

II-1. Grain Size Analysis with Hydrometer Test



Construction & Drilling Specialists, Inc.

Room 250 Cityland Condominium IV
 124 Valero St., Salcedo Village
 Makati, Metro Manila
 Tel. No. 817-97-24; 817-45-98

SAMPLE PREPARATION, SIEVE AND HYDROMETER ANALYSIS FOR SOILS

PROJECT:	SOURCE:	LAYER NUMBER:
STRUCTURE:	PIT NUMBER:	LAB. SAMPLE NO: CDS-61
LOCATION:	SAMPLE DEPTH:	

SAMPLE PREPARATION

FRACTIONS:	MOISTURE CONTEXT, %	WET WEIGHT OF SAMPLE, KGS.	DRY WEIGHT OF SAMPLE, KGS.	TOTAL WEIGHT, KGS
PLUS NO. 4 MAT'LS				
MINUS NO. 4 MAT'LS				
SIEVE SIZE				
WET WT. OF PAN + MAT'LS				
WT. OF PAN		100%	- # 4	
WET WT. RETAINED				
WT. PASSING				
% TOTAL PASSING				

PREPARED BY: _____ DATE: _____
SIEVE AND SCREEN ANALYSIS

WET WEIGHT OF SAMPLE	GRAMS	DRY WEIGHT SAMPLE	GRAMS		
DRY WEIGHT OF SAMPLE	1004	FACTOR	.9996		
HYDROMETER MOIST	%	SEIVING TIME:	10 MINUTES		
SIEVE NUMBER	WEIGHT RET (GMS)	WEIGHT PASSING (GMS)	% TOTAL PASSING	PRACTICE DIAMETER (mm)	REMARKS:
10		1004		2.0	
20	5.02	998.98	99.50	0.84	
40	9.54	989.44	98.55	0.42	
60	56.22	933.22	92.95	0.25	
140	336.84	596.38	59.40	0.106	
200	148.09	448.29	44.65	0.074	
TOTAL					

TESTED BY: RCM	DATE: 7-8/NOV. 90
COMPUTED BY: RCM	DATE: 8-11-90
CHECKED BY:	DATE:

HYDROMETER ANALYSIS

HYDROMETER NUMBER	DISPENSING AGENT: SODIUM HEXAMETAPHOSPHATE							
GRADATION RANGE	AMOUNT: 125 (ML)	FACTOR:						
TIME	ELAPSED	TEMPERATURE	HYDROMETER	TEMPERATURE	HYDROMETER	% TOTAL	PRACTICE	
START	FINISHED	TIME (MIN.)	%	READINGS	CORRECTION	CORRECTION	PASSING	DIAM (mm)
14/11/90	9:09	0.5	26	.0425	.00120	.04470	39.92	0.050
	9:13	1.0	26	.0265	.00120	.02770	24.74	0.019
	9:28	19.0	26	.0120	.00120	.01320	11.79	0.009
	10:09	60.0	26.8	.0070	.00120	.00820	7.29	0.005
	4:24	135.0	29	.0035	.00200	.00470	4.20	0.002
15/11/90	10:34	1545.0	28	.0020	.00180	.00380	3.39	0.001

TESTED BY: RCM	DATE: 14-15/11/90
COMPUTED BY: RCM	DATE: 15/11/90
CHECKED BY:	DATE:



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SAMPLE PREPARATION, SIEVE AND HYDROMETER ANALYSIS FOR SOILS

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PROJECT: _____ SOURCE: _____
 STRUCTURE: _____ PIT NUMBER: _____ LAYER NUMBER: _____
 LOCATION: _____ SAMPLE DEPTH: _____ LAB. SAMPLE NO.: CDS-52

SAMPLE PREPARATION

FRACTIONS:	MOISTURE CONTENT, %	WET WEIGHT OF SAMPLE, KGS.	DRY WEIGHT OF SAMPLE, KGS.	TOTAL WEIGHT, KGS.
PLUS NO. 4 MAT'LS				
MINUS NO. 4 MAT'LS				
SIEVE SIZE				
WET WT. OF PAK + MAT'LS				
WT. OF PAK		100%	# 4	
WET WT. RETAINED				
WT. PASSING				
% TOTAL PASSING				

PREPARED BY: _____ DATE: _____
SIEVE AND SCREEN ANALYSIS

WET WEIGHT OF SAMPLE	GRAMS	DRY WEIGHT SAMPLE	GRAMS
DRY WEIGHT OF SAMPLE	1004	FACTOR	
HYDROMETER MOIST	%	SIEVING TIME:	15 MINUTES
SIEVE NUMBER	WEIGHT RET (GMS)	WEIGHT PASSING (GMS)	% TOTAL PASSING
			PRACTICE DIAMETER (mm)
10	-		2.0
20	5.22	998.78	99.48
40	81.32	917.46	91.38
60	115.87	801.59	79.94
140	101.20	700.39	69.76
200	95.48	604.91	60.25
PAN			
TOTAL	1004		

TESTED BY: RCM DATE: 7-8/Nov. 90
 COMPUTED BY: RCM DATE: 8-11-90
 CHECKED BY: _____ DATE: _____

HYDROMETER ANALYSIS

HYDROMETER NUMBER	DISPENSING AGENT: SODIUM HEXAMETAPHOSPHATE
GRADATION RANGE	AMOUNT: 125 (ML) FACTOR:
TIME	ELAPSED
START FINISHED	TIME (MIN.)
TEMPERATURE	HYDROMETER READINGS
TEMPERATURE	CORRECTION
HYDROMETER	CORRECTION
% TOTAL PASSING	PRACTICE DIAM (mm)
10-11-90	8:54 0.5 28.5 1.042 .00190 4390 52.90 0.050
	8:58 1.0 28.5 1.034 .00190 4390 43.26 0.019
	9:13 19.0 28 1.023 .00180 2480 29.98 0.009
	9:34 40.0 28 1.012 .00180 1880 16.63 0.005
	1:09 435.0 31 1.008 .00260 1060 12.77 0.002
11-11-90	10:39 1545.0 26 1.004 .00120 520 6.27 0.001

TESTED BY: RCM DATE: 10-11-11/90
 COMPUTED BY: RCM DATE: 13-11-90
 CHECKED BY: _____ DATE: _____



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SAMPLE PREPARATION, SIEVE AND HYDROMETER ANALYSIS FOR SOILS

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PROJECT: SOURCE: LAYER NUMBER:
 STRUCTURE: PIT NUMBER: LAB. SAMPLE NO: CDS-53
 LOCATION: SAMPLE DEPTH:

SAMPLE PREPARATION

FRACTIONS:	MOISTURE CONTENT, %	WET WEIGHT OF SAMPLE, KGS.	DRY WEIGHT OF SAMPLE, KGS.	TOTAL WEIGHT, KGS
PLUS NO. 4 MAT'LS				
MINUS NO. 4 MAT'LS				
SIEVE SIZE				
WET WT. OF PAN + MAT'LS				
WT. OF PAN			100% - #4	
WET WT. RETAINED				
WT. PASSING				
TOTAL PASSING				

PREPARED BY: DATE:
 SIEVE AND SCREEN ANALYSIS

WET WEIGHT OF SAMPLE	GRAMS	DRY WEIGHT SAMPLE	GRAMS		
DRY WEIGHT OF SAMPLE	1002	FACTOR	.0998		
HYDROMETER MOIST	%	SETTLING TIME:	10 MINUTES		
SIEVE NUMBER	WEIGHT RET (GMS)	WEIGHT PASSING (GMS)	% TOTAL PASSING	PRACTICE DIAMETER (mm)	REMARKS:
10	3.01	998.99	99.70	2.0	
20	9.52	989.47	98.75	0.84	
40	69.14	920.33	91.85	0.42	
60	147.80	772.53	77.10	0.25	
100	284.57	487.96	48.70	0.105	
200	110.72	377.24	37.65	0.074	
TOTAL					

TESTED BY: RCM DATE: 5-6/10/90
 COMPUTED BY: RCM DATE: 6/11/90
 CHECKED BY: DATE:

HYDROMETER ANALYSIS

HYDROMETER NUMBER	DISPENSING AGENT: SODIUM HEXAMETAPHOSPHATE							
GRADATION RANGE	AMOUNT: 125 (ML) FACTOR:							
TIME	ELAPSED	TEMPERATURE	HYDROMETER	TEMPERATURE	HYDROMETER	% TOTAL	PRACTICE	
START	FINISHED	TIME (MIN.)	%	READING	CORRECTION	CORRECTION	PASSING	DIAM. (mm)
13/11/90	8:15	0.5	28	.041	.00180	4280	32.28	0.050
	8:19	4.0	28	.027	.00180	2280	21.69	0.019
	8:34	19.0	28	.019	.00180	2080	15.66	0.009
	9:15	60.0	28	.012	.00180	1880	10.39	0.005
	8:30	135.0	27.5	.075	.00145	915	6.99	0.002
14/11/90	10:00	1545.0	27	.040	.00150	550	4.14	0.001

TESTED BY: RCM DATE: 13-14-11-90
 COMPUTED BY: RCM DATE: 14-13-90
 CHECKED BY: DATE:



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SAMPLE PREPARATION, SIEVE AND HYDROMETER ANALYSIS FOR SOILS

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PROJECT: SOURCE: _____
 STRUCTURE: PIT NUMBER: _____ LAYER NUMBER: _____
 LOCATION: SAMPLE DEPTH: _____ LAB. SAMPLE NO: CDS-54

SAMPLE PREPARATION

FRACTIONS:	MOISTURE CONTENT, %	WET WEIGHT OF SAMPLE, KGS.	DRY WEIGHT OF SAMPLE, KGS.	TOTAL WEIGHT, KGS
PLUS NO. 4 MAT'LS				
MINUS NO. 4 MAT'LS				
SIEVE SIZE				
WET WT. OF PAN + MAT'LS		100% - #4		
WT. OF PAN				
WET WT. RETAINED				
WT. PASSING				
Z TOTAL PASSING				

PREPARED BY: _____ DATE: _____
 SIEVE AND SCREEN ANALYSIS

WET WEIGHT OF SAMPLE	GRAMS	DRY WEIGHT SAMPLE	GRAMS	DRY WEIGHT SAMPLE	GRAMS	DRY WEIGHT SAMPLE	GRAMS
DRY WEIGHT OF SAMPLE	1002	GRAMS	FACTOR	0.998			
HYDROMETER MOIST		%	SEIVING TIME:	10	MINUTES		
SIEVE NUMBER	WEIGHT RET (GMS)	WEIGHT PASSING (GMS)	% TOTAL PASSING	PRACTICE DIAMETER (mm)	REMARKS:		
10				2.0			
20				0.84			
40	4.21	997.79	99.58	0.42			
60	25.45	972.34	97.04	0.25			
140	251.10	720.24	71.98	0.105			
200	187.98	332.26	33.12	0.074			
PAN							
TOTAL							

TESTED BY: RCM DATE: 5-6/11/90
 COMPUTED BY: RCM DATE: 6/11/90
 CHECKED BY: _____ DATE: _____

HYDROMETER ANALYSIS

HYDROMETER NUMBER	DISPENSING AGENT: SODIUM HEXAMETAPOSPHATE	AMOUNT: 125 (ML)	FACTOR:				
GRADATION RANGE	TEMPERATURE	HYDROMETER READING	TEMPERATURE CORRECTION	HYDROMETER CORRECTION	% TOTAL PASSING	PRACTICE DIAM (mm)	
TIME START FINISHED	ELAPSED TIME (MIN.)	TEMPERATURE	HYDROMETER READING	TEMPERATURE CORRECTION	HYDROMETER CORRECTION	% TOTAL PASSING	PRACTICE DIAM (mm)
13-11-90: 8:23	0.5	28	0.0410	0.00180	4280	45.47	0.050
8:29	4.0	28	0.032	0.00180	2880	35.91	0.019
8:44	19.0	28	0.02	0.00180	2180	23.16	0.009
9:25	60.0	29	0.01	0.00180	1280	13.60	0.005
8:50	435.0	27.5	0.0065	0.00165	815	8.66	0.002
14-11-90: 10:0	4545.0	27	0.003	0.0015	450	4.78	0.001

TESTED BY: RCM DATE: 13-14-11-90
 COMPUTED BY: RCM DATE: 14-11-90
 CHECKED BY: _____ DATE: _____



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SAMPLE PREPARATION, SIEVE AND HYDROMETER ANALYSIS FOR SOILS

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PROJECT: _____ SOURCE: _____
 STRUCTURE: _____ PIT NUMBER: _____ LAYER NUMBER: _____
 LOCATION: _____ SAMPLE DEPTH: _____ LAB. SAMPLE NO: CDS-56

SAMPLE PREPARATION

FRACTIONS:	MOISTURE CONTENT, %	WET WEIGHT OF SAMPLE, KGS.	DRY WEIGHT OF SAMPLE, KGS.	TOTAL WEIGHT, KGS
PLUS NO. 4 MAT'LS				
MINUS NO. 4 MAT'LS				
SIEVE SIZE				
WET WT. OF PAN + MAT'LS				
WT. OF PAN		100%	- 74	
WET WT. RETAINED				
WT. PASSING				
TOTAL PASSING				

PREPARED BY: _____ DATE: _____
SIEVE AND SCREEN ANALYSIS

WET WEIGHT OF SAMPLE	GRAMS	DRY WEIGHT SAMPLE	GRAMS		
1002		0998			
DRY WEIGHT OF SAMPLE	GRAMS	FACTOR			
HYDROMETER MOIST	I	SEIVING TIME:	10 MINUTES		
SIEVE NUMBER	WEIGHT RET (GMS)	WEIGHT PASSING (GMS)	% TOTAL PASSING	PRACTICE DIAMETER (mm)	REMARKS:
10				2.0	
20				0.84	
40	2.10	999.9	99.79	0.42	
60	9.82	990.08	98.81	0.25	
140	278.56	711.52	71.01	0.105	
200	218.63	497.89	49.69	0.074	
PAN					
TOTAL					

TESTED BY: RCM DATE: 6-7-90
 COMPUTED BY: RCM DATE: 7-11-90
 CHECKED BY: _____ DATE: _____

HYDROMETER ANALYSIS

HYDROMETER NUMBER	DISPENSING AGENT:	SODIUM HEXAMETAPHOSPHATE						
GRADATION RANGE	AMOUNT:	125 (ML)	FACTOR:					
TIME	ELAPSED	TEMPERATURE	HYDROMETER	TEMPERATURE	HYDROMETER	% TOTAL	PRACTICE	
START	FINISHED	TIME (MIN.)	I	READING	CORRECTION	CORRECTION	PASSING	DIAM (mm)
15-11-90	4:07	0.5	27.5	0.0415	0.00165	0.04315	42.88	0.050
	9:11	4.0	27.5	0.0235	0.00165	0.02515	24.94	0.019
	9:24	19.0	27.5	0.0160	0.00165	0.01765	17.54	0.009
	10:07	60.0	28.0	0.0110	0.00180	0.01280	12.72	0.005
	4:22	135.0	30.0	0.0070	0.00230	0.00930	9.24	0.002
16-11-90	10:52	1545.0	28	0.0030	0.00180	0.00480	4.77	0.001

TESTED BY: RCM DATE: 15-11-90
 COMPUTED BY: RCM DATE: 16-11-90
 CHECKED BY: _____ DATE: _____



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SAMPLE PREPARATION, SIEVE AND HYDROMETER ANALYSIS FOR SOILS

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PROJECT: _____ SOURCE: _____
 STRUCTURE: _____ P.T. NUMBER: _____ LAYER NUMBER: _____
 LOCATION: _____ SAMPLE DEPTH: _____ LAB. SAMPLE NO: CDS-55

SAMPLE PREPARATION

FRACTIONS:	MOISTURE CONTENT, %	WET WEIGHT OF SAMPLE, KGS.	DRY WEIGHT OF SAMPLE, KGS.	TOTAL WEIGHT, KGS.
PLUS NO. 4 MAT'LS				
MINUS NO. 4 MAT'LS				
SIEVE SIZE				
WET WT. OF PAN + MAT'LS				
WT. OF PAN		100%	# 4	
WET WT. RETAINED				
WT. PASSING				
TOTAL PASSING				

PREPARED BY: _____ DATE: _____
 SIEVE AND SCREEN ANALYSIS

WET WEIGHT OF SAMPLE	GRAMS	DRY WEIGHT SAMPLE	GRAMS		
DRY WEIGHT OF SAMPLE	100.3	FACTOR	0.997		
HYDROMETER MOIST	%	SIEVING TIME:	10 MINUTES		
SIEVE NUMBER	WEIGHT RET (GMS)	WEIGHT PASSING (GMS)	% TOTAL PASSING	PRACTICE DIAMETER (mm)	REMARKS:
10				2.0	
20	20	1002.80	99.98	0.94	
40	3.52	999.28	99.63	0.42	
60	27.97	971.31	96.84	0.25	
140	401.99	569.32	56.76	0.105	
200	226.45	342.87	34.18	0.074	
PAN					
TOTAL					

