

**REMEDIAL INVESTIGATION, B-20
CAMP STANLEY STORAGE ACTIVITY
BOERNE, TEXAS**

Report No. G207

**Report to:
PARSONS ENGINEERING-SCIENCE, INC.
Mr. JOE DUBOSE**

**by:
IHS GEOTECH & CMT, INC.
San Antonio, Texas**

December, 1994



IHS GEOTECH & CMT, INC.

Geotechnical Engineering, Construction Materials and Environmental Testing

2405 Boardwalk
San Antonio, Texas 78217-4428
TEL. (210) 822-9666 * FAX (210) 822-9667

Report No. G207
December 27, 1994

Parsons Engineering-Science, Inc.
ATTN: Mr. Joe Dubose
8000 Centre Park Boulevard, Suite 200
Austin, Texas 78745


REMEDIAL INVESTIGATION, B-20
CAMP STANLEY STORAGE ACTIVITY
BOERNE, TEXAS

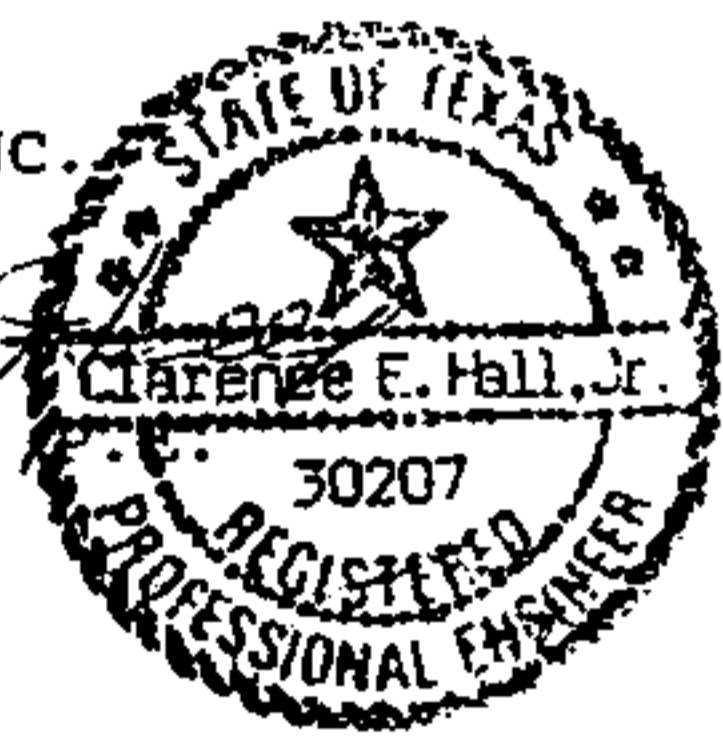
Gentlemen:

Presented herein is the report of our analysis of the soil/rock samples provided from the subject site. The study was authorized by Parsons subcontract #721460.06, dated November 30, 1994.

We appreciate this opportunity to be of service and look forward to working with you on additional projects. If you have any questions about this report, or if we can be of further service, please call us.

Very truly yours,
IHS GEOTECH & CMT, INC.


Clarence E. Hall, Jr.
Manager



CEH/bdh
Copies Submitted: 3

C O N T E N T S

	Page
INTRODUCTION	1
LABORATORY TESTS	2

I L L U S T R A T I O N S

	Plate
Particle Size Analysis	1-3

INTRODUCTION

Samples were obtained from a geotechnical investigation performed at location B-20, Camp Stanley Storage Activity, Boerne, Texas by Parsons Engineering-Science, Inc. The camp is located, just east of IH 10 N., south of the city of Boerne, Texas.

The primary objective of this study was to gather information regarding the surface/subsurface conditions at the site. The objectives were accomplished by sampling soils/rock to determine the following properties:

1. Moisture content of soil samples.
2. Ph of soil samples.
3. Grain size analysis of soil samples.
4. Cation exchange capacity of soil samples.
5. Permeability of rock samples.
6. Porosity of rock samples.

Subsequent sections of this report contain descriptions of the laboratory testing program.

