

(2) 地質調査（陸上及び海上）

Bore hole locations at Old Road





BOREHOLE LOG

BOREHOLE No: **B 1**
Sheet 1 of 1

Client: **ICONS International Cooperation Inc.**
Project: **Soil Inv. for Fishing Facilities**
Location: **Old Road, St. Kitts**
Ground Elevation: **m**
Boring Method: **Auger Stem**
Prep by: **M. Joab**
Boring Started on: **04/10/23** Completed on: **04/10/23**

- Drive, No Sample Collected
- Disturbed Sample
- Split Spoon Sample
- Shelby Tube Sample
- Core Sample
- Water Level at End of Drilling
- Water Level 24 hrs. or more

Water Content (W%)

Plastic and Liquid Limit
Natural Moisture Content



Shear Strength (Cu)

Unconsolidated Undrained Triaxial, UU
Unconfined Compression, UC



!"Pilson Vane Shear, PV

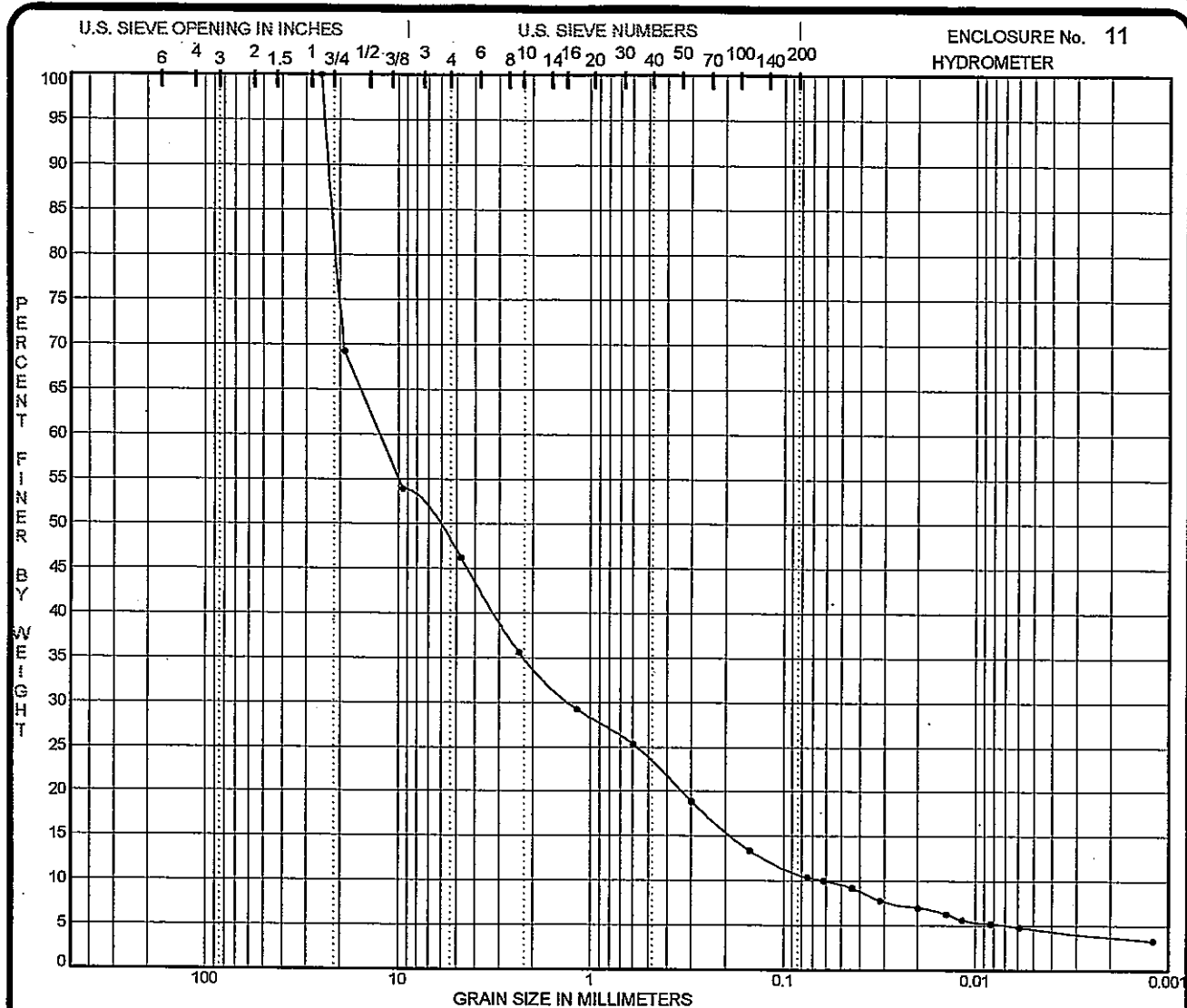
!"Field Vane Shear, FV

Penetration Resistance (N)

Standard Penetration Test

Symbol	Soil Description	Depth (m)	w% (20, 40, 60, 80)				Sample Type	Wet Density (kN/m ³)	Additional Tests and Remarks
			Cu (50, 100, 150, 200) (kPa)						
	Ground Surface	0	N-value (Blows/0.3m)						
	Dense, brown, SAND, trace gravel and silt.	0 - 1	20	40	60	80			
	Medium dense, brown and grey, SAND, some gravel, trace clay and silt with isolated cobbles.	1 - 2							
	Medium dense, yellowish brown, SILTY SAND, some clay.	2 - 3							
	Medium dense, grey, SANDY GRAVEL, trace silt and clay with cobbles.	3 - 5							
	Very loose, yellowish brown, GRAVELLY SAND.	5 - 6							
	Medium dense, yellowish brown, SILTY SAND with numerous isolated cobbles.	6 - 9							
	End of Borehole at 9.60m	9.60							

BHL12BX_0437A.GPJ_05/03/16