TESTED BY: RCM DATE: 7-8/10/90
 COMPUTED BY: RCM DATE: 8/11/90
 CHECKED BY: _____ DATE: _____

HYDROMETER ANALYSIS

HYDROMETER NUMBER	DISPENSING AGENT: SODIUM HEXAMETA PHOSPHATE							
GRADATION RANGE	AMOUNT: 125 (ML) FACTOR:							
TIME	ELAPSED	TEMPERATURE	HYDROMETER	TEMPERATURE	HYDROMETER	% TOTAL	PRACTICE	
START	FINISHED	TIME (MIN.)	READINGS	CORRECTION	CORRECTION	PASSING	DIAMETER	
16-11-90	9:10	0.5	26	1.0125	0.0120	1.02750	25.63	0.050
	9:14	4.0	26	0.278	0.0120	2720	18.59	0.019
	9:24	19.0	26.5	0.160	0.0134	1734	11.85	0.009
	10:10	60.0	27.5	0.060	0.0165	765	5.23	0.005
	4:25	135.0	21	0.030	0.0260	560	2.93	0.002
17-11-90	10:55	1345.0	29	0.010	0.0180	280	1.91	0.001

TESTED BY: RCM DATE: 16-10-11-90
 COMPUTED BY: RCM DATE: 17-11-90
 CHECKED BY: _____ DATE: _____



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SAMPLE PREPARATION, SIEVE AND HYDROMETER ANALYSIS FOR SOILS

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PROJECT: _____ SOURCE: _____
 STRUCTURE: _____ PIT NUMBER: _____ LAYER NUMBER: _____
 LOCATION: _____ SAMPLE DEPTH: _____ LAB. SAMPLE NO: GDS-57

SAMPLE PREPARATION

FRACTIONS:	MOISTURE CONTENT, %	WET WEIGHT OF SAMPLE, KGS.	DRY WEIGHT OF SAMPLE, KGS.	TOTAL WEIGHT, KGS.
PLUS NO. 4 MAT'LS				
MINUS NO. 4 MAT'LS				
SIEVE SIZE				
WET WT. OF PAN + MAT'LS				
WT. OF PAN		100%	#4	
WET WT. RETAINED				
WT. PASSING				
% TOTAL PASSING				

PREPARED BY: _____ DATE: _____
 SIEVE AND SCREEN ANALYSIS

WET WEIGHT OF SAMPLE	GRAMS	DRY WEIGHT SAMPLE	GRAMS		
DRY WEIGHT OF SAMPLE	1003	FACTOR	0.997		
HYDROMETER MOIST	%	SEIVING TIME	10 MINUTES		
SIEVE NUMBER	WEIGHT RET. (GMS)	WEIGHT PASSING (GMS)	% TOTAL PASSING	PRACTICE DIAMETER (mm)	REMARKS
10				1.0	
20	2.81	1000.19	99.72	0.84	
40	8.02	992.17	98.92	0.42	
60	21.86	970.61	96.77	0.25	
140	298.79	671.82	66.98	0.105	
200	174.72	497.10	49.56	0.074	
PAN					
TOTAL					

TESTED BY: RCM DATE: 6-7/10/90
 COMPUTED BY: RCM DATE: 7/11/90
 CHECKED BY: _____ DATE: _____

HYDROMETER ANALYSIS

HYDROMETER NUMBER	DISPENSING AGENT	SODIUM HEXAMETAPHOSPHATE						
GRADATION RANGE	AMOUNT: 125 (ML)	FACTOR:						
TIME	ELAPSED	TEMPERATURE	HYDROMETER	TEMPERATURE	HYDROMETER	% TOTAL	PRACTICE	
START	FINISHED	TIME (MIN.)	READING	CORRECTION	CORRECTION	PASSING	DIAM. (mm)	
15-11-90	9:01	0.5	27.5	0.0400	0.0165	0.0365	43.27	0.050
	9:05	1.0	27.5	0.0200	0.0165	0.0365	30.39	0.019
	9:20	19.0	27.5	0.0200	0.0165	0.02165	21.46	0.009
	10:01	60.0	28	0.0130	0.0180	0.0400	14.67	0.005
	4:36	435.0	30	0.065	0.0230	0.0280	2.972	0.002
16-11-90	10:46	4545.0	20	0.030	0.02100	0.0400	4.76	0.001

TESTED BY: RCM DATE: 15-11/9/90



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SAMPLE PREPARATION, SIEVE AND HYDROMETER ANALYSIS FOR SOILS

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PROJECT: _____ SOURCE: _____
 STRUCTURE: _____ PIT NUMBER: _____ LAYER NUMBER: _____
 LOCATION: _____ SAMPLE DEPTH: _____ LAB. SAMPLE NO.: S-8

SAMPLE PREPARATION

FRACTIONS:	MOISTURE CONTENT, %	WET WEIGHT OF SAMPLE, KGS.	DRY WEIGHT OF SAMPLE, KGS.	TOTAL WEIGHT, KGS
PLUS NO. 4 MAT'LS			.202	
MINUS NO. 4 MAT'LS			12.436	12.638
SIEVE SIZE		3/8	14	
WET WT. OF PAN + MAT'LS				
WT. OF PAN				
WET WT. RETAINED		.030	.164	
WT. PASSING		12.600	12.436	
TOTAL PASSING		98.70	98.40	

PREPARED BY: RCM DATE: 30-31/10/90
 SIEVE AND SCREEN ANALYSIS

WET WEIGHT OF SAMPLE	GRAMS	DRY WEIGHT SAMPLE	GRAMS	
DRY WEIGHT OF SAMPLE	1006	FACTOR		
HYDROMETER MOIST	%	SIEVING TIME:	15 MINUTES	
SIEVE NUMBER	WEIGHT RET (GMS)	WEIGHT PASSING (GMS)	% TOTAL PASSING	
			PRACTICE DIAMETER (mm)	
10	5.03	1000.97	97.91	2.0
20	8.35	992.62	97.09	0.84
40	11.37	981.25	95.98	0.42
60	9.76	971.49	95.02	0.25
140	48.26	929.28	90.89	0.105
200	46.58	888.65	86.83	0.074
PAN				
TOTAL				

TESTED BY: RCM DATE: 5-6/11/90
 COMPUTED BY: RCM DATE: 6/11/90
 CHECKED BY: _____ DATE: _____

HYDROMETER ANALYSIS

HYDROMETER NUMBER	DISPENSING AGENT: SODIUM HEXAMETAPHOSPHATE							
GRADATION RANGE	AMOUNT: 125 (ML) FACTOR:							
TIME	ELAPSED	TEMPERATURE	HYDROMETER	TEMPERATURE	HYDROMETER	% TOTAL	PRACTICE	
START	FINISHED	TIME (MIN.)	%	READING	CORRECTION	CORRECTION	PASSING	DIAM. (mm)
10/11/90	9:08	0.5	20	1.0450	.00190	4680	80.80	0.050
	9:12	1.0	28	1.0385	.00180	4020	69.59	0.019
	9:27	19:0	28	.0305	.00180	3230	55.77	0.009
	10:08	60.0	28	.0195	.00190	2180	36.78	0.005
	4:23	435.0	31	.0120	.00260	1460	25.20	0.002
11/11/90	10:53	1545.0	26	.0075	.00120	870	15.02	0.001

TESTED BY: RCM DATE: 10-11/11/90
 COMPUTED BY: RCM DATE: 12/11/90
 CHECKED BY: _____ DATE: _____



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SAMPLE PREPARATION, SIEVE AND HYDROMETER ANALYSIS FOR SOILS

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PROJECT: _____ SOURCE: _____
 STRUCTURE: _____ PIT NUMBER: _____ LAYER NUMBER: _____
 LOCATION: _____ SAMPLE DEPTH: _____ LAB. SAMPLE NO: CDS-5-9

SAMPLE PREPARATION

FRACTIONS:	MOISTURE CONTENT, %	WET WEIGHT OF SAMPLE, KGS.	DRY WEIGHT OF SAMPLE, KGS.	TOTAL WEIGHT, KGS
PLUS NO. 4 MAT'LS				
MINUS NO. 4 MAT'LS				
SIEVE SIZE				
WET WT. OF PAN + MAT'LS				
WT. OF PAN		100%	# 4	
WET WT. RETAINED				
WT. PASSING				
% TOTAL PASSING				

PREPARED BY: _____ DATE: _____

SIEVE AND SCREEN ANALYSIS

WET WEIGHT OF SAMPLE	GRAMS	DRY WEIGHT SAMPLE	GRAMS		
DRY WEIGHT OF SAMPLE	1004	FACTOR	.0996		
HYDROMETER MOIST	%	SEIVING TIME:	10 MINUTES		
SIEVE NUMBER	WEIGHT RET (GMS)	WEIGHT PASSING (GMS)	% TOTAL PASSING	PRACTICE DIAMETER (mm)	REMARKS:
10	1.80	1002.70	99.87	2.0	
20	7.63	995.07	99.11	0.84	
40	126.30	868.77	86.53	0.42	
60	273.30	595.39	59.30	0.25	
140	417.16	178.13	17.74	0.105	
200	62.14	115.99	11.55	0.074	
PAN					
TOTAL					

TESTED BY: RCM DATE: 6-7/10/90
 COMPUTED BY: RCM DATE: 7/11/90
 CHECKED BY: _____ DATE: _____

HYDROMETER ANALYSIS

HYDROMETER NUMBER	DISPENSING AGENT: SODIUM HEXAMETA PHOSPHATE							
GRADATION RANGE	AMOUNT: 125 (ML) FACTOR:							
TIME	ELAPSED	TEMPERATURE	HYDROMETER	TEMPERATURE	HYDROMETER	% TOTAL	PRACTICE	
START	FINISHED	TIME (MIN.)	I	READINGS	CORRECTION	CORRECTION	PASSING	DIAM (mm)
16-11-90	9:05	0.5	26	1.0340	.00120	4020	1.29	0.050
	9:09	4.0	26	.0220	.00120	2320	5.90	0.019
	9:14	19.0	26.5	.0150	.00124	1484	2.77	0.00
	10:05	60.0	27.5	.0075	.00165	915	2.11	0.00
	4:20	435.0	31	.0040	.00260	640	1.52	0.00
17-11-90	10:50	1535.0	28	.00105	.00180	285	.68	0.00

TESTED BY: RCM DATE: 16-17-11-90
 COMPUTED BY: RCM DATE: 17-11-90



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SAMPLE PREPARATION, SIEVE AND HYDRMETER ANALYSIS FOR SOILS

10

PROJECT: SOURCE:
 STRUCTURE: PIT NUMBER: LAYER NUMBER:
 LOCATION: SAMPLE DEPTH: LAB. SAMPLE NO: CDS-10

SAMPLE PREPARATION

FRACTIONS:	MOISTURE CONTENT, %		WET WEIGHT OF SAMPLE, KGS.		DRY WEIGHT OF SAMPLE, KGS.		TOTAL WEIGHT, KGS
PLUS NO. 4 MAT'LS					11.016		
MINUS NO. 4 MAT'LS					15.554		26.570
SIEVE SIZE	2"	1 1/2"	1"	3/4"	3/8"	1/4"	
WET WT. OF PAN + MAT'LS							
WT. OF PAN							
DRY WT. RETAINED	9.28	1.654	1.864	2.000	2.640	1.922	
WT. PASSING	25.64	23.988	22.124	20.124	17.476	15.554	
TOTAL PASSING	96.37	90.28	83.27	75.74	65.77	50.54	

PREPARED BY: RCM DATE: 29-30/10/90

SIEVE AND SCREEN ANALYSIS

WET WEIGHT OF SAMPLE	GRAMS	DRY WEIGHT SAMPLE	GRAMS
DRY WEIGHT OF SAMPLE	1006	1058.19	
HYDRMETER MOIST			
SIEVE NUMBER	WEIGHT RET (GMS)	WEIGHT PASSING (GMS)	REMARKS:
10	77.56	928.44	
20	194.64	783.80	
40	347.37	386.48	
60	132.73	253.68	
140	111.92	141.75	
200	20.12	121.63	
PAN			
TOTAL			

TESTED BY: RCM DATE: 5-6/11/90
 COMPUTED BY: RCM DATE: 6/11/90
 CHECKED BY: DATE:

HYDRMETER ANALYSIS

HYDRMETER NUMBER	DISPENSING AGENT: SODIUM HEXAMETAPHOSPHATE							
GRADATION RANGE	AMOUNT: 125 (ML)	FACTOR:						
TIME	ELAPSED	TEMPERATURE	HYDRMETER	TEMPERATURE	HYDRMETER	% TOTAL	PRACTICE	
START	FINISHED	TIME (MIN.)	%	READING	CORRECTION	CORRECTION	DIAM (mm)	
16-11-90	1:16	0.5	26	1.0410	.00120	4220	5.98	0.050
	1:20	1.0	26	2.35	.00120	2470	3.50	0.019
	1:35	19.0	26.3	.150	.00128	1628	2.30	0.009
	10:16	60.0	27.5	.0085	.00145	1015	1.49	0.005
	11:31	435.0	31	.0051	.00260	760	1.08	0.002
17-11-90	11:01	1545.0	23	.0075	.00180	2830	0.61	0.001

TESTED BY: RCM DATE: 10-17/11/90
 COMPUTED BY: RCM DATE: 17/11/90



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SAMPLE PREPARATION, SIEVE AND HYDROMETER ANALYSIS FOR SOILS

11

PROJECT: _____ SOURCE: _____
 STRUCTURE: _____ PIT NUMBER: _____ LAYER NUMBER: _____
 LOCATION: _____ SAMPLE DEPTH: _____ LAB. SAMPLE NO: CDS-511

SAMPLE PREPARATION

FRACTIONS:	MOISTURE CONTEXT, %	WET WEIGHT OF SAMPLE, KGS.	DRY WEIGHT OF SAMPLE, KGS.	TOTAL WEIGHT, KGS
PLUS NO. 4 MAT'LS			105	
MINUS NO. 4 MAT'LS			16.227	16.412
SIEVE SIZE	14			
NET WT. OF PAN + MAT'LS				
WT. OF PAN				
NET WT. RETAINED		105		
WT. PASSING		16.227		
TOTAL PASSING		90.87		

PREPARED BY: RCM

DATE: 29-30/10/90

SIEVE AND SCREEN ANALYSIS

WET WEIGHT OF SAMPLE		GRAMS	DRY WEIGHT SAMPLE		GRAMS
DRY WEIGHT OF SAMPLE		1005	FACTOR		0.9838
HYDROMETER MOIST		I	SEIVING TIME:		10 MINUTES
SIEVE NUMBER	WEIGHT RET (GMS)	WEIGHT PASSING (GMS)	% TOTAL PASSING	PRACTICE DIAMETER (mm)	REMARKS:
10	2.21	1002.79	98.66	2.0	
20	3.72	999.07	98.29	0.84	
40	12.76	986.31	97.03	0.42	
60	10.75	973.56	95.98	0.25	
140	97.68	877.88	86.37	0.105	
200	102.11	775.77	76.32	0.074	
PAN					
TOTAL					

TESTED BY: RCM

DATE: 5-6/11/90

COMPUTED BY: RCM

DATE: 6/11/90

CHECKED BY:

DATE:

HYDROMETER ANALYSIS

HYDROMETER NUMBER		DISPENSING AGENT: SODIUM HEXAMETAPHOSPHATE						
GRADATION RANGE		AMOUNT: 125 (ML)		FACTOR:				
TIME	ELAPSED	TEMPERATURE	HYDROMETER	TEMPERATURE	HYDROMETER	% TOTAL	PRACTICE	
START	FINISHED	TIME (MIN.)	I	READINGS	CORRECTION	CORRECTION	PASSING	
							DIAM (mm)	
19-11-90	9:07	0.5	27	0.450	0.0150	0.4650	79.98	0.050
	9:11	4.0	27	0.320	0.0150	0.3350	51.13	0.019
	9:24	19.0	27.5	0.240	0.0165	0.2565	34.15	0.009
	10:07	60.0	27.5	0.140	0.0165	0.1565	27.99	0.005
	4:22	435.0	28	0.070	0.0260	0.0960	14.45	0.002
20-11-90	10:52	1545.0	27.3	0.020	0.0165	0.0365	5.57	0.001

TESTED BY: RCM

DATE: 19/30-11-90

COMPUTER BY: RCM

DATE: 20-11-90



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SAMPLE PREPARATION, SIEVE AND HYDROMETER ANALYSIS FOR SOILS

12

PROJECT: _____ SOURCE: _____
 STRUCTURE: _____ PIT NUMBER: _____ LAYER NUMBER: _____
 LOCATION: _____ SAMPLE DEPTH: _____ LAB. SAMPLE NO.: CDS-512

SAMPLE PREPARATION

FRACTIONS:	MOISTURE CONTENT, %	WET WEIGHT OF SAMPLE, KGS.	DRY WEIGHT OF SAMPLE, KGS.	TOTAL WEIGHT, KGS.
PLUS NO. 4 MAT'LS				
MINUS NO. 4 MAT'LS				
SIEVE SIZE				
WET WT. OF PAN + MAT'LS				
WT. OF PAN		100%	- #4	
WET WT. RETAINED				
WT. PASSING				
% TOTAL PASSING				

PREPARED BY: _____ DATE: _____
 SIEVE AND SCREEN ANALYSIS

WET WEIGHT OF SAMPLE		GRAMS	DRY WEIGHT SAMPLE	GRAMS
DRY WEIGHT OF SAMPLE		1004	FACTOR	.0996
HYDROMETER MOIST		I	SETTLING TIME:	10
SIEVE NUMBER	WEIGHT RET (GMS)	WEIGHT PASSING (GMS)	% TOTAL PASSING	PRACTICE DIAMETER (mm)
10				2.0
20	80	1003.20	99.92	0.84
40	1.81	1001.39	99.74	0.42
60	8.55	992.84	98.89	0.25
140	103.31	889.55	88.60	0.105
200	120.78	768.77	76.57	0.074
PAN				
TOTAL				

TESTED BY: RCM DATE: 7-8/11/90
 COMPUTED BY: RCM DATE: 8/11/90
 CHECKED BY: _____ DATE: _____

HYDROMETER ANALYSIS

HYDROMETER NUMBER		DISPENSING AGENT: SODIUM HEXAMETAPHOSPHATE						
GRADATION RANGE		AMOUNT: 125	FACTOR: 5					
TIME	ELAPSED	TEMPERATURE	HYDROMETER					
START	FINISHED	TIME (MIN.)	TEMPERATURE					
			HYDROMETER					
			% TOTAL PASSING					
			PRACTICE DIAM (mm)					
19-11-40	9:13	0.5	27	.0430	.00150	.04450	68.15	0.050
	9:17	4.0	27	.0310	.00150	.03250	49.77	0.019
	9:32	19.0	27.5	.0205	.00165	.02215	33.92	0.009
	10:13	60.0	27.5	.0105	.00165	.01215	16.61	0.005
	4:29	435.0	31	.0060	.00260	.00860	13.17	0.002
20-11-40	10:58	1545.0	27.5	.0030	.00165	.00465	7.12	0.001

TESTED BY: RCM DATE: 19/20-11-90
 COMPUTED BY: RCM DATE: 20-11-90



Construction & Drilling Specialists, Inc.

