3																										
4																									SUB	
5																										
6																										
7																										
8																										
9																										
10																										
11																										
12																										

Relinquished by	CH2M HILL Company	CH2M HILL	Received by	Priority Company		Condition	Custody Seals Intact
	8/1/07 Date/Time 10:00		6422 M.G.	8/1/07 Date/Time 1030		Cooler Temp.	
Relinquished by	Company		Received by	Company		Condition	Custody Seals Intact
6422 M.G.	8/1/07 Date/Time 1320		POd	8/1/07 Date/Time 13:20		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)

2B

SUBCONTRACT DATA

ACCUTEST/DMT, BALTIMORE, MD/NJ
SUMMARY OF SOIL DATA

Sample Identification	Sample Type	Sample Depth	Soil Classi-fication	Natural Moisture %	Atterberg Limits				Grain Size Distribution			Compaction		Gs	Bulk Density (g/ml)	Unit Weight		Permeability (cm/sec)	Additional Tests Conducted (See Notes)
					L.L.	P.L.	P.I.	L.I.	% Finer No. 4 Sieve	% Finer No. 200 Sieve	% Finer .005 mm	Maximum Dry Density (lb/cuft)	Optimum Moisture %			Moisture %	Dry (lb/cuft)		
J67727X-1	UD	-	MH	113.4	84	49	35	1.85	100.0	96.4	66.0	-	-	2.66	0.27	113.4	40.3	3.6E-08	-
J67727X-2	UD	-	CL	21.3	30	19	11	0.18	100.0	90.8	32.0	-	-	2.82	1.06	21.3	106.4	6.7E-07	-

This Report Has Been
Spot-Check Reviewed By
The Accutest QA Staff.
Reviewer
Review Date 11/7/07

ABBREVIATIONS:
LIQUID LIMIT (LL)
PLASTIC LIMIT (PL)
PLASTICITY INDEX (PI)
LIQUIDITY INDEX (LI)
SPECIFIC GRAVITY (Gs)
MOISTURE (Mc)

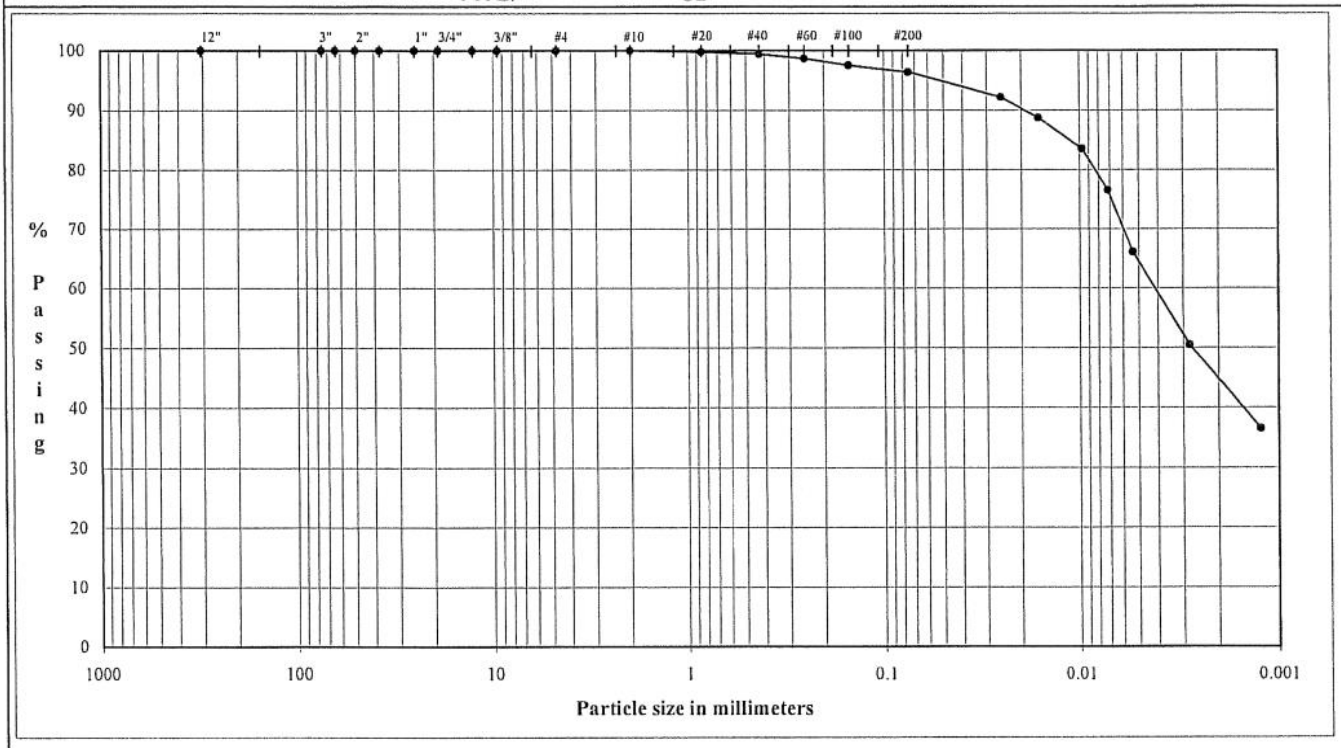
NOTES:
T = TRIAXIAL TEST
U = UNCONFINED COMPRESSION TEST
C = CONSOLIDATION TEST
DS = DIRECT SHEAR TEST
O = ORGANIC CONTENT
P = pH