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Sample Id.	Depth, m	Classification	MC%	LL	PL	PI	Cc	Cu
● B 1/S10	8.6						2.15	202.9

Sample Id.	Depth, m	D100	D60	D50	D30	%Gravel	%Sand	%Silt	%Clay
● B 1/S10	8.6	25.00	12.50	6.687	1.287	53.8	35.8	6.6	3.8

PROJECT Soil Inv. for Fishing Facilities - Old Road, St. Kitts

JOB NO. GA 04 376-A
DATE December 2004

GRADATION CURVES
Geotech Associates Ltd.
Tunapuna



*GRS2L-2 0437A.GPJ 05/3/17

**DETERMINATION OF SPECIFIC GRAVITY
(FINE AGGREGATES)**

PROJECT No. GA 04 376 PROJECT NAME: Soil Inv. for Fisheries Dev. Project

SOURCE Old Road, St. Kitts SPECIMEN ID. B 1/ S 1

MATERIAL DESCRIPTION _____

TESTED BY A.G.

CHECKED BY A. Budhram

TEST No.		1	2
BOTTLE No.		A	J
Wt. BOTTLE + WATER + SOIL = W_{bws}	g	655.3	653.4
TEMPERATURE, (T_w)	°C	29	29
Wt. BOTTLE + WATER = W_{bwc} (From calibrated curve)	g	639.3	637.6
Wt. OF EVAP. OF DISH + DRY SOIL	g		
Wt. OF EVAP. OF DISH	g		
Wt. OVEN DRY SOIL = W_s	g	25.0	25.0
SG of Water at T_w		0.9977	0.9977
G_s		2.682	2.711

REMARKS

AVERAGE SPECIFIC GRAVITY (G_s) = 2.697

**DETERMINATION OF SPECIFIC GRAVITY
(FINE AGGREGATES)**

PROJECT No. GA 04 376 PROJECT NAME: Soil Inv. for Fisheries Dev. Project

SOURCE Old Road, St. Kitts SPECIMEN ID. B 1/ S 3

MATERIAL DESCRIPTION _____

TESTED BY A.G. CHECKED BY A. Budhram

TEST No.		1	2
BOTTLE No.		F	J
Wt. BOTTLE + WATER + SOIL = W_{bws}	g	653.1	653.1
TEMPERATURE, (T_w)	°C	28	28
Wt. BOTTLE + WATER = W_{bwc} (From calibrated curve)	g	637.6	637.6
Wt. OF EVAP. OF DISH + DRY SOIL	g		
Wt. OF EVAP. OF DISH	g		
Wt. OVEN DRY SOIL = W_s	g	25	25
SG of Water at T_w		0.9980	0.9980
G_s		2.626	2.626