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 124 Valero St., Salcedo Village
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SAMPLE PREPARATION, SIEVE AND HYDROMETER ANALYSIS FOR SOILS

13

PROJECT: SOURCE: LAYER NUMBER:
 STRUCTURE: PIT NUMBER: LAB. SAMPLE NO.: CDS-513
 LOCATION: SAMPLE DEPTH:

SAMPLE PREPARATION

FRACTIONS:	MOISTURE CONTENT, %	WET WEIGHT OF SAMPLE, KGS.	DRY WEIGHT OF SAMPLE, KGS.	TOTAL WEIGHT, KGS
PLUS NO. 4 MAT'LS			.151	
MINUS NO. 4 MAT'LS			14.482	14.633
SIEVE SIZE			#4	
WET WT. OF PAN + MAT'LS				
WT. OF PAN				
DRY WT. RETAINED			.151	
WT. PASSING			14.482	
% TOTAL PASSING			98.97	

PREPARED BY: RCM DATE: 5/11/90

SIEVE AND SCREEN ANALYSIS

WET WEIGHT OF SAMPLE	GRAMS	DRY WEIGHT SAMPLE	GRAMS		
DRY WEIGHT OF SAMPLE	1004	FACTOR	0.9834		
HYDROMETER MOIST		SEIVING TIME:	10 MINUTES		
SIEVE NUMBER	WEIGHT RET (GMS)	WEIGHT PASSING (GMS)	% TOTAL PASSING	PRACTICE DIAMETER (mm)	REMARKS:
10	22.59	981.41	98.74	2.0	
20	28.11	952.80	93.97	0.84	
40	33.13	920.17	90.71	0.42	
60	44.68	875.49	86.30	0.25	
140	125.50	749.99	73.93	0.105	
200	70.78	679.21	66.93	0.074	
TOTAL					

TESTED BY: RCM DATE: 5-6/11/90
 COMPUTED BY: RCM DATE: 6/11/90
 CHECKED BY: DATE:

HYDROMETER ANALYSIS

HYDROMETER NUMBER	DISPENSING AGENT: SODIUM HEXAMETAPHOSPHATE							
GRADATION RANGE	AMOUNT:	125 (ML)	FACTOR:					
TIME	ELAPSED TIME (MIN.)	TEMPERATURE	HYDROMETER READINGS	TEMPERATURE CORRECTION	HYDROMETER CORRECTION	% TOTAL PASSING	PRACTICE DIAM (mm)	
15-11-90	8:54	0.5	27.5	.042	.00165	.04365	58.45	0.050
	9:58	1.0	27.5	.032	.00165	.03365	45.06	0.019
	9:13	19.0	27.5	.0140	.00165	.02065	27.45	0.009
	9:54	60.0	28	.0130	.00180	.01980	19.82	0.005
	4:09	135.0	30.2	.0080	.00236	.01036	13.87	0.002
16-11-90	10:29	1345.0	28	.0045	.00180	.00630	8.44	0.001

TESTED BY: RCM DATE: 12/16-11-90



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SAMPLE PREPARATION, SIEVE AND HYDROMETER ANALYSIS FOR SOILS

14

PROJECT:	SOURCE:	LAYER NUMBER:
STRUCTURE:	PIT NUMBER:	LAB. SAMPLE NO: CDS-514
LOCATION:	SAMPLE DEPTH:	

SAMPLE PREPARATION

FRACTIONS:	MOISTURE CONTENT, %	WET WEIGHT OF SAMPLE, KGS.	DRY WEIGHT OF SAMPLE, KGS.	TOTAL WEIGHT, KGS
PLUS NO. 4 MAT'LS				
MINUS NO. 4 MAT'LS				
SIEVE SIZE				
WET WT. OF PAN + MAT'LS		100%	#4	
WT. OF PAN				
WET WT. RETAINED				
WT. PASSING				
% TOTAL PASSING				

PREPARED BY: _____ DATE: _____
 SIEVE AND SCREEN ANALYSIS

WET WEIGHT OF SAMPLE	GRAMS	DRY WEIGHT SAMPLE	GRAMS	FACTOR	ISIEVING TIME:	MINUTES	REMARKS:
1002					15		
SIEVE NUMBER	WEIGHT RET (GMS)	WEIGHT PASSING (GMS)	% TOTAL PASSING	PRACTICE DIAMETER (mm)			
10				2.0			
20				0.84			
40	1.70	1000.3	99.83	0.42			
60	2.70	997.4	99.56	0.25			
140	27.05	970.55	96.86	0.105			
200	59.82	940.73	90.89	0.074			
PAN							
TOTAL							

TESTED BY: RCM DATE: 29-30/10/90
 COMPUTED BY: RCM DATE: 31/10/90
 CHECKED BY: _____ DATE: _____

HYDROMETER ANALYSIS

HYDROMETER NUMBER	DISPENSING AGENT: SODIUM HEXAMETAPHOSPHATE	AMOUNT: 125 (ML)		FACTOR:						
GRADATION RANGE	TEMPERATURE	HYDROMETER READING	TEMPERATURE CORRECTION	HYDROMETER CORRECTION	% TOTAL PASSING	PRACTICE DIAM (mm)				
TIME	ELAPSED TIME (MIN.)	TEMPERATURE	HYDROMETER READING	TEMPERATURE CORRECTION	HYDROMETER CORRECTION	% TOTAL PASSING	PRACTICE DIAM (mm)			
12/11/90	9:10	0.5	26.5	.0480	.00134	.04484	80.60	0.050		
	9:14	1.0	26.5	.0290	.00134	.03034	56.18	0.019		
	9:29	19.0	26.0	.0180	.00120	.01920	34.90	0.008		
	10:10	60.0	26.0	.0105	.00120	.01170	21.27	0.005		
	4:25	135.0	26.0	.0050	.00200	.00790	14.36	0.002		
13/11/90	10:55	1545.0	26.0	.0080	.00180	.00490	8.72	0.001		

TESTED BY: RCM DATE: 12/12-11-90
 COMPUTED BY: RCM DATE: 13-11-90



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SAMPLE PREPARATION, SIEVE AND HYDROMETER ANALYSIS FOR SOILS

15.

PROJECT: _____ SOURCE: _____ LAYER NUMBER: _____
 STRUCTURE: _____ PIT NUMBER: _____ LAB. SAMPLE NO: CDS-S-15
 LOCATION: _____ SAMPLE DEPTH: _____

SAMPLE PREPARATION

FRACTIONS:	MOISTURE CONTENT, %	WET WEIGHT OF SAMPLE, KGS.	DRY WEIGHT OF SAMPLE, KGS.	TOTAL WEIGHT, KGS
PLUS NO. 4 MAT'LS				
MINUS NO. 4 MAT'LS				
SIEVE SIZE				
WET WT. OF PAN + MAT'LS				
WT. OF PAN		100%	-4	
WET WT. RETAINED				
WT. PASSING				
TOTAL PASSING				

PREPARED BY: _____

DATE: _____

SIEVE AND SCREEN ANALYSIS

WET WEIGHT OF SAMPLE	GRAMS	DRY WEIGHT SAMPLE	GRAMS	FACTOR	SEIVING TIME: 15	MINUTES
1003						
HYDROMETER MOIST						
SIEVE NUMBER	WEIGHT RET (GMS)	WEIGHT PASSING (GMS)	TOTAL PASSING	PRACTICE DIAMETER (mm)	REMARKS:	
10	3.02	497.98	99.50	2.0		
20	11.53	986.45	98.35	0.84		
40	44.63	941.82	93.40	0.42		
60	39.62	902.2	89.95	0.25		
140	123.90	768.83	76.63	0.105		
200	106.32	661.98	66.0	0.074		
PAN						
TOTAL	1005					

TESTED BY: RCM

DATE: 7-8/11/90

COMPUTED BY: RCM

DATE: 8/11/90

CHECKED BY: _____

DATE: _____

HYDROMETER ANALYSIS

HYDROMETER NUMBER	DISPENSING AGENT:	AMOUNT:	(ML)	FACTOR:				
GRADATION RANGE	TEMPERATURE	HYDROMETER	TEMPERATURE	HYDROMETER				
TIME	ELAPSED	TEMPERATURE	CORRECTION	CORRECTION				
START	FINISHED	TIME (MIN.)	READINGS	TOTAL				
				PASSING				
				DIAM (mm)				
10/11/90	9:00 AM	0.5	28.5	0.042	00190	4390	57.95	0.050
	9:04	1.0	28.5	0.32	00190	3390	44.75	0.019
	9:19	19.0	28.0	0.19	00180	2080	27.46	0.069
	10:00	49.0	28	0.10	00180	1180	15.58	0.005
	7:15 PM	135.0	31	0.05	00260	760	10.03	0.002
11/11/90	10:45 AM	1545.0	26	0.03	00120	400	5.54	0.001

TESTED BY: RCM

DATE: 10-11/11/90

COMPUTED BY: RCM

DATE: 12/11/90



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SAMPLE PREPARATION, SIEVE AND HYDROMETER ANALYSIS FOR SOILS

16

PROJECT: _____ SOURCE: _____ LAYER NUMBER: _____
 STRUCTURE: _____ PIT NUMBER: _____ LAB. SAMPLE NO.: CDS-516
 LOCATION: _____ SAMPLE DEPTH: _____

SAMPLE PREPARATION

FRACTIONS:	MOISTURE CONTENT, %	WET WEIGHT OF SAMPLE, KGS.	DRY WEIGHT OF SAMPLE, KGS.	TOTAL WEIGHT, KGS.
PLUS NO. 4 MAT'LS				
MINUS NO. 4 MAT'LS				
SIEVE SIZE				
WET WT. OF PAN + MAT'LS		100%	- #4	
WT. OF PAN				
WET W%. RETAINED				
WT. PASSING				
% TOTAL PASSING				

PREPARED BY: _____ DATE: _____
SIEVE AND SCREEN ANALYSIS

WET WEIGHT OF SAMPLE	GRAMS	DRY WEIGHT SAMPLE	GRAMS	IFACTOR	SEIVING TIME:	MINUTES	REMARKS:
1006		0994			10		
HYDROMETER MOIST		I		I		PRACTICE	
SIEVE NUMBER	WEIGHT RET (GMS)	WEIGHT PASSING (GMS)	I TOTAL PASSING	PRACTICE DIAMETER (mm)			
10	12.58	993.42	98.75	2.0			
20	46.17	947.25	94.16	0.84			
40	412.66	534.59	53.14	0.42			
60	167.20	367.39	36.52	0.25			
140	217.80	149.59	14.87	0.105			
200	71.53	78.06	7.76	0.074			
TOTAL							

TESTED BY: RCM DATE: 8-9/11/90
 RECOMPUTED BY: RCM DATE: 9/11/90
 CHECKED BY: _____ DATE: _____

HYDROMETER ANALYSIS

HYDROMETER NUMBER		DISPENSING AGENT: SODIUM HEXAMETAPHOSPHATE		AMOUNT: 125 (ML)		FACTOR:	
GRADATION RANGE		TEMPERATURE	HYDROMETER READINGS	TEMPERATURE CORRECTION	HYDROMETER CORRECTION	% TOTAL PASSING	% PRACTICE DIAM (mm)
14/11/90	9:02	0.5	26	.0430	.00120	6.86	0.050
	9:07	1.0	26	.0290	.00120	4.69	0.019
	9:22	19.0	26	.0120	.00120	2.20	0.009
	10:03	60.0	26.3	.0105	.00120	1.03	0.005
	4:18	535.0	29	.0040	.00200	.93	0.002
15/11/90	10:40	1545.0	29	.00105	.00100	.44	0.001

TESTED BY: RCM DATE: 14-15/11/90
 RECOMPUTED BY: RCM DATE: 15/11/90
 CHECKED BY: _____ DATE: _____



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SAMPLE PREPARATION, SIEVE AND HYDROMETER ANALYSIS FOR SOILS

17

PROJECT: SOURCE: LAYER NUMBER:
 STRUCTURE: PIT NUMBER: LAB. SAMPLE NO.: CDS-517
 LOCATION: SAMPLE DEPTH:

SAMPLE PREPARATION

FRACTIONS:	MOISTURE CONTENT, %	WET WEIGHT OF SAMPLE, KGS.	DRY WEIGHT OF SAMPLE, KGS.	TOTAL WEIGHT, KGS.
PLUS NO. 4 MAT'LS			.472	
MINUS NO. 4 MAT'LS			14.138	14.610
SIEVE SIZE		3/8		
WET WT. OF PAN + MAT'LS				
WT. OF PAN				
WT. RETAINED		.400 .012		
WT. PASSING		14.130 14.138		
% TOTAL PASSING		96.85 96.77		

PREPARED BY: RCM DATE: 30-31/10/90
 SIEVE AND SCREEN ANALYSIS

NET WEIGHT OF SAMPLE	GRAMS	DRY WEIGHT SAMPLE	GRAMS		
DRY WEIGHT OF SAMPLE	1004	FACTOR	.09630		
HYDROMETER MOIST	%	SEIVING TIME:	10 MINUTES		
SIEVE NUMBER	WEIGHT RET (GMS)	WEIGHT PASSING (GMS)	% TOTAL PASSING	PRACTICE DIAMETER (mm)	REMARKS:
10	2.41	1001.59	96.54	2.0	
20	6.22	995.37	95.44	0.84	
40	86.65	918.72	92.41	0.42	
60	74.70	844.02	85.21	0.25	
140	571.68	512.34	49.38	0.105	
200	128.91	383.43	36.46	0.074	
PAN					
TOTAL					

TESTED BY: RCM DATE: 7-8/11/90
 COMPUTED BY: RCM DATE: 8/11/90
 CHECKED BY: DATE:

HYDROMETER ANALYSIS

HYDROMETER NUMBER	GRADATION RANGE	DISPENSING AGENT: SODIUM HEXAMETAPHOSPHATE	AMOUNT: 125 (ML)	FACTOR:	TEMPERATURE I	HYDROMETER I	TEMPERATURE II	HYDROMETER II	% TOTAL PASSING I	% TOTAL PASSING II	PRACTICE DIAM (mm)
19-11-90	9:05	0.5	27	.0470	.00150	.04850	35.85	0.050			
	9:09	1.0	27	.0280	.00150	.02950	21.91	0.019			
	9:24	19.0	27	.0210	.00150	.02250	16.63	0.009			
	10:03	80.0	27.5	.0120	.00165	.01365	10.04	0.005			
	4:20	135.0	31	.00700	.00240	.00940	7.10	0.002			
20-11-90	10:50	1545.0	27.5	.00250	.00165	.00515	3.81	0.001			

TESTED BY: RCM DATE: 19-20-11-90
 COMPUTED BY: RCM DATE: 20-11-90
 CHECKED BY: DATE:



Construction & Drilling Specialists, Inc.