NOVEMBER 2007 073-90241

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

PROJECT NAME: **ACCUTEST/DMT, BALTIMORE/MD**
SAMPLE ID: **J67727-1** Depth: -
TYPE: **UD**



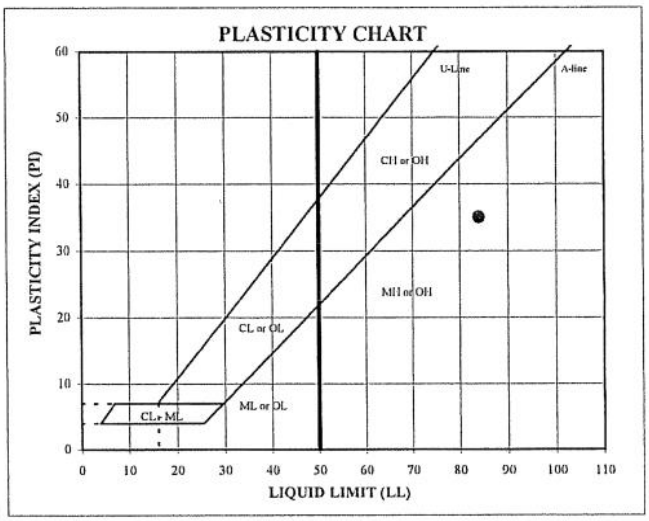
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay
COBBLES	GRAVEL		SAND			FINES

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.8	100.0		
3.0"	75.0	100.0	Cobbles	0.00
2.5"	63.5	100.0		
2.0"	50.0	100.0		
1.5"	37.5	100.0		
1.0"	25.0	100.0		
0.75"	19.0	100.0	Coarse Gravel	0.00
0.50"	12.7	100.0		
0.375"	9.5	100.0		
#4	4.8	100.0	Fine Gravel	0.00
#10	2.00	100.0	Coarse Sand	0.00
#20	0.85	99.8		
#40	0.43	99.4	Medium Sand	0.57
#60	0.25	98.7		
#100	0.15	97.5		
#200	0.075	96.4	Fine Sand	3.03

Hydrometer Analysis

(mm)	%Finer		
0.025	92.2		
0.016	88.7		
0.010	83.5	Fines	
0.0072	76.6	Silt or Clay	96.40
0.0053	66.1		
0.0028	50.5		
0.0012	36.5		



ATTERBERG LIMITS

Method -B (Dry preparation)

M_r	LL	PL	PI	LI
113.4	84	49	35	1.85

LL (oven-dried) / < 0.75 = ORGANIC (OL/OH)

DESCRIPTION: Dark Gray, CLAYEY SILT, trace medium to fine sand.

USCS: MH

TECH	JD/TJ
DATE	11/14/07
CHECK	AH
REVIEW	MWM

Golder Associates Inc.