LABORATORY TESTS

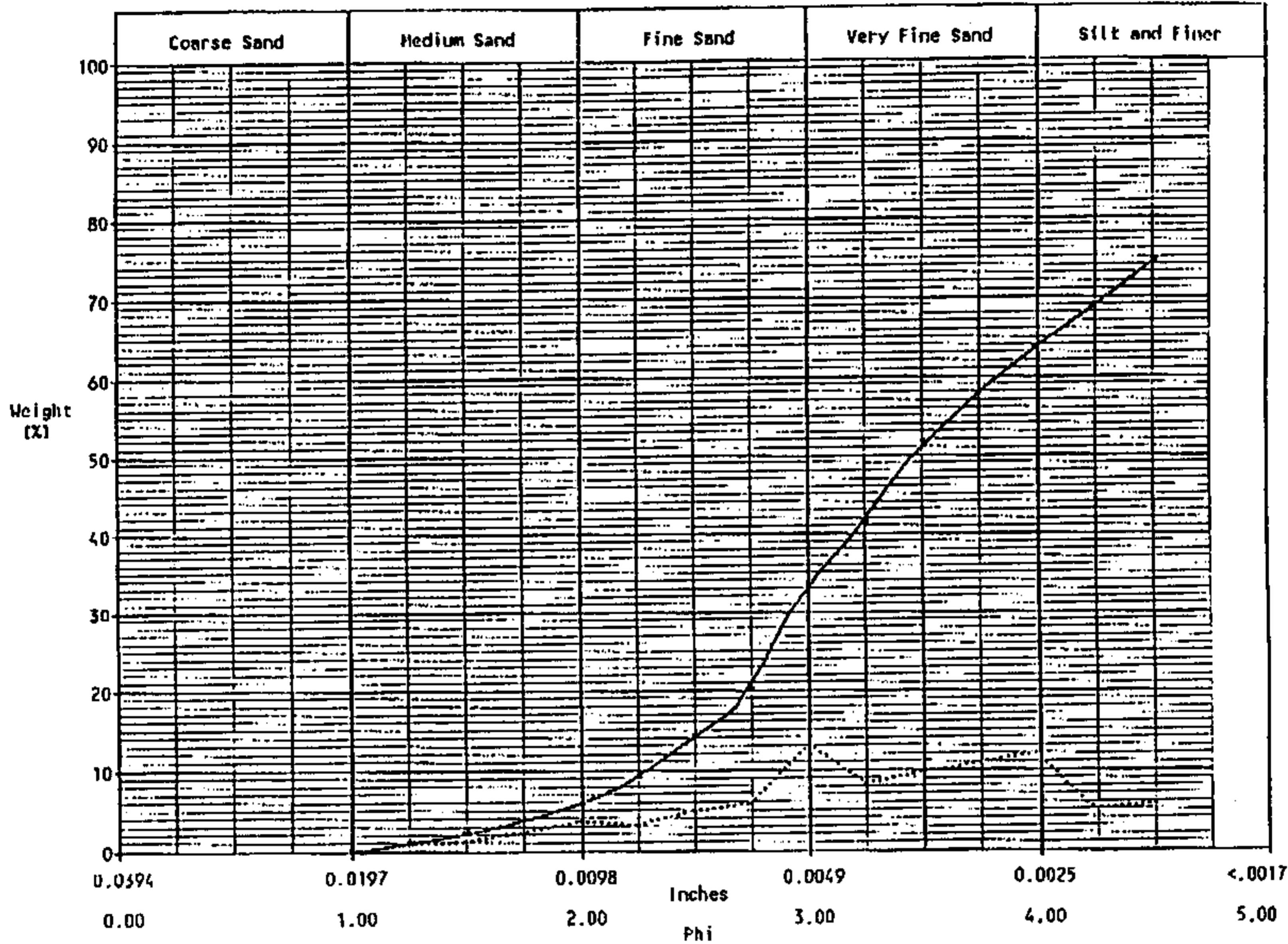
The laboratory testing program was directed primarily toward evaluation of the pertinent physical properties of the foundation soils/rock. Other tests were performed on selected samples to aid in their classification.