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Makati, Metro Manila
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SAMPLE PREPARATION, SIEVE AND HYDROMETER ANALYSIS FOR SOILS

18

PROJECT: _____ SOURCE: _____
STRUCTURE: _____ PIT NUMBER: _____ LAYER NUMBER: _____
LOCATION: _____ SAMPLE DEPTH: _____ LAB. SAMPLE NO: CSD-C18

SAMPLE PREPARATION

FRACTIONS:	MOISTURE CONTENT, %	WET WEIGHT OF SAMPLE, KGS.	DRY WEIGHT OF SAMPLE, KGS.	TOTAL WEIGHT, KGS
PLUS NO. 4 MAT'LS				
MINUS NO. 4 MAT'LS				
SIEVE SIZE				
WET WT. OF PAN + MAT'LS		100% - #4		
WT. OF PAN				
WET WT. RETAINED				
WT. PASSING				
% TOTAL PASSING				

PREPARED BY: _____ DATE: _____
SIEVE AND SCREEN ANALYSIS

WET WEIGHT OF SAMPLE	GRAMS	DRY WEIGHT SAMPLE	GRAMS		
DRY WEIGHT OF SAMPLE	100.8	FACTOR: .9997			
HYDROMETER MOIST	%	SETTLING TIME: 10	MINUTES		
SIEVE NUMBER	WEIGHT RET (GMS)	WEIGHT PASSING (GMS)	% TOTAL PASSING	PRACTICE DIAMETER (mm)	REMARKS:
10	—			2.0	
20	22.06	980.94	97.80	0.84	
40	113.74	867.20	86.46	0.42	
60	97.79	769.41	76.71	0.25	
140	244.79	504.62	50.31	0.105	
200	115.54	389.08	39.79	0.074	
PAN					
TOTAL					

TESTED BY: RCM DATE: 8-9/11/90
COMPUTED BY: RCM DATE: 9/11/90
CHECKED BY: _____ DATE: _____

HYDROMETER ANALYSIS

HYDROMETER NUMBER	GRADATION RANGE	DISPENSING AGENT: SODIUM HEXAMETAPHOSPHATE	AMOUNT: 12.5 (ML)	FACTOR:			
TIME	ELAPSED	TEMPERATURE	HYDROMETER	TEMPERATURE	HYDROMETER	% TOTAL	PRACTICE
START	FINISHED	TEMPERATURE	READING	TEMPERATURE	CORRECTION	PASSING	DIAM (mm)
07-11-90	8:39	27.5	.044	27.5	.00165	35.42	0.050
	8:43	27.5	.0325	27.5	.00165	26.49	0.019
	9:10	27.5	.0210	27.5	.00165	18.74	0.009
	9:59	29.5	.0135	29.5	.00215	12.14	0.005
	4:14	31.0	.0060	31.0	.00260	6.67	0.002
08-11-90	10:44	27	.0025	27	.0015	3.10	0.001

TESTED BY: RCM DATE: 07-0-11-90
COMPUTED BY: RCM DATE: 08-11-90
CHECKED BY: _____ DATE: _____



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SAMPLE PREPARATION, SIEVE AND HYDROMETER ANALYSIS FOR SOILS

19

PROJECT: _____ SOURCE: _____
 STRUCTURE: _____ PIT NUMBER: _____ LAYER NUMBER: _____
 LOCATION: _____ SAMPLE DEPTH: _____ LAB. SAMPLE NO.: CDS-519

SAMPLE PREPARATION

FRACTIONS:	MOISTURE CONTENT, %	WET WEIGHT OF SAMPLE, KGS.	DRY WEIGHT OF SAMPLE, KGS.	TOTAL WEIGHT, KGS
PLUS NO. 4 MAT'LS			.034	
MINUS NO. 4 MAT'LS			15.275	15.309
SIEVE SIZE	+ # 4			
WET WT. OF PAK + MAT'LS				
WT. OF PAK				
WT. RETAINED	.034			
WT. PASSING	15.275			
TOTAL PASSING	99.78			

PREPARED BY: RCM

DATE: 5-6/11/90

SIEVE AND SCREEN ANALYSIS

WET WEIGHT OF SAMPLE	GRAMS	DRY WEIGHT SAMPLE	GRAMS	
DRY WEIGHT OF SAMPLE	1005	FACTOR	.0993	
HYDROMETER MOIST	%	SIEVING TIME:	10 MINUTES	
SIEVE NUMBER	WEIGHT RET (GMS)	WEIGHT PASSING (GMS)	% TOTAL PASSING	
			PRACTICE DIAMETER (mm)	
10	12.46	992.54	99.54	2.0
20	31.36	961.18	95.43	0.84
40	42.81	918.37	91.18	0.42
60	19.29	900.08	89.36	0.25
140	52.66	847.42	84.14	0.105
200	41.40	806.02	80.02	0.074
PAN				
TOTAL				

TESTED BY: RCM

DATE: 8-9/11/90

COMPUTED BY: RCM

DATE: 9/11/90

CHECKED BY:

DATE:

HYDROMETER ANALYSIS

HYDROMETER NUMBER	DISPENSING AGENT:	SODIUM HEXAMETA PHOSPHATE						
GRADATION RANGE	AMOUNT:	(ML)	FACTOR:					
TIME	ELAPSED	TEMPERATURE	HYDROMETER					
START	FINISHED	TIME (MIN.)	TEMPERATURE					
			HYDROMETER					
			% TOTAL					
			PRACTICE					
			DIAM (mm)					
12/11/90	9:15	0.5	26.5	.0430	.00134	49.34	70.96	0.050
	9:19	4.0	26.5	.0255	.00134	26.84	42.95	0.019
	9:34	19.0	26.0	.0165	.00120	1770	28.33	0.009
	10:15	60.0	26	.0105	.00120	1170	18.72	0.005
	4:20	135.0	32	.006	.00240	890	14.24	0.002
12/11/90	11:00	1545.0	28	.0025	.00190	430	6.88	0.001
				TESTED BY: RCM				DATE: 12/11-11-90
				COMPUTED BY: RCM				DATE: 11/11/90



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SAMPLE PREPARATION, SIEVE AND HYDROMETER ANALYSIS FOR SOILS

20

PROJECT: SOURCE: LAYER NUMBER:
 STRUCTURE: PIT NUMBER: LAB. SAMPLE NO: CDS-520
 LOCATION: SAMPLE DEPTH:

SAMPLE PREPARATION

FRACTIONS:	MOISTURE CONTENT, %	WET WEIGHT OF SAMPLE, KGS.	DRY WEIGHT OF SAMPLE, KGS.	TOTAL WEIGHT, KGS.
PLUS NO. 4 MAT'LS			2.054	
MINUS NO. 4 MAT'LS			15.210	10.164
SIEVE SIZE	2" : 1 1/2"	1 : 3/4	3/8 : #4	
WET WT. OF PAN + MAT'LS				
WT. OF PAN			.559	.322
DRY WT. RETAINED	1.186 : .365	.251	15.632	15.310
WT. PASSING	17.028 : 16.663	16.412 : 16.191	86.06	84.29
TOTAL PASSING	93.75	91.74	90.35	89.14

PREPARED BY: DATE:
 SIEVE AND SCREEN ANALYSIS

WET WEIGHT OF SAMPLE	GRAMS	DRY WEIGHT SAMPLE	GRAMS		
1005		.00887			
HYDROMETER MOIST	%	SEIVING TIME:	MINUTES		
		15			
SIEVE NUMBER	WEIGHT RET (GMS)	WEIGHT PASSING (GMS)	TOTAL PASSING	PRACTICE DIAMETER (mm)	REMARKS:
10	22.41	982.59	82.41	2.0	
20	28.94	958.65	79.98	0.84	
40	53.06	920.59	77.21	0.42	
60	21.81	899.28	75.42	0.25	
140	192.96	706.32	59.24	0.105	
200	135.57	570.75	47.87	0.074	
PAN					
TOTAL					

TESTED BY: RCM DATE: 8-9/11/90
 COMPUTED BY: RCM DATE: 10/8/90
 CHECKED BY: S DATE:

HYDROMETER ANALYSIS

HYDROMETER NUMBER	GRADATION RANGE	DISPENSING AGENT: SODIUM HEXAMETAPHOSPHATE	AMOUNT: 125 (ML)	FACTOR:			
TIME	ELAPSED	TEMPERATURE	HYDROMETER	TEMPERATURE	HYDROMETER	TOTAL	PRACTICE
START	FINISHED	TIME (MIN.)	READING	CORRECTION	CORRECTION	PASSING	DIAM (mm)
9-11-90	9:03	0.5	27.5	.0445	-.00165	44.18	0.050
	9:07	1.0	27.5	.0315	-.00165	31.74	0.019
	9:22	17.0	27.5	.0210	-.00165	21.69	0.009
	10:03	60.0	29.5	.0150	-.00215	16.42	0.005
	4:18	133.0	31.0	.007	-.00260	9.19	0.002
10-11-90	10:48	154.0	27	.003	-.00120	4.02	0.001

TESTED BY: RCM DATE: 9-10-11-90
 COMPUTED BY: RCM DATE: 10-11-90
 DATE:



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SAMPLE PREPARATION, SIEVE AND HYDROMETER ANALYSIS FOR SOILS

22

PROJECT: _____ SOURCE: _____
 STRUCTURE: _____ PIT NUMBER: _____ LAYER NUMBER: _____
 LOCATION: _____ SAMPLE DEPTH: _____ LAB. SAMPLE NO: S-22

SAMPLE PREPARATION

FRACTIONS:	MOISTURE CONTENT, %	RET WEIGHT OF SAMPLE, KGS.	DRY WEIGHT OF SAMPLE, KGS.	TOTAL WEIGHT, KGS
PLUS NO. 4 MAT'LS			12.026	
MINUS NO. 4 MAT'LS			7.262	19.288
SIEVE SIZE	2" 1 1/2 1		3/4 3/8 +4	
WET WT. OF PAN + MAT'LS				
WT. OF PAN				
WT. RETAINED	4.073	2.542	2.061	1.093 1.833 .423
WT. PASSING	15.215	12.672	10.611	9.518 7.685 7.262
% TOTAL PASSING	79.88	65.70	55.01	49.35 89.84 87.65

PREPARED BY: _____ DATE: _____
 SIEVE AND SCREEN ANALYSIS

WET WEIGHT OF SAMPLE	GRAMS	DRY WEIGHT SAMPLE	GRAMS
1003		0.8754	
HYDROMETER MOIST			
SIEVE NUMBER	WEIGHT RET (GMS)	WEIGHT PASSING (GMS)	% TOTAL PASSING
10	71.31	931.49	34.96
20	96.99	834.50	31.32
40	199.80	635.20	23.84
60	107.82	527.88	19.82
140	21.83	316.55	11.88
200	108.62	207.93	7.80

TESTED BY: RCM DATE: 5-6/11/90
 COMPUTED BY: RCM DATE: 7/11/90
 CHECKED BY: _____ DATE: _____

HYDROMETER ANALYSIS

HYDROMETER NUMBER	GRADATION RANGE	DISPENSING AGENT: SODIUM HEXAMETAPHOSPHATE	AMOUNT: 125 (ML)	FACTOR:
08-11-90	9:00	0.5	27.5	.0425
	9:04	4.0	27.5	.0320
	9:19	19.0	27.5	.0215
	10:00	80.0	29.5	.0110
	4:15	435.0	31.0	.0065
09-11-90	10:45	1545.0	27.0	.0020

TESTE BY: RCM DATE: 08-09-11-90
 SAMPLE BY: RCM DATE: 09-11-90



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SAMPLE PREPARATION, SIEVE AND HYDROMETER ANALYSIS FOR SOILS

23

PROJECT: _____ SOURCE: _____ LAYER NUMBER: _____
 STRUCTURE: _____ PIT NUMBER: _____ LAB. SAMPLE NO: CDS-523
 LOCATION: _____ SAMPLE DEPTH: _____

SAMPLE PREPARATION

FRACTIONS:	MOISTURE CONTENT, %	WET WEIGHT OF SAMPLE, KGS.	DRY WEIGHT OF SAMPLE, KGS.	TOTAL WEIGHT, KGS
PLUS NO. 4 MAT'LS			.619	
MINUS NO. 4 MAT'LS			14.685	15.304
SIEVE SIZE	3/4	3/8	#4	
WET WT. OF PAN + MAT'LS				
WT. OF PAN				
WT. RETAINED	0.90	2.03	3.26	
WT. PASSING	15.214	15.011	14.685	
% TOTAL PASSING	99.41	98.08	95.96	

PREPARED BY: RCM DATE: 5-6/11/90

SIEVE AND SCREEN ANALYSIS

WET WEIGHT OF SAMPLE	GRAMS	DRY WEIGHT SAMPLE	GRAMS
1006			
HYDROMETER MOIST			
SIEVE NUMBER	WEIGHT RET (GMS)	WEIGHT PASSING (GMS)	REMARKS:
10	26.16	979.84	
20	188.62	791.22	
40	393.35	397.87	
60	159.95	237.92	
140	130.78	107.14	
200	32.30	74.84	
PAN			
TOTAL			

TESTED BY: RCM DATE: 8-9/11/90
 COMPUTED BY: RCM DATE: 9/11/90
 CHECKED BY: _____ DATE: _____

HYDROMETER ANALYSIS

HYDROMETER NUMBER	DISPENSING AGENT: <u>SODIUM HEXAMETA PHOSPHATE</u>
GRADATION RANGE	AMOUNT: <u>25</u> (ML) FACTOR: _____
TIME	TEMPERATURE
START	FINISHED
12/11/90	9:06
	9:10
	9:25
	10:06
	10:21
12/11/90	10:25

TESTED BY: RCM DATE: 12/11-11-90
 COMPUTED BY: RCM DATE: 12/11/90



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SAMPLE PREPARATION, SIEVE AND HYDROMETER ANALYSIS FOR SOILS

24

PROJECT: _____ SOURCE: _____
 STRUCTURE: _____ PIT NUMBER: _____ LAYER NUMBER: _____
 LOCATION: _____ SAMPLE DEPTH: _____ LAB. SAMPLE ID: CDS-524

SAMPLE PREPARATION

FRACTIONS:	MOISTURE CONTENT, %		WET WEIGHT OF SAMPLE, KGS.		DRY WEIGHT OF SAMPLE, GSS.	TOTAL WEIGHT, KGS
PLUS NO. 4 MAT'LS					16.682	
MINUS NO. 4 MAT'LS					3.318	20.000
SIEVE SIZE	1/2	1	3/4	3/8	+4	
NET WT. OF PAN + MAT'LS						
WT. OF PAN						
DRY WT. RETAINED	.532	1.952	2.462	7.222	4.514	
WT. PASSING	19.468	17.516	13.654	7.832	3.318	
% TOTAL PASSING	97.04	87.58	75.27	39.16	16.59	

PREPARED BY: _____ DATE: _____
 SIEVE AND SCREEN ANALYSIS

WET WEIGHT OF SAMPLE		GRAMS	DRY WEIGHT SAMPLE		GRAMS
DRY WEIGHT OF SAMPLE		1004	FACTOR		.01652
HYDROMETER MOIST		%	SEIVING TIME:		10
SIEVE NUMBER	WEIGHT RET (GMS)	WEIGHT PASSING (GMS)	% TOTAL PASSING	PRACTICE DIAMETER (mm)	REMARKS:
10	500.69	503.31	0.22	2.0	
20	152.70	350.61	5.79	0.84	
40	111.84	238.77	3.94	0.42	
60	81.52	157.25	2.60	0.25	
140	83.33	73.92	1.22	0.105	
200	23.09	50.83	.84	0.074	
PAN					
TOTAL					

TESTED BY: RCM DATE: 5-6/11/40.
 COMPUTED BY: RCM DATE: 8/11/40
 CHECKED BY: _____ DATE: _____

HYDROMETER ANALYSIS

HYDROMETER NUMBER		DISPENSING AGENT:			FACTOR:		
GRADATION RANGE		AMOUNT:	(ML)	HYDROMETER	TEMPERATURE	HYDROMETER	% TOTAL
START	FINISHED	TEMPERATURE	TEMPERATURE	READINGS	CORRECTION	CORRECTION	PASSING
		ELAPSED TIME (MIN.)	HYDROMETER				PRACTICE DIAM. (mm)
		0.5					0.050
		4.0					0.019
		19.0					0.009
		60.0					0.005
		135.0					0.002
		1545.0					0.001

TESTED BY: _____ DATE: _____
 COMPUTED BY: _____ DATE: _____



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SAMPLE PREPARATION, SIEVE AND HYDROMETER ANALYSIS FOR SOILS

25

PROJECT: _____ SOURCE: _____
 STRUCTURE: _____ PIT NUMBER: _____ LAYER NUMBER: _____
 LOCATION: _____ SAMPLE DEPTH: _____ LAB. SAMPLE NO: ODS - 525