FLEXIBLE WALL PERMEABILITY
ASTM D 5084
METHOD D, CONSTANT RATE OF FLOW

PROJECT TITLE	ACCUTEST/DMT, BALTIMORE,MD/NJ
PROJECT NUMBER	073-90241
SAMPLE ID	J67727-1
SAMPLE TYPE	UD

Board #	6
Flow Pump	2
Flow Pump Speed	10
Technician	SDM

COMMENTS

Sample Data, Initial			
Height, inches	2.955	B-Value, f	1.00
Diameter, inches	2.850	Cell Pres.	95.0
Area, cm²	41.16	Bot. Pres.	80.0
Volume, cm³	308.91	Top Pres.	80.0
Mass, g	426.00	Tot. B.P.	80.0
Moisture Content, %	113.36	Head, max.	120.28
Dry Density, pcf	40.33	Head, min.	120.28
Spec. Gravity	2.660	Max. Grad.	17.19
Volume Solids, cm³	75.06	Min. Grad.	17.19
Volume Voids, cm³	233.85		
Void Ratio	3.12		
Saturation, %	96.8%		

Sample Data, Final	
Height, inches	2.755
Diameter, inches	2.674
Area, cm²	36.23
Volume, cm³	253.53
Mass, g	372.31
Moisture Content, %	86.47
Dry Density, pcf	49.14
Volume Solids, cm³	75.06
Volume Voids, cm³	178.47
Void Ratio	2.38
Saturation, %	96.7%

WATER CONTENTS		Sample Initial	Sample Final
Wt Soil & Tare, i	g	426.00	380.80
Wt Soil & Tare, f	g	199.66	208.22
Wt Tare	g	0.00	8.64
Wt Moisture Lost	g	226.34	172.58
Wt Dry Soil	g	199.66	199.58
Water Content	%	113.36%	86.47%

DESCRIPTION
Dark Gray, CLAYEY SILT, trace medium to fine sand.

Flow Pump Rate 2.25E-05 cm³/sec

USCS MH

TIME FUNCTIONS, SECONDS								dP				
DATE	DAY	HOUR	MIN	TEMP (°C)	dt (min)	dt,acc (min)	dt (sec)	dt,acc (sec)	Reading (psi)	Head (cm)	Gradient	Permeability (cm/sec)
08/06/07	39300	9	20	20.8	0	0	0	0	1.71	120.28	17.19	3.6E-08
08/06/07	39300	9	25	20.8	5	5	300	300	1.71	120.28	17.19	3.6E-08
08/06/07	39300	9	30	20.8	5	10	300	600	1.71	120.28	17.19	3.6E-08
08/06/07	39300	9	35	20.8	5	15	300	900	1.71	120.28	17.19	3.6E-08 *
08/06/07	39300	9	40	20.8	5	20	300	1200	1.71	120.28	17.19	3.6E-08 *
08/06/07	39300	9	45	20.8	5	25	300	1500	1.71	120.28	17.19	3.6E-08 *
08/06/07	39300	9	50	20.8	5	30	300	1800	1.71	120.28	17.19	3.6E-08 *

*TRANSCRIBED FROM ORIGINAL DATA SHEETS

PERMEABILITY REPORTED AS ** 3.6E-08 cm/sec **

PERMEANT: Deaired Tap Water

DATE	8/6/2007
CHECK	AK
REVIEW	[illegible]