Sample ID #	Moisture %	Ph	Grain size % -200	Cation Exchange meq/100g SSSA	Permeability Horizontal Kair md	Porosity Helium %
ASTM	D2216	C260	D422	SSSA	D4525	D4404
SS26	18.7	8.26	27.0	3.1		
SS28	13.4	8.30	99.0	1.4		
SS33	19.7	8.18	41.3	3.5		
SS35	11.8	8.24	37.2	2.1		
SS40	23.0	8.28	46.8	4.0		
SS42	25.4	8.24	87.2	2.8		
SB3					0.35	20.8
SB8					0.10	18.8
SB9					0.09	18.1

Particle size analyses of the rock samples are at Plates 1-3.

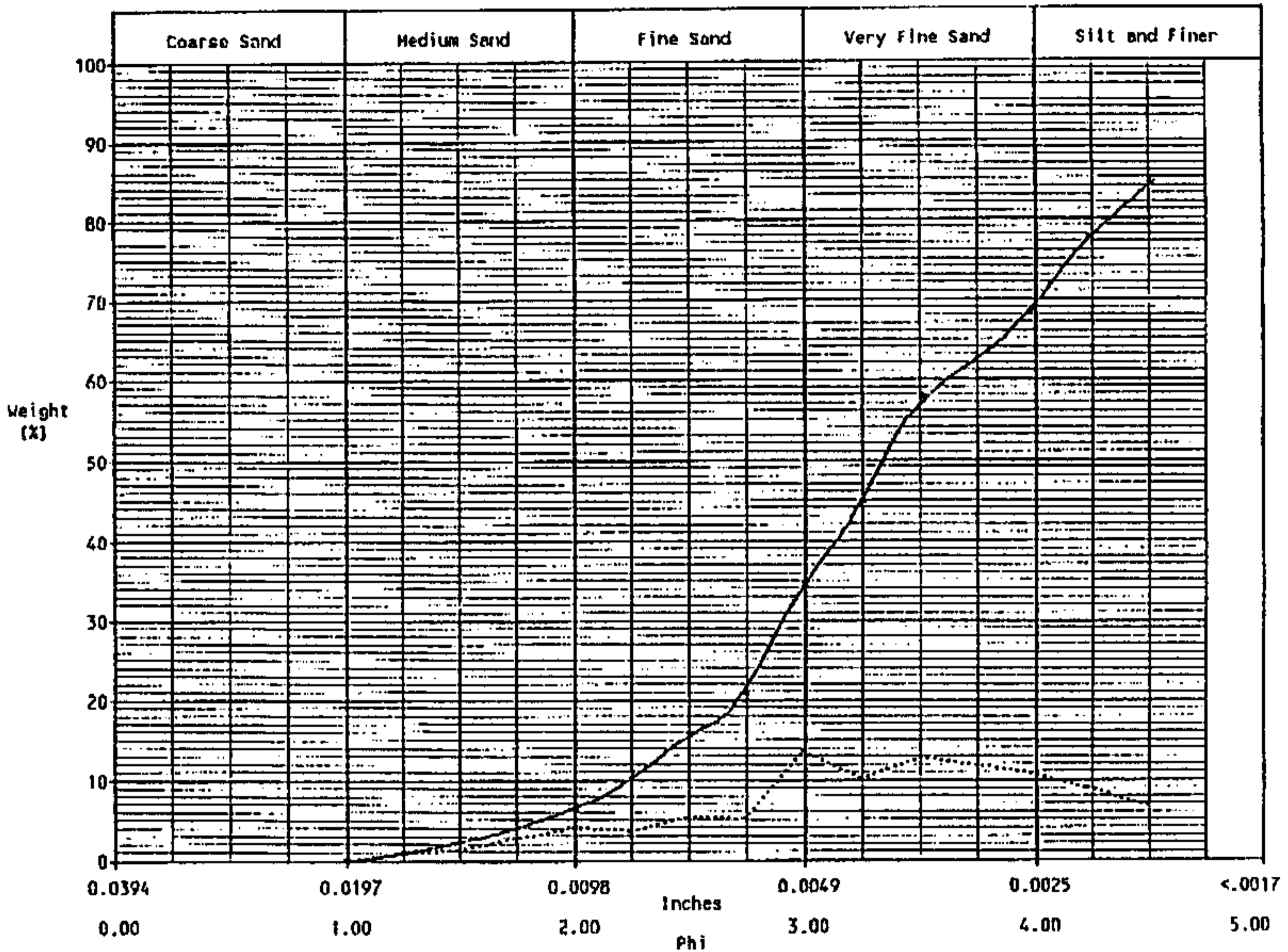
ILLUSTRATIONS

Particle Size Analysis



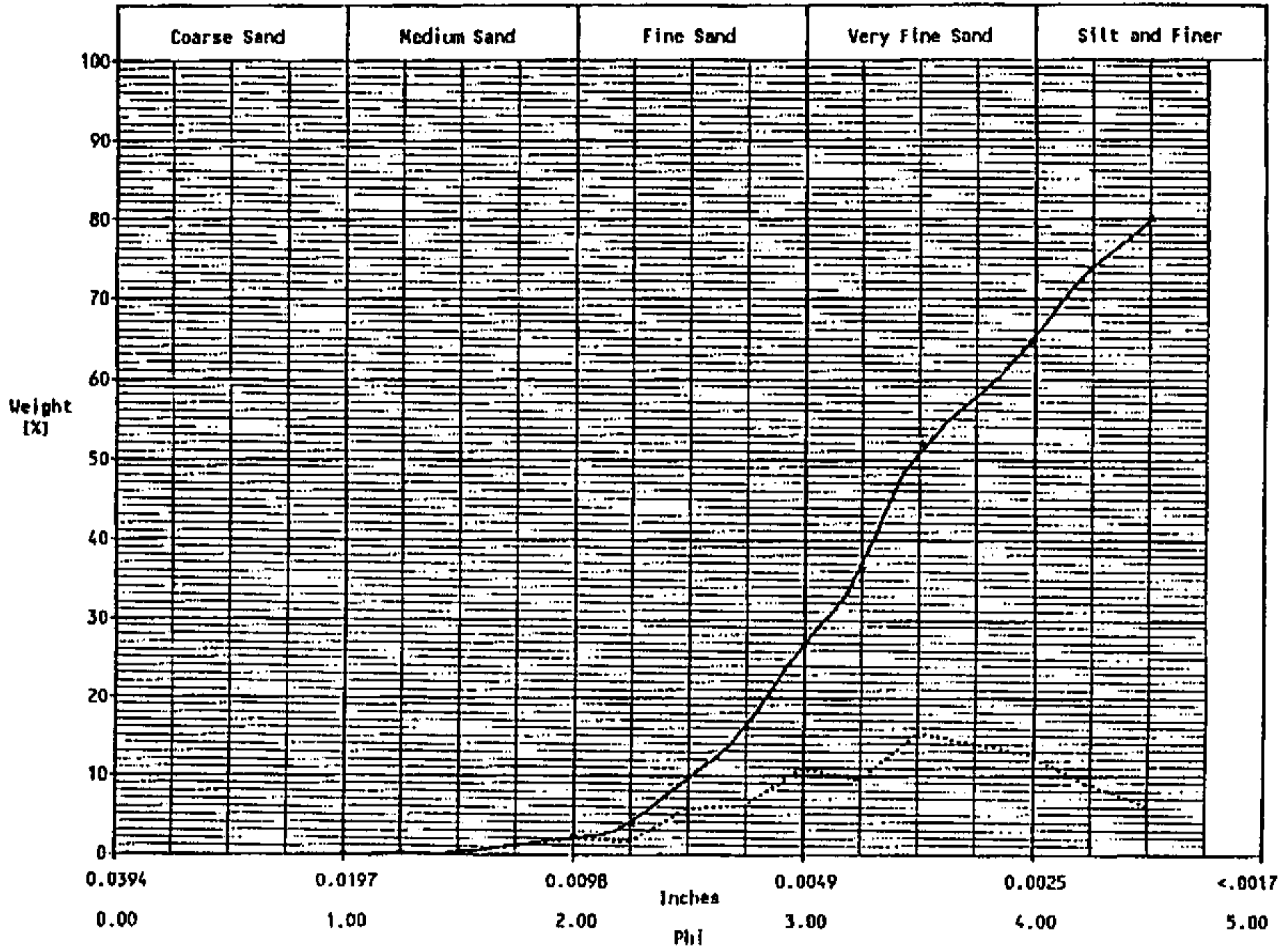
	Grain Size		Weight		Statistics	
	(U.S. Sieve)	(in)	(%)	cum. (%)		
Coarse Sand	20	0.0331			Median Grain Size, in	0.0035
	25	0.0278			Median Grain Size, phi	3.4917
	30	0.0234			Mean Grain Size, in	0.0031
	35	0.0197	0.0	0.0	Mean Grain Size, phi	3.6668
Medium Sand	40	0.0165	1.0	1.0	Standard Deviation	1.0375
	45	0.0138	1.2	2.2	Coefficient of Skewness	0.4363
	50	0.0117			Kurtosis	1.1820
	60	0.0098	3.7	5.9	Trask's Sorting Coefficient	1.5616
Fine Sand	70	0.0083	3.3	9.2		
	80	0.0070	5.0	14.2		
	100	0.0056	5.9	20.1		
	120	0.0049	13.1	33.2		
Very Fine Sand	140	0.0041	8.4	41.6		
	170	0.0035	9.8	51.4		
	200	0.0029				
	230	0.0024	12.1	63.5		
Silt and Finer	270	0.0021	5.1	68.6		
	325	0.0017	5.8	74.4		
	<325	<0.0017	25.6	100.0		