SAMPLE PREPARATION

FRACTIONS:	MOISTURE CONTENT, %	WET WEIGHT OF SAMPLE, KGS.		DRY WEIGHT OF SAMPLE, KGS.		TOTAL WEIGHT, KGS
PLUS NO. 4 MAT'LS				9.892		
MINUS NO. 4 MAT'LS				12.112		22.004
SIEVE SIZE:	2" 1 1/2"	1	3/4	3/8	+4	
WET WT. OF PAN + MAT'LS						
WT. OF PAN						
WT. RETAINED	.482	2.220	1.870	1.788	2.008	2.058
WT. PASSING	21.572	19.344	17.966	16.178	14.170	12.112
% TOTAL PASSING	98.04	87.91	81.65	75.82	64.40	55.04

PREPARED BY:

DATE: 30-31/10/90

SIEVE AND SCREEN ANALYSIS

WET WEIGHT OF SAMPLE	GRAMS	DRY WEIGHT SAMPLE	GRAMS		
DRY WEIGHT OF SAMPLE	1008	FACTOR	.0546		
HYDROMETER MOIST	%	SETTLING TIME:	10 MINUTES		
SIEVE NUMBER	WEIGHT RET (GMS)	WEIGHT PASSING (GMS)	% TOTAL PASSING	PRACTICE DIAMETER (mm)	REMARKS:
10	154.52	858.48	46.60	2.0	
20	174.58	838.90	37.07	0.84	
40	126.30	882.60	30.17	0.42	
60	67.73	940.87	26.48	0.25	
140	161.88	846.99	17.64	0.105	
200	77.18	930.81	13.42	0.074	
PAN					
TOTAL					

TESTED BY: RCM

DATE: 5-6/11/90

COMPUTED BY: RCM

DATE: 7/11/90

CHECKED BY:

DATE:

HYDROMETER ANALYSIS

HYDROMETER NUMBER	DISPENSING AGENT: SODIUM HEXAMETAPHOSPHATE							
GRADATION RANGE	AMOUNT: 125 (ML)		FACTOR:					
TIME	ELAPSED	TEMPERATURE	HYDROMETER	TEMPERATURE	HYDROMETER	% TOTAL	PRACTICE	
START	FINISHED	TIME (MIN.)	READING	CORRECTION	CORRECTION	PASSING	DIAM (mm)	
4/11/90	9:15	0.5	26	.0405	.00120	.04170	11.19	0.050
	9:19	4.0	26	.0185	.00120	.02970	7.97	0.019
	9:34	19.0	26	.0165	.00120	.01770	4.75	0.009
	10:15	60.0	26.3	.0105	.00120	.01170	3.16	0.005
	4:30	435.0	29	.0065	.00200	.00850	2.28	0.002
15/11/90	11:00	1345.0	29	.0025	.00180	.00430	1.15	0.001

TESTED BY: RCM

DATE: 14-15/11/90

COMPUTED BY: RCM

DATE: 15/11/90

CHECKER BY:

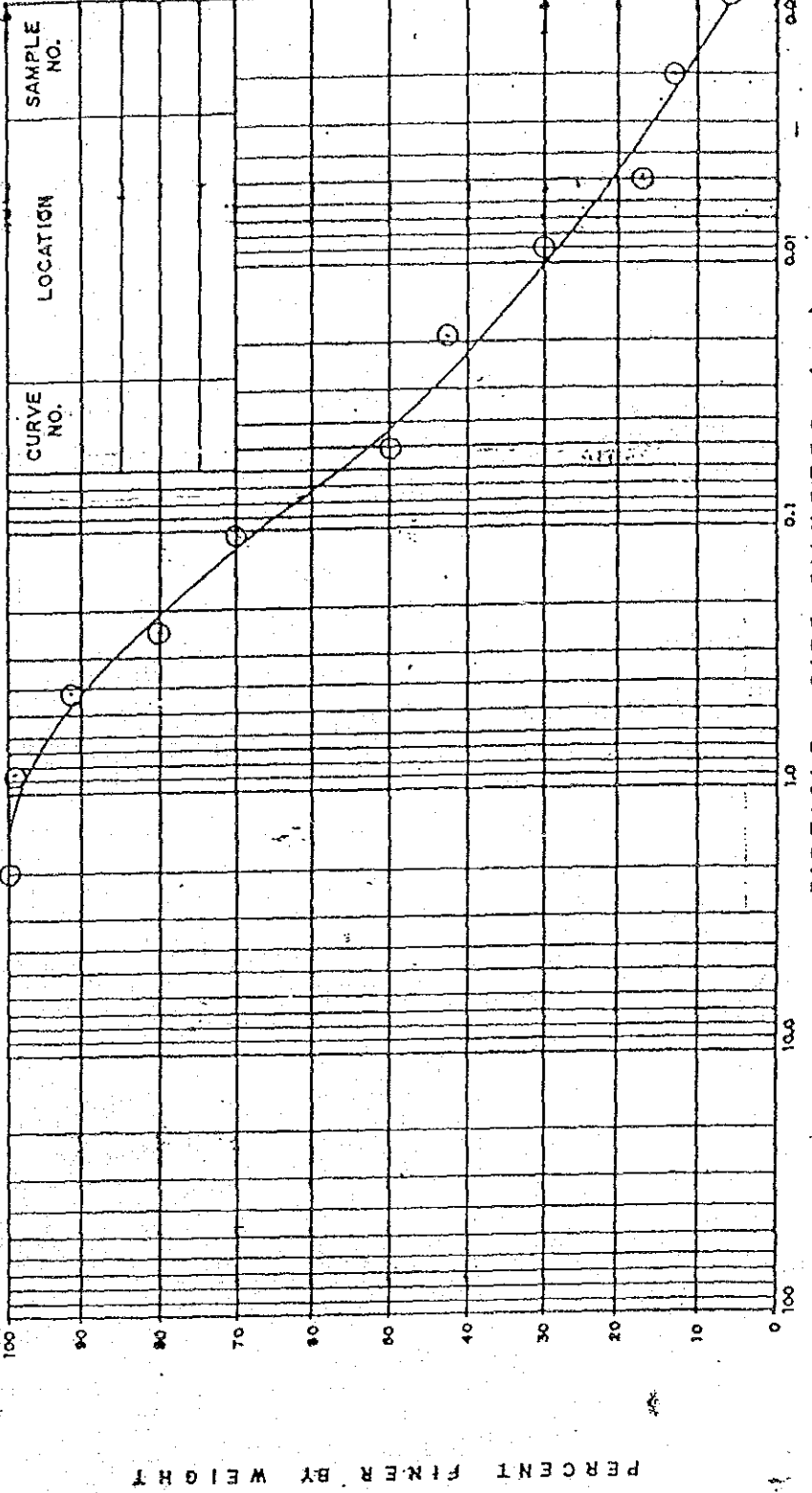
DATE:

II-2. Particle Size Distribution Curve

PARTICLE - SIZE DISTRIBUTION CURVE

PROJECT _____ DATE 15-11-90
 SAMPLE NO. CDS-52 DEPTH _____ LOCATION _____
 MOISTURE CONTENT _____ SP. GR., Gs. _____ TECHNICIAN RC MUNSAYAC

(NO.)	3"	2"	1 1/2"	1"	3/4"	3/8"	#4	#10	#20	#40	#60	#100	#150	#200
SIEVE														
SIZE (mm.)	76.2	50.8	25.4	19.1	9.52	4.76	2.0	.84	.42	.25	.149	.106	.074	

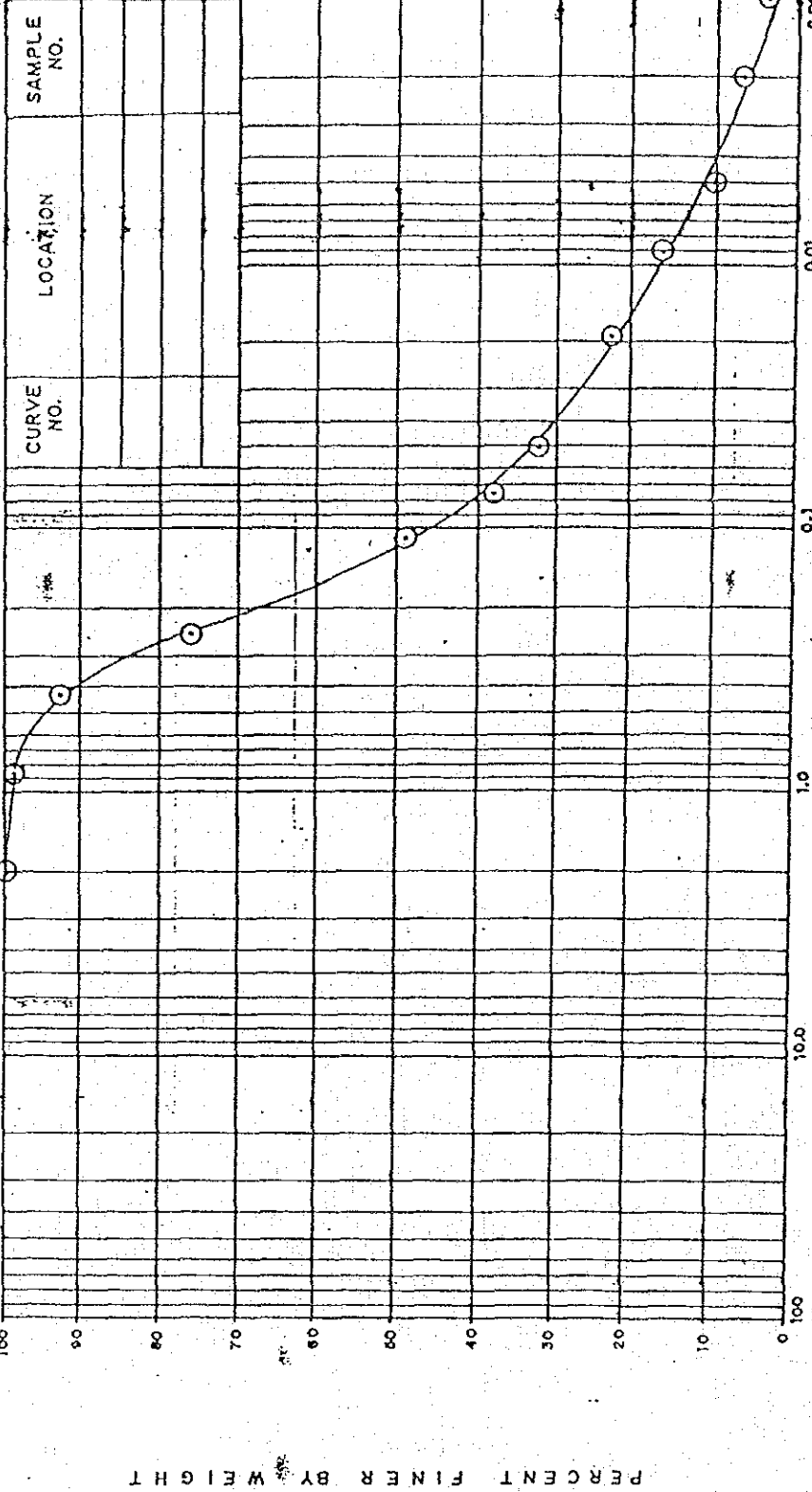


PARTICLE - SIZE DIAMETER (mm.)			
U.S.C.S.	COARSE SAND	MEDIUM SAND	FINE SAND (SILT OR CLAY)
COBBLES	GRAVEL	SILT	CLAY

PARTICLE - SIZE DISTRIBUTION CURVE

PROJECT _____ DATE 12-11-90
 SAMPLE NO. CDS-53 DEPTH _____ LOCATION _____
 MOISTURE CONTENT _____ SP. GR., Gs. _____ TECHNICIAN RC MUNGAYAC

(NO.)	3"	2"	1 1/2"	1"	3/4"	3/8"	#4	#10	#20	#40	#60	#100	#140	#200
SIEVE														
(mm.)	76.2	50.8	38.1	25.4	19.1	9.53	4.76	2.0	.84	.42	.25	.149	.106	.074



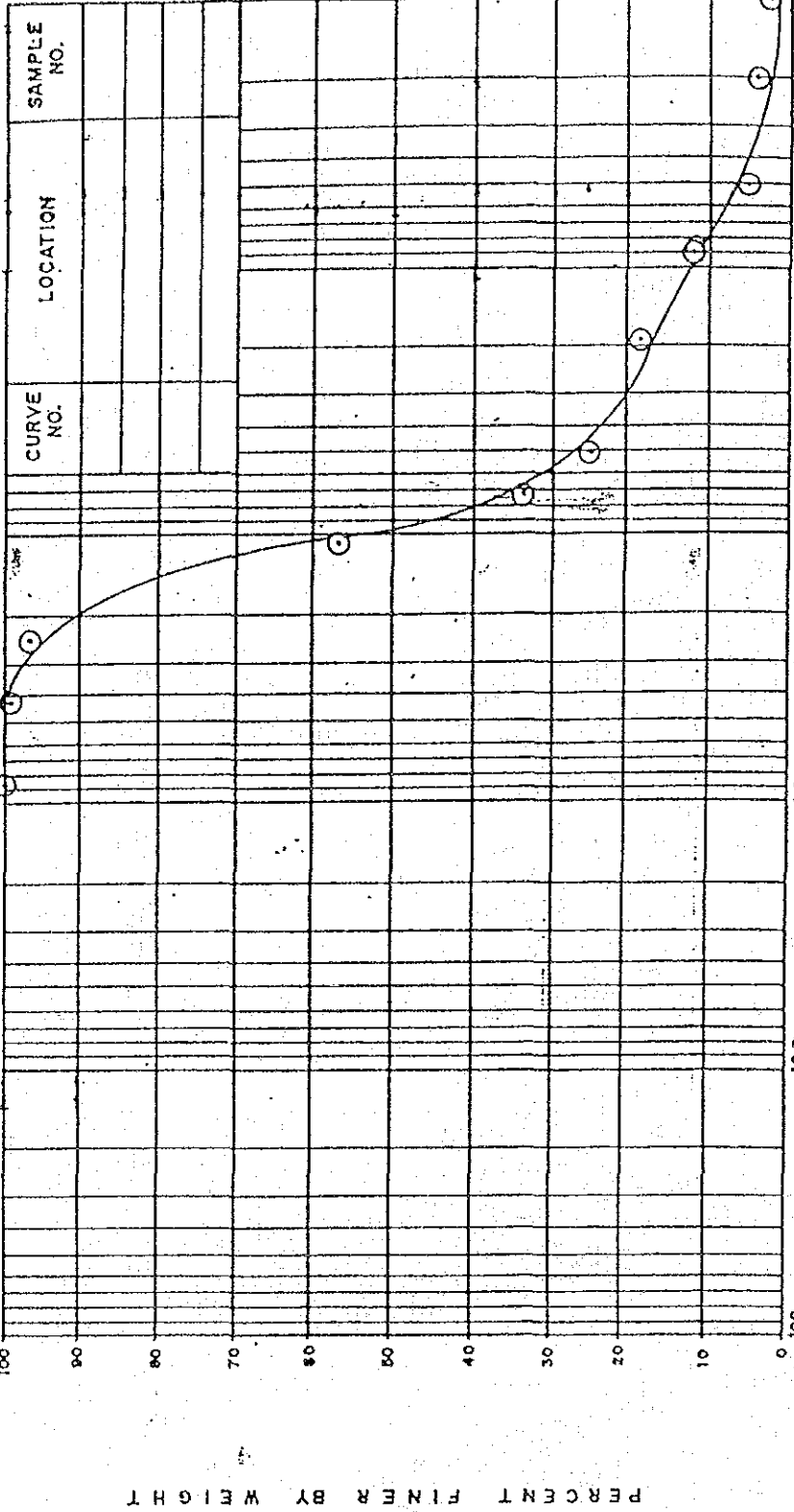
U.S. C.S.		COARSE SAND		MEDIUM SAND		FINE SAND		SILT		CLAY	
COBBLES		COARSE		COARSE		COARSE		FINE		FINE	
		G R A V E L		G R A V E L		G R A V E L		S I L T		S I L T	

PARTICLE - SIZE DISTRIBUTION CURVE

PROJECT _____ DATE 12-11-90
 SAMPLE NO. CDS-5 DEPTH _____ LOCATION _____
 MOISTURE CONTENT _____ SP. GR., G_s _____ TECHNICIAN RCM

(NO.)	3"	2"	1 1/2"	1"	3/4"	3/8"	#4	#10	#20	#40	#60	#100	#140	#200
SIEVE														
(mm.)	76.2	50.8	25.4	19.1	9.52	4.76	2.0	84	42	25	106	107		