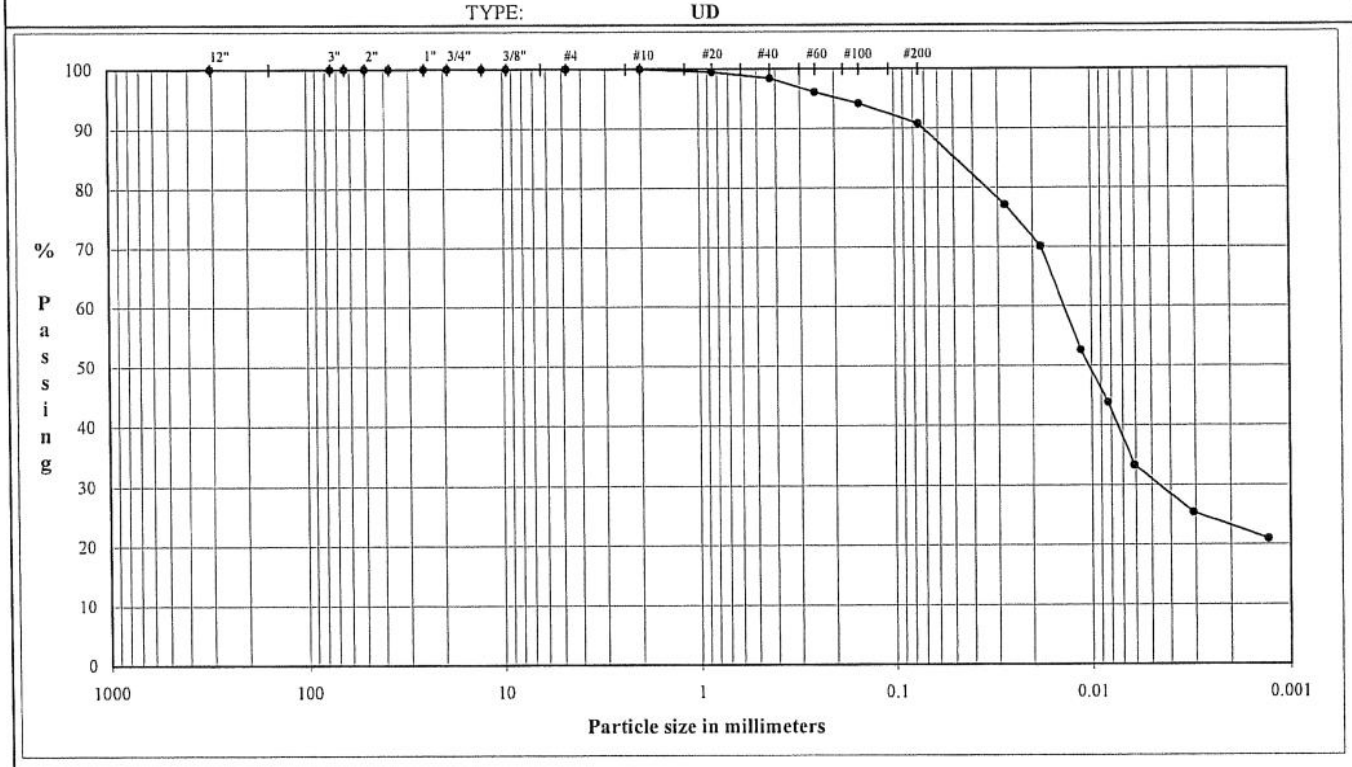
Golder Associates Inc.

NOVEMBER 2007 073-90241

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

PROJECT NAME: ACCUTEST/DMT, BALTIMORE/MD
SAMPLE ID: J67727-2 Depth: -
TYPE: UD



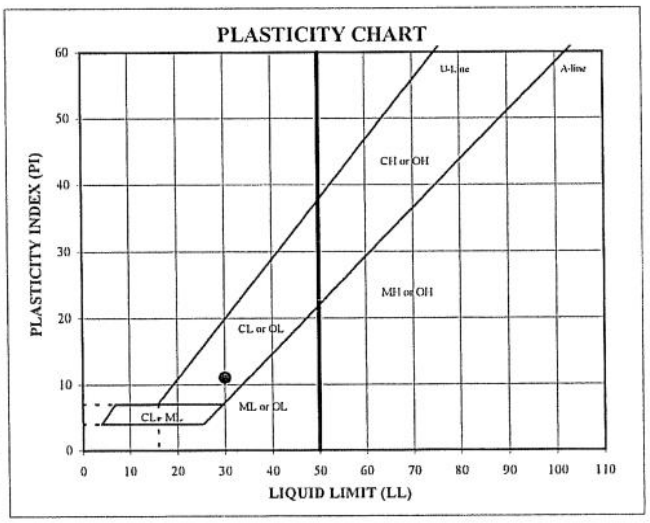
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay
COBBLES	GRAVEL		SAND			FINES

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.8	100.0		
3.0"	75.0	100.0	Cobbles	0.00
2.5"	63.5	100.0		
2.0"	50.0	100.0		
1.5"	37.5	100.0		
1.0"	25.0	100.0		
0.75"	19.0	100.0	Coarse Gravel	0.00
0.50"	12.7	100.0		
0.375"	9.5	100.0		
#4	4.8	100.0	Fine Gravel	0.00
#10	2.00	99.9	Coarse Sand	0.07
#20	0.85	99.5		
#40	0.43	98.4	Medium Sand	1.51
#60	0.25	96.1		
#100	0.15	94.2		
#200	0.075	90.8	Fine Sand	7.66

Hydrometer Analysis

(mm)	%Finer		
0.028	77.1		
0.018	70.1		
0.011	52.6	Fines	
0.0083	43.8	Silt or Clay	90.76
0.0061	33.3		
0.0031	25.4		
0.0013	21.0		



ATTERBERG LIMITS
Method -B (Dry preparation)

M_c	LL	PL	PI	LI
21.3	30	19	11	0.18

LL (oven-dried) / < 0.75 = ORGANIC (OL/OH)

DESCRIPTION: Light Gray and Brown, SILTY CLAY, little medium to fine sand.