REMARKS

AVERAGE SPECIFIC GRAVITY (G_s) = 2.626

**DETERMINATION OF SPECIFIC GRAVITY
(FINE AGGREGATES)**

PROJECT No. GA 04 376 PROJECT NAME: Soil Inv. for Fisheries Dev. Project

SOURCE Old Road, St. Kitts SPECIMEN ID. B 1/ S 5

MATERIAL DESCRIPTION _____

TESTED BY A.G.

CHECKED BY A. Budhram

TEST No.		1	2
BOTTLE No.		N	5A
Wt. BOTTLE + WATER + SOIL = W_{bws}	g	658.2	641.7
TEMPERATURE, (T_w)	°C	28	28
Wt. BOTTLE + WATER = W_{bwc} (From calibrated curve)	g	642.1	625.6
Wt. OF EVAP. OF DISH + DRY SOIL	g		
Wt. OF EVAP. OF DISH	g		
Wt. OVEN DRY SOIL = W_s	g	25	25
SG of Water at T_w		0.9980	0.9980
G_s		2.803	2.803

REMARKS

AVERAGE SPECIFIC GRAVITY (G_s) = 2.803

**DETERMINATION OF SPECIFIC GRAVITY
(FINE AGGREGATES)**

PROJECT No. GA 04 376 PROJECT NAME: Soil Inv. for Fisheries Dev. Project

SOURCE Old Road, St. Kitts SPECIMEN ID. B 1/S 7

MATERIAL DESCRIPTION _____

TESTED BY A.G.

CHECKED BY A. Budhram

TEST No.		1	2
BOTTLE No.		P	O
Wt. BOTTLE + WATER + SOIL = W_{bws}	g	658.7	657.1
TEMPERATURE, (T_w)	°C	28	28
Wt. BOTTLE + WATER = W_{bwc} (From calibrated curve)	g	642.9	641.2
Wt. OF EVAP. OF DISH + DRY SOIL	g		
Wt. OF EVAP. OF DISH	g		
Wt. OVEN DRY SOIL = W_s	g	25	25
SG of Water at T_w		0.9980	0.9980
G_s		2.712	2.742

REMARKS

AVERAGE SPECIFIC GRAVITY (G_s) = 2.727

**DETERMINATION OF SPECIFIC GRAVITY
(FINE AGGREGATES)**

PROJECT No. GA 04 376 PROJECT NAME: Soil Inv. for Fisheries Dev. Project

SOURCE Old Road, St. Kitts SPECIMEN ID. B 1/ S 10

MATERIAL DESCRIPTION _____

TESTED BY A.G.

CHECKED BY A. Budhram

TEST No.		1	2
BOTTLE No.		E	C
Wt. BOTTLE + WATER + SOIL = W_{bws}	g	656.0	660.1
TEMPERATURE, (T_w)	°C	28	28
Wt. BOTTLE + WATER = W_{bwc} (From calibrated curve)	g	640.1	644.3
Wt. OF EVAP. OF DISH + DRY SOIL	g		
Wt. OF EVAP. OF DISH	g		
Wt. OVEN DRY SOIL = W_s	g	25	25
SG of Water at T_w		0.9980	0.9980
G_s		2.742	2.712

REMARKS

AVERAGE SPECIFIC GRAVITY (G_s) = 2.727



GEOTECH ASSOCIATES LTD.
TRINIDAD, WI

REPORT No. **GA 04 376-B**

ENCLOSURE No. **2**

BOREHOLE LOG

BOREHOLE No: **B 2**
Sheet **1** of **2**

Client: **ICONS International Cooperation Inc.**
Project: **Soil Inv. for Fishing Facilities**
Location: **Old Road, St. Kitts**
Ground Elevation: **m**
Boring Method: **Rotary**
Prep by: **M. Joab**
Boring Started on: **04/10/23** Completed on: **04/10/23**