HYDROMETER

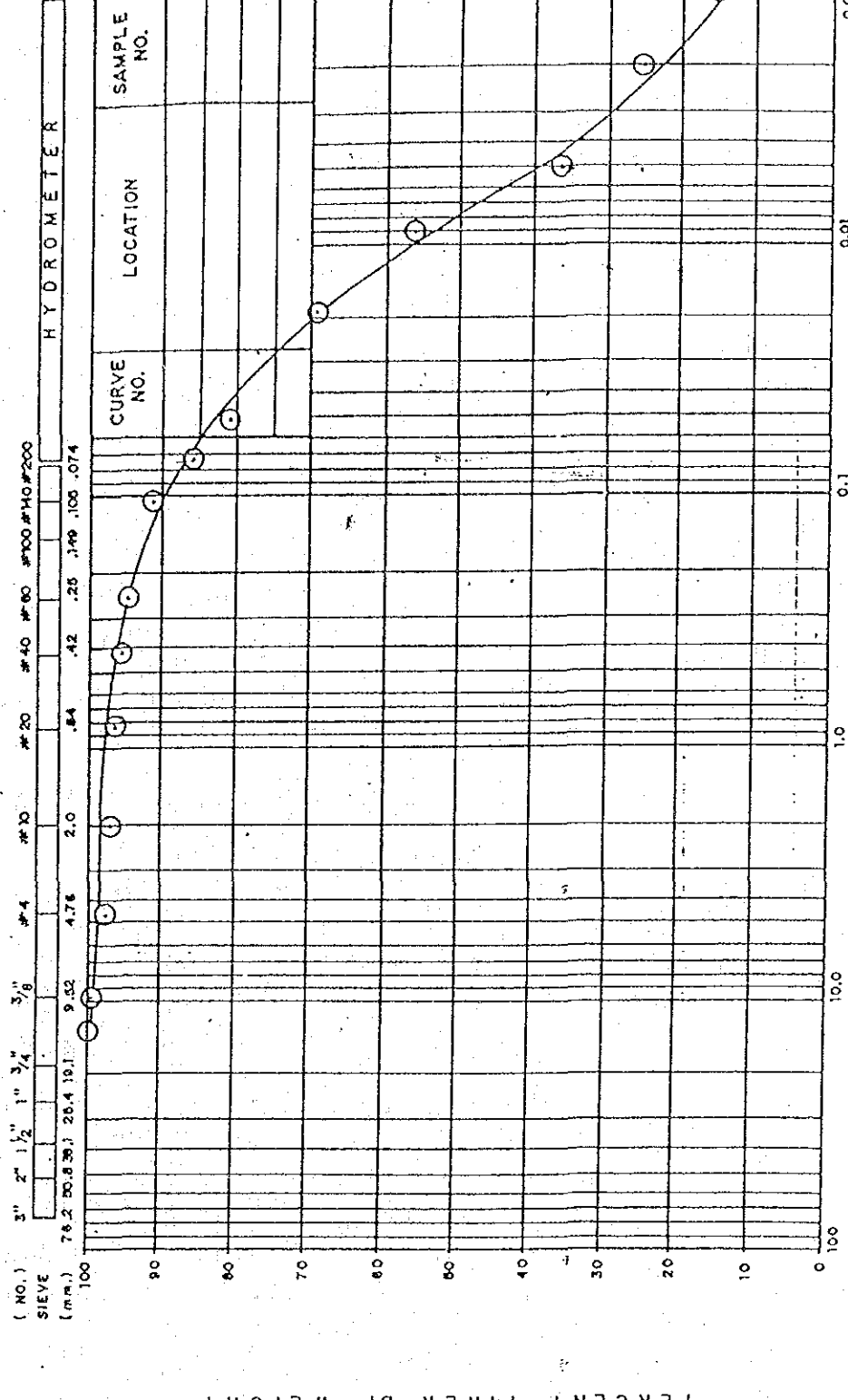


PERCENT FINER BY WEIGHT

PARTICLE - SIZE DIAMETER (mm.)			
U S C S	COARSE	FINE	FINE
COBBLES	GRAVEL	SAND	
		COARSE	FINE
A S T M	GRAVEL	SAND	
		COARSE	FINE
		SILT	CLAY

PARTICLE - SIZE DISTRIBUTION CURVE

PROJECT _____ DATE 12-11-90
 SAMPLE NO. CDS-8 DEPTH _____ LOCATION _____
 MOISTURE CONTENT _____ SP. GR., G.S. _____ TECHNICIAN RCM



PARTICLE - SIZE DISTRIBUTION CURVE (mm.)	
U.S.C.S. COARSE GRAVEL	MEDIUM SAND
COBBLES	FINE SAND
ASTM	FINE SILT (SILT OR CLAY)
	CLAY

PARTICLE - SIZE DISTRIBUTION CURVE

PROJECT _____ DATE 17-11-90
 SAMPLE NO. CDS-59 DEPTH _____ LOCATION _____
 MOISTURE CONTENT _____ SP. GR. 2.65 TECHNICIAN RCM

HYDROMETER

(NO.) SIEVE (mm.)	3"	2"	1 1/2"	1"	3/4"	3/8"	#4	#10	#20	#40	#60	#100	#150	#200	CURVE NO.	LOCATION	SAMPLE NO.
	76.2	50.8	25.4	19.1	9.52	4.76	2.0	.84	.42	.25	.15	.106	.074				

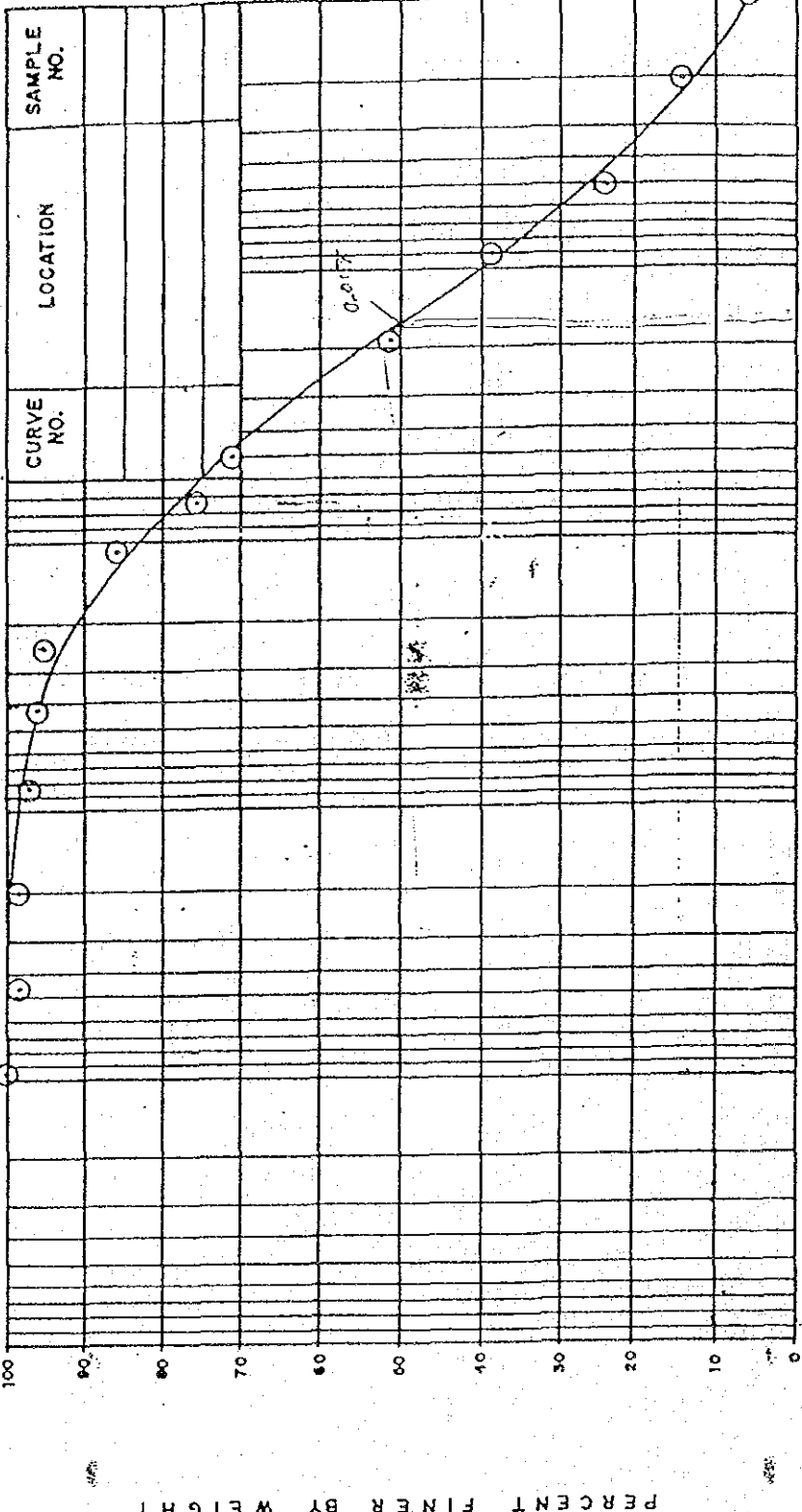
PERCENT FINER BY WEIGHT

U.S.C.S.				PARTICLE - SIZE DIAMETER (mm.)			
COARSE	COARSE	FINE	FINE	COARSE	MEDIUM	COARSE	FINE
COBBLES	GRAVEL	GRAVEL	SAND	COARSE SAND	SAND	SILT	CLAY

PARTICLE - SIZE DISTRIBUTION CURVE

PROJECT _____ DATE 20-11-90
 SAMPLE NO. CDS-511 DEPTH _____ LOCATION _____
 MOISTURE CONTENT _____ SP. GR., Gs. _____ TECHNICIAN RCM

(NO.)	3"	2'	1 1/2'	1"	3/4"	3/8"	#4	#10	#20	#40	#60	#100	#200
SIEVE													
(mm.)	76.2	50.8	38.1	25.4	19.1	9.52	4.76	2.0	.84	.42	.25	.149	.074

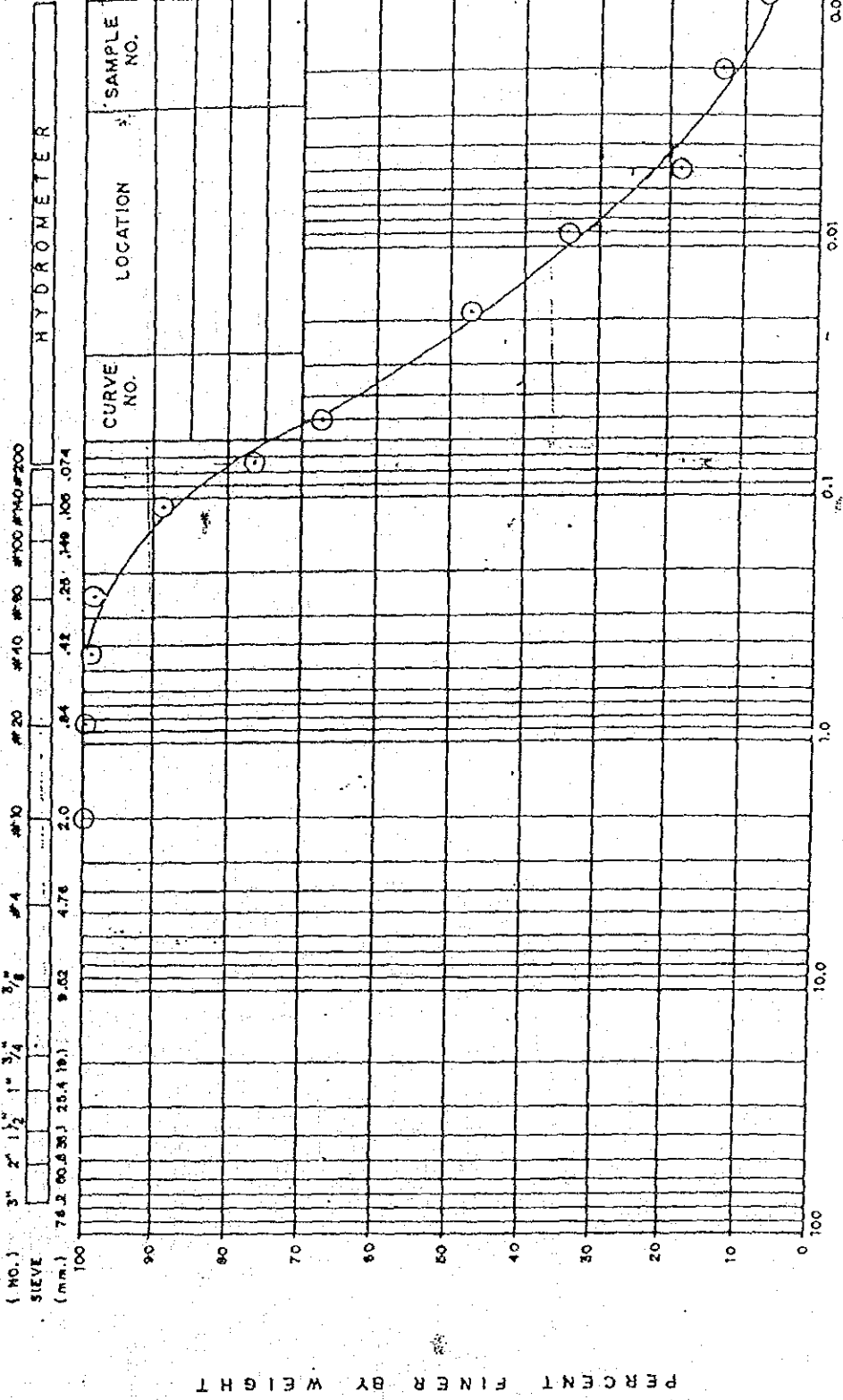


U S C S		G R A V E L		S A N D		S I L T		C L A Y	
COARSE	FINE	COARSE	FINE	COARSE	FINE	COARSE	FINE	COARSE	FINE

PERCENT FINER BY WEIGHT

PARTICLE - SIZE DISTRIBUTION CURVE

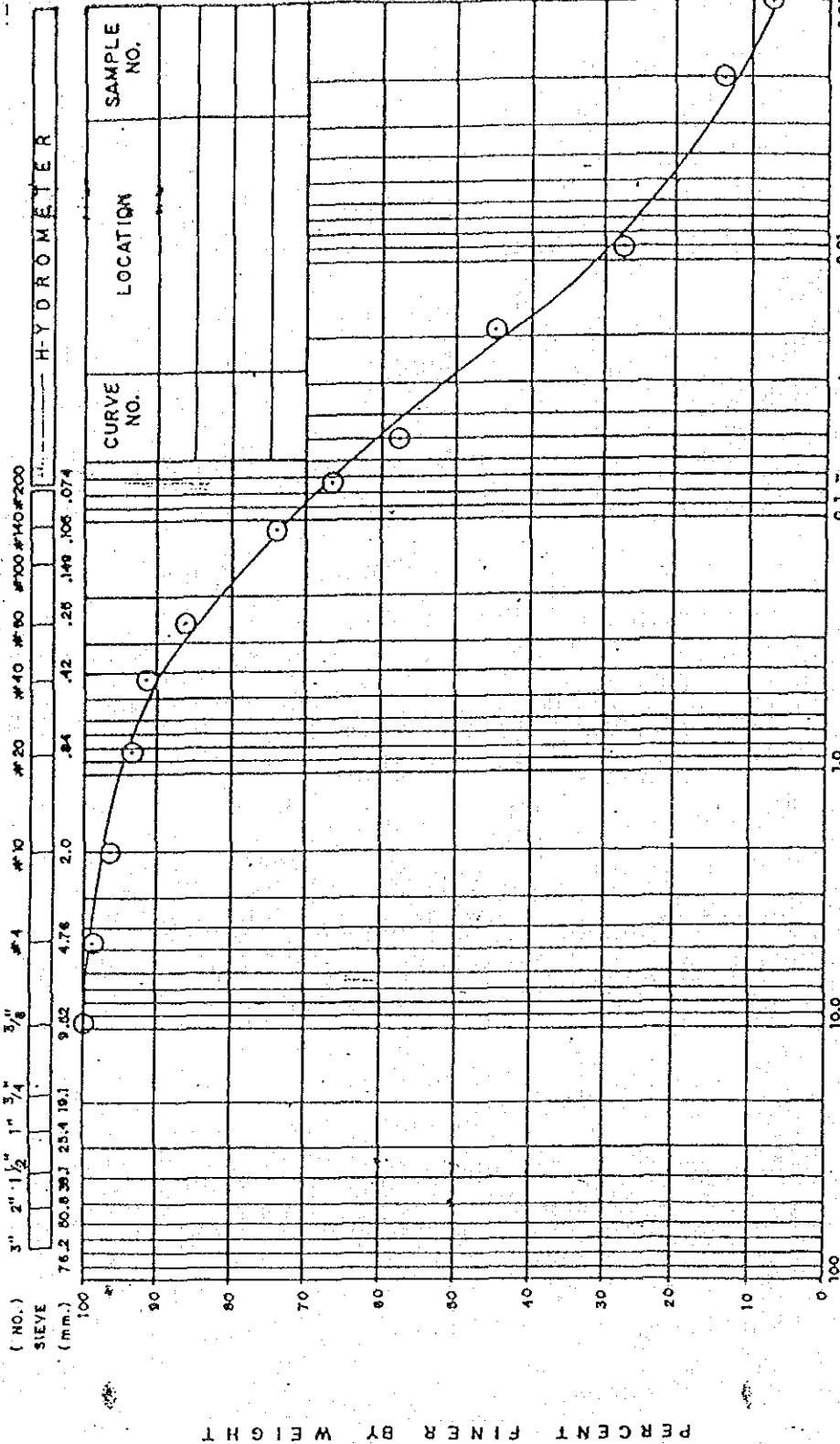
PROJECT _____ DATE 207 11 - 90
 SAMPLE NO. CDS - 512 DEPTH _____ LOCATION _____
 MOISTURE CONTENT _____ SP. GR. 0.9 TECHNICIAN RCM