USCS: CL

TECH	JD/TJ
DATE	11/14/07
CHECK	AK
REVIEW	PLM

Golder Associates Inc.

FLEXIBLE WALL PERMEABILITY
ASTM D 5084
METHOD D, CONSTANT RATE OF FLOW

PROJECT TITLE	ACCUTEST/DMT, BALTIMORE,MD/NJ
PROJECT NUMBER	073-90241
SAMPLE ID	J67727X-2
SAMPLE TYPE	UD

Board #	5
Flow Pump	1
Flow Pump Speed	7
Technician	DA

COMMENTS

Sample Data, Initial			
Height, inches	2.952	B-Value, f	0.99
Diameter, inches	2.860	Cell Pres.	89.0
Area, cm²	41.45	Bot. Pres.	80.0
Volume, cm³	310.77	Top Pres.	80.0
Mass, g	642.46	Tot. B.P.	80.0
Moisture Content, %	21.27	Head, max.	66.12
Dry Density, pcf	106.37	Head, min.	66.12
Spec. Gravity	2.820	Max. Grad.	8.85
Volume Solids, cm³	187.86	Min. Grad.	8.85
Volume Voids, cm³	122.91		
Void Ratio	0.65		
Saturation, %	91.7%		

Sample Data, Final	
Height, inches	2.940
Diameter, inches	2.866
Area, cm²	41.62
Volume, cm³	310.81
Mass, g	645.79
Moisture Content, %	21.90
Dry Density, pcf	106.36
Volume Solids, cm³	187.86
Volume Voids, cm³	122.95
Void Ratio	0.65
Saturation, %	94.4%

WATER CONTENTS		Sample Initial	Sample Final
Wt Soil & Tare, i	g	642.46	654.27
Wt Soil & Tare, f	g	529.76	538.27
Wt Tare	g	0.00	8.64
Wt Moisture Lost	g	112.70	116.00
Wt Dry Soil	g	529.76	529.63
Water Content	%	21.27%	21.90%

DESCRIPTION
Light Gray and Brown, SILTY CLAY, little medium to fine sand.

Flow Pump Rate 2.53E-04 cm³/sec

USCS CL

TIME FUNCTIONS, SECONDS								dP				
DATE	DAY	HOUR	MIN	TEMP (°C)	dt (min)	dt,acc (min)	dt (sec)	dt,acc (sec)	Reading (psi)	Head (cm)	Gradient	Permeability (cm/sec)
08/04/07	39298	12	35	21.3	0	0	0	0	0.94	66.12	8.85	6.7E-07
08/04/07	39298	12	40	21.3	5	5	300	300	0.94	66.12	8.85	6.7E-07
08/04/07	39298	12	45	21.3	5	10	300	600	0.94	66.12	8.85	6.7E-07
08/04/07	39298	12	50	21.3	5	15	300	900	0.94	66.12	8.85	6.7E-07 *
08/04/07	39298	12	55	21.3	5	20	300	1200	0.94	66.12	8.85	6.7E-07 *
08/04/07	39298	13	0	21.3	5	25	300	1500	0.94	66.12	8.85	6.7E-07 *
08/04/07	39298	13	5	21.3	5	30	300	1800	0.94	66.12	8.85	6.7E-07 *

*TRANSCRIBED FROM ORIGINAL DATA SHEETS

PERMEABILITY REPORTED AS ** 6.7E-07 cm/sec **

PERMEANT: Deaired Tap Water

DATE	8/4/2007
CHECK	AW
REVIEW	[illegible]

BULK DENSITY
ASTM D 2937 modified

PROJECT TITLE	ACCUTEST/DMT, BALTIMORE, MD/NJ
PROJECT NUMBER	073-90241
REMARKS	

Sample Number	J67727X-1	J67727X-2			
Moisture Content (%)	113.36	21.27			
Solids (%)	0.292	0.787			
Volume (ml)	50.00	50.00			
Weight of Solids (gm)	45.58	67.26			
Bulk Density (g/ml)	**0.27**	**1.06**			
Sample Number					
Moisture Content (%)					
Solids (%)					
Volume (ml)					
Weight of Solids (gm)					
Bulk Density (g/ml)					
Sample Number					
Moisture Content (%)					
Solids (%)					
Volume (ml)					
Weight of Solids (gm)					
Bulk Density (g/ml)					

TECH	AK/CA
DATE	8/5/2007
CHECK	AK
REVIEW	PWM