Particle Size Analysis



	Grain Size		Weight		Statistics	
	[U.S. Sieve]	(in)	[%]	cum. [%]		
Coarse Sand	20	0.0331			Median Grain Size, in	: 0.0035
	25	0.0278			Median Grain Size, phi	: 3.4917
	30	0.0234			Mean Grain Size, in	: 0.0033
	35	0.0197	0.0	0.0	Mean Grain Size, phi	: 3.5766
Medium Sand	40	0.0165	0.9	0.9	Standard Deviation	: 1.0019
	45	0.0138	1.4	2.3	Coefficient of Skewness	: 0.3243
	50	0.0117			Kurtosis	: 1.2280
	60	0.0098	4.1	6.4	Trask's Sorting Coefficient	: 1.5357
Fine Sand	70	0.0083	3.7	10.1		
	80	0.0070	5.5	15.6		
	100	0.0056	5.2	20.8		
	120	0.0049	13.7	34.5		
Very Fine Sand	140	0.0041	10.2	44.7		
	170	0.0035	12.9	57.6		
	200	0.0029				
	230	0.0024	10.9	68.5		
Silt and Finer	270	0.0021	9.0	77.5		
	325	0.0017	6.7	84.2		
	<325	<.0017	15.8	100.0		

Particle Size Analysis



Grain Size (U.S. Sieve)	[in]	Weight		Statistics	
		(%)	cum. (%)		
Coarse Sand	20	0.0331		Median Grain Size, in	: 0.0035
	25	0.0278		Median Grain Size, phi	: 3.4917
	30	0.0234		Mean Grain Size, in	: 0.0028
	35	0.0197	0.0	Mean Grain Size, phi	: 3.8136
Medium Sand	40	0.0165	0.1	Standard Deviation	: 0.9890
	45	0.0138	0.2	Coefficient of Skewness	: 0.8719
	50	0.0117		Kurtosis	: 0.9060
	60	0.0098	1.9	Trask's Sorting Coefficient	: 1.6855
Fine Sand	70	0.0083	1.6		
	80	0.0070	5.9		
	100	0.0056	6.2		
	120	0.0049	10.9		
Very Fine Sand	140	0.0041	9.5		
	170	0.0035	15.5		
	200	0.0029			
	230	0.0024	12.7		
Silt and Finer	270	0.0021	9.0		
	325	0.0017	6.3		
	<325	<.0017	20.2		
			100.0		