U S C S		MEDIUM SAND		FINE (SILT OR CLAY)	
COARSE	FINE	COARSE	FINE	SILT	CLAY
COBBLES	GRAVEL	COARSE SAND	FINE SAND	SILT	CLAY
A S T M	GRAVEL	SAND	SAND	SILT	CLAY

PARTICLE - SIZE DISTRIBUTION CURVE

PROJECT _____ DATE 16-11-90
 SAMPLE NO. CDS-515 DEPTH _____ LOCATION _____
 MOISTURE CONTENT _____ SP. GR., G_s _____ TECHNICIAN RCM

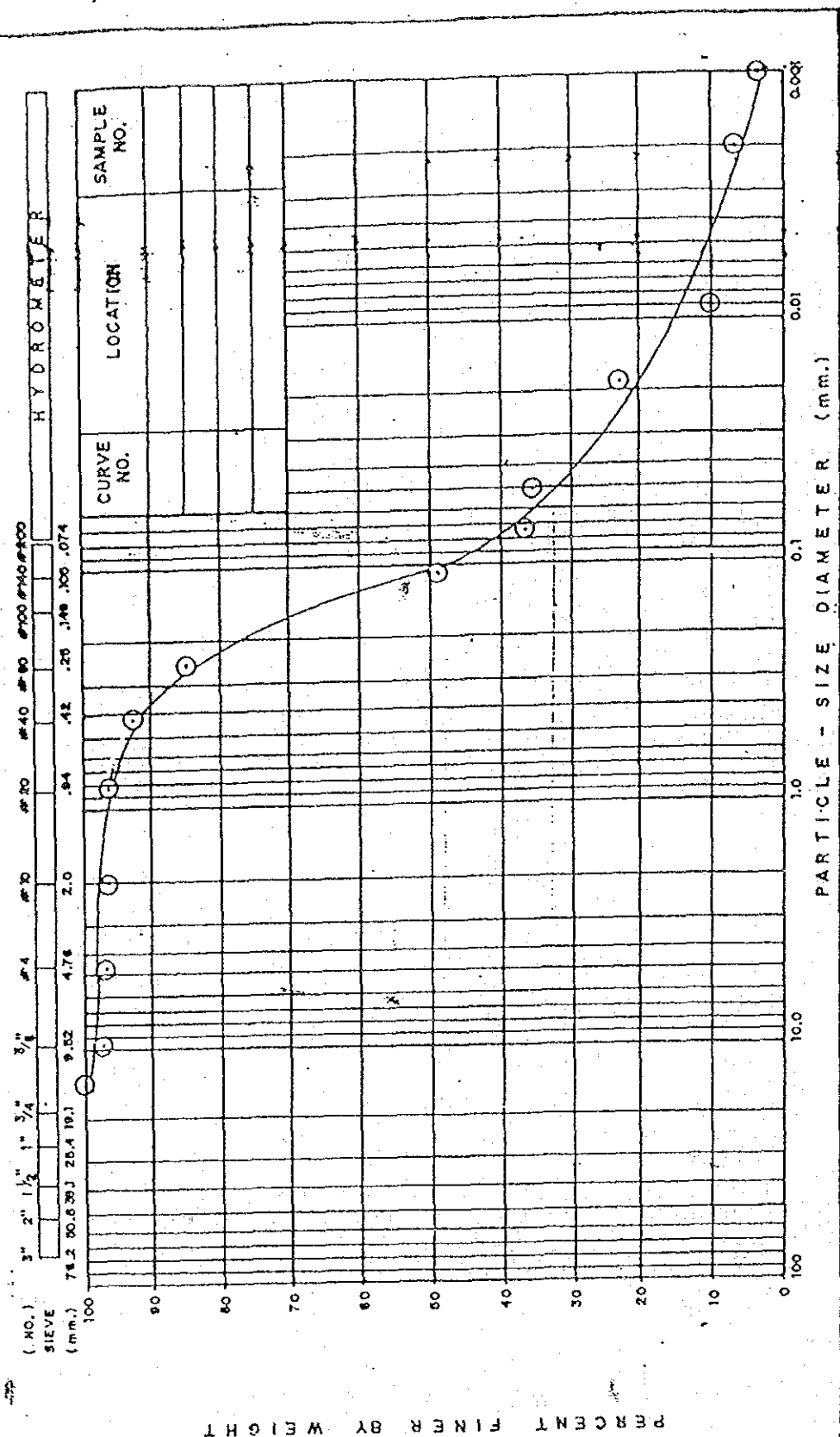


PARTICLE - SIZE DIAMETER (mm.)	
100	0.075
10	0.01
1	0.1
0.1	1.0
0.01	10.0
0.001	100

U S C S	COARSE	FINE	FINE
COBBLES	GRAVEL	SAND	(SILT OR CLAY)
A S T M	GRAVEL	SAND	SILT CLAY

PARTICLE - SIZE DISTRIBUTION CURVE

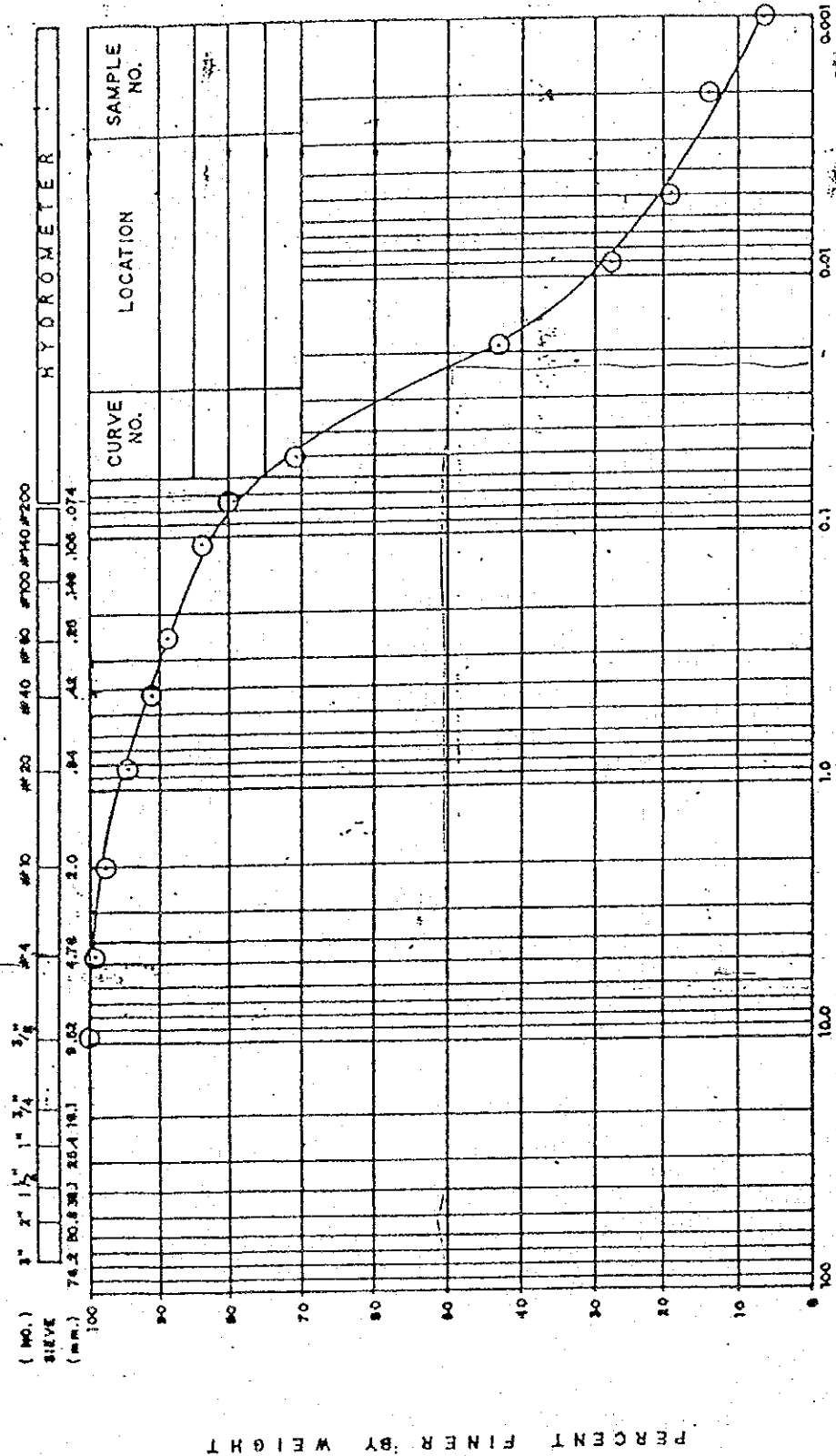
PROJECT _____ DATE 20-11-90
 SAMPLE NO. CDS-517 DEPTH _____ LOCATION _____
 MOISTURE CONTENT _____ SP. GR., Gs. _____ TECHNICIAN RCM



U.S.C.S.				A.S.T.M.			
COBBLES	GRAVEL	SAND	FINE	COARSE SAND	FINE	SILT	CLAY
0	0	0	0	0	0	0	0

PARTICLE - SIZE DISTRIBUTION CURVE

PROJECT _____ DATE 14-11-96
 SAMPLE NO. CDS-519 DEPTH _____ LOCATION _____
 MOISTURE CONTENT _____ SP. GR., G.S. _____ TECHNICIAN RCM

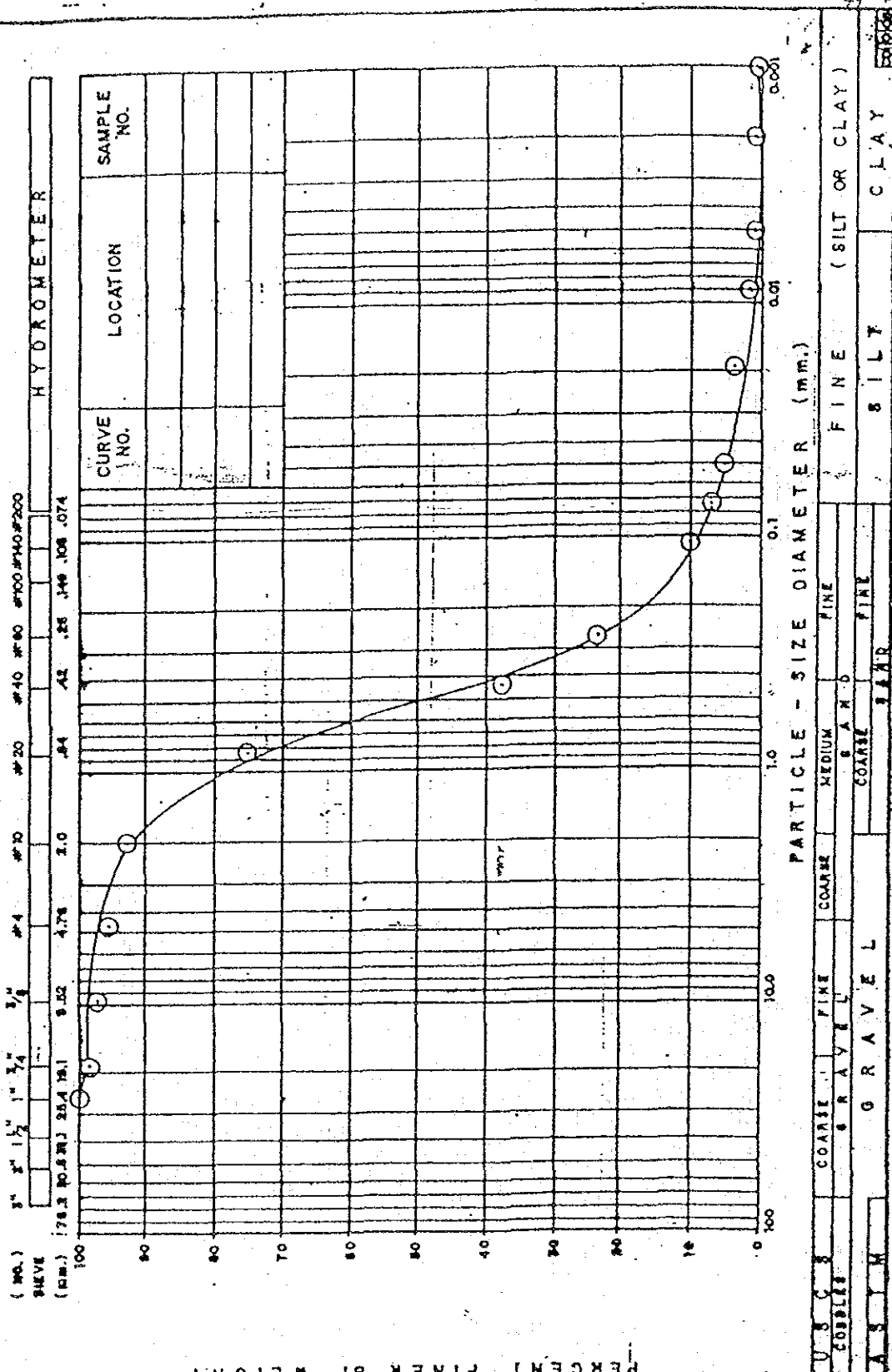


GRAVEL		SAND			FINE (SILT OR CLAY)	
COARSE	COARSE	MEDIUM	FINE	COARSE	SILT	CLAY
0	0	0	0	0	0	0

PERCENT FINER BY WEIGHT

PARTICLE - SIZE DISTRIBUTION CURVE

PROJECT _____ DATE 12-11-90
 SAMPLE NO. CDS-523 DEPTH _____ LOCATION _____
 MOISTURE CONTENT _____ SP. GR.: Gs. TECHNICIAN RCM

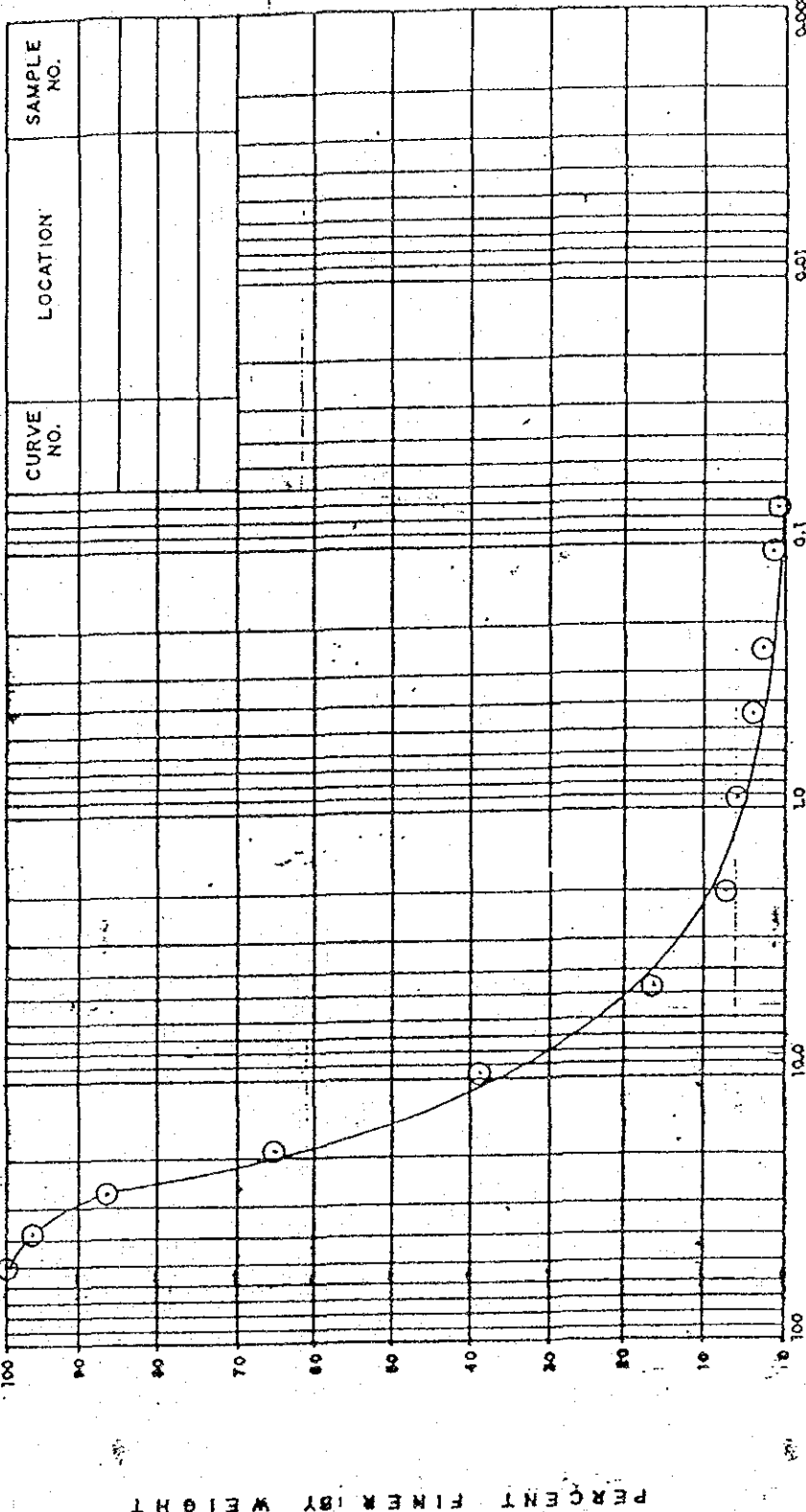


PARTICLE - SIZE DISTRIBUTION CURVE

PROJECT _____ DATE 08-11-90
 SAMPLE NO. CDS - 524 DEPTH _____ LOCATION _____
 MOISTURE CONTENT _____ SP. GR.; Gs. _____ TECHNICIAN RCM