- Drive, No Sample Collected
- Disturbed Sample
- Split Spoon Sample
- Shelby Tube Sample
- Core Sample
- Water Level at End of Drilling
- Water Level 24 hrs. or more

Water Content (W%)

Plastic and Liquid Limit

Natural Moisture Content

Shear Strength (Cu)

Unconsolidated Undrained Triaxial, UU

Unconfined Compression, UC

1" Pilcon Vane Shear, PV

1" Field Vane Shear, FV

Penetration Resistance (N)

Standard Penetration Test



Symbol	Soil Description	Depth (m)	w%				Sample Type	Wet Density (kN/m ³)	Additional Tests and Remarks
			20	40	60	80			
	Water Surface	0	N-value (Blows/0.3m)						
	Water	0	20	40	60	80			
		1							
		2							
		3							
		4							
	Medium dense, grey SAND, with cobbles.	5							
		6							
		7							
		8							
		9							
		10							

88/3.9"

Continued Next Page

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BOREHOLE LOG

BOREHOLE No: **B 2**
Sheet 2 of 2

Client: **ICONS International Cooperation Inc.**
Project: **Soil Inv. for Fishing Facilities**
Location: **Old Road, St. Kitts**
Ground Elevation: **m**
Boring Method: **Rotary**
Prep by: **M. Joab**
Boring Started on: **04/10/23** Completed on: **04/10/23**

- Drive, No Sample Collected
- Disturbed Sample
- Split Spoon Sample
- Shelby Tube Sample
- Core Sample
- Water Level at End of Drilling
- Water Level 24 hrs. or more

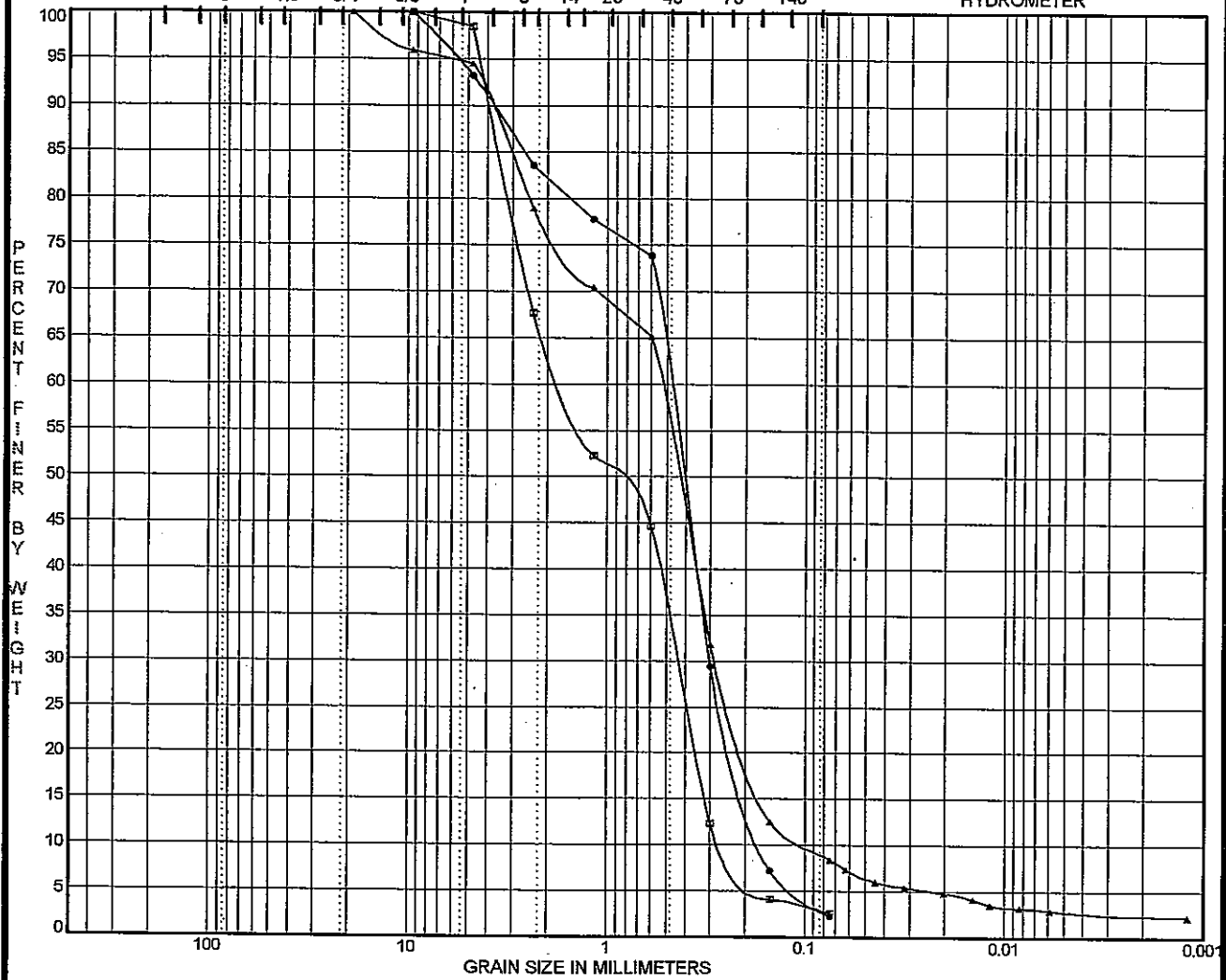
- Water Content (W%)
- Plastic and Liquid Limit
- Natural Moisture Content
- Shear Strength (Cu)
- Unconsolidated Undrained Triaxial, UU
- Unconfined Compression, UC
- 1" Picon Vane Shear, PV
- 1" Field Vane Shear, FV
- Penetration Resistance (N)
- Standard Penetration Test

Symbol	Soil Description	Depth (m)	w% 20 40 60 80				Sample Type	Wet Density kN/m ³	Additional Tests and Remarks
			Cu 50 100 150 200 (kPa)						
	(continued)		N-value (Blows/0.3m)						
	Medium dense, grey SAND, with cobbles.	10							
	Dense to very dense SAND, trace gravel, silt and clay.	11					4		
		12							
		13					5		
		14					6		
		15							
		16					7		
	End of Borehole at 16.0m								

U.S. SIEVE OPENING IN INCHES

U.S. SIEVE NUMBERS

ENCLOSURE No. 4
HYDROMETER



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Sample Id.	Depth, m	Classification				MC%	LL	PL	PI	Cc	Cu
● B 2/S 2	8.2	POORLY GRADED SAND SP								1.16	3.0
☒ B 2/S 4	11.2	POORLY GRADED SAND SP								0.47	6.8
▲ B 2/S 7	15.8									1.49	5.5
Sample Id.	Depth, m	D100	D60	D50	D30	%Gravel	%Sand	%Silt	%Clay		
● B 2/S 2	8.2	9.50	0.48	0.413	0.303	6.8	90.9	2.3			
☒ B 2/S 4	11.2	9.50	1.67	0.964	0.439	1.5	95.9	2.6			
▲ B 2/S 7	15.8	19.00	0.54	0.438	0.281	5.5	86.1	6.0	2.4		

PROJECT Soil Inv. for Fishing Facilities - Old Road, St. Kitts

JOB NO. GA 04 376-B
DATE December 2004

GRADATION CURVES

Geotech Associates Ltd.
Tunapuna



*GRS2L-2 0437A.GPJ 05/3/16

**DETERMINATION OF SPECIFIC GRAVITY
(FINE AGGREGATES)**

PROJECT No. GA 04 376 PROJECT NAME: Soil Inv. for Fisheries Dev. Project

SOURCE Old Road, St. Kitts SPECIMEN ID. B 2/ S 1

MATERIAL DESCRIPTION _____

TESTED BY A.G.

CHECKED BY A. Budhram

TEST No.		1	2
BOTTLE No.		A	J
Wt. BOTTLE + WATER + SOIL = W_{bws}	g	655.3	653.4
TEMPERATURE, (T_w)	°C	29	29
Wt. BOTTLE + WATER = W_{bwc} (From calibrated curve)	g	639.3	637.6
Wt. OF EVAP. OF DISH + DRY SOIL	g		
Wt. OF EVAP. OF DISH	g		
Wt. OVEN DRY SOIL = W_s	g	25	25
SG of Water at T_w		0.9977	0.9977
G_s		2.682	2.711

REMARKS

AVERAGE SPECIFIC GRAVITY (G_s) = 2.697

**DETERMINATION OF SPECIFIC GRAVITY
(FINE AGGREGATES)**

PROJECT No. GA 04 376 PROJECT NAME: Soil Inv. for Fisheries Dev. Project

SOURCE Old Road, St. Kitts SPECIMEN ID. B 2/ S 2

MATERIAL DESCRIPTION _____

TESTED BY A.G. CHECKED BY A. Budhram

TEST No.		1	2
BOTTLE No.		#254	#40
Wt. BOTTLE + WATER + SOIL = W_{bws}	g	656.9	657.1
TEMPERATURE, (T_w)	°C	29	29
Wt. BOTTLE + WATER = W_{bwc} (From calibrated curve)	g	640.8	641.1
Wt. OF EVAP. OF DISH + DRY SOIL	g		
Wt. OF EVAP. OF DISH	g		
Wt. OVEN DRY SOIL = W_s	g	25	25
SG of Water at T_w		0.9977	0.9977
G_s		2.803	2.771

REMARKS

AVERAGE SPECIFIC GRAVITY (G_s) = 2.787

**DETERMINATION OF SPECIFIC GRAVITY
(FINE AGGREGATES)**

PROJECT No. GA 04 376 PROJECT NAME: Soil Inv. for Fisheries Dev. Project

SOURCE Old Road, St. Kitts SPECIMEN ID. B 2/ S 4

MATERIAL DESCRIPTION _____

TESTED BY A.G.

CHECKED BY A. Budhram

TEST No.		1	2
BOTTLE No.		#654	#41
Wt. BOTTLE + WATER + SOIL = W_{bws}	g	657.0	657.2
TEMPERATURE, (T_w)	°C	29	29
Wt. BOTTLE + WATER = W_{bwc} (From calibrated curve)	g	640.8	641.1
Wt. OF EVAP. OF DISH + DRY SOIL	g		
Wt. OF EVAP. OF DISH	g		
Wt. OVEN DRY SOIL = W_s	g	25	25
SG of Water at T_w		0.9977	0.9977
G_s		2.834	2.803

REMARKS

AVERAGE SPECIFIC GRAVITY (G_s) = 2.819

**DETERMINATION OF SPECIFIC GRAVITY
(FINE AGGREGATES)**

PROJECT No. GA 04 376 PROJECT NAME: Soil Inv. for Fisheries Dev. Project

SOURCE Old Road, St. Kitts SPECIMEN ID. B 2/S 7

MATERIAL DESCRIPTION _____

TESTED BY A.G.

CHECKED BY A. Budhram

TEST No.		1	2
BOTTLE No.		#164	#52
Wt. BOTTLE + WATER + SOIL = W_{bws}	g	656.9	657.1
TEMPERATURE, (T_w)	°C	29	29
Wt. BOTTLE + WATER = W_{bwc} (From calibrated curve)	g	640.8	641.1
Wt. OF EVAP. OF DISH + DRY SOIL	g		
Wt. OF EVAP. OF DISH	g		
Wt. OVEN DRY SOIL = W_s	g	25	25
SG of Water at T_w		0.9977	0.9977
G_s		2.803	2.771

REMARKS

AVERAGE SPECIFIC GRAVITY (G_s) = 2.787

Bore hole locations at Dieppe Bay