(No.)	1"	2"	1 1/2"	1"	3/4"	3/8"	#4	#10	#20	#40	#60	#100	#200
SIEVE													
(mm.)	25.4	50.8	38.1	25.4	19.0	9.52	4.75	2.0	.84	.42	.25	.150	.075

HYDROMETER

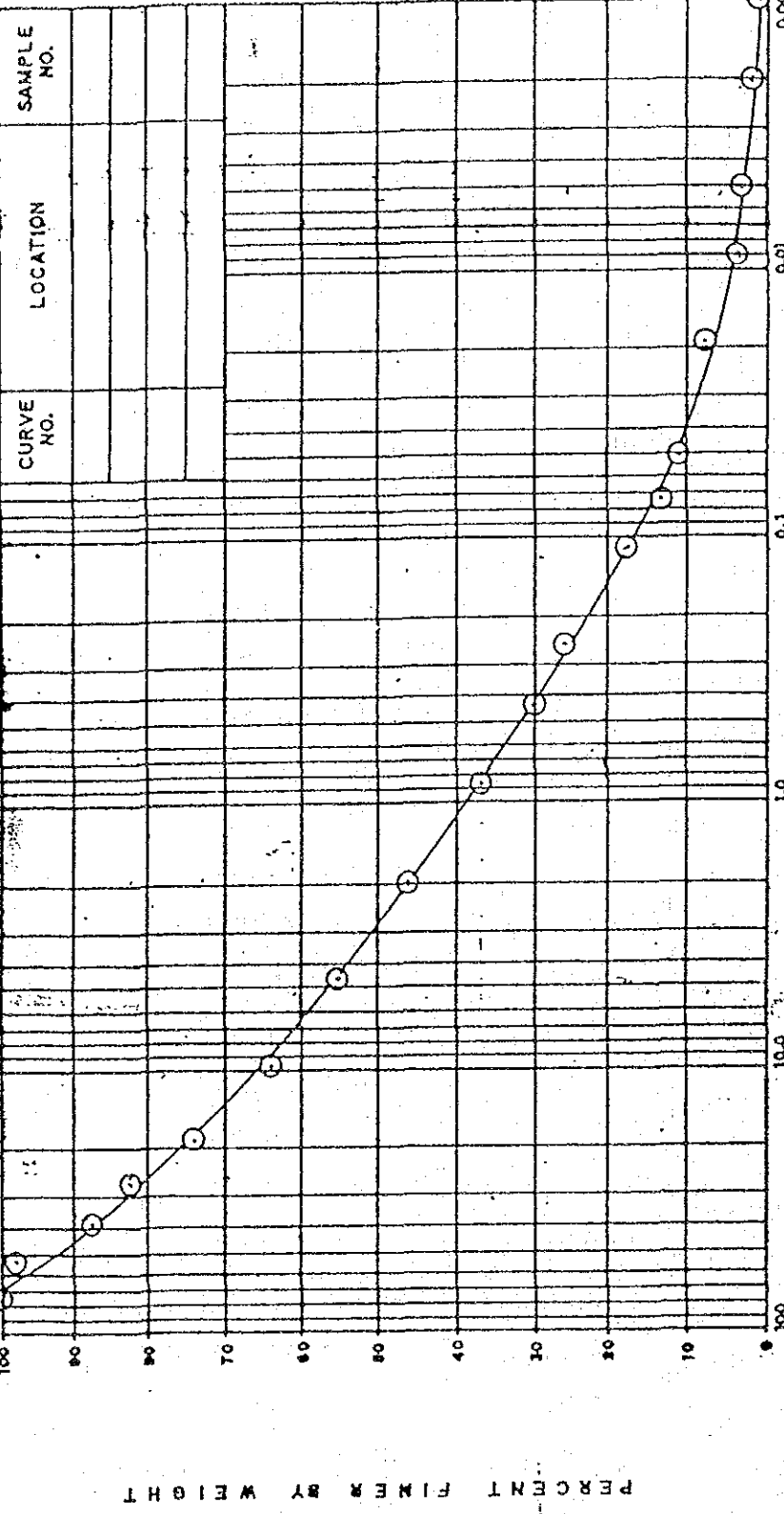


PARTICLE - SIZE DISTRIBUTION CURVE (MM.)			
COARSE SAND	MEDIUM SAND	FINE SAND	FINE SILT OR CLAY
GRAVEL	COARSE SAND	FINE SAND	SILT
GRAVEL	COARSE SAND	FINE SAND	CLAY

PARTICLE - SIZE DISTRIBUTION CURVE

PROJECT _____ DATE 15-11-90
 SAMPLE NO. CDS-S-251 DEPTH _____ LOCATION _____
 MOISTURE CONTENT _____ SP. GR., Gs. _____ TECHNICIAN RCM

(NO.) 3" 2" 1 1/2" 1" 3/4" 5/8" 3/8" #4 #10 #20 #40 #60 #100 #200
 SIEVE (mm.) 76.2 60.0 50.0 37.5 30.0 25.0 20.0 15.0 12.5 10.0 7.5 5.0 2.0
 HYDROMETER _____



PARTICLE - SIZE DISTRIBUTION CURVE	
GRAVEL	FINE (SILT OR CLAY)
COARSE SAND	SILT
MEDIUM SAND	CLAY
FINE SAND	
100	100
90	90
80	80
70	70
60	60
50	50
40	40
30	30
20	20
10	10
0	0

II-3. Specific Gravity Test +9.52 mm Materials



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SPECIFIC GRAVITY & ABSORPTION OF AGGREGATES

PROJECT : _____ 53
 LOCATION : _____
 SAMPLE DESCRIPTION : _____
 SOURCE : _____ SAMPLE NO. : CD5-510
 TESTED BY : LLM DATE TESTED : 03-11-90

A. WT. IN AIR OF SATURATED SURFACE DRY AGGREGATE	5096	grams
B. WT. OF OVEN DRY AGGREGATE		grams
C. WT. IN WATER OF SATURATED ^{SUBMERGED} DRY AGGREGATE (FOR COURSE AGGREGATE)	3105	grams
D. WT. OF PYCNOMETER AND WATER (FOR FINE AGGREGATE)		grams
E. WT. OF PYCNOMETER, FINE AGGREGATE AND WATER		grams
F. ABSORPTION	$\frac{A - B}{B} \times 100$	
G. BULK SP. GR. (SAT. SURFACE DRY BASIS)	FOR C.A. = $\frac{A}{A - C} = 2.56$	
	FOR F.A. = $\frac{A}{A + D - E}$	
H. BULK SP. GR. (DRY BASIS)	FOR C.A. = $\frac{B}{A - C}$	
	FOR F.A. = $\frac{B}{B + D - E}$	
I. APPARENT SP. GR.	FOR C.A. = $\frac{B}{B - C}$	
	FOR F.A. = $\frac{B}{B + D - E}$	
REMARKS :		



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SPECIFIC GRAVITY & ABSORPTION OF AGGREGATES

PROJECT : _____ 54
 LOCATION : _____
 SAMPLE DESCRIPTION : _____
 SOURCE : _____ SAMPLE NO. : CDS - 520
 TESTED BY : LLM DATE TESTED : 8-11-90

A. WT. IN AIR OF SATURATED SURFACE DRY AGGREGATE	5123	grams
B. WT. OF OVEN DRY AGGREGATE		grams
C. WT. IN WATER OF SATURATED DRY AGGREGATE (FOR COURSE AGGREGATE)	2130	grams
D. WT. OF PYCNOMETER AND WATER (FOR FINE AGGREGATE)		grams
E. WT. OF PYCNOMETER, FINE AGGREGATE AND WATER		grams
F. ABSORPTION	$\frac{A - B}{B} \times 100$	
G. BULK SP. GR. (SAT. SURFACE DRY BASIS)	FOR C.A. = $\frac{A}{A - C} = 2.57$	
	FOR F.A. = $\frac{A}{A + D - E}$	
H. BULK SP. GR. (DRY BASIS)	FOR C.A. = $\frac{B}{A - C}$	
	FOR F.A. = $\frac{B}{B + D - E}$	
I. APPARENT SP. GR.	FOR C.A. = $\frac{B}{B - C}$	
	FOR F.A. = $\frac{B}{B + D - E}$	
REMARKS :		



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SPECIFIC GRAVITY & ABSORPTION OF AGGREGATES

PROJECT : _____ 55
LOCATION : _____
SAMPLE DESCRIPTION : _____
SOURCE : _____ SAMPLE NO. : CDS-521
TESTED BY : LLM DATE TESTED : 8-11-90

A. WT. IN AIR OF SATURATED SURFACE DRY AGGREGATE	5136	grams
B. WT. OF OVEN DRY AGGREGATE		grams
C. WT. IN WATER OF SATURATED DRY AGGREGATE (FOR COURSE AGGREGATE)	3145	grams
D. WT. OF PYCNOMETER AND WATER (FOR FINE AGGREGATE)		grams
E. WT. OF PYCNOMETER, FINE AGGREGATE AND WATER		grams
F. ABSORPTION	$\frac{A - B}{B} \times 100$	
G. BULK SP. GR. (SAT. SURFACE DRY BASIS)	FOR C.A. = $\frac{A}{A - C} = 2.58$	
	FOR F.A. = $\frac{A}{A + D - E}$	
H. BULK SP. GR. (DRY BASIS)	FOR C.A. = $\frac{B}{A - C}$	
	FOR F.A. = $\frac{B}{B + D - E}$	
I. APPARENT SP. GR.	FOR C.A. = $\frac{B}{B - C}$	
	FOR F.A. = $\frac{B}{B + D - E}$	
REMARKS :		



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SPECIFIC GRAVITY & ABSORPTION OF AGGREGATES

56

PROJECT : _____
LOCATION : _____
SAMPLE DESCRIPTION : _____
SOURCE : _____ SAMPLE NO. : CDS-522
TESTED BY : LLM DATE TESTED : 8-11-90

A. WT. IN AIR OF SATURATED SURFACE DRY AGGREGATE	5096	grams
B. WT. OF OVEN DRY AGGREGATE		grams
C. WT. IN WATER OF SATURATED SURFACE DRY AGGREGATE (FOR COURSE AGGREGATE)	3121	grams
D. WT. OF PYCNOMETER AND WATER (FOR FINE AGGREGATE)		grams
E. WT. OF PYCNOMETER, FINE AGGREGATE AND WATER.		grams
F. ABSORPTION	$\frac{A - B}{B} \times 100$	
G. BULK SP. GR. (SAT. SURFACE DRY BASIS)	FOR C.A. = $\frac{A}{A - C} = 2.58$	
	FOR F.A. = $\frac{A}{A + D - E}$	
H. BULK SP. GR. (DRY BASIS)	FOR C.A. = $\frac{B}{A - C}$	
	FOR F.A. = $\frac{B}{B + D - E}$	
I. APPARENT SP. GR.	FOR C.A. = $\frac{B}{B - C}$	
	FOR F.A. = $\frac{B}{B + D - E}$	
REMARKS :		



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SPECIFIC GRAVITY & ABSORPTION OF AGGREGATES

PROJECT : _____ 57
LOCATION : _____
SAMPLE DESCRIPTION : _____
SOURCE : _____ SAMPLE NO. : CDS - 523
TESTED BY : LLM DATE TESTED : 8-11-90

A. WT. IN AIR OF SATURATED SURFACE DRY AGGREGATE	2008	grams
B. WT. OF OVEN DRY AGGREGATE		grams
C. WT. IN WATER OF SATURATED ^{SURFACE} DRY AGGREGATE (FOR COURSE AGGREGATE)	1250	grams
D. WT. OF PYCNOMETER AND WATER (FOR FINE AGGREGATE)		grams
E. WT. OF PYCNOMETER, FINE AGGREGATE AND WATER		grams
F. ABSORPTION	$\frac{A - B}{B} \times 100$	
G. BULK SP. GR. (SAT. SURFACE DRY BASIS)	FOR C.A. = $\frac{A}{A - C} = 2.65$	
	FOR F.A. = $\frac{A}{A + D - E}$	
H. BULK SP. GR. (DRY BASIS)	FOR C.A. = $\frac{B}{A - C}$	
	FOR F.A. = $\frac{B}{B + D - E}$	
I. APPARENT SP. GR.	FOR C.A. = $\frac{B}{B - C}$	
	FOR F.A. = $\frac{B}{B + D - E}$	
REMARKS :		



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SPECIFIC GRAVITY & ABSORPTION OF AGGREGATES

PROJECT : _____ 58
LOCATION : _____
SAMPLE DESCRIPTION : _____
SOURCE : _____ SAMPLE NO. : CDS - S24
TESTED BY : LLM DATE TESTED : 8-11-90

A. WT. IN AIR OF SATURATED SURFACE DRY AGGREGATE	5107 grams
B. WT. OF OVEN DRY AGGREGATE	grams
C. WT. IN WATER OF SATURATED DRY AGGREGATE (FOR COURSE AGGREGATE)	3143 grams
D. WT. OF PYCNOMETER AND WATER (FOR FINE AGGREGATE)	grams
E. WT. OF PYCNOMETER, FINE AGGREGATE AND WATER	grams
F. ABSORPTION	$\frac{A - B}{B} \times 100$
G. BULK SP. GR. (SAT. SURFACE DRY BASIS)	FOR C.A. = $\frac{A}{A - C} = 2.60$ FOR F.A. = $\frac{A}{A + D - E}$
H. BULK SP. GR. (DRY BASIS)	FOR C.A. = $\frac{B}{A - C}$ FOR F.A. = $\frac{B}{B + D - E}$
I. APPARENT SP. GR.,	FOR C.A. = $\frac{B}{B - C}$ FOR F.A. = $\frac{B}{B + D - E}$
REMARKS :	



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SPECIFIC GRAVITY & ABSORPTION OF AGGREGATES

PROJECT : _____ 59
 LOCATION : _____
 SAMPLE DESCRIPTION : _____
 SOURCE : _____ SAMPLE NO. : CDS - 525
 TESTED BY : LLM DATE TESTED : 8-11-90

A. WT. IN AIR OF SATURATED SURFACE DRY AGGREGATE	5028	grams
B. WT. OF OVEN DRY AGGREGATE		grams
C. WT. IN WATER OF SATURATED DRY AGGREGATE (FOR COURSE AGGREGATE)	5009	grams
D. WT. OF PYCNOMETER AND WATER (FOR FINE AGGREGATE)		grams
E. WT. OF PYCNOMETER, FINE AGGREGATE AND WATER		grams
F. ABSORPTION	$\frac{A - B}{B} \times 100$	
G. BULK SP. GR. (SAT. SURFACE DRY BASIS)	FOR C.A. = $\frac{A}{A - C} = 2.49$	
	FOR F.A. = $\frac{A}{A + D - E}$	
H. BULK SP. GR. (DRY BASIS)	FOR C.A. = $\frac{B}{A - C}$	
	FOR F.A. = $\frac{B}{B + D - E}$	
I. APPARENT SP. GR.	FOR C.A. = $\frac{B}{B - C}$	
	FOR F.A. = $\frac{B}{B + D - E}$	
REMARKS